

Water Resources Data Pennsylvania Water Year 1998

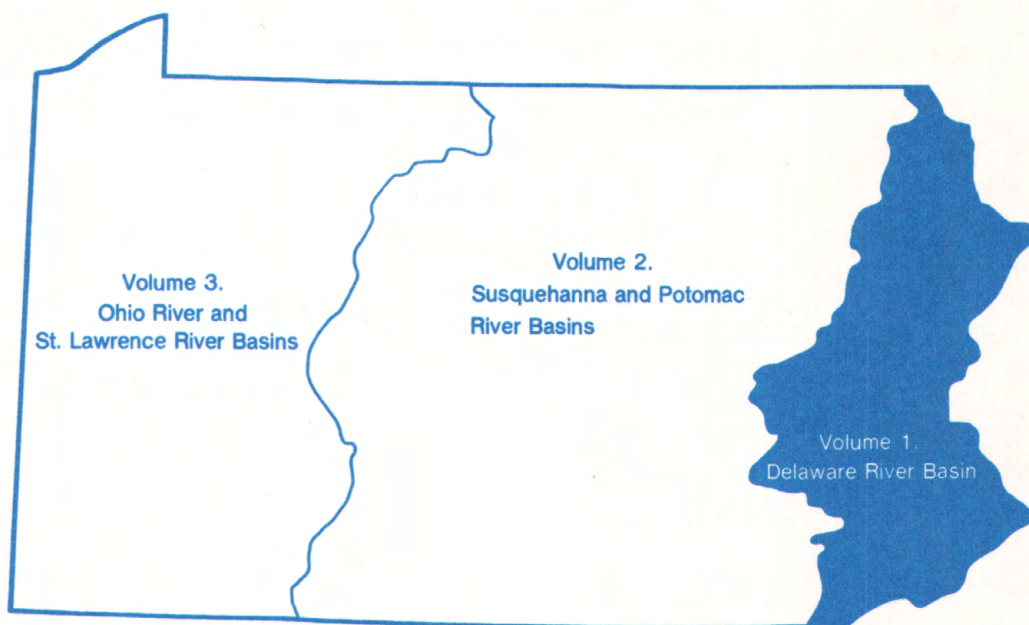
Volume 1. Delaware River Basin

Water-Data Report PA-98-1

U.S. GEOLOGICAL SURVEY
RESTON, VA.

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CALENDAR FOR WATER YEAR 1998

1997

OCTOBER

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1998

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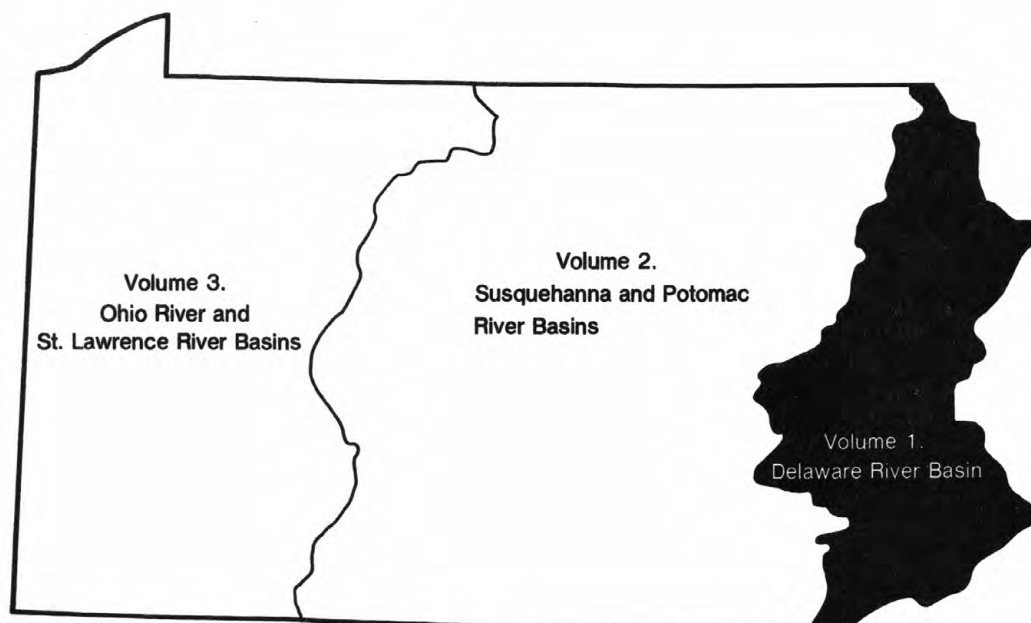
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Water Resources Data Pennsylvania Water Year 1998

Volume 1. Delaware River Basin

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

Water-Data Report PA-98-1



U.S. DEPARTMENT OF THE INTERIOR

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U.S. GEOLOGICAL SURVEY

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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 1 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 Project, 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 1998 water year for Pennsylvania consist of records of discharge and water quality of streams; contents and elevations of lakes and reservoirs; and water levels and water quality of ground-water wells. This report, Volume 1 contains (1) discharge records for 76 continuous-record streamflow-gaging stations, 5 partial-record stations and 16 special study and miscellaneous streamflow sites; (2) elevation and contents records for 14 lakes and reservoirs; (3) water-quality records for 23 gaging stations and 44 ungaged streamsites; and (4) water-level records for 38 network observation wells; and (5) water-quality analyses of groundwater from 5 special-study ground-water wells. Site locations are shown in figures 6-9. Additional water data collected at various sites not involved in the systematic data-collection program are also presented. These data together with the data in Volumes 2 and 3, represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Pennsylvania.				
14. SUBJECT TERMS *Pennsylvania, *Hydrologic data, *Ground water, *Surface water, *Water quality, Gaging stations, Streamflow, Flow rates, Lakes, Reservoirs, Chemical analysis, Sediments, Water temperature, Water analysis, Water levels, Water wells, Data collection sites				15. NUMBER OF PAGES 405
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CONTENTS

	Page
Preface	iii
List of surface-water stations, in downstream order, for which records are published in this volume	vii
List of ground-water wells, by county, for which records are published in this volume	x
List of discontinued continuous-record surface-water discharge stations	xii
List of discontinued continuous-record surface-water-quality stations	xv
Pennsylvania District office locations and addresses	xix
Introduction	1
Cooperation	1
Summary of hydrologic conditions	3
Surface water	3
Water quality	6
Ground water	7
References	7
Special networks and programs	9
Explanation of the records	9
Station identification numbers	10
Downstream-order system	10
Latitude-longitude system	10
Records of stage and water discharge	11
Data collection and computation	11
Data presentation	12
Station manuscript	12
Data table of daily mean values	13
Statistics of monthly mean data	13
Summary statistics	13
Identifying estimated daily discharge	15
Accuracy of the records	15
Other records available	15
Records of surface-water quality	15
Classification of records	15
Arrangement of records	16
On-site measurements and sample collection	16
Water temperature	16
Sediment	16
Laboratory measurements	17
Data presentation	17
Remark codes	18
Water quality-control data	18
Records of ground-water levels	19
Data collection and computation	19
Data presentation	19
Data table of water-levels	20
Records of ground-water quality	20
Data collection and computation	20
Data presentation	21
Access to USGS Water Data	21
Definition of terms	22
Publications on Techniques of Water-Resources Investigations	32
Special Notes, Remark Codes, and Selected Constituent Definitions	40

CONTENTS--Continued

	Page
Station records, surface water	
Continuous water-discharge and water-quality station records	42
Discharge at partial-record stations and miscellaneous sites	
Crest-stage partial-record stations	338
Miscellaneous sites	340
Analyses of streamflow samples collected at partial-record stations	342
Analyses of samples collected at special-study stations	
Spectral reflectance project	354
Special Notes, Remark Codes, and Selected Constituent Definitions	364
Station records, ground water	
Water-level station records	366
Ground-water data collected at special-study sites	
Hydrogeologic framework and sampling design	392
Pesticides in ground waters of Pennsylvania - quality assurance project.....	394
Index	401

ILLUSTRATIONS

Figure 1.--Comparison of monthly precipitation in the Delaware River Basin at Pleasant Mount and Allentown, Pa. during the 1998 water year with mean monthly precipitation for the period 1961 through 1990	4
2.--Comparison of streamflow at two long-term streamflow-gaging stations during the 1998 water year with the median of monthly and annual mean streamflow for the period 1961 through 1990.....	5
3.--Monthly mean specific conductance measured in the Delaware River at Reedy Island Jetty, De. for the 1998 water year and the mean monthly specific conductance for the period 1965 through 1997	6
4.--Relation between 1998 seasonal mean ground-water levels and long-term mean ground-water levels	8
5.--System for numbering wells and miscellaneous sites.....	10
6-9.--Maps showing:	
6.--Location of continuous-record data-collection stations in the upper Delaware River Basin	36
7.--Location of continuous-record data-collection stations in the lower Delaware River Basin	37
8.--Location of partial-record data-collection stations in the upper Delaware River Basin	38
9.--Location of partial-record data-collection stations in the lower Delaware River Basin	39

TABLES

Table 1. Spectral reflectance project station list	355
2. Field water-quality analytical techniques	356
3. Laboratory water-quality analytical techniques, standard analysis code 414.....	356
4. Pesticide schedule for ground-water wells	392

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

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

NORTH ATLANTIC SLOPE BASINS

	Station number	Page
DELAWARE RIVER BASIN		
West Branch Delaware River at Hancock, N.Y. (t)	01427000	42
Delaware River at Callicoon, N.Y. (d,t)	01427510	44
Delaware River above Lackawaxen River near Barryville, N.Y. (d,t)	01428500	48
LACKAWAXEN RIVER BASIN		
West Branch Lackawaxen River near Aldenville (d,t)	01428750	52
West Branch Lackawaxen River at Prompton (d,t)	01429000	56
Dyberry Creek near Honesdale (d)	01429500	60
Lackawaxen River near Honesdale (d)	01430000	62
Lackawaxen River at Hawley (d)	01431500	64
Wallenpaupack Creek:		
Wallenpaupack Creek at Wilsonville (d)	01432000	66
Lakes and Reservoirs in Lackawaxen River basin (e)		68
Delaware River at Barryville, N.Y. (t)	01432160	70
Delaware River at Pond Eddy, N.Y. (t)	01432805	72
Delaware River at Port Jervis, N.Y. (d)	01434000	74
Delaware River at Montague, N.J. (d,c,b)	01438500	76
BUSH KILL BASIN		
Bush Kill at Shoemakers (d)	01439500	80
BRODHEAD CREEK BASIN		
Brodhead Creek near Analomink (d)	01440400	82
Brodhead Creek at Minisink Hills (d)	01442500	84
Delaware River at Portland (c,b)	01443000	86
Delaware River at Belvidere, N.J. (d)	01446500	88
LEHIGH RIVER BASIN		
Lehigh River at Stoddartsville (d,t)	01447500	90
Tobyhanna Creek:		
Tunkhannock Creek near Long Pond (d)	01447680	94
Tobyhanna Creek near Blakeslee (d,t)	01447720	96
Lehigh River below Francis E. Walter Reservoir near White Haven (d,t)	01447800	100
Lehigh River at Lehighon (d)	01449000	104
Pohopoco Creek at Kresgeville (d,t)	01449360	106
Pohopoco Creek below Beltzville Lake near Parryville (d,t)	01449800	110
Aquashicola Creek at Palmerton (d)	01450500	114
Lehigh River at Walnutport (d)	01451000	116
Little Lehigh Creek near Allentown (d)	01451500	118
Little Lehigh Creek at Tenth Street Bridge at Allentown (d)	01451650	120
Jordan Creek near Schnecksville (d)	01451800	122
Jordan Creek at Allentown (d)	01452000	124
Monocacy Creek at Bethlehem (d)	01452500	126
Lehigh River at Bethlehem (d)	01453000	128
Lehigh River at Glendon (d)	01454700	130
Lehigh River at Easton (sc,pH,t,do)	01454720	132
Lakes and Reservoirs in Lehigh River Basin (e)		138
Delaware River at Riegelsville, N.J. (c,b)	01457500	140

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

NORTH ATLANTIC SLOPE BASINS--Continued

	Station number	Page
DELAWARE RIVER BASIN--Continued		
TOHICKON CREEK BASIN		
Nockamixon Reservoir near Ottsville (e)	01459350	142
Tohickon Creek Near Pipersville (d)	01459500	144
Delaware River at Lumberville (c,b)	01461000	146
Delaware River at Trenton, N.J. (d,c,b,sc,pH,t,do)	01463500	148
NESHAMINY CREEK BASIN		
North Branch Neshaminy Creek below Lake Galena near New Britain (d)	01464645	164
North Branch Neshaminy Creek at Chalfont (d)	01464720	166
Neshaminy Creek near Langhorne (d)	01465500	168
POQUESSING CREEK BASIN		
Poquessing Creek at Grant Avenue, Philadelphia (d)	01465798	170
PENNYPACK CREEK BASIN		
Pennypack Creek at Lower Rhawn Street Bridge, Philadelphia (d)	01467048	172
FRANKFORD CREEK BASIN		
Frankford Creek at Castor Avenue, Philadelphia (d)	01467087	174
Delaware River at Benjamin Franklin Bridge at Philadelphia (sc,pH,t,do)	01467200	176
SCHUYLKILL RIVER BASIN		
Schuylkill River at Landingville (d)	01468500	184
Little Schuylkill River at Tamaqua (d)	01469500	186
Schuylkill River at Berne (d)	01470500	188
Tulpehocken Creek near Bernville (d,t)	01470779	190
Spring Creek:		
Furnace Creek at Robesonia (d)	01470853	194
Tulpehocken Creek at Blue Marsh damsite near Reading (d,t)	01470960	196
Tulpehocken Creek near Reading (d)	01471000	200
Schuylkill River at Reading (d)	01471510	202
Manatawny Creek near Spangville (d)	01471875	204
Manatawny Creek near Pottstown (d)	01471980	206
Schuylkill River at Pottstown (d)	01472000	208
Schuylkill River at Vincent Dam at Linfield (t,do)	01472104	210
French Creek near Phoenixville (d,c,b)	01472157	214
Perkiomen Creek at East Greenville (d)	01472198	218
West Branch Perkiomen Creek at Hillegass (d)	01472199	222
East Branch Perkiomen Creek near Dublin (d)	01472620	224
East Branch Perkiomen Creek near Schwenksville (d)	01472810	226
Perkiomen Creek at Graterford (d)	01473000	228
Valley Creek at Pennsylvania Turnpike Bridge near Valley Forge (d)	01473169	230
Wissahickon Creek at mouth, Philadelphia (d)	01474000	232
Schuylkill River at Philadelphia (d)	01474500	234
Lakes and Reservoirs in Schuylkill River Basin (e)		236
Delaware River at Fort Mifflin at Philadelphia (sc,t)	01474703	238
CRUM CREEK BASIN		
Crum Creek near Newtown Square (d)	01475850	242
RIDLEY CREEK BASIN		
Ridley Creek at Media (d)	01476480	244
CHESTER CREEK BASIN		
Chester Creek near Chester (d)	01477000	246
Delaware River at Chester (sc,pH,t,do)	01477050	248

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

NORTH ATLANTIC SLOPE BASINS--Continued

	Station number	Page
DELAWARE RIVER BASIN--Continued		
CHRISTINA RIVER BASIN		
White Clay Creek:		
Trout Run at Avondale (d,t)	01478137	256
White Clay Creek near Strickersville (d)	01478245	262
Red Clay Creek near Kennett Square (d)	01479820	264
Brandywine Creek:		
West Branch Brandywine Creek near Honey Brook (d)	01480300	266
Birch Run near Wagontown (d,t)	01480400	268
West Branch Brandywine Creek at Coatesville (d,t)	01480500	272
West Branch Brandywine Creek at Modena (d,c,b,sc,pH,t,do)	01480617	276
East Branch:		
Doe Run above Tributary at Springdell (d,t)	014806318	286
Little Broad Run near Marshallton (d,t)	01480637	292
Marsh Creek near Glenmoore (d)	01480675	296
Marsh Creek near Downingtown (d)	01480685	298
East Branch Brandywine Creek near Downingtown (d)	01480700	300
East Branch Brandywine Creek below Downingtown (d,c,b,sc,pH,t,do)	01480870	302
Unnamed Tributary to Valley Creek at Highway 30 at Exton (d,t)	01480878	312
Brandywine Creek at Chadds Ford (d,c,b,sc,pH,t,do)	01481000	318
Lakes and Reservoirs in Christina River Basin (e)		328
Delaware River at Reedy Island Jetty, Del. (sc,pH,t,do)	01482800	330
Discharge at partial-record stations and miscellaneous sites		
Crest-stage partial-record stations		338
Miscellaneous sites		340
Analysis of streamflow samples collected at partial-record stations		342
Analysis of samples collected at special-study sites		
Spectral reflectance project		354

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

(Letters after local well number designate type of data: (l) water level)

GROUND WATER RECORDS

	Page
BERKS COUNTY	
Well 402615075530501 Local number BE 623 (l)	366
BUCKS COUNTY	
Well 402643075150501 Local number BK 929 (l)	367
Well 401157075032001 Local number BK 1020 (l)	368
CARBON COUNTY	
Well 410123075425401 Local number CB 104 (l)	369
CHESTER COUNTY	
Well 400650075514001 Local number CH 2 (l)	371
Well 395450075485401 Local number CH 10 (l)	370
Well 395717075392301 Local number CH 12 (l)	371
Well 395222075423201 Local number CH 28 (l)	371
Well 394846075444901 Local number CH 38 (l)	372
Well 400400075314401 Local number CH 89 (l)	372
Well 400453075255601 Local number CH 210 (l)	372
Well 400103075390101 Local number CH 249 (l)	373
Well 394457075581601 Local number CH 254 (l)	373
Well 395701075561601 Local number CH 1201 (l)	373
Well 400412075404301 Local number CH 1229 (l)	374
Well 400645075411501 Local number CH 1247 (l)	374
Well 395540075332601 Local number CH 1387 (l)	374
Well 400956075391501 Local number CH 1571 (l)	375
Well 394757075432101 Local number CH 1921 (l)	375
Well 400242075484301 Local number CH 2273 (l)	375
Well 400325075332501 Local number CH 2313 (l)	376
Well 400847075414701 Local number CH 2328 (l)	376
Well 400133075450001 Local number CH 2456 (l)	376
Well 400039075335201 Local number CH 2457 (l)	377
Well 400456075320301 Local number CH 2561 (l)	377
Well 394624075444001 Local number CH 2663 (l)	377
Well 400358075311301 Local number CH 3289 (l)	378
DELAWARE COUNTY	
Well 395040075341801 Local number DE 3 (l)	379
Well 395512075293701 Local number DE 723 (l)	380
LEBANON COUNTY	
Well 402207076180801 Local number LB 372 (l)	381
LEHIGH COUNTY	
Well 403429075392401 Local number LE 644 (l)	382
MONROE COUNTY	
Well 411223075234901 Local number MO 190 (l)	383
MONTGOMERY COUNTY	
Well 400808075210401 Local number MG 225 (l)	384
Well 401733075171401 Local number MG 917 (l)	385
PHILADELPHIA COUNTY	
Well 395342075102101 Local number PH 12 (l)	387

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

(Letters after local well number designate type of data: (l) water level)

GROUND WATER RECORDS--Continued

	Page
PIKE COUNTY	
Well 410940074583401 Local number PI 200 (l)	388
SCHUYLKILL COUNTY	
Well 404708076070701 Local number SC 296 (l)	389
WAYNE COUNTY	
Well 414333075153201 Local number WN 64 (l)	390

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

Hydrogeologic framework and sampling design	392
Pesticides in ground waters of Pennsylvania - quality assurance project	394

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. Discontinued stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back of the title page of this report.

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
DELAWARE RIVER BASIN			
Ariel Creek near Ledgerdale	01431673	15.6	1992-94
Byberry Creek at Chalfont Road, Philadelphia	01465790	5.34	1966-77
Byberry Creek at Grant Avenue, Philadelphia	01465795	7.13	1965-70
Cobbs Creek at Darby	01475550	22.0	1964-90
Cobbs Creek at US Highway No. 1 at Philadelphia	01475530	4.78	1965-80
Cobbs Creek below Indian Creek near Upper Darby	01475540	10.6	1965-73
Cooks Creek at Durham Furnace	01457790	29.4	1991-93
Cooks Run at New Britain	01464741	3.08	1985-89
Crum Creek at Woodlyn	01476000	33.3	1932-37
Darby Creek at Waterloo Mills near Devon	01475300	5.1	1972-97
Darby Creek near Darby	01475510	37.4	1964-90
Delaware River below Tocks Island Damsite, near Delaware Water Gap	01440200	3.85	1964-96
Dilldown Creek near Long Pond	01448500	2.39	1949-96
East Branch Brandywine Creek at Downingtown	01480800	81.6	1958-68
East Branch Monocacy Creek near Bath	01452300	5.35	1963-68
Frankford Creek at Torresdale Avenue, Philadelphia	01467089	33.8	1967-80
Jenkintown Creek at Elkins Park	01467085	1.17	1974-78
Lackawaxen River at West Hawley	01430500	206	1922-37
Lehigh River at Tannery	01448000	322	1919-58
Little Lehigh Creek near East Texas	01451420	51.2	1987-94
Little Neshaminy Cr at Walton Road near Jacksonville	01464984	40.1	1986-92
Little Schuylkill River at Dreherstown	01470000	122	1948-50, 1964-65
Maiden Creek Tributary at Lenhartsville	01470720	7.46	1966-79
Maiden Creek at Virginville	01470756	159	1973-94
Marsh Creek near Lyndell	01480680	17.8	1961-69
Martins Creek near East Bangor	01446600	10.4	1962-77

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS —Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
McMichaels Creek at Stroudsburg	01441000	65.3	1912-37
Middle Creek near Hawley	01431000	78.4	1945-59
Mill Creek near Wycombe	01465050	14.0	1990-93
Naylor Creek at West Chester Pike near Philadelphia	01475545	1.10	1974-78
Neshaminy Creek at Rushland	01465000	134	1885-1912,32-33
Neshaminy Creek near Rushland	01464750*	91.0	1987-92
North Branch Calkins Creek near Damascus	01427650	7.02	1965-73
Paunacussing Creek at Carversville	01460800	6.49	1991-93
Pennypack Creek at Pine Road, Philadelphia	01467042	37.9	1965-80
Pennypack Creek below Verree Road, Philadelphia	01467045	42.8	1965-70
Perkiomen Creek near Frederick	01472500	152	1885-1912
Pickering Creek near Chester Springs	01472174	5.98	1967-82
Pine Run at Chalfont	01464710	11.6	1990-92
Pocono Creek near Stroudsburg	01441500	41.0	1912-19
Pohopoco Creek near Parryville	01450000	109	1941-69
Poquessing Creek at Trevoise Road, Philadelphia	01465780	13.2	1965-70
Purdy Creek at Lakeville	01431685	8.18	1992-94
Ridley Creek at Media	01476480	30.5	1987-95
Ridley Creek at Moylan	01476500	31.9	1932-54
Rock Creek above Curtis Arboretum near Philadelphia	01467084	1.15	1972-78
Saucon Creek at Friedensville	01454500	26.6	1948-53
Saucon Creek at Lanark	01453500	12.1	1948-53
Schuylkill River above Passayunk Ave. at Philadelphia	01474505	1,900	1979-93
Schuylkill River at Norristown	01473500	1,760	1928-32
Schuylkill River at Pottsville	01467500	53.4	1944-69
Shohola Creek near Shohola	01432500	83.6	1920-28
Skippack Creek near Collegeville	01473120	53.7	1966-94
South Branch Saucon Creek at Friedensville	01454000	10.3	1948-53
Stevens Creek near Sterling	01431620	0.68	1992-94
Tacony Creek above Adams Avenue, Philadelphia	01467086	16.7	1966-86

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER DISCHARGE STATIONS —Continued

Station name	Station number	Drainage area (mi ²)	Period of record (water years)
Tacony Creek near Jenkintown	01467083	5.25	1973-78
Tinicum Creek near Ottsville	01458900	14.7	1991-93
Tohickon Creek at Point Pleasant	01460000	107	1884-98,1901-12
Unnamed tributary to Purdy Creek near Lakeville	01431683	0.34	1992-94
Valley Creek at Ravine Road near Downingtown	01480887	14.5	1990-97
Walton Run at Philadelphia	01465785	2.17	1965-77
Wild Creek at Hatchery	01449500	16.8	1941-78
Wissahickon Creek at Bells Mill Road, Philadelphia	01473950	53.6	1966-70,1974-81
Wissahickon Creek at Fort Washington	01473900	40.8	1962-68
Wissahickon Creek at Livezey Lane, Philadelphia	01473980	59.2	1967-70
Wooden Bridge Run at Philadelphia	01467050	3.35	1966-80

* Currently operated as a partial-record station.

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

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

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
DELAWARE RIVER BASIN				
Brandywine Creek at Chadds Ford	01481000	287	Sed	1963-70
Byberry Creek at Chalfont Road, Philadelphia	01465790	5.34	Sed	1966-68, 1970
Byberry Creek at Grant Avenue, Philadelphia	01465795	7.13	Sed	1965-70
Cobbs Creek at US Highway 1 near Philadelphia	01465530	4.78	Sed	1965-70
Cobbs Creek below Indian Creek near Upper Darby	01475540	9.65	Sed	1965-69
Cobbs Creek at Darby	01475550	22.0	Sed	1965-69
Crum Creek near Paoli	01475830	6.16	Biol	1970-83
Darby Creek near Darby	01475510	37.4	Sed	1965-69
Delaware River at Belvidere, N.J.	01448000	4,535	Temp SC	1944-47, 1962-63 1962-63
Delaware River at Burlington-Bristol Bridge	01464600	7,163	Temp DO SC,pH	1954-75, 1979-80 1961-75, 1978-80 1967-75, 1978-80
Delaware River at Delaware Memorial Bridge, Del.	01482100	11,030	Temp DO SC pH	1956-81 1962-81 1963-81 1968-81
Delaware River at Dingmans Ferry	01439000	3,542	Temp,SC,pH	1950-53
Delaware River at Dunnfield, N.J.	01442750	4,120	Sed	1964-75
Delaware River at Easton	01446700	4,636	SC,DO,Temp,pH	1967-77
Delaware River at Eddystone	01476200	10,190	SC,DO,Temp,pH	1949-68
Delaware River at League Island, Philadelphia	01467400	8,072	SC,DO,Temp,pH	1949-68
Delaware River at Lehigh Avenue, Philadelphia	01467100	7,935	SC,DO,Temp,pH	1949-68

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

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
Delaware River at Lordville, N.Y.	01427207	1,590	Temp	1968-71, 1973-96
Delaware River at Marcus Hook	01477200	10,370	SC,DO,Temp,pH	1949-77
Delaware River at Montague, N.J.	01438500	3,480	Temp SC,pH	1956-57 1956-73
Delaware River at Narrowsburg, N.Y.	01427740	2,023	SC,pH	1948-51
Delaware River at Palmyra, N.J.	01467060	7,850	Sed	1962-64
Delaware River at Port Jervis, N.Y.	01434000	3,070	Temp	1957-60, 1973-94
Delaware Bay at Ship John Shoal Light, N.J.	01412350	---	SC,Temp	1968-86
Delaware River at Torresdale Intake, Philadelphia	01467030	7,781	Temp DO SC pH	1956-57, 1960-81 1961-81 1963-81 1968-81
Delaware River at Wharton Street, Philadelphia	01467300	7,998	Temp,SC,pH,DO	1949-68
Delaware River near East Stroudsburg	01440090	3,830	SC,DO,Temp pH	1966-78 1972-78
East Branch Brandywine Creek near Struble Dam	01480647	4.36	Biol	1972-82
Frankford Creek at Torresdale Avenue, Philadelphia	01467088	33.8	Sed	1966-70
French Creek at Trythall	01472126	5.06	Biol	1971-83
French Creek near Knauertown	01472129	11.7	Biol	1970-83
Jordan Creek at Allentown	01452000	75.8	Sed	1967-69
Jordan Creek near Schnecksville	01451800	53.0	Sed	1967-69
Lehigh River at Bethlehem	01453000	1,279	SC,pH	1906-07, 1956-72
Lehigh River at Walnutport	01451000	889	Sed	1948-53
Little Schuylkill River at Dreherstown	01470000	122	SC,pH,Temp,Sed	1947-51, 1963-65
Little Schuylkill River at South Tamaqua	01469700	65.7	SC,pH Sed	1948-51,1963 1950-53,1963
Maiden Creek near East Berkley	01470760	192	Sed	1963-65
Maiden Creek tributary at Lenhartsville	01470720	7.46	Sed	1963-65
Marsh Creek near Downingtown	01480695	20.3	Temp	1973-87

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

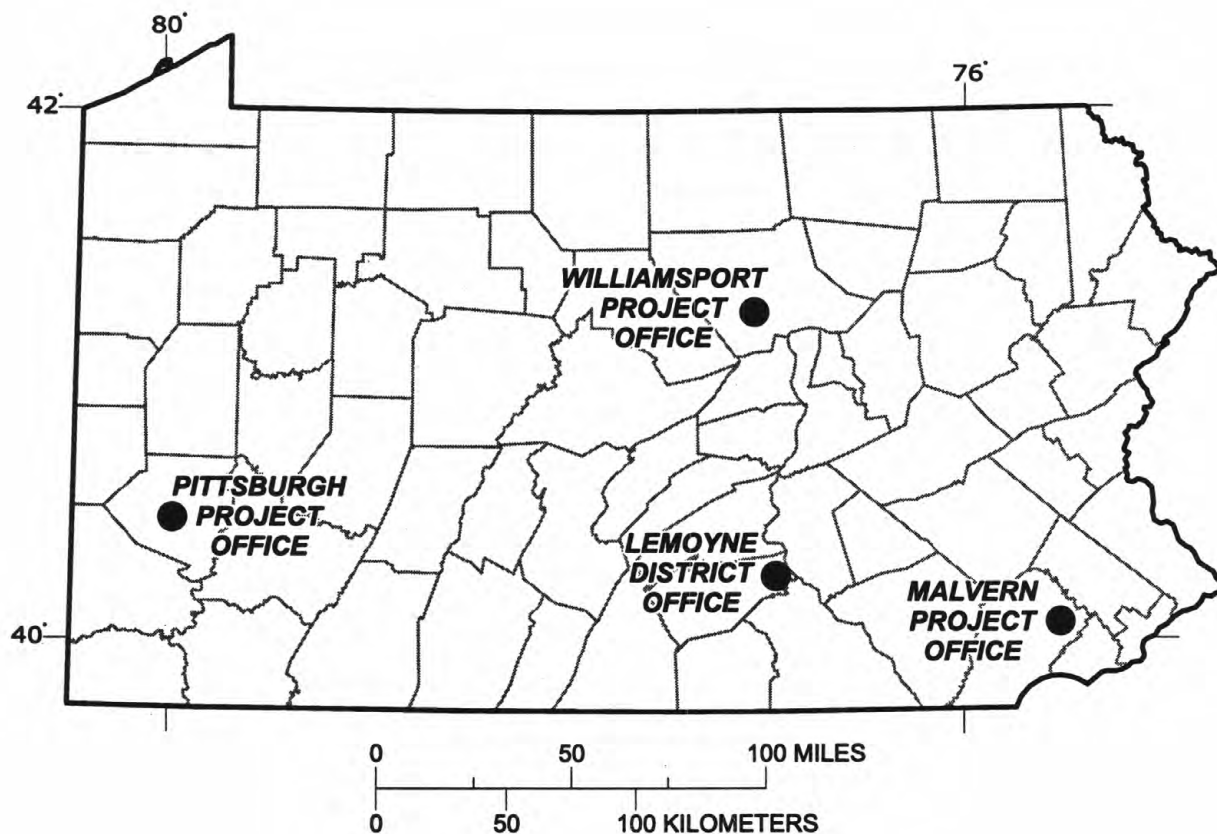
Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
Marsh Creek near Lyndell	01480680	17.8	Temp Sed	1965-66 1965-66, 1968
Neshaminy Creek near Langhorne	01465500	210	Sed	1956-58, 1965-69
Pennypack Creek at Pine Road, Philadelphia	01467042	37.9	Sed	1965-69
Pennypack Creek below Verree Road, Philadelphia	01467045	42.8	Sed	1965-69
Perkiomen Creek at Graterford	01473000	279	SC,pH,Temp Sed	1946-51, 1948-53 1963-66
Pickering Creek near Chester Springs	01472174*	5.98	Sed	1967-69
Pigeon Creek at Porters Mill	01472065	6.97	Biol	1970-83
Pigeon Creek near Bucktown	01472054	4.20	Biol	1970-83
Poquessing Creek above Byberry Creek, Philadelphia	01465780	13.2	Sed	1965-70
Poquessing Creek at Grant Avenue, Philadelphia	01465798	21.4	Sed	1965-70
Poquessing Creek at Trevoise Road, Philadelphia	01465770	5.08	Sed	1965-69
Schuylkill River at Auburn	01469000	160	Sed,SC,pH	1947-51, 1963-65
Schuylkill River at Berne	01470500	355	Temp SC,pH Sed	1948-53, 1957-81 1963-81 1947-81
Schuylkill River at Black Rock Dam at Mont Clare	01472119	---	SC,DO	1986-90
Schuylkill River at Flat Rock Dam at West Manayunk	01473780	---	SC,DO	1985-90
Schuylkill River at Landingville	01468500	133	SC,pH,Temp Sed	1947-53 1947-53, 1963-65
Schuylkill River at Manayunk	01473800	893	SC,pH Sed Temp	1947-70 1947-86 1956-70
Schuylkill River at Norristown Dam at Bridgeport	01473499	---	SC,DO	1985-90
Schuylkill River at Plymouth Dam	01473675	---	SC,DO	1985-90
Schuylkill River at Port Carbon	01467470	27.1	SC,pH,Sed	1949-51, 1963

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

Station name	Station number	Drainage area (mi ²)	Type of Record	Period of record (water years)
Schuylkill River at Pottstown	01472000	1,147	Temp Sed,pH SC	1944-51, 1956, 1963-66 1948-51, 1963-66 1948-51, 1963-66, 1985-89
Schuylkill River at Pottsville	01467500	53.4	SC,pH Sed	1948-51, 1963-66 1963-66
Stony Run at Spring City	01472110	4.07	Biol	1970-83
Tacony Creek at County Line, Philadelphia	01467084	16.2	Sed	1966-69
Tulpehocken Creek near Reading	01471000	211	Sed	1963-65
Wissahickon Creek at Bells Mill Road, Philadelphia	01473950	53.6	Sed	1966-69
Wissahickon Creek at Fort Washington	01473900	40.8	Sed	1963-69
Wissahickon Creek at Livezey Lane, Philadelphia	01473980	59.2	Sed	1966-69
Wissahickon Creek at mouth, Philadelphia	01474000	64.0	Sed	1966-69
Walton Run at Philadelphia	01465785	2.17	Sed	1965-68
West Branch Brandywine Creek near Honey Brook	01480300	18.7	Sed	1965-66,1968
West Branch Schuylkill River at Cressona	01467950	52.5	Sed	1963-66
Wooden Bridge Run at Philadelphia	01467049	3.35	Sed	1965-70

* Currently operated as a partial-record station.

PENNSYLVANIA DISTRICT OFFICE LOCATIONS AND ADDRESSES



Lemoyne District Office:
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
(570) 323-7127
FAX (570) 323-2137

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

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

INTRODUCTION

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

This report, Volume 1, contains: (1) discharge records for 76 continuous-record streamflow-gaging stations, 5 partial-record stations, and 16 special study and miscellaneous streamflow sites; (2) elevation and contents records for 14 lakes and reservoirs; (3) water-quality records for 23 gaging stations and 44 ungaged streamsites; and (4) water-level records for 38 network observation wells; and (5) water-quality analyses of groundwater from 5 special-study ground-water wells. Additional water data collected at various sites not involved in the systematic data-collection program may also be presented.

Publications similar to this report are published annually by the Geological Survey for all States. For the purpose of archiving, these official reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report PA-98-1." These water data reports, beginning with the 1971 water year, are for sale as paper copy or microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

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

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

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

COOPERATION

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

The Commonwealth of Pennsylvania, Department of Environmental Protection, James M. Seif, Secretary through the following:
Office of Water Management, Hugh V. Archer, Deputy Secretary;

Bureau of Water Supply Management, Frederick Marrocco, Acting Director;

Bureau of Water Quality Protection, Glenn E. Maurer, Director;

Bureau of Watershed Conservation, Stuart I. Gansell, Director;

Bucks County Commissioners, Charles H. Martin, Chairman;

Chester County Water Resources Authority, Janet L. Bowers, Executive Director;

City of Allentown, William L. Heydt, Mayor;

City of Bethlehem, Kenneth R. Smith, Mayor;

City of Philadelphia, Water Department, Kumar Kishinchand, Water Commissioner;

Delaware County Solid Waste Authority, Joseph W. Vasturia, Chief Executive Officer;

Delaware River Basin Commission, Carol R. Collier, Executive Director;

Doylestown Township Municipal Authority, Richard E. John, Director of Operations;

COOPERATION--Continued

Hazleton City Authority, Water Department, Randy J. Cahalan, Operation Manager;
North Penn Water Authority, David. J. Milan, Executive Director;
North Wales Water Authority, Peter. S. Lukens, Executive Director;

Federal Energy Regulatory Commission Licensee:
Pennsylvania Power and Light Company,

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

Corps of Engineers, U.S. Army, in collecting records for 24 streamflow-gaging stations, 5 reservoir stations, and 2 crest-stage gages;

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

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

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

Precipitation and Streamflow

Data from 34 selected National Oceanic and Atmospheric Administration climatological sites located in the Delaware River Basin in Pennsylvania, indicate the annual precipitation for the Delaware River Basin in Pennsylvania was above average. The basin generally received below normal precipitation for the months of October, July, August, and September. The greatest deficit basinwide, with an average of 1.74 inches below normal, was in July. The basin generally received above normal precipitation for the months of January through June. The greatest surplus basinwide, with an average of 1.61 inches above normal, was in February. Basinwide, precipitation totals for the water year averaged 45.1 inches compared to the historical average of 42.3 inches.

As an example, the 1998 monthly precipitation was compared with the 1961-90 mean monthly precipitation recorded at Pleasant Mount and Allentown, Pennsylvania (fig. 1). The precipitation data are from the National Oceanic and Atmospheric Administration (U.S. Department of Commerce, 1997-98) and National Weather Service records.

Streamflow varies seasonably throughout the basin and generally reflects the precipitation patterns within the basin unless the stream is regulated. In general, annual streamflows during 1998 were normal (defined as streamflows between the 25th and 75th percentiles) as compared to long-term annual streamflows. Two U.S. Geological Survey (USGS) streamflow-gaging stations within the basin were selected as indicators of streamflow conditions basinwide. Figure 2 compares the 1998 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 1998 water year annual mean streamflow was equal to the 1961-90 median of the mean annual streamflows of the Bush Kill at Shoemakers, in the Upper Delaware Basin, and 125 percent of the 1961-90 median of the mean annual streamflows of the Schuylkill River at Philadelphia, in the Lower Delaware Basin.

Monthly streamflows were slightly above the median of monthly mean streamflows in the Bush Kill for the entire water year, with the exception of the month of March. Monthly streamflows were above the median of monthly mean streamflows in the Schuylkill River for the entire water year, with the exception of February (fig. 2).

In contrast to most of the Delaware River Basin, streamflows in the Christina River Basin, located mostly within Chester and Delaware Counties in southeastern Pennsylvania, averaged lower for the year as compared to the long-term annual streamflows within the basin. Specifically, the West Branch Brandywine Creek at Modena (01480617) annual mean streamflow averaged about 82 percent of the long-term mean annual streamflows for the water year. A new minimum of monthly mean streamflow for the period of record for the month of October was recorded at West Branch Brandywine Creek at Modena (01480617) and at Brandywine Creek at Chadds Ford (01481000). Streamflows in the Red Clay Creek near Kennett Square (01479820) averaged about 80 percent of the long-term mean annual streamflows for the water year. Specific data for the Christina River Basin can be found on pages 256-328.

The state Department of Environmental Protection (DEP) and the Delaware River Basin Commission (DRBC) issued a drought warning on October 27 for 17 Pennsylvania counties in the Delaware River Basin. In early January, precipitation had produced almost 4 inches of runoff within a one week span. On January 16 the DEP lifted the drought declarations in all Delaware Basin counties with the exception of Chester County. A drought watch remained in effect for Chester County until March 30. (Novak, 1997-98)

Reservoirs

Combined storage in 13 major reservoirs in the Delaware River Basin within Pennsylvania decreased slightly from 197,510 acre-feet (30.0 percent of total combined capacity) on September 30, 1997, to 194,224 acre-feet (29.5 percent of total combined capacity) on September 30, 1998. Total combined capacity of the major reservoirs in the Delaware River Basin within Pennsylvania is 659,390 acre-feet. Total combined drainage areas into these reservoirs is equal to about 1,130 square miles. This is 17.6 percent of the total drainage area of the Delaware River Basin within the Commonwealth of Pennsylvania.

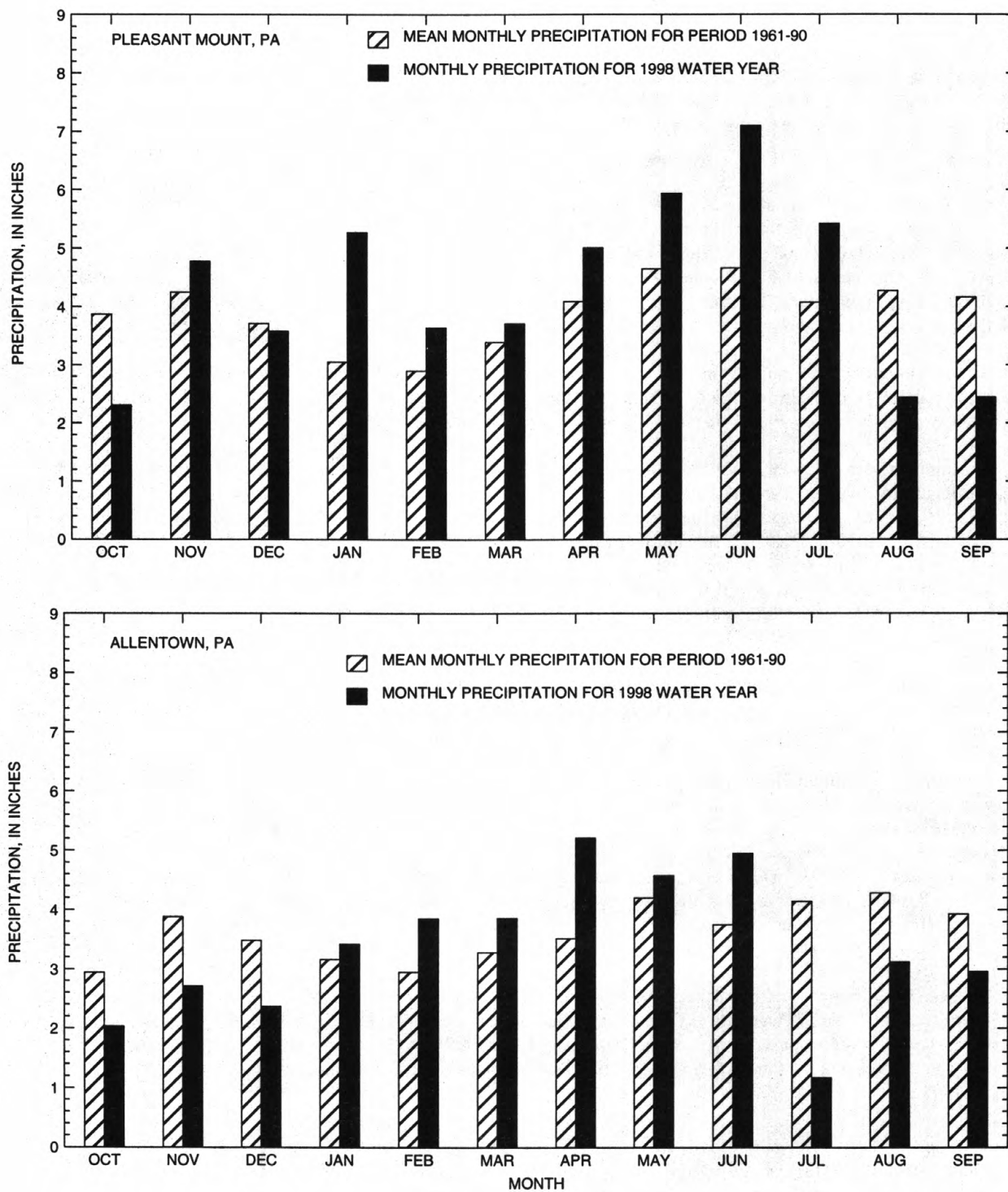


Figure 1.--Comparison of monthly precipitation in the Delaware River Basin at Pleasant Mount and Allentown, Pa. during the 1998 water year with mean monthly precipitation for the period 1961 through 1990.

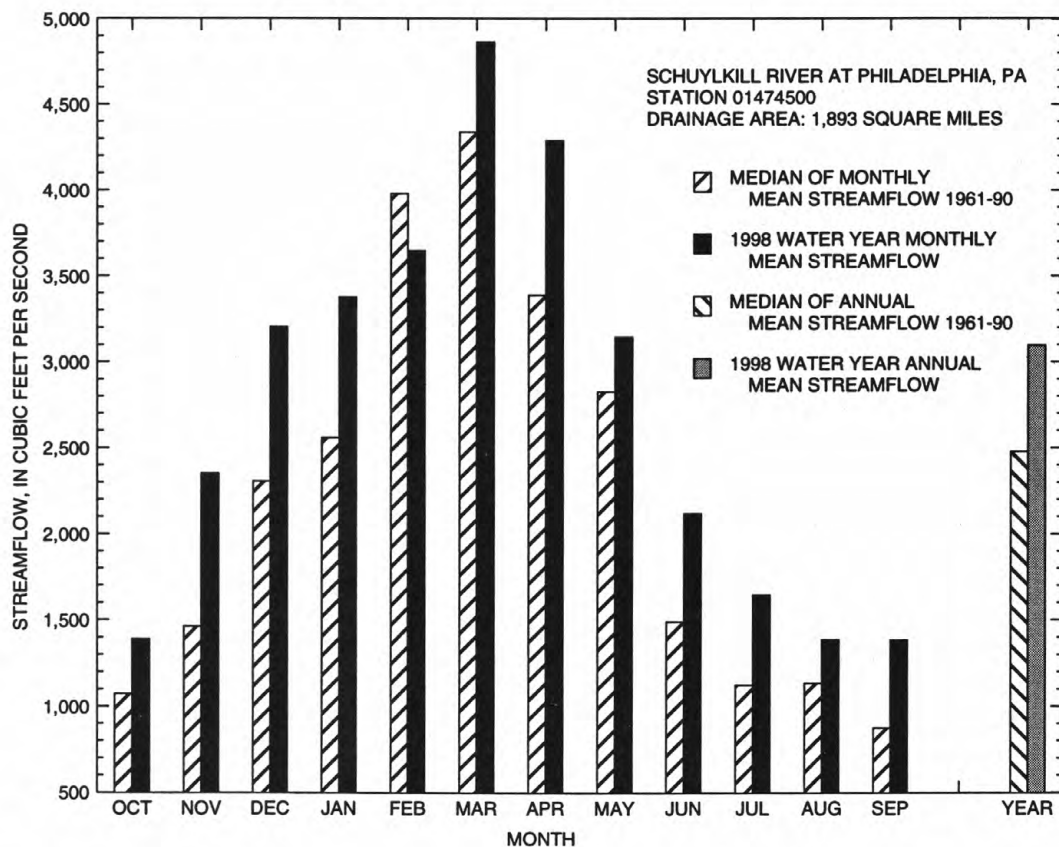
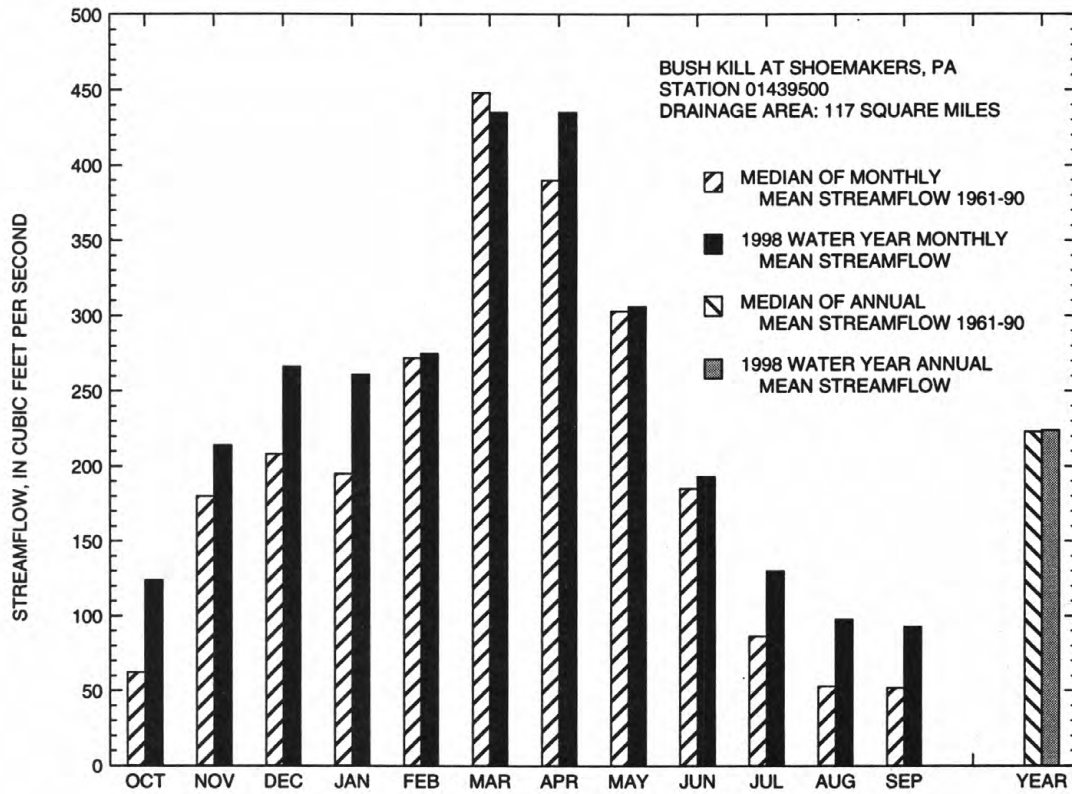


Figure 2.--Comparison of streamflow at two long-term streamflow-gaging stations during the 1998 water year with the median of monthly and annual mean streamflow for the period 1961 through 1990.

Water Quality

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

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

In general, streamflow for the Delaware River was lowest during September and highest during March. As a result of these streamflows, the specific conductance at the U.S. Geological Survey water-quality monitoring station on the Delaware River at Reedy Island Jetty, Delaware was lowest in early spring and highest in late summer and continuing into early fall. Figure 3 compares the 1998 water year monthly mean specific conductance with the mean monthly values for the period 1965 through 1997.

No new maximum or minimum values of specific conductance, temperature, dissolved oxygen or pH were measured during the year. Data for Delaware River at Reedy Island Jetty, Delaware can be found on pages 330-336.

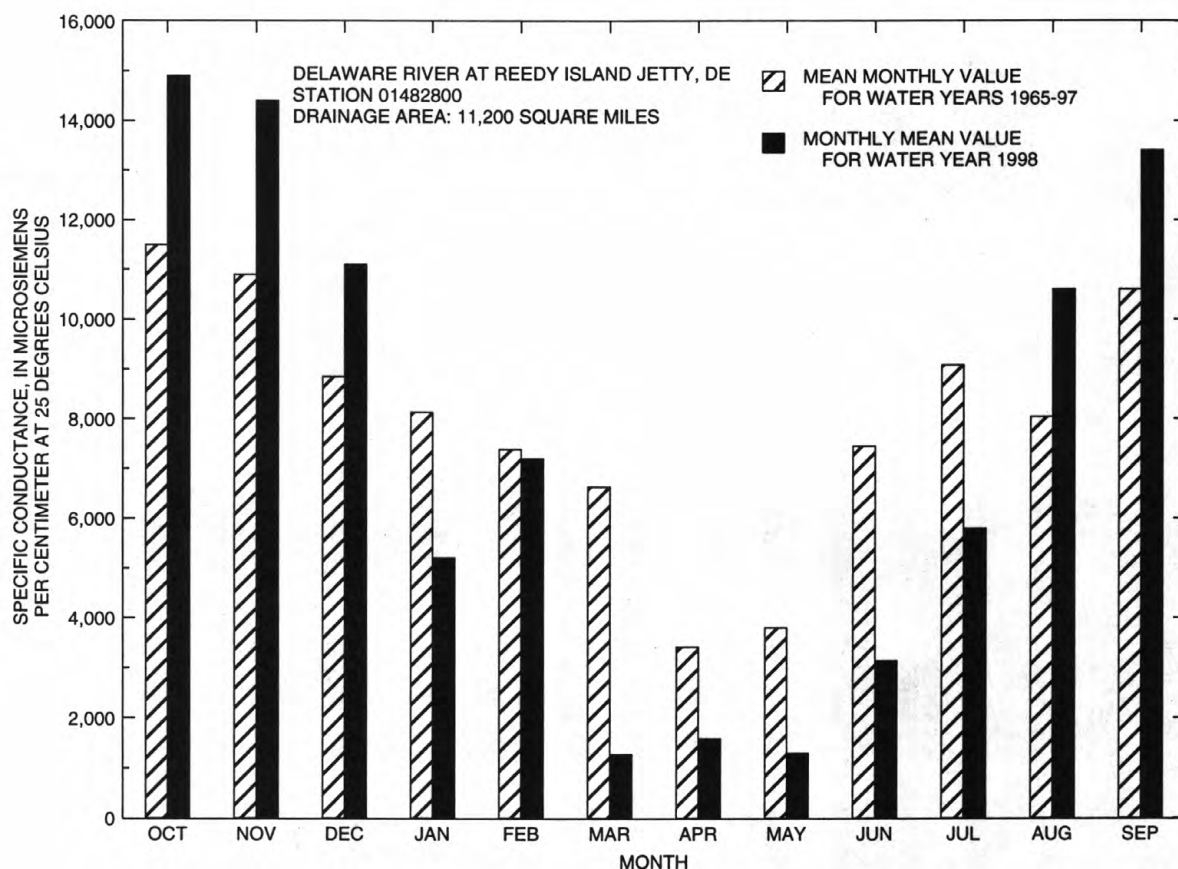


Figure 3.--Monthly mean specific conductance measured in the Delaware River at Reedy Island Jetty, De. for the 1998 water year and the mean monthly specific conductance for the period 1965 through 1997.

Ground Water

Ground-water levels, which were falling from normal to below normal at the end of the 1997 water year (Durlin and Schaffstall, 1998) continued to fall through the beginning of the 1998 water year. No significant recharge was observed until January. Ground-water levels generally peaked at the end of the winter season or early spring. This recharge is related to the above normal precipitation that occurred throughout the basin during January and continuing through June (fig. 1). As precipitation amounts dropped to below normal totals through the summer, ground-water levels also fell throughout most of the basin in July, August, and September. Of the 14 observation wells within the basin, 9 were at or below the 75th percentile by the end of September. A new record low water level was recorded at the Pike County well (PI200) in September.

References

- Durlin, R. R., and Schaffstall W. P., 1998, Water Resources Data, Pennsylvania, water year 1997: U.S. Geological Survey Water-Data Report PA-97-1, 372 p.
- U.S. Department of Commerce, 1997-98, Climatological Data for Pennsylvania, Volume 102-103: National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service.
- Novak, Christina, Drought Warning Declared in 17 Southeastern Pa. Counties [news release online] (Harrisburg, Pennsylvania, October 27, 1997; January 16, 1998; February 19, 1998; March 30, 1998) available at http://www.dep.state.pa.us/dep/subject/hottopics/drought/dr_arc; Internet.

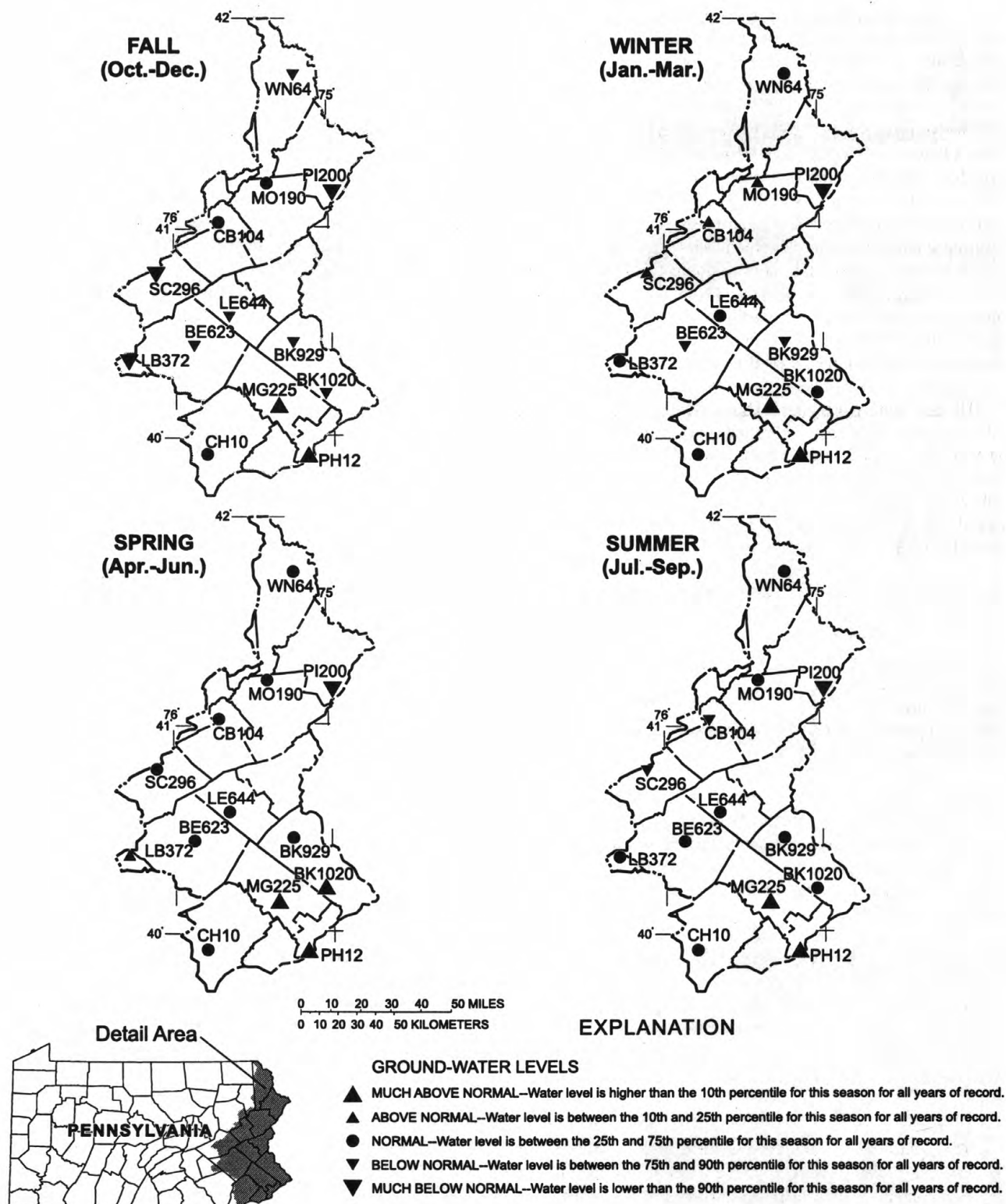


Figure 4.--Relation between 1998 seasonal mean ground-water levels and long-term mean ground-water levels. [Seasonal percentile values were determined by ranking the average monthly water levels for each month in the season from highest to lowest for all years of record and averaging the ranks for the three months. A water level that is higher than the seasonal 10th percentile value would be expected to occur only once in a ten-year period. Conversely, a water level that is lower than the seasonal 90th percentile value also would be expected to occur only once during a ten-year period.]

SPECIAL NETWORKS AND PROGRAMS

The **Hydrologic Bench-Mark Network** is a network of 50 sites in small drainage basins throughout the country that provides 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. There are no stations in the Delaware River Basin in Pennsylvania participating in this program.

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 Delaware River Basin 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://www.wrvaes.er.usgs.gov/nawqa/nawqa_home].

EXPLANATION OF THE RECORDS

The surface-water and ground-water records in this report are for the 1998 water year that began October 1, 1997, and ended September 30, 1998. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for streamflow stations, and ground-water-level data. The location of these stations and wells are shown in figures 6-9. 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 and continuous-record stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. A station number can be from 8 to 15 digits in length and normally appears to the left of the station name. For example, an 8-digit number for a station such as 01570500, includes a 2-digit part number "01" plus a 6-digit downstream-order number "570500." The part number designates major river basins; for example, part "01" is the North Atlantic Slope Basin.

Latitude-Longitude System

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

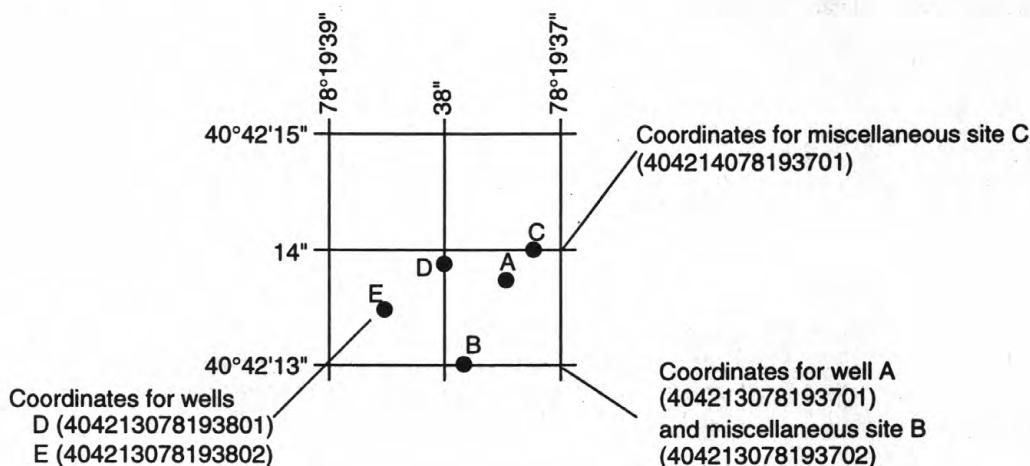


Figure 5.--System for numbering wells and miscellaneous sites (latitude and longitude).

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

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "*Crest-stage partial-record stations*," or "*Low-flow partial-record stations*." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all continuous-record and partial-record stations for which data are given in this report are shown in figures 6-9.

Data Collection and Computation

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

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage, with solid-state electronic data loggers, or with data collection platforms (DCPs) that electronically record and transmit the data via satellite to ground receiving stations. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and U.S. Geological Survey Techniques of Water-Resources Investigations (TWRIs), Book 3, Chapter A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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

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

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

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

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

Data Presentation

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

Station manuscript

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

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

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

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

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

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

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

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

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

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

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

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "*Revised Records*" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were ever revised after the station was discontinued. Of course, if 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. In order to present all the data collected on the Delaware River, data collected by the U.S. Geological Survey offices in New Jersey, New York and Delaware have been included in this report. These data are presented as published by each state, although the format differs slightly from that published in this volume.

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN."). Figures for cubic feet per second per square mile and runoff in inches may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations both monthly and yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

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

Summary statistics

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

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

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

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

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

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

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

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

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

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

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 on the World Wide Web at [<http://pa.water.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 District Information Specialist (telephone (717) 730-6916).

Records of Surface-Water Quality

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

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Location of stations for which records on the quality of surface water appear in this report are shown in figures 6-9.

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 with solid-state electronic data loggers, or with Data Collection Platforms (DCPs). 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 most water-discharge stations and are on file in the District's offices. For stations where water temperature is measured manually once or twice daily, it is usually measured at about the same time each day. Large streams have a small diurnal temperature change; temperatures in shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by heated waste-water discharges.

Sediment

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

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

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

Laboratory Measurements

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

Data Presentation

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

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

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

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

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

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

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

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

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

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made 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:

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

Data Collection and Computation

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

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

Water-level records are obtained from direct measurements with a steel tape, from the graph, with solid-state electronic data loggers, or with Data Collection Platforms (DCPs). The water-level measurements in this report are given in feet with reference to land-surface datum (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 in wells equipped with recording gages are reported for each day.

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

Data Presentation

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

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

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

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

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

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

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

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

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

Data table of water-levels

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

Records of Ground-Water Quality

Records of ground-water quality are obtained at wells and springs included in ground-water projects. Records of ground-water quality in this report may involve a variety of types of data and measurement frequencies. Those wells with a (c) following the well number in the list of ground-water wells on pages x and xi, 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 basinwide. 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 method 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://pa.water.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.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point.

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 or 1,233 cubic meters.

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.

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid.

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., 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.

Escherichia coli are bacteria of the fecal coliform groups. The presence of these organisms in water is indicative of fecal contamination from humans or other warm-blooded animals. Some strains of *E. coli* are themselves pathogens. In the laboratory, these bacteria are defined as organisms that produce yellow or yellow-brown colonies that remain so when placed on a filter pad saturated with urea substrate broth for 15 minutes after resuscitation at 35°C for two hours and incubation for 24 hours at 44.5°C on m-TEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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°C ± 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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°C ± 1.0 °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.

Benthic invertebrates are invertebrate animals inhabiting the bottoms of lakes, streams and other water bodies. They are useful as indicators of water quality.

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

Biomass is the amount of living matter present at any given time, expressed as 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 BOD 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.

Continuing-record station is a specified site which meets one or all conditions listed:

1. When chemical samples are collected daily or monthly for 10 or more months during the water year.
2. When water temperature records include observations taken one or more times daily.
3. When sediment discharge records include periods for which sediment loads are computed and are considered to be representative of the runoff for the water year.

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 are 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-micrometer (μm) membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

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

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

High tide is the maximum height reached by each rising tide.

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.

Low tide is the minimum height reached by each falling tide.

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.

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

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This 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.

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

Milligrams per liter (MG/L , mg/L) is a unit for expressing the concentration of chemical constituents in 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.

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

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

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) 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 for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

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. (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 2000.

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.

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 (m²), acres, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

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

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, 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 data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

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

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water 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 [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes and [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

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

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

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

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

Runoff (see Annual Runoff)

Sea level: In this report, 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) $\times$ discharge (ft^3/s) $\times$ 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 planimetered. All areas shown are those for the stage when the planimetered map was made.

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

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

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

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

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexagenia
Species	Hexagenia Limbata

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.

Volatile Organic Compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are man-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Environmental Protection Agency, 1996).

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, 1998, is called the "1998 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."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

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

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

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

Section E. Subsurface Geophysical Methods

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

Section F. Drilling and Sampling Methods

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

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS–TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI Book 3, Chapter A6. 1968. 13 pages.

- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS-TWRI Book 3, Chapter A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS-TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS-TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS-TWRI Book 3, Chapter A12. 1986. 41 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS-TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS-TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS-TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS-TWRI Book 3, Chapter A16. 1985. 52 pages.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS-TWRI Book 3, Chapter A17. 1985. 38 pages.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS-TWRI Book 3, Chapter A18. 1989. 52 pages.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS-TWRI Book 3, Chapter A19. 1990. 31 pages.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS-TWRI Book 3, Chapter A20. 1993. 38 pages.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS-TWRI Book 3, Chapter A21. 1995. 56 pages.

Section B. Ground-Water Techniques

- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS-TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G.D. Bennett: USGS-TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS-TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS-TWRI Book 3, Chapter B4. 1990. 232 pages.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS-TWRI Book 3, Chapter B4. 1993. 8 pages.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS-TWRI Book 3, Chapter B5. 1987. 15 pages.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS-TWRI Book 3, Chapter B6. 1987. 28 pages.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS-TWRI Book 3, Chapter B7. 1992. 190 pages.

Section C. Sedimentation and Erosion Techniques

- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS-TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by Thomas K. Edwards and G. Douglas Glysson: USGS-TWRI Book 3, Chapter C2. 1988. 80 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS-TWRI Book 3, Chapter C3. 1972. 66 pages.

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

- 4-A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS-TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H.C. Riggs: USGS-TWRI Book 4, Chapter A2. 1968. 15 pages.

Section B. Surface Water

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

Section D. Interrelated Phases of the Hydrologic Cycle

- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS-TWRI Book 4, Chapter D1. 1970. 17 pages.

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

- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS-TWRI Book 5, Chapter A1. 1989. 545 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS-TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS-TWRI Book 5, Chapter A3. 1987. 80 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS-TWRI Book 5, Chapter A4. 1989. 363 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS-TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS-TWRI Book 5, Chapter A6. 1982. 181 pages.

Section C. Sediment Analysis

- 5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS-TWRI Book 5, Chapter C1. 1969. 58 pages.

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

- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS-TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS-TWRI Book 6, Chapter A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS-TWRI Book 6, Chapter A3. 1993. 136 pages.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS-TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS-TWRI Book 6, Chapter A5, 1993. 243 pages.
- 6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler. 1996. 125 pages.

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

- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS-TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS-TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS-TWRI Book 7, Chapter C3. 1981. 110 pages.

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

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

Section B. Instruments for Measurement of Discharge

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

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

- 9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements*, edited by F.D. Wilde and D.B. Radtke: USGS-TWRI Book 9, Chapter A6. 1998. Various pages.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, by D.N. Myers and F.D. Wilde: USGS-TWRI Book 9, Chapter A7. 1997. 49 pages.
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples*, by D.B. Radtke: USGS-TWRI Book 9, Chapter A8. 1998. 48 pages.
- 9-A9. *National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities*, by S.L. Lane and R.G. Fay: USGS-TWRI Book 9, Chapter A9. 1998. 60 pages.

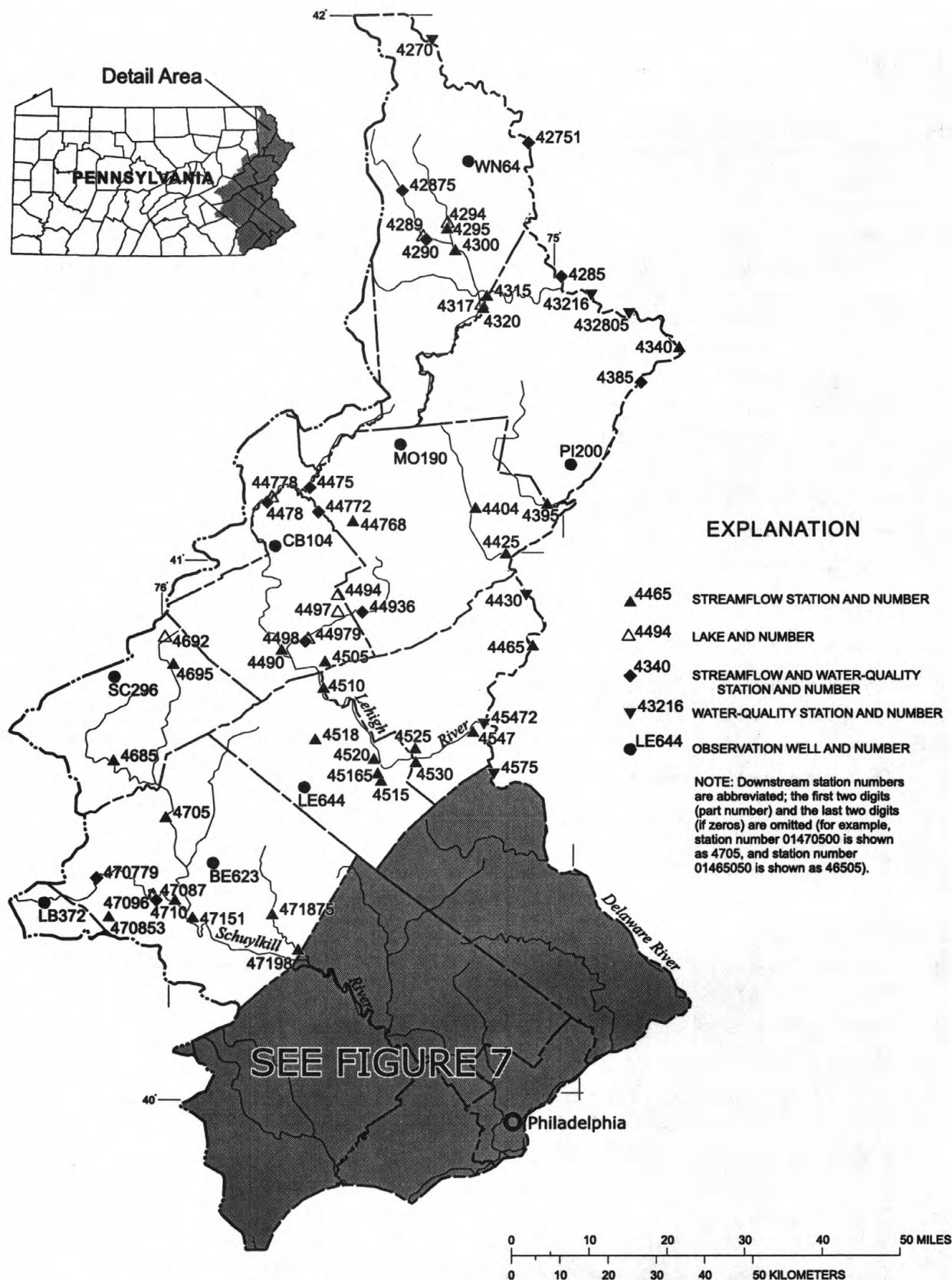


Figure 6.--Location of continuous-record data-collection stations in the upper Delaware River Basin.

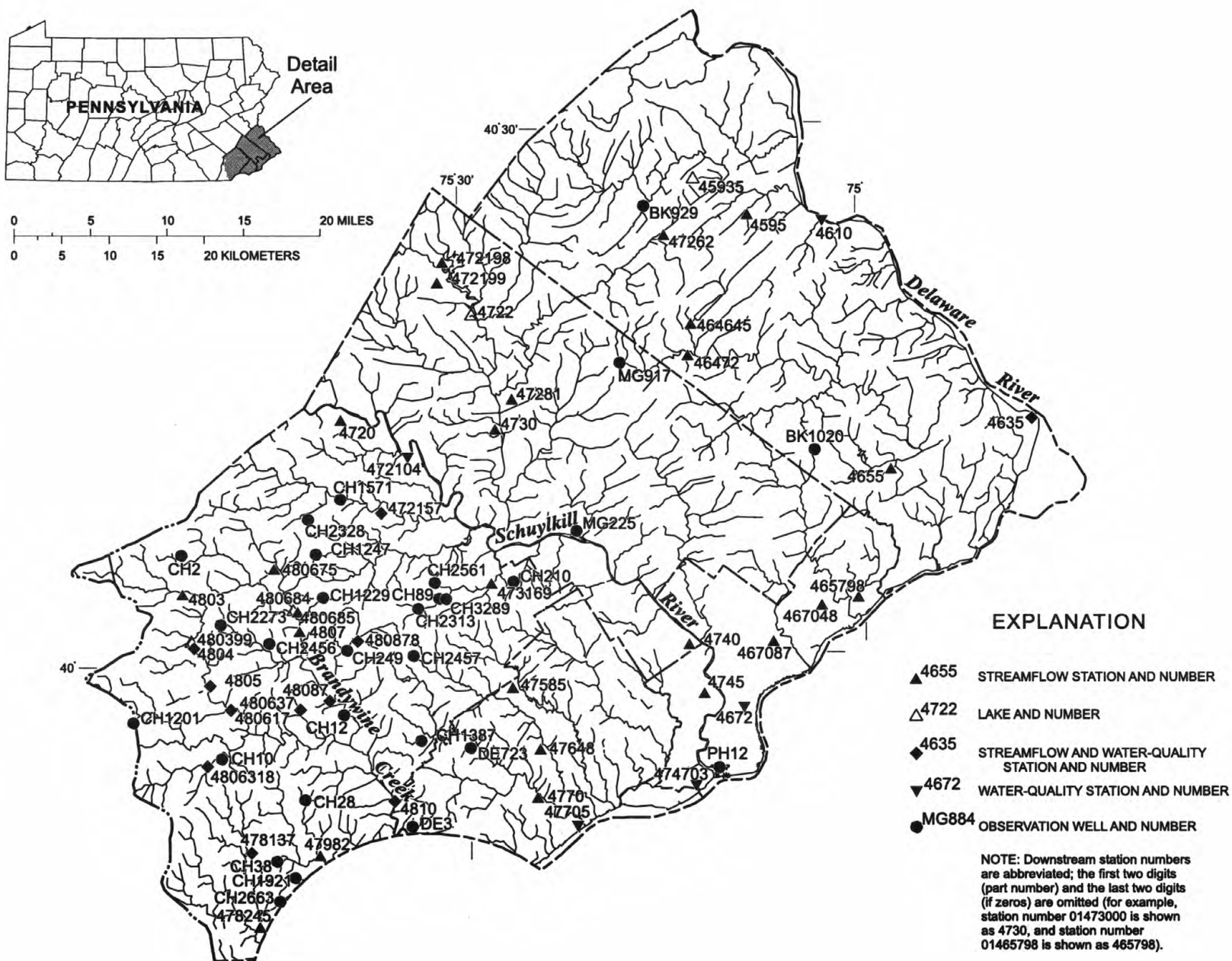


Figure 7.--Location of continuous-record data-collection stations in the lower Delaware River Basin.

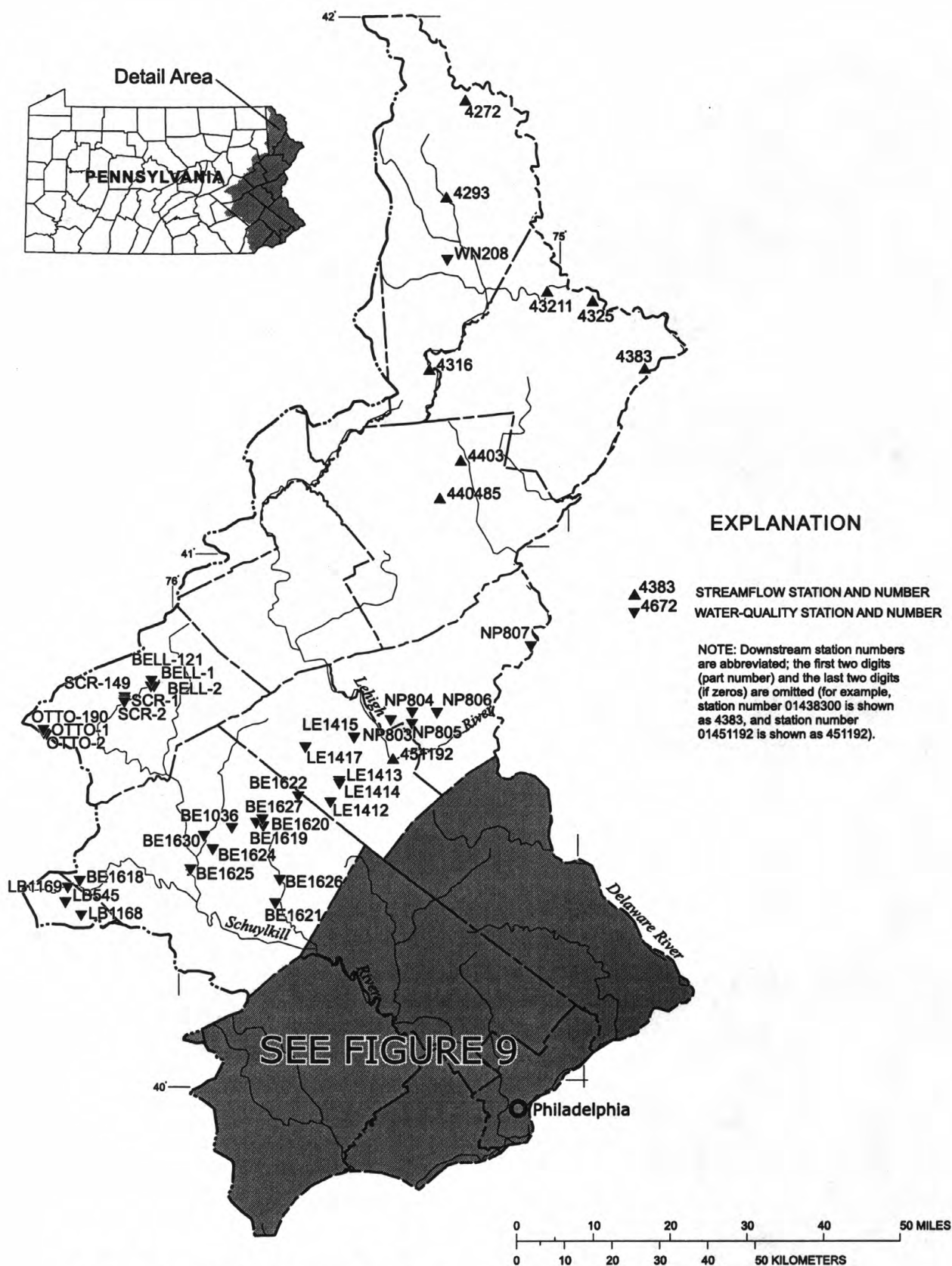
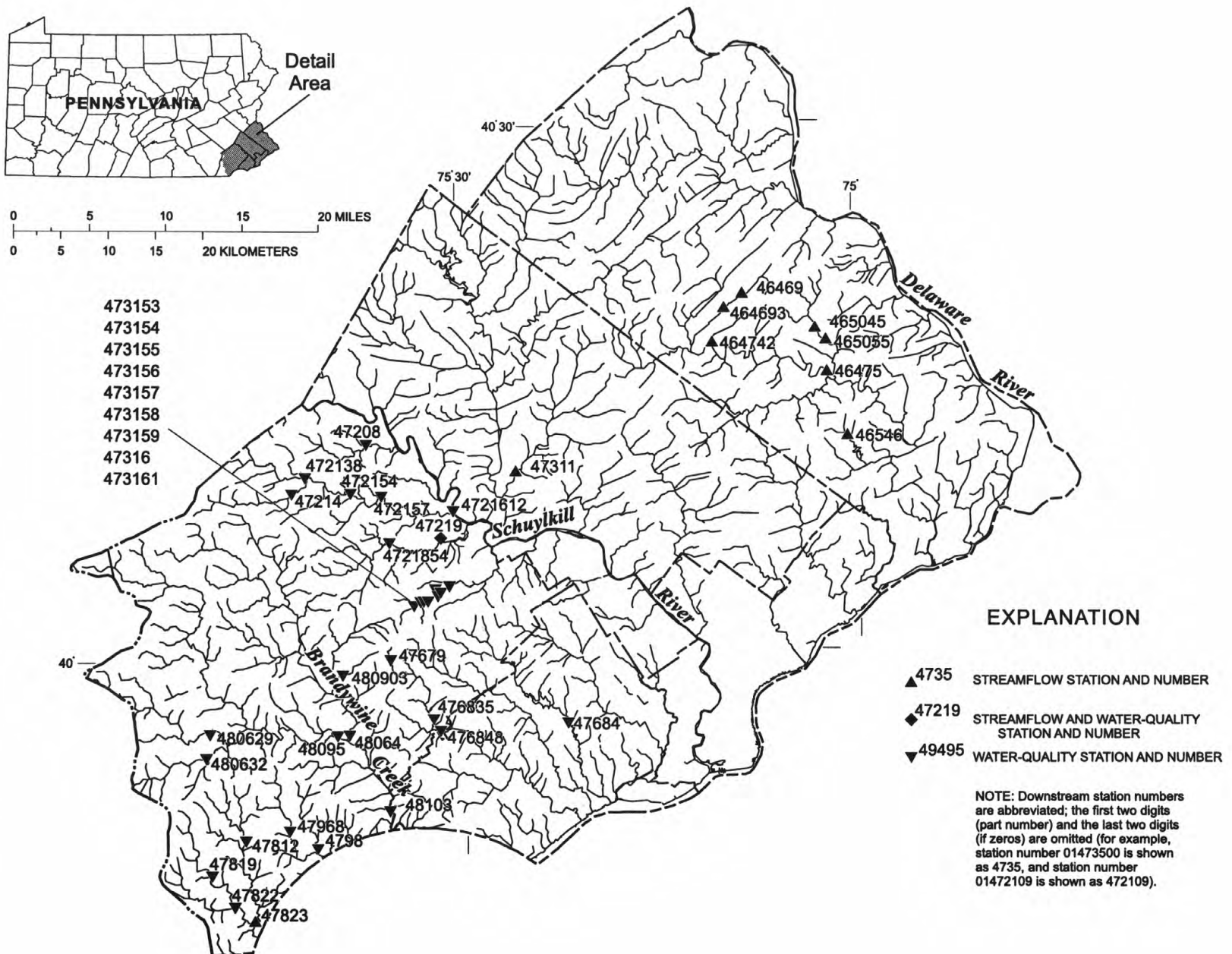


Figure 8.--Location of partial-record data-collection stations in the upper Delaware River Basin.

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



SPECIAL NOTES, REMARK CODES, AND SELECTED CONSTITUENT DEFINITIONS

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

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

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

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

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

where:

MBASCOR = corrected MBAS concentration, in mg/L ;

M = reported MBAS concentration, in mg/L ;

N = dissolved nitrate plus nitrite, as nitrogen, in mg/L ; and

C = dissolved chloride concentration, in mg/L .

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

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

PRINTED OUTPUT

REMARK

E,e	Estimated value.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
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

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

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

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

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

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

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

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

SURFACE-WATER RECORDS
NORTH ATLANTIC SLOPE BASINS
DELAWARE RIVER BASIN

01427000 WEST BRANCH DELAWARE RIVER AT HANCOCK, N.Y.

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

DRAINAGE AREA.--650 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1996 to current year.

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

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

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum, 24.5°C, Sept, 18, 1997; minimum, 0.0°C on many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 23.0°C, May 29; minimum, 0.0°C on many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	13.0	11.0	12.0	11.5	10.5	11.0	3.5	2.0	3.0	.0	.0	.0
2	12.5	9.5	11.0	11.5	9.0	10.5	2.5	1.5	2.0	.0	.0	.0
3	12.5	11.0	12.0	10.0	7.5	9.0	3.0	1.5	2.5	.0	.0	.0
4	14.5	11.5	13.0	8.5	7.5	8.0	4.0	3.0	3.5	1.0	.0	.5
5	16.5	13.5	15.0	9.5	6.5	7.5	4.0	2.5	3.5	2.5	.0	1.5
6	15.5	12.0	14.0	9.0	6.0	7.0	3.0	2.0	2.5	3.5	2.5	3.0
7	15.0	12.5	14.0	8.5	6.0	7.0	2.5	2.0	2.0	4.5	3.5	4.0
8	15.5	13.5	14.5	8.5	7.0	8.0	2.5	2.0	2.5	6.0	4.5	5.0
9	16.0	13.0	14.5	8.5	7.5	8.0	2.0	.5	1.5	7.0	6.0	6.5
10	16.5	14.0	15.0	7.5	6.0	7.0	2.0	.5	1.5	6.0	4.0	5.0
11	15.0	12.5	13.5	7.0	4.5	6.0	1.5	.5	1.5	4.0	2.5	3.0
12	14.5	11.5	13.0	5.0	3.0	4.0	2.0	1.5	1.5	2.5	1.5	2.0
13	15.0	12.0	13.5	4.5	2.0	3.5	1.5	1.0	1.5	3.0	1.0	2.5
14	15.0	14.0	15.0	3.5	1.0	1.5	2.0	.0	1.0	1.0	.0	.0
15	14.5	13.0	13.5	2.5	1.5	2.0	.5	.0	.0	.5	.0	.0
16	14.0	11.5	13.0	3.0	1.0	2.0	.5	.0	.0	1.5	.5	1.0
17	13.5	11.0	12.5	2.5	.5	1.5	.5	.0	.0	2.0	1.5	1.5
18	14.5	11.5	13.0	3.5	.5	2.0	1.0	.0	.0	2.0	1.5	1.5
19	13.5	11.5	12.5	2.5	.0	1.0	1.5	.0	.5	2.5	1.0	1.5
20	14.0	11.5	13.0	4.0	1.0	2.0	2.0	.5	1.0	1.5	.5	1.0
21	13.5	11.5	12.5	3.5	1.0	2.0	1.5	.0	.5	1.0	.0	.5
22	13.0	11.0	11.5	3.5	2.5	3.0	.0	.0	.0	.5	.0	.5
23	11.5	9.5	10.5	4.0	3.0	3.5	.0	.0	.0	.0	.0	.0
24	12.0	11.0	11.5	3.5	2.0	3.0	.5	.0	.5	1.0	.0	.5
25	11.5	10.5	11.0	2.0	1.0	1.5	1.5	.5	1.0	1.5	.0	.5
26	11.0	9.5	10.0	3.0	.5	1.5	2.0	1.0	1.5	.0	.0	.0
27	10.0	8.0	9.0	3.5	2.5	3.0	2.0	1.0	1.5	.0	.0	.0
28	9.0	8.0	8.5	3.0	2.0	2.5	2.0	.0	1.0	1.0	.0	.5
29	10.5	7.0	8.5	4.5	3.0	3.5	.5	.0	.0	1.0	.0	.5
30	11.0	9.0	10.0	3.5	2.5	3.0	.0	.0	.0	1.5	.5	1.0
31	10.5	8.5	10.0	---	---	---	.0	.0	.0	2.0	.0	1.0
MONTH	16.5	7.0	12.5	11.5	.0	4.5	4.0	.0	1.0	7.0	.0	1.5

DELAWARE RIVER BASIN

01427000 WEST BRANCH DELAWARE RIVER AT HANCOCK, N.Y.--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.5	.0	.5	3.0	2.5	3.0	8.0	5.5	6.5	12.0	9.5	11.0
2	1.5	.0	.5	3.5	2.0	3.0	7.5	5.5	6.5	13.0	10.5	12.0
3	2.0	.0	1.0	3.0	2.0	2.5	5.5	4.5	5.0	13.5	11.0	12.0
4	2.0	.5	1.5	3.0	2.0	2.5	5.0	4.0	4.5	12.5	10.0	11.0
5	2.5	1.0	2.0	3.0	2.0	2.5	5.0	3.5	4.0	13.0	11.5	12.0
6	2.5	.0	1.0	3.0	2.0	2.5	6.5	3.5	4.5	14.5	11.5	13.0
7	2.5	.0	.5	3.5	2.0	2.5	7.5	3.5	5.5	16.5	12.0	14.0
8	2.5	.0	.5	3.0	1.5	2.5	6.0	4.0	5.0	15.0	12.5	13.5
9	2.5	.0	1.0	4.0	2.5	3.0	5.5	5.0	5.0	14.5	13.0	13.5
10	3.0	.0	1.0	3.5	1.5	2.5	8.0	5.0	6.0	14.0	13.0	13.5
11	2.5	.0	1.5	2.5	1.0	1.5	8.0	4.5	6.5	13.5	12.5	13.0
12	2.5	1.5	2.0	2.0	1.0	1.5	9.0	5.0	7.0	15.0	12.5	13.5
13	2.0	.5	1.5	2.5	1.0	1.5	10.0	6.0	7.5	15.5	12.0	13.5
14	1.0	.0	.0	2.0	1.0	1.5	10.5	6.5	8.5	15.5	11.0	13.5
15	.5	.0	.0	3.5	1.5	2.0	9.5	7.0	8.0	16.5	13.0	14.5
16	.0	.0	.0	4.0	1.0	2.0	10.5	7.0	8.5	19.0	15.0	17.0
17	.5	.0	.5	4.5	.5	2.5	10.5	9.0	10.0	19.5	15.5	17.5
18	2.5	.5	1.5	3.0	2.0	2.0	10.5	6.0	8.5	18.0	13.5	15.5
19	2.0	1.5	2.0	2.5	2.0	2.5	9.5	6.5	7.0	19.5	14.0	17.0
20	3.0	2.0	2.5	3.5	2.5	3.0	8.0	6.5	7.0	20.5	15.5	18.0
21	2.5	2.0	2.0	3.0	.5	2.0	10.0	6.5	8.0	19.5	15.5	17.5
22	3.0	1.5	2.0	1.5	.5	1.0	10.0	7.0	8.5	16.5	13.5	15.0
23	2.5	1.0	2.0	3.5	1.0	2.0	9.5	7.5	8.5	18.0	12.5	15.5
24	2.0	.0	.5	4.5	1.5	3.0	11.5	8.0	9.5	19.0	13.5	16.5
25	1.5	.0	.5	5.0	1.0	3.0	10.5	8.0	9.0	18.0	15.0	17.0
26	4.0	.5	2.0	6.0	2.5	4.0	9.0	6.5	7.5	20.0	15.5	18.0
27	4.0	1.0	2.5	6.0	3.0	4.5	10.0	6.5	8.0	21.0	16.0	18.5
28	4.0	2.0	3.0	7.5	3.5	5.5	11.0	7.0	9.0	22.0	16.5	19.5
29	---	---	---	8.0	5.0	6.0	12.5	7.0	10.0	23.0	17.5	20.0
30	---	---	---	8.0	4.5	6.0	13.0	9.0	11.0	21.0	16.5	19.0
31	---	---	---	8.5	5.0	6.5	---	---	---	21.5	16.0	18.5
MONTH	4.0	.0	1.5	8.5	.5	3.0	13.0	3.5	7.5	23.0	9.5	15.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	17.5	15.0	16.0	16.5	14.5	16.0	14.5	9.0	12.0	12.0	9.0	10.5
2	16.0	13.0	14.5	18.0	13.5	15.5	15.5	10.0	13.0	11.0	8.5	9.5
3	15.5	12.5	14.0	18.5	15.5	17.0	15.5	13.5	14.5	12.5	8.5	10.5
4	14.0	11.0	13.0	17.5	16.0	16.5	15.0	13.5	14.5	12.5	8.5	10.5
5	15.5	10.5	13.0	19.5	16.5	17.5	13.5	9.5	11.5	12.5	8.5	11.0
6	15.5	11.0	13.5	19.5	16.5	18.0	11.5	8.5	10.0	13.5	9.0	11.0
7	13.0	11.0	12.0	18.5	16.5	17.0	12.5	8.5	10.5	12.5	11.0	11.5
8	12.0	10.5	11.5	17.0	15.0	16.0	13.5	8.0	11.0	14.0	10.5	12.0
9	17.5	10.0	13.5	18.5	15.5	17.0	13.0	9.5	11.5	14.0	11.0	12.5
10	19.0	13.5	16.0	18.5	16.5	17.5	11.5	8.5	10.0	14.5	11.5	13.0
11	16.5	13.5	15.0	18.0	15.5	16.5	13.5	9.0	11.0	13.0	9.0	11.5
12	13.5	13.0	13.5	18.5	14.5	16.5	12.0	8.0	10.0	13.5	9.0	11.5
13	14.5	13.0	13.5	19.5	15.5	17.5	12.5	8.5	10.5	14.0	10.0	12.0
14	14.0	12.5	13.0	19.0	15.0	17.0	11.0	7.5	9.5	13.5	10.5	12.5
15	14.5	12.5	13.5	19.5	16.5	18.0	11.5	9.5	10.0	13.5	11.0	12.5
16	18.0	14.5	16.0	20.0	16.0	18.0	12.0	8.5	10.5	13.5	11.0	12.0
17	17.0	15.0	16.0	20.0	17.5	19.0	11.0	8.5	9.0	14.5	11.0	13.0
18	17.0	15.0	16.0	21.5	17.5	19.5	10.0	8.0	9.0	14.0	9.5	12.0
19	18.5	15.0	17.0	20.0	17.0	19.0	12.5	8.5	10.5	14.0	10.5	12.0
20	18.5	15.0	16.5	19.0	17.0	17.5	12.5	7.5	10.5	14.0	11.0	12.5
21	19.5	16.0	17.5	17.0	15.0	16.0	13.5	8.5	11.0	14.0	12.0	13.0
22	20.5	17.5	19.0	18.0	15.0	16.5	13.0	9.0	11.5	13.5	12.0	12.5
23	20.5	18.0	19.0	17.0	15.5	16.5	12.0	8.5	10.5	13.5	10.5	12.0
24	22.0	18.0	20.0	16.5	14.5	15.5	12.5	10.5	11.5	12.5	9.5	11.5
25	21.0	18.0	19.5	18.5	14.0	16.5	12.5	8.5	10.5	12.5	10.5	11.5
26	20.0	17.5	18.5	20.5	15.5	18.0	14.5	12.0	13.0	14.5	12.0	13.0
27	19.0	16.0	17.5	20.5	16.0	18.5	13.0	8.5	11.0	16.0	12.5	14.5
28	20.0	15.0	17.5	21.0	16.5	18.5	14.0	9.0	11.5	15.5	13.0	14.0
29	19.0	15.5	17.0	18.5	16.0	17.5	12.5	8.5	9.5	16.0	11.5	13.5
30	17.5	14.5	16.5	18.0	14.5	16.0	12.5	8.5	10.5	16.0	12.5	14.0
31	---	---	---	16.5	14.5	15.5	12.5	9.0	11.0	---	---	---
MONTH	22.0	10.0	15.5	21.5	13.5	17.0	15.5	7.5	11.0	16.0	8.5	12.0

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, N.Y.

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

DRAINAGE AREA.--1,820 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 734.88 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi² of drainage area controlled by Cannonsville Reservoir. Part of flow from these reservoirs diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during period of low flow in the lower Delaware River Basin, as directed by the Delaware River Master. Satellite gage-height and temperature telemeter at station. Information on the above reservoirs can be found in the annual Water Data Report NY-98-1.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,500 ft³/s, Jan. 9, gage height, 8.93 ft; minimum, 521 ft³/s, Sept. 11, gage height, 2.66 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1290	773	3600	e980	e1150	6130	5980	2570	1530	10800	1160	1160
2	1270	748	3280	e1100	e1100	7400	10000	2540	1590	7600	1100	1250
3	1070	1610	2450	e1400	1130	7100	8380	4260	2340	6140	808	1280
4	1150	1510	2160	1900	1070	6040	6940	6740	1970	4750	e800	1220
5	1070	1180	2140	4640	1080	5200	5910	6460	1450	4530	e850	1250
6	1170	1070	2040	7570	1060	4460	5030	6730	1230	3850	e1200	1310
7	1110	927	1810	11300	997	3840	4410	6880	1110	2950	e1200	1180
8	972	873	1620	17800	941	3540	4360	6100	1050	3110	e1250	656
9	1240	1440	1470	25700	911	6060	4920	5790	997	9530	e1250	567
10	1240	2580	1390	14500	897	18900	9380	8410	938	10900	e1200	572
11	1190	1870	1390	8490	904	14300	7920	14400	907	8330	1200	828
12	1280	1500	1290	5680	1870	10200	6640	13500	1400	6080	1360	1350
13	1250	1290	1210	4270	3380	7680	5750	10800	3420	4600	1210	1230
14	1350	e1200	1150	3490	2580	6290	5100	8680	5470	3500	1300	1030
15	1300	e1150	e1050	2790	e1900	5350	4640	7090	8880	2600	1250	990
16	1350	e1100	e960	4140	e1700	4450	4370	5880	12000	2110	1340	1060
17	1320	e1000	e860	4650	e1750	3780	3930	4920	10900	1770	1320	995
18	1330	969	e800	3470	1920	3550	3570	4290	11100	1550	1360	1070
19	1320	905	e740	2950	3040	4070	3470	3450	9260	1370	1190	1370
20	1370	866	e720	2600	3360	4600	9830	2740	7860	1260	1190	1330
21	1350	830	e690	2270	3080	5670	9940	2250	6240	1220	1070	1070
22	1390	1180	e700	1990	2690	6340	8370	1890	4670	1230	1000	1270
23	1320	1930	e700	e1800	2390	5390	7160	1660	3580	1120	1140	1180
24	1380	1950	e900	e1900	2620	4690	6200	1490	2800	1070	939	1100
25	1200	1650	1160	e1700	2920	4260	5200	1420	2290	961	1270	1080
26	1230	1440	1430	e1600	2970	4490	4400	1430	1990	853	924	1370
27	948	1590	1600	e1500	2960	6060	4440	1280	1690	808	1190	1210
28	903	1740	1450	e1400	3060	7360	3830	1050	1480	781	1140	1330
29	1070	1670	e1300	1390	---	7710	3260	933	1310	801	1190	1050
30	943	1990	e1200	1360	---	6850	2870	1080	4130	793	1160	595
31	868	---	e1100	1310	---	5900	---	979	---	794	1240	---
TOTAL	37244	40531	44360	147640	55430	197660	176200	147692	115582	107761	35801	32953
MEAN	1201	1351	1431	4763	1980	6376	5873	4764	3853	3476	1155	1098
MAX	1390	2580	3600	25700	3380	18900	10000	14400	12000	10900	1360	1370
MIN	868	748	690	980	897	3540	2870	933	907	781	800	567

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

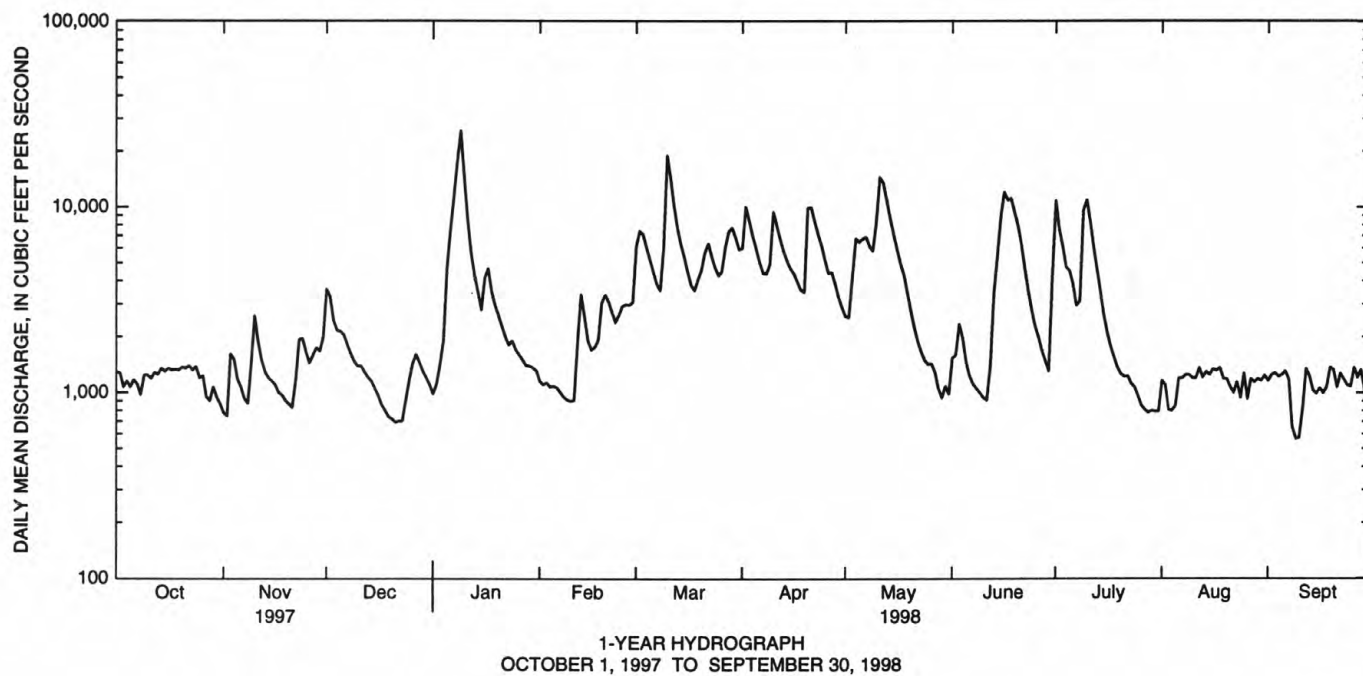
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	2075	2724	2746	2532	2700	4649	5769	3566	1721	1409	1300	1402												
MAX	6545	6561	11130	7594	7993	11080	14500	7866	3853	3571	2710	3716												
(WY)	1978	1997	1997	1978	1976	1977	1993	1984	1998	1996	1994	1977												
MIN	701	1130	1127	587	611	1177	1497	935	734	777	560	839												
(WY)	1992	1979	1990	1977	1980	1981	1985	1985	1985	1981	1985	1994												

e Estimated.

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, N.Y.--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1975 - 1998	
ANNUAL TOTAL	915367		1138854		2710	
ANNUAL MEAN	2508		3120		3972	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					1435	
HIGHEST DAILY MEAN	12400	Apr 5	25700	Jan 9	54800	Mar 15 1986
LOWEST DAILY MEAN	321	Sep 24	567	Sep 9	312	Aug 23 1985
ANNUAL SEVEN-DAY MINIMUM	544	Sep 19	744	Dec 17	354	Aug 17 1985
10 PERCENT EXCEEDS	5950		7240		6100	
50 PERCENT EXCEEDS	1390		1500		1400	
90 PERCENT EXCEEDS	896		931		780	



DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICOON, N.Y.--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: June 1975 to current year.

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

REMARKS.--Water temperature is affected by release of water from upstream reservoir. Interruptions of record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, (water years 1976-98), 30.5°C, July 12, 1987; minimum, 0.0°C on many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 26.0°C, July 19, 20, 22, 28; minimum, 0.0°C on many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	14.5	12.5	13.5	10.5	8.5	9.5	3.0	2.0	3.0	.5	.0	.0
2	13.5	11.0	12.0	11.0	9.5	10.5	2.0	1.0	1.5	.5	.0	.0
3	13.0	11.5	12.5	10.5	9.0	9.5	2.0	1.0	1.5	.5	.0	.0
4	15.0	12.0	13.5	9.5	8.5	9.0	3.0	1.5	2.5	.5	.0	.5
5	17.0	13.5	15.5	9.0	7.5	8.0	3.0	2.5	3.0	1.0	.0	.5
6	18.0	14.5	16.0	8.5	7.0	7.5	3.0	2.0	2.5	3.5	.5	2.0
7	17.0	14.5	16.0	8.0	7.0	7.5	2.5	2.0	2.0	4.0	3.5	3.5
8	16.5	14.5	15.5	8.5	7.5	8.0	2.5	1.5	2.0	5.5	4.0	4.5
9	17.5	14.5	16.0	8.5	8.0	8.0	1.5	.5	1.5	6.5	5.5	6.0
10	17.5	15.5	16.5	8.0	6.5	7.5	1.5	.0	1.0	6.5	4.5	5.5
11	16.0	14.0	15.0	7.0	5.5	6.5	1.0	.0	.5	4.5	3.0	4.0
12	15.0	12.0	13.5	5.5	4.0	5.0	1.5	.5	1.0	3.0	2.5	2.5
13	15.0	12.0	13.5	4.0	2.5	3.5	1.5	.5	1.0	2.5	1.5	2.5
14	15.0	14.0	14.5	3.5	1.0	2.0	1.5	.0	1.0	1.5	.0	1.0
15	14.0	12.5	13.5	2.0	1.0	1.5	.5	.0	.5	.0	.0	.0
16	13.0	11.0	12.0	2.0	1.0	1.5	.5	.0	.5	1.0	.0	.5
17	12.0	9.5	11.0	2.0	.5	1.0	.5	.0	.5	2.5	1.0	2.0
18	12.0	10.0	11.0	1.5	.5	1.0	.5	.0	.5	2.0	2.0	2.0
19	11.5	9.5	10.5	1.0	.5	.5	.5	.0	.5	2.5	1.5	2.0
20	11.0	9.0	10.0	1.5	.5	1.0	.5	.0	.5	2.0	1.5	2.0
21	11.0	9.5	10.0	2.0	.5	1.0	.5	.0	.5	1.5	.5	1.0
22	10.0	8.0	9.0	2.5	1.5	2.0	.5	.0	.5	1.0	.0	.5
23	8.0	7.0	7.5	3.0	2.5	3.0	.5	.0	.0	.5	.0	.0
24	7.5	7.0	7.5	3.0	1.5	2.5	.5	.0	.5	1.0	.0	.5
25	9.0	7.5	8.0	1.5	1.0	1.5	.5	.0	.5	1.0	.0	.5
26	8.5	7.0	7.5	1.5	.5	1.0	1.0	.5	.5	1.0	.0	.5
27	9.0	7.5	8.0	2.0	1.5	2.0	1.0	.5	.5	.5	.0	.0
28	8.0	6.0	7.0	2.5	1.5	2.0	1.0	.0	.5	1.0	.0	.5
29	7.5	5.0	6.5	3.5	2.0	2.5	.5	.0	.0	1.5	.0	.5
30	8.5	6.0	7.5	3.0	2.5	3.0	.5	.0	.0	2.0	.5	1.0
31	9.0	6.5	8.0	---	---	---	.5	.0	.0	2.0	1.0	1.5
MONTH	18.0	5.0	11.5	11.0	.5	4.5	3.0	.0	1.0	6.5	.0	1.5

DELAWARE RIVER BASIN

01427510 DELAWARE RIVER AT CALLICORN, N.Y.--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.0	.0	1.0	4.5	4.0	4.0	11.0	10.0	10.5	14.5	13.0	14.0
2	2.0	.0	1.0	4.5	3.5	4.0	10.5	9.0	10.0	15.0	13.0	14.0
3	2.0	.5	1.5	4.0	3.5	3.5	9.0	7.5	8.0	14.5	13.5	14.0
4	2.0	1.0	1.5	3.5	3.0	3.5	7.5	6.0	7.0	13.5	12.5	13.0
5	3.0	1.5	2.0	4.0	3.0	3.5	6.0	5.5	6.0	13.0	12.5	12.5
6	2.5	.5	1.5	4.0	2.5	3.0	7.0	5.0	6.0	14.0	12.5	13.5
7	2.5	.5	1.5	4.0	3.0	3.5	8.5	6.0	7.0	15.5	13.5	14.0
8	2.0	.0	1.0	4.0	3.0	3.5	8.0	7.0	7.5	15.0	14.0	14.5
9	2.5	.0	1.0	5.0	3.0	4.0	7.0	6.5	6.5	14.0	13.5	13.5
10	2.5	.5	1.5	5.0	3.0	4.0	7.5	6.0	7.0	13.5	13.0	13.5
11	2.5	.5	2.0	3.0	1.5	2.0	8.0	6.5	7.5	13.0	13.0	13.0
12	3.0	2.0	2.5	1.5	.5	1.0	9.0	7.0	8.0	14.0	12.5	13.0
13	2.5	1.5	2.0	1.5	.5	1.0	10.0	7.5	8.5	14.5	13.0	13.5
14	1.5	.0	1.0	1.5	1.0	1.5	11.0	8.5	9.5	15.0	13.5	14.5
15	.5	.0	.5	3.0	1.5	2.0	10.5	9.5	10.0	16.5	14.5	15.5
16	.5	.0	.5	3.5	2.0	2.5	11.0	9.0	10.0	18.5	15.5	17.0
17	.5	.0	.5	4.5	2.0	3.0	12.0	10.5	11.5	20.0	17.5	18.5
18	1.5	.5	1.0	3.5	3.0	3.0	12.5	10.0	11.0	19.5	17.5	18.5
19	2.5	1.0	2.0	3.0	2.5	3.0	10.5	8.5	10.0	19.5	16.5	18.0
20	3.5	2.5	3.0	5.5	3.0	4.0	8.5	8.0	8.0	21.0	18.0	19.5
21	3.5	3.0	3.0	5.0	2.5	4.0	9.5	7.5	8.5	20.5	18.0	19.5
22	3.5	2.5	3.0	2.5	1.5	2.0	10.0	9.0	9.5	18.5	16.0	17.5
23	3.5	2.0	2.5	3.0	1.5	2.0	10.0	9.5	10.0	19.0	14.5	16.5
24	3.0	1.0	2.0	4.5	2.5	3.5	11.5	9.5	10.5	20.5	14.5	17.5
25	2.0	1.0	1.5	5.0	3.0	4.0	12.5	10.5	11.0	20.0	17.0	18.5
26	3.5	1.0	2.5	6.5	4.0	5.0	10.5	8.5	9.5	22.0	17.0	19.5
27	4.5	2.0	3.5	7.5	5.5	6.5	9.5	7.5	8.5	23.0	17.5	20.0
28	5.5	3.5	4.0	8.5	6.5	7.5	11.5	8.5	9.5	23.5	18.0	21.0
29	---	---	---	10.0	8.5	9.0	13.0	9.0	11.0	24.5	19.5	22.0
30	---	---	---	10.5	8.5	9.5	15.5	11.5	13.0	25.5	20.5	23.0
31	---	---	---	11.5	9.5	10.5	---	---	---	24.5	20.5	22.5
MONTH	5.5	.0	2.0	11.5	.5	4.0	15.5	5.0	9.0	25.5	12.5	16.5

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

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, N.Y.

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

DRAINAGE AREA.--2,020 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 600.22 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi² of drainage area controlled by Cannonsville Reservoir. Part of flow of these reservoirs diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during periods of low flow in the lower Delaware River Basin, as directed by the Delaware River Master. Telephone gage-height telemeter at station. Information on the above reservoirs can be found in the annual Water Data Report NY-98-1.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32,400 ft³/s, Jan. 9, gage height, 11.71 ft; minimum, 590 ft³/s, Sept. 11, 12, gage height, 2.26 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1320	882	4030	e1100	1480	7070	6540	3320	1510	12700	1000	1290
2	1250	811	4370	e1200	1330	8870	10900	3270	2060	8680	1230	1220
3	1130	1320	3270	1650	1310	8480	9620	4490	3250	7080	951	1340
4	1060	1920	2790	2120	1280	7380	8050	7420	2860	5690	893	1310
5	1170	1310	2710	4720	1330	6400	6920	7210	1910	5240	918	1260
6	1050	1160	2620	8460	1360	5590	5950	7430	1490	4820	1250	1300
7	1200	1020	2270	12600	1250	4910	5220	7590	1270	3850	1290	1460
8	1040	936	1980	18600	1160	4470	5060	6920	1180	3420	1270	888
9	1020	1070	1740	28900	1110	6810	5510	6620	1110	8620	1410	676
10	1210	2940	1590	18400	1080	20800	11100	10400	1050	11500	1280	613
11	1280	2410	1590	10500	1080	17600	9360	18100	991	9160	1250	627
12	1160	1750	1490	7230	2210	12000	7790	16600	1540	6950	1340	1270
13	1340	1420	1350	5520	4300	9070	6770	12600	4640	5440	1410	1390
14	1240	1310	1280	4630	3780	7490	6020	9940	6980	4330	1300	1110
15	1370	1370	1100	3570	e2500	6470	5530	8180	9330	3400	1420	1070
16	1240	1290	977	4670	e2200	5520	5230	6880	13500	2740	1350	1020
17	1390	1150	e920	6110	e2300	4780	4810	5840	12400	2230	1450	1120
18	1220	1060	e880	4740	2640	4460	4460	5130	12900	1870	1450	1030
19	1370	976	e840	4030	3950	5110	4250	4350	10500	1580	1410	1310
20	1270	936	e800	3580	4690	5570	10800	3560	8810	1410	1220	1470
21	1370	898	e760	3150	4280	6320	11400	2950	7250	1340	1200	1210
22	1330	1050	751	2750	3810	7490	9470	2410	5680	1310	1080	1140
23	1380	2200	730	2450	3380	6520	8180	2030	4580	1230	1150	1340
24	1300	2580	995	2600	3710	5740	7170	1770	3670	1170	1120	1140
25	1370	2110	1230	2730	4130	5250	6170	1710	3040	1090	1180	1070
26	1210	1740	1670	e2100	4290	5290	5320	1800	2600	950	1240	1310
27	1110	1700	2080	e1900	4320	7090	5370	1580	2140	887	1030	1370
28	864	2060	1880	e1800	4290	8250	4790	1260	1800	846	1300	1250
29	1100	1940	1590	1720	---	8720	4130	1060	1530	840	1160	1370
30	1030	2140	e1400	1680	---	7950	3680	1150	3270	867	1300	749
31	896	---	e1200	1620	---	6950	---	1190	---	830	1210	---
TOTAL	37290	45459	52883	176830	74550	234420	205570	174760	134841	122070	38062	34723
MEAN	1203	1515	1706	5704	2663	7562	6852	5637	4495	3938	1228	1157
MAX	1390	2940	4370	28900	4690	20800	11400	18100	13500	12700	1450	1470
MIN	864	811	730	1100	1080	4460	3680	1060	991	830	893	613

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1998, BY WATER YEAR (WY)

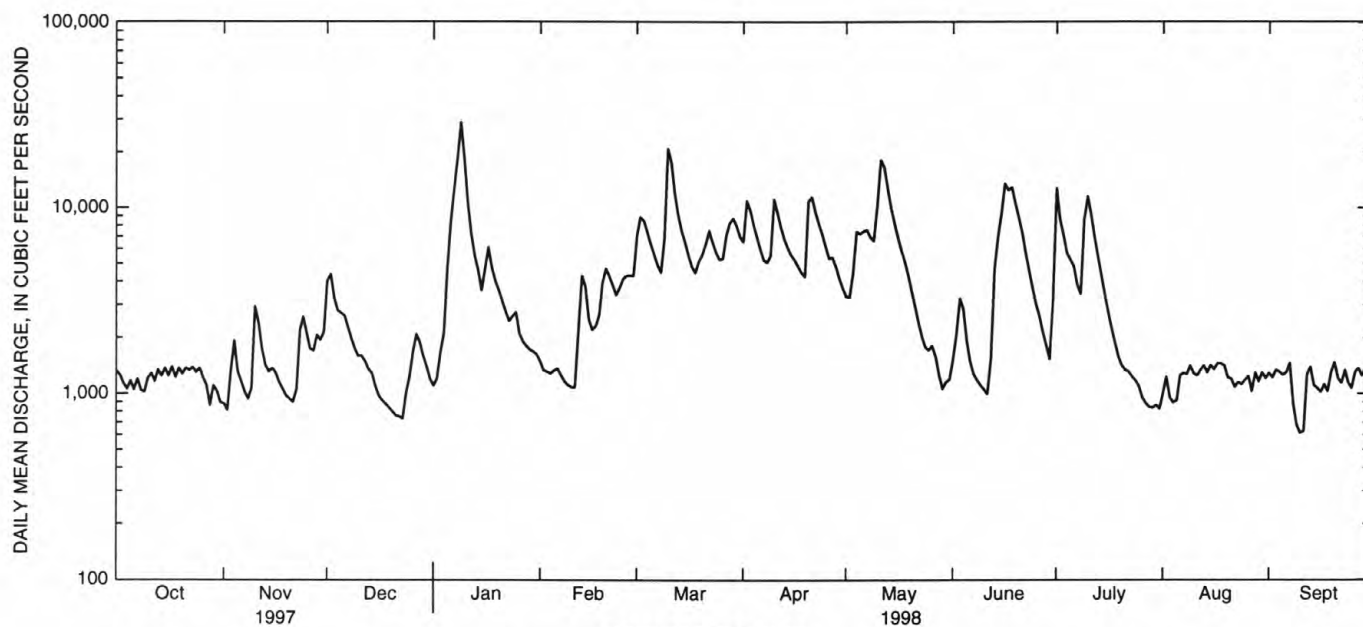
	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
MEAN	2049	2822	3166	2799	2987	5161	6536	4104	2267	1664	1392	1484
MAX	444	7448	11940	8335	9389	12050	16500	8615	6701	4087	3033	4186
(WY)	1978	1997	1997	1978	1976	1977	1993	1984	1972	1996	1994	1987
MIN	527	610	1181	687	712	1399	1878	1161	673	328	465	448
(WY)	1964	1965	1989	1977	1980	1981	1985	1965	1965	1965	1965	1965

e Estimated.

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, N.Y.--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1964 - 1998	
ANNUAL TOTAL	993191		1331458		3034	
ANNUAL MEAN	2721		3648		1297	
HIGHEST ANNUAL MEAN					4650	
LOWEST ANNUAL MEAN					1297	
HIGHEST DAILY MEAN	13400	Apr 1	28900	Jan 9	63000	Jan 20 1996
LOWEST DAILY MEAN	368	Sep 25	613	Sep 10	250	Oct 27 1963
ANNUAL SEVEN-DAY MINIMUM	584	Sep 20	812	Dec 17	264	Oct 23 1963
10 PERCENT EXCEEDS	6270		8330		6720	
50 PERCENT EXCEEDS	1390		1800		1650	
90 PERCENT EXCEEDS	886		1030		859	



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, N.Y.--Continued

WATER-QUALITY RECORDS

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

CHEMICAL DATA: 1971-73 (a).

NUTRIENT DATA: 1971 (a).

PERIOD OF DAILY RECORD.--

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

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

REMARKS.--Interruptions of record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1968-75, 1980-81, 1983, 1985-96, 1998), 32.5°C, July 9, 10, 1993; minimum (water years 1968, 1977-98), 0.0°C, on many days during winters each year except water years 1980-82.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.0°C, July 31; minimum, 0.0°C on many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	13.0	---	---	---	---	---	---	---	---	---	---
2	15.5	12.0	---	---	---	---	---	---	---	---	---	---
3	---	12.5	---	---	---	---	---	---	---	---	---	---
4	16.5	13.0	---	---	---	---	---	---	---	---	---	---
5	18.5	14.5	---	---	---	---	---	---	---	---	---	---
6	19.5	---	---	---	---	---	---	---	---	---	---	---
7	19.0	---	---	---	---	---	---	---	---	---	---	---
8	19.0	16.0	---	---	---	---	---	---	---	---	---	---
9	19.5	16.0	---	---	---	---	---	---	---	---	---	---
10	20.0	16.5	18.0	---	---	---	---	---	---	---	---	---
11	18.5	15.5	---	---	---	---	---	---	---	---	---	---
12	17.5	13.5	---	---	---	---	---	---	---	---	---	---
13	16.5	13.5	---	---	---	---	---	---	---	---	---	---
14	15.5	14.5	---	---	---	---	---	---	---	---	---	---
15	15.0	13.0	---	---	---	---	---	---	---	---	---	---
16	15.5	12.0	---	---	---	---	---	---	---	---	---	---
17	14.0	11.0	---	---	---	---	---	---	---	---	---	---
18	13.5	10.5	---	---	---	---	---	---	---	---	---	---
19	11.5	10.0	---	---	---	---	---	---	---	---	---	---
20	12.0	9.0	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	.5	.0	.0
24	---	---	---	---	---	---	---	---	---	.5	.0	.5
25	---	---	---	---	---	---	---	---	---	1.0	.0	.5
26	---	---	---	---	---	---	---	---	---	2.0	.0	.5
27	---	---	---	---	---	---	---	---	---	.5	.0	.0
28	---	---	---	---	---	---	---	---	---	1.0	.0	.5
29	---	---	---	---	---	---	---	---	---	2.0	.0	.5
30	---	---	---	---	---	---	---	---	---	1.5	.5	1.0
31	---	---	---	---	---	---	---	---	---	2.0	1.0	1.5
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

(a) 1 or 2 samples per year.

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, N.Y.--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.0	.0	1.5	5.0	4.5	5.0	12.0	10.5	11.5	15.5	13.5	14.5
2	3.0	.0	1.5	5.0	4.0	4.5	11.5	10.5	11.0	15.5	14.0	15.0
3	2.5	1.0	1.5	4.5	3.5	4.0	10.5	8.5	9.5	15.5	14.5	15.0
4	2.0	1.0	1.5	4.0	3.0	3.5	8.5	7.0	7.5	14.5	13.5	14.0
5	2.5	1.0	2.0	4.0	2.5	3.5	7.0	6.0	6.5	13.5	13.0	13.5
6	4.0	1.0	2.5	4.5	2.5	3.5	7.5	5.0	6.5	14.5	13.0	13.5
7	3.5	1.0	2.0	4.0	3.5	4.0	8.5	5.0	7.5	16.0	14.0	15.0
8	4.0	.5	2.0	4.0	3.5	3.5	8.5	7.5	8.0	15.5	14.5	15.0
9	4.0	.5	2.0	4.5	3.5	3.5	8.0	6.5	7.5	15.0	14.0	14.5
10	4.5	.5	2.0	5.0	3.5	4.5	8.0	6.0	7.0	14.0	13.5	14.0
11	3.0	1.0	2.0	3.5	1.5	2.0	8.5	6.0	7.5	13.5	13.0	13.0
12	3.5	2.5	3.0	1.5	.5	1.0	9.5	7.0	8.0	14.0	12.5	13.5
13	3.0	2.0	2.5	1.5	.0	.5	10.0	7.5	9.0	15.0	13.0	14.0
14	2.0	.5	1.5	2.0	1.0	1.0	11.0	8.5	10.0	16.0	13.5	15.0
15	1.5	.0	.5	2.5	.5	1.5	11.0	10.0	10.5	17.5	14.5	16.0
16	1.0	.0	.0	3.5	1.5	2.5	11.0	9.5	10.5	19.0	16.0	17.5
17	.5	.0	.5	4.0	2.0	3.0	12.0	10.5	11.5	20.0	17.0	19.0
18	1.0	.5	1.0	3.5	2.5	3.5	13.0	11.0	12.0	20.5	19.0	19.5
19	2.0	1.0	1.5	3.5	2.5	3.0	12.0	10.0	11.0	20.5	18.5	19.5
20	3.0	2.0	2.5	5.0	2.5	3.5	10.0	8.5	9.0	22.0	19.0	20.5
21	3.5	2.5	3.0	5.0	3.0	4.5	10.0	7.5	9.0	21.5	19.0	20.0
22	4.0	2.5	3.0	3.0	1.5	2.0	11.0	9.0	10.0	20.0	17.0	18.5
23	3.5	2.5	3.0	3.0	.5	2.0	10.5	9.5	10.0	20.0	16.5	18.0
24	2.5	1.5	2.0	4.5	2.0	3.0	12.0	9.5	10.5	21.0	16.0	18.5
25	2.5	1.5	2.0	5.0	2.5	4.0	12.5	10.5	11.5	20.0	17.5	18.5
26	3.5	1.5	2.5	6.5	3.5	5.0	12.0	9.5	10.5	22.0	17.5	19.5
27	4.5	2.5	3.0	7.5	5.0	6.5	10.0	8.0	9.5	23.0	19.0	21.0
28	5.0	3.5	4.5	9.0	6.5	8.0	11.0	8.0	9.5	24.0	19.0	21.5
29	---	---	---	11.0	8.5	9.5	12.5	10.0	11.5	25.5	20.5	22.5
30	---	---	---	11.5	9.0	10.5	14.0	12.0	13.0	26.5	21.5	24.0
31	---	---	---	12.5	9.5	11.0	---	---	---	26.0	22.0	24.0
MONTH	5.0	.0	2.0	12.5	.0	4.0	14.0	5.0	9.5	26.5	12.5	17.5

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

LACKAWAXEN RIVER BASIN

01428750 WEST BRANCH LACKAWAXEN RIVER NEAR ALDENVILLE, PA

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

DRAINAGE AREA.--40.6 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,244.60 ft above sea level.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than 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)
Jan. 8	2130	1,110	5.45	June 30	2000	*1,260	*5.66

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	12	182	e48	52	369	177	52	57	320	12	7.9
2	15	e50	94	e47	51	301	214	56	35	126	11	9.7
3	e16	43	74	e74	40	239	152	196	203	83	14	9.6
4	e15	27	79	198	38	178	122	140	60	67	12	8.4
5	e15	22	79	325	39	147	104	117	40	150	11	7.9
6	14	20	68	473	37	120	86	108	29	80	10	7.6
7	16	19	60	477	39	106	75	89	26	61	9.8	11
8	13	e26	54	822	40	154	70	85	25	115	9.5	11
9	14	e80	e50	626	41	443	139	94	21	127	9.1	11
10	e11	62	47	314	38	521	402	296	20	81	9.9	11
11	9.3	42	49	197	36	263	201	503	20	60	16	9.5
12	8.9	36	45	137	210	175	140	429	145	47	13	8.7
13	8.3	31	43	118	203	133	111	232	212	38	11	8.3
14	e8.2	41	e38	97	120	107	93	155	480	32	9.9	8.2
15	9.1	40	e50	e110	104	93	89	112	241	28	9.9	8.1
16	8.8	31	e43	e180	87	81	81	86	179	26	9.4	8.2
17	8.7	28	e38	157	71	74	71	70	146	24	9.7	7.4
18	8.6	27	e35	116	106	80	64	56	162	21	12	7.0
19	8.2	34	35	96	211	142	128	45	102	18	14	6.9
20	7.9	25	38	83	200	142	389	39	76	18	10	6.8
21	7.8	24	e33	e74	168	237	196	33	60	18	9.4	7.8
22	7.5	81	e32	e68	122	185	135	32	49	18	8.8	12
23	7.4	96	e32	e62	106	141	109	28	42	17	8.6	10
24	8.1	80	e35	e68	105	117	92	23	36	18	8.5	9.1
25	18	59	55	66	101	107	79	30	31	16	8.0	9.5
26	17	57	81	70	94	175	86	38	28	14	12	12
27	32	129	71	e66	94	279	95	29	26	14	10	11
28	21	74	56	e50	128	298	73	20	22	13	8.8	14
29	18	83	e54	e50	---	253	63	18	19	13	8.3	16
30	e14	129	e52	51	---	183	56	23	327	15	8.2	16
31	e11	---	e50	49	---	135	---	16	---	13	8.1	---
TOTAL	394.8	1508	1752	5369	2681	5978	3892	3250	2919	1691	321.9	291.6
MEAN	12.7	50.3	56.5	173	95.8	193	130	105	97.3	54.5	10.4	9.72
MAX	32	129	182	822	211	521	402	503	480	320	16	16
MIN	7.4	12	32	47	36	74	56	16	19	13	8.0	6.8
CFSM	.31	1.24	1.39	4.27	2.36	4.75	3.20	2.58	2.40	1.34	.26	.24
IN.	.36	1.38	1.61	4.92	2.46	5.48	3.57	2.98	2.67	1.55	.29	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1998, BY WATER YEAR (WY)

	MEAN	53.8	111	104	95.4	85.0	131	169	98.8	51.0	28.1	30.5	31.9
MAX	116	199	232	228	192	193	419	258	200	63.0	155	156	
(WY)	1991	1987	1997	1996	1990	1998	1993	1989	1989	1989	1994	1987	
MIN	6.46	29.9	21.2	21.9	30.0	87.0	58.7	37.4	14.3	8.86	9.43	7.41	
(WY)	1992	1992	1989	1989	1993	1989	1988	1995	1991	1991	1993	1991	

e Estimated.

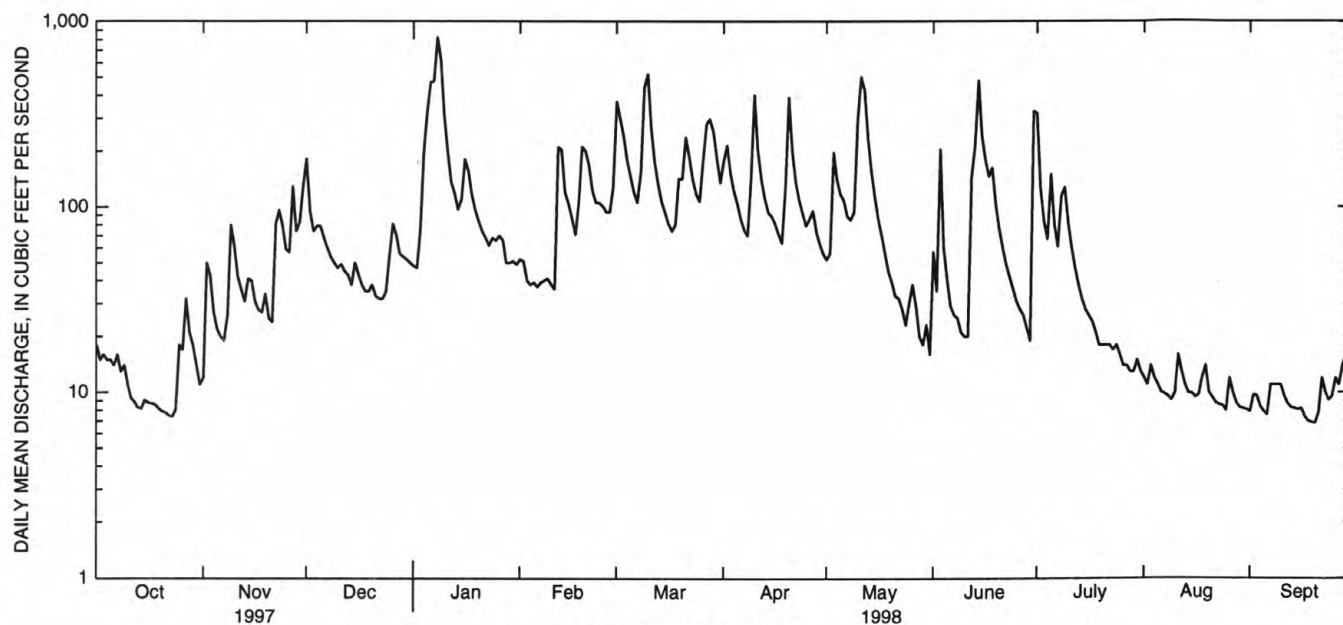
LACKAWAXEN RIVER BASIN

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

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1987 - 1998	
ANNUAL TOTAL	19281.9		30048.3		82.4	
ANNUAL MEAN	52.8		82.3		106	
HIGHEST ANNUAL MEAN					1994	
LOWEST ANNUAL MEAN					1988	
HIGHEST DAILY MEAN	e600	Feb 22	822	Jan 8	e1600	Jan 19 1996
LOWEST DAILY MEAN	5.4	Aug 11	6.8	Sep 20	4.2	Sep 17 1991
ANNUAL SEVEN-DAY MINIMUM	6.1	Sep 4	7.5	Sep 15	4.6	Sep 12 1991
INSTANTANEOUS PEAK FLOW			1260	Jun 30	a4340	Jan 19 1996
INSTANTANEOUS PEAK STAGE			5.66	Jun 30	8.00	Jan 19 1996
ANNUAL RUNOFF (CFSM)	1.30		2.03		2.03	
ANNUAL RUNOFF (INCHES)	17.67		27.53		27.57	
10 PERCENT EXCEEDS	121		196		180	
50 PERCENT EXCEEDS	38		49		43	
90 PERCENT EXCEEDS	7.9		9.1		11	

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

e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LACKAWAXEN RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1988 to current year.

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

REMARKS.--Interruptions in the record were due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 27.0°C, Aug. 10, 1989, July 10, 1993, Aug. 16, 1995; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 23.5°C, July 22, Aug. 26; minimum, 0.0°C, many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	13.0	9.5	12.0	9.5	6.5	8.0	3.0	1.0	2.0	.0	.0	.0
2	11.5	7.5	9.5	---	---	---	1.5	.5	1.0	.0	.0	.0
3	---	---	---	8.5	6.0	7.5	2.0	.5	1.0	.0	.0	.0
4	---	---	---	7.5	6.5	7.0	3.5	2.0	3.0	.5	.0	.5
5	---	---	---	7.5	4.5	6.0	3.5	1.5	2.5	1.5	.5	1.0
6	17.0	12.0	14.5	7.0	4.0	5.5	2.0	.5	1.0	2.5	1.5	2.0
7	16.0	12.5	14.5	7.5	5.0	6.0	1.5	.5	1.0	4.0	2.5	3.0
8	16.5	13.0	14.5	---	---	---	2.0	.5	1.5	5.5	3.5	4.0
9	17.5	13.0	15.0	---	---	---	.5	.0	.5	7.0	5.5	6.0
10	---	---	---	6.5	5.0	6.0	1.5	.0	.5	5.5	3.0	4.0
11	14.5	11.0	13.0	6.0	3.5	5.0	.5	.0	.5	3.0	2.0	2.5
12	13.5	8.0	11.0	4.0	2.0	3.0	1.5	.5	1.0	2.0	1.0	1.5
13	14.5	8.5	11.5	3.0	.5	2.0	1.5	.5	1.0	3.0	1.0	2.0
14	---	---	---	2.0	.0	.5	1.0	.0	.5	1.0	.0	.0
15	12.5	10.0	11.5	1.5	.0	.5	.0	.0	.0	.0	.0	.0
16	11.5	7.5	9.5	2.0	.0	1.0	.0	.0	.0	1.0	.0	.5
17	10.5	6.5	8.5	1.5	.0	1.0	1.0	.0	.0	2.0	1.0	1.5
18	11.0	7.0	8.5	2.0	.0	.5	1.0	.0	.5	1.5	1.0	1.0
19	9.5	6.0	7.5	.5	.0	.0	2.0	.0	1.0	2.0	1.0	1.5
20	9.5	5.0	7.5	2.5	.0	1.0	2.0	.5	1.0	1.5	.5	1.0
21	9.5	6.5	8.0	2.5	.0	1.5	1.0	.0	.5	---	---	---
22	8.0	5.0	6.5	2.0	1.5	2.0	.0	.0	.0	---	---	---
23	6.5	3.5	5.0	3.0	2.0	2.5	.0	.0	.0	---	---	---
24	6.5	5.0	6.0	2.5	.5	2.0	.5	.0	.5	---	---	---
25	7.5	6.0	6.5	.5	.0	.5	1.0	.5	1.0	1.0	.0	.5
26	6.5	4.0	5.5	3.0	.5	1.5	2.5	1.0	1.5	.5	.0	.0
27	8.5	5.5	7.0	3.0	1.5	2.0	2.0	1.0	1.5	.0	.0	.0
28	6.5	4.5	5.5	3.0	1.5	2.0	1.5	.0	.5	1.0	.0	.5
29	6.5	3.0	5.0	4.0	2.5	3.0	.0	.0	.0	1.0	.0	.5
30	---	---	---	3.0	2.5	2.5	.0	.0	.0	1.5	.5	1.0
31	---	---	---	---	---	---	.0	.0	.0	1.5	.0	.5
MONTH	17.5	3.0	9.3	9.5	.0	3.0	3.5	.0	.8	7.0	.0	1.3

LACKAWAXEN RIVER BASIN

01429000 WEST BRANCH LACKAWAXEN RIVER AT PROMPTON, PA

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

DRAINAGE AREA.--59.7 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,083.78 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since 1960 by Prompton Reservoir (station 01428900) 500 ft upstream. Satellite and landline telemetry at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	179	66	71	364	216	89	50	410	23	9.6
2	16	20	165	63	68	452	302	86	51	302	21	9.9
3	15	24	130	68	66	406	259	127	152	211	20	11
4	16	25	113	114	63	320	215	197	148	151	19	10
5	16	25	110	255	65	257	183	177	110	145	18	10
6	16	25	104	412	63	215	155	166	83	138	17	9.6
7	16	24	94	556	59	186	133	147	64	116	16	10
8	15	25	85	795	54	179	118	128	53	109	15	11
9	15	28	75	1020	52	410	133	128	46	142	15	11
10	15	34	72	685	51	767	469	228	42	135	14	11
11	15	36	72	434	52	551	396	633	40	112	15	11
12	14	37	68	297	120	351	280	731	74	90	15	11
13	12	37	64	228	253	254	217	484	207	78	14	10
14	12	38	61	188	208	208	180	327	404	66	13	10
15	12	39	53	153	153	178	156	238	393	54	13	9.7
16	11	39	53	192	124	153	142	188	324	47	12	10
17	10	37	53	248	114	133	127	155	257	43	12	9.4
18	9.8	36	51	216	129	130	115	128	224	40	12	8.6
19	9.3	34	50	182	217	169	116	104	193	37	13	8.1
20	9.1	33	48	156	279	200	406	88	162	36	13	7.9
21	8.5	33	48	135	269	263	367	76	149	35	12	7.9
22	8.3	37	44	118	224	298	262	63	e120	34	12	9.3
23	8.1	73	43	109	192	253	206	54	e96	33	11	10
24	7.6	98	44	113	189	214	172	47	e76	32	11	9.8
25	8.9	92	51	115	183	189	146	45	61	31	11	9.6
26	11	83	74	101	173	197	130	54	50	30	11	9.6
27	14	108	90	91	166	306	146	53	45	29	11	10
28	16	115	90	87	173	375	131	47	41	27	11	11
29	17	107	78	80	---	362	112	43	38	26	10	11
30	17	115	85	79	---	295	99	43	75	25	10	12
31	17	---	78	78	---	235	---	40	---	24	9.7	---
TOTAL	403.6	1474	2425	7434	3830	8870	6089	5114	3828	2788	429.7	299.0
MEAN	13.0	49.1	78.2	240	137	286	203	165	128	89.9	13.9	9.97
MAX	17	115	179	1020	279	767	469	731	404	410	23	12
MIN	7.6	17	43	63	51	130	99	40	38	24	9.7	7.9

e Estimated.

LACKAWAXEN RIVER BASIN

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	60.8	100	120	104	123	212	232	132	71.4	40.6	30.6	39.6
MAX	307	362	309	312	369	620	556	329	260	133	127	221
(WY)	1978	1973	1997	1979	1981	1977	1993	1989	1973	1984	1994	1987
MIN	7.15	7.65	31.8	19.1	19.0	60.4	86.5	45.8	17.5	10.2	9.43	6.67
(WY)	1965	1965	1965	1981	1980	1981	1988	1965	1962	1966	1962	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR				FOR 1998 WATER YEAR				WATER YEARS 1961 - 1998			
ANNUAL TOTAL	26766.5				42984.3							
ANNUAL MEAN	73.3				118				105			
HIGHEST ANNUAL MEAN									176			
LOWEST ANNUAL MEAN									49.7			
HIGHEST DAILY MEAN	492				Feb 22				2340			
LOWEST DAILY MEAN	7.6				Aug 12a				1.8			
ANNUAL SEVEN-DAY MINIMUM	8.2				Aug 7				2.0			
INSTANTANEOUS PEAK FLOW					1090				3610			
INSTANTANEOUS PEAK STAGE					3.79				7.00			
INSTANTANEOUS LOW FLOW									1.8			
10 PERCENT EXCEEDS	177				273				243			
50 PERCENT EXCEEDS	54				72				56			
90 PERCENT EXCEEDS	11				11				15			

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

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

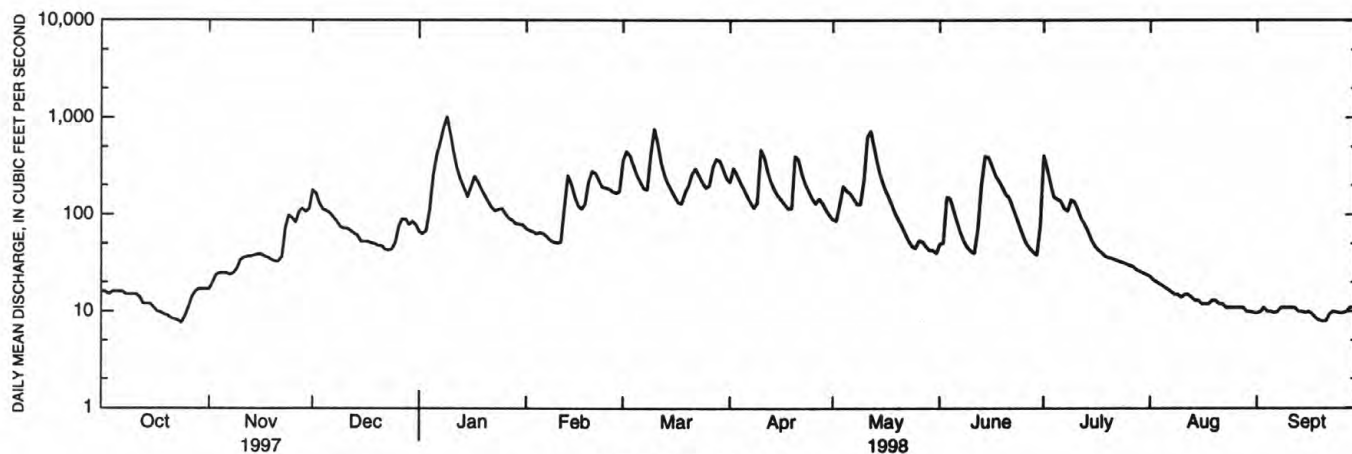
SUMMARY STATISTICS WATER YEARS 1945 - 1960

ANNUAL MEAN	117	
HIGHEST ANNUAL MEAN	152	1952
LOWEST ANNUAL MEAN	78.1	1957
HIGHEST DAILY MEAN	2440	Aug 19 1955
LOWEST DAILY MEAN	.00	Jul 27 1960
ANNUAL SEVEN DAY MINIMUM	.00	Jul 27 1960
INSTANTANEOUS PEAK FLOW	b5860	Aug 18 1955
INSTANTANEOUS PEAK STAGE	9.24	Aug 18 1955
INSTANTANEOUS LOW FLOW	c.00	Jul 26 1960
ANNUAL RUNOFF (CFSM)	1.95	
ANNUAL RUNOFF (INCHES)	26.56	
10 PERCENT EXCEEDS	257	
50 PERCENT EXCEEDS	62	
90 PERCENT EXCEEDS	15	

a Also Oct. 24.

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

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

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LACKAWAXEN RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1987 to current year.

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

REMARKS.--Interruptions in the record were due to malfunctions of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 24.0°C, July 3; minimum, 2.0°C, many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	17.0	15.5	16.5	9.0	8.5	9.0	3.0	2.5	3.0	3.0	2.5	2.5
2	16.0	15.5	15.5	9.0	8.5	9.0	2.5	2.0	2.0	3.0	2.5	3.0
3	15.5	15.5	15.5	9.0	8.5	9.0	2.0	2.0	2.0	2.5	2.5	2.5
4	16.0	15.0	15.5	9.0	8.5	9.0	2.5	2.0	2.0	2.5	2.0	2.5
5	16.0	15.0	15.5	9.0	8.5	8.5	2.5	2.0	2.0	2.0	2.0	2.0
6	16.0	14.5	15.0	9.0	8.5	9.0	2.0	2.0	2.0	2.0	2.0	2.0
7	15.5	14.5	15.0	9.0	8.5	8.5	2.0	2.0	2.0	2.0	2.0	2.0
8	15.5	15.0	15.0	9.0	8.5	9.0	2.0	2.0	2.0	2.5	2.0	2.5
9	16.0	15.0	15.0	9.0	8.5	8.5	2.0	2.0	2.0	3.0	2.5	3.0
10	17.0	15.0	15.5	8.5	8.0	8.5	2.0	2.0	2.0	3.5	3.0	3.5
11	16.0	15.0	15.0	8.0	7.5	8.0	2.0	2.0	2.0	4.0	3.5	4.0
12	16.0	14.5	15.0	7.5	7.5	7.5	2.0	2.0	2.0	4.0	4.0	4.0
13	16.5	15.0	15.5	7.5	7.0	7.0	2.0	2.0	2.0	4.0	4.0	4.0
14	16.0	15.0	15.5	7.0	6.0	6.5	2.5	2.0	2.0	4.0	3.5	4.0
15	16.0	15.5	16.0	6.0	6.0	6.0	2.5	2.0	2.5	---	---	---
16	16.0	15.0	15.5	6.0	5.0	5.5	2.5	2.5	2.5	---	---	---
17	15.5	14.5	15.0	5.0	5.0	5.0	2.5	2.5	2.5	2.5	2.0	2.5
18	15.5	14.5	15.0	5.0	4.5	4.5	2.5	2.5	2.5	2.5	2.0	2.0
19	14.5	14.0	14.5	4.5	4.5	4.5	3.0	2.5	2.5	2.5	2.0	2.5
20	14.5	13.5	14.0	4.5	4.0	4.5	3.0	2.5	2.5	2.0	2.0	2.0
21	14.0	13.0	13.5	4.5	4.5	4.5	3.0	2.5	2.5	2.5	2.0	2.0
22	13.5	12.5	13.0	4.5	4.0	4.5	3.0	2.5	3.0	2.5	2.0	2.5
23	12.5	12.0	12.0	4.0	4.0	4.0	3.0	3.0	3.0	2.5	2.0	2.5
24	12.0	11.5	12.0	4.0	3.5	4.0	3.0	3.0	3.0	2.5	2.0	2.5
25	11.5	11.0	11.5	3.5	3.0	3.5	3.0	3.0	3.0	2.5	2.0	2.0
26	11.0	10.5	11.0	3.5	3.0	3.0	3.0	3.0	3.0	2.5	2.0	2.0
27	11.0	10.5	10.5	3.5	3.0	3.0	3.0	2.5	3.0	2.5	2.0	2.0
28	10.5	9.5	10.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.0	2.5
29	10.0	9.5	9.5	3.5	3.0	3.5	3.0	2.5	2.5	2.5	2.0	2.5
30	9.5	9.0	9.0	3.5	2.5	3.0	2.5	2.5	2.5	2.5	2.0	2.5
31	9.0	8.5	8.5	---	---	---	2.5	2.5	2.5	2.5	2.0	2.5
MONTH	17.0	8.5	13.7	9.0	2.5	6.1	3.0	2.0	2.4	4.0	2.0	2.6

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	2.5	2.0	2.5	2.5	2.5	2.5	11.0	6.5	9.5	12.5	10.0	11.5
2	2.5	2.5	2.5	3.0	2.5	2.5	12.5	11.0	12.0	13.0	10.0	12.0
3	2.5	2.5	2.5	3.0	2.5	3.0	12.0	11.5	11.5	15.0	12.0	13.0
4	2.5	2.5	2.5	3.0	3.0	3.0	11.5	10.0	10.5	14.0	12.5	13.5
5	2.5	2.5	2.5	3.5	3.0	3.0	10.0	9.5	9.5	13.5	12.5	13.0
6	3.0	2.5	2.5	3.5	3.0	3.5	9.5	9.0	9.0	14.0	13.5	13.5
7	2.5	2.5	2.5	3.5	3.5	3.5	10.5	8.5	9.5	15.0	13.5	14.0
8	3.0	2.5	2.5	3.5	3.5	3.5	9.5	8.5	9.0	14.5	14.0	14.5
9	3.0	2.5	3.0	3.5	3.5	3.5	9.0	8.5	8.5	15.5	14.5	15.0
10	3.0	2.5	3.0	3.5	3.0	3.5	9.0	8.0	8.5	16.0	15.0	15.5
11	3.0	2.5	3.0	3.5	3.0	3.0	9.5	8.5	9.0	15.0	13.5	14.0
12	3.0	2.5	2.5	3.0	2.5	3.0	10.0	8.0	9.0	13.5	12.5	13.0
13	2.5	2.5	2.5	3.0	2.5	2.5	9.0	8.0	8.5	14.0	13.0	13.5
14	2.5	2.0	2.0	2.5	2.0	2.5	9.0	7.5	8.0	16.0	13.0	14.5
15	2.5	2.0	2.0	2.5	2.0	2.5	10.0	8.0	9.0	18.5	15.0	17.0
16	2.5	2.5	2.5	2.5	2.0	2.5	10.0	8.5	9.5	17.5	16.0	16.5
17	2.5	2.5	2.5	3.0	2.0	2.5	11.0	9.5	10.0	21.0	16.0	18.5
18	2.5	2.0	2.5	2.5	2.5	2.5	11.5	10.5	11.0	19.0	18.0	18.5
19	2.0	2.0	2.0	2.5	2.5	2.5	11.0	10.5	11.0	19.0	17.0	18.0
20	2.0	2.0	2.0	3.0	2.5	3.0	10.5	10.5	10.5	19.5	17.0	18.0
21	2.0	2.0	2.0	3.0	2.5	2.5	12.0	10.5	11.0	21.5	17.0	18.0
22	2.5	2.0	2.0	3.0	2.5	3.0	11.5	10.0	10.5	20.0	15.0	18.0
23	2.5	2.0	2.0	3.0	2.5	3.0	11.5	10.5	11.0	19.5	14.5	17.5
24	2.5	2.0	2.5	3.0	2.5	2.5	12.0	10.5	11.5	17.5	15.0	16.5
25	2.5	2.5	2.5	3.5	2.5	3.0	12.0	11.0	11.5	17.0	16.0	16.5
26	2.5	2.0	2.5	3.5	3.0	3.0	11.5	11.0	11.0	18.0	17.0	17.5
27	2.5	2.0	2.5	4.0	3.0	3.5	11.5	10.5	11.0	18.5	17.0	17.5
28	2.5	2.5	2.5	4.0	3.5	4.0	12.0	10.5	11.0	18.0	17.0	17.5
29	---	---	---	6.5	4.0	5.0	13.5	11.0	12.0	17.5	16.5	17.0
30	---	---	---	8.5	6.5	7.0	13.5	12.0	12.5	18.0	16.5	17.0
31	---	---	---	10.5	6.5	9.0	---	---	---	18.0	16.5	17.0
MONTH	3.0	2.0	2.4	10.5	2.0	3.3	13.5	6.5	10.2	21.5	10.0	15.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	22.0	17.0	19.5	23.0	22.0	22.5	20.5	18.5	19.5	21.5	19.5	20.5
2	20.0	17.5	18.0	23.0	21.0	22.0	21.0	19.5	20.0	21.5	20.0	20.5
3	20.5	19.5	20.0	24.0	20.5	21.5	20.5	20.0	20.0	22.0	20.5	20.5
4	20.0	19.0	19.5	22.5	20.5	21.5	21.0	20.0	20.5	21.5	20.0	20.5
5	19.5	18.0	19.0	22.0	20.5	21.5	20.5	20.0	20.5	22.5	20.0	21.0
6	19.0	18.0	18.5	20.5	19.5	20.0	21.0	20.0	20.5	22.0	19.5	20.5
7	18.5	17.5	18.0	20.0	19.5	19.5	21.5	20.0	20.5	21.0	20.0	20.5
8	18.0	17.0	17.5	19.5	19.0	19.0	21.5	20.0	21.0	21.5	20.0	21.0
9	17.5	16.5	17.0	22.0	19.0	20.0	21.5	20.0	21.0	21.0	20.0	20.5
10	16.5	15.5	16.0	21.5	20.0	21.0	21.0	20.5	21.0	20.5	19.5	20.0
11	16.5	15.5	16.0	21.5	19.5	20.5	21.5	20.5	21.0	20.5	19.0	19.5
12	17.0	15.5	16.0	21.5	19.5	20.5	22.0	20.0	21.0	20.5	19.0	19.5
13	17.5	17.0	17.0	21.5	19.5	20.5	22.0	20.0	21.0	20.0	18.5	19.0
14	18.5	17.5	18.0	20.5	19.0	20.0	21.5	20.5	21.0	20.0	18.5	19.0
15	17.5	16.0	17.0	20.5	19.5	20.0	21.5	21.0	21.0	19.5	18.5	19.0
16	19.0	16.0	17.0	20.0	19.5	20.0	21.5	21.0	21.5	19.5	18.5	19.0
17	20.5	16.5	18.5	20.0	19.0	19.5	21.5	21.0	21.0	20.0	18.5	19.0
18	20.5	18.5	19.5	20.0	18.5	19.5	22.0	21.0	21.5	20.0	18.5	19.0
19	22.5	19.0	20.0	19.5	19.0	19.0	23.0	21.5	22.5	19.5	18.5	19.0
20	---	---	---	19.5	18.5	19.0	22.0	21.0	21.5	20.0	18.5	19.0
21	---	---	---	19.5	19.0	19.0	22.0	20.5	21.0	20.0	18.5	19.0
22	---	---	---	19.5	19.0	19.0	21.5	20.0	20.5	19.5	18.5	19.0
23	---	---	---	19.5	19.0	19.0	21.5	20.5	21.0	21.0	18.5	20.0
24	---	---	---	19.5	18.5	19.0	21.5	20.5	21.0	20.5	18.5	19.5
25	---	---	---	20.0	19.0	19.0	21.5	20.5	20.5	18.5	18.0	18.5
26	19.0	18.0	18.5	20.0	19.0	19.5	21.5	20.5	21.0	18.5	17.5	18.0
27	18.0	17.0	17.5	20.0	19.0	19.5	21.5	20.5	21.0	19.0	17.5	18.0
28	17.5	16.5	17.0	20.0	19.0	19.5	22.0	20.5	21.0	19.5	17.5	18.5
29	17.5	16.5	17.0	20.0	19.0	19.5	21.0	20.5	20.5	19.5	18.0	18.5
30	23.0	16.5	18.5	20.0	19.0	19.5	21.5	20.5	20.5	18.5	18.0	18.0
31	---	---	---	20.5	19.0	19.5	21.5	19.5	20.5	---	---	---
MONTH	23.0	15.5	17.9	24.0	18.5	20.0	23.0	18.5	20.8	22.5	17.5	19.5
YEAR	24.0	2.0	11.2									

LACKAWAXEN RIVER BASIN

01429500 DYBERRY CREEK NEAR HONESDALE, PA

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

DRAINAGE AREA.--64.6 mi².

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

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

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

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	16	213	e61	82	731	202	97	84	665	19	6.8
2	30	69	127	79	79	664	372	102	60	209	17	7.4
3	24	80	99	80	78	484	235	183	291	133	16	11
4	20	49	94	147	75	332	187	246	135	101	15	9.0
5	18	37	95	412	79	262	163	178	85	196	14	7.5
6	15	31	94	550	79	216	143	176	66	125	14	6.7
7	12	27	85	670	72	190	127	147	56	96	13	7.8
8	11	27	77	878	67	205	118	128	51	114	13	12
9	8.4	78	70	1070	65	746	183	134	48	163	12	11
10	7.4	87	68	816	65	1210	914	493	43	118	12	8.2
11	6.7	61	72	428	66	633	436	1130	41	90	19	7.7
12	6.7	48	68	266	259	300	256	985	241	75	17	7.6
13	6.7	40	66	211	279	219	197	457	421	66	14	7.0
14	6.7	41	62	172	157	192	169	280	376	61	14	6.4
15	6.7	49	51	137	115	171	155	212	345	55	14	6.3
16	6.9	47	59	e300	109	152	145	169	289	51	13	6.3
17	7.1	42	56	308	104	136	135	139	208	47	12	6.3
18	8.8	39	54	214	179	141	129	117	261	43	13	6.0
19	9.2	35	52	177	375	234	147	99	179	38	19	5.5
20	8.3	37	53	156	323	234	616	89	140	35	16	5.5
21	7.8	35	50	138	277	255	358	78	113	36	13	5.6
22	7.5	98	40	122	210	274	225	68	95	34	11	6.3
23	7.1	138	53	115	186	217	181	61	83	32	10	7.5
24	7.1	118	51	140	205	187	157	54	76	33	10	7.1
25	8.9	86	82	134	209	178	138	63	67	29	9.6	6.5
26	14	73	126	113	202	220	134	77	62	26	9.3	6.2
27	29	112	122	103	206	355	181	59	55	24	10	6.2
28	30	93	98	100	249	298	142	50	49	22	9.8	8.1
29	21	86	82	93	---	234	118	45	44	21	8.6	8.1
30	17	109	e90	93	---	189	104	55	225	21	7.4	9.6
31	15	---	e80	91	---	163	---	47	---	20	7.2	---
TOTAL	414.0	1888	2489	8374	4451	10022	6767	6218	4289	2779	401.9	223.2
MEAN	13.4	62.9	80.3	270	159	323	226	201	143	89.6	13.0	7.44
MAX	30	138	213	1070	375	1210	914	1130	421	665	19	12
MIN	6.7	16	40	61	65	136	104	45	41	20	7.2	5.5

e Estimated.

LACKAWAXEN RIVER BASIN

01429500 DYBERRY CREEK NEAR HONESDALE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	59.1	114	128	116	143	234	245	141	75.7	44.3	30.9	41.5
MAX	292	413	388	402	466	552	572	397	291	170	145	281
(WY)	1977	1973	1997	1996	1981	1977	1993	1989	1972	1973	1994	1987
MIN	4.17	5.48	28.2	20.8	20.2	73.0	83.6	43.3	12.0	3.23	5.32	2.26
(WY)	1965	1965	1965	1981	1980	1981	1985	1965	1962	1962	1966	1980

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1960 - 1998

ANNUAL TOTAL	28816.7			48316.1			114			1973		
ANNUAL MEAN	78.9			132			186			1965		
HIGHEST ANNUAL MEAN							51.4					
LOWEST ANNUAL MEAN							a2460					
HIGHEST DAILY MEAN	813			Feb 22			1210			Mar 10		
LOWEST DAILY MEAN	5.2			Aug 12			5.5			Sep 19, 20		
ANNUAL SEVEN-DAY MINIMUM	6.4			Aug 6			5.9			Sep 15		
INSTANTANEOUS PEAK FLOW							1290			Mar 10		
INSTANTANEOUS PEAK STAGE							5.65			Jan 9		
INSTANTANEOUS LOW FLOW										7.32		
10 PERCENT EXCEEDS	175						284			251		
50 PERCENT EXCEEDS	59						79			56		
90 PERCENT EXCEEDS	8.9						8.0			11		

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

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

SUMMARY STATISTICS

WATER YEARS 1944 - 1959

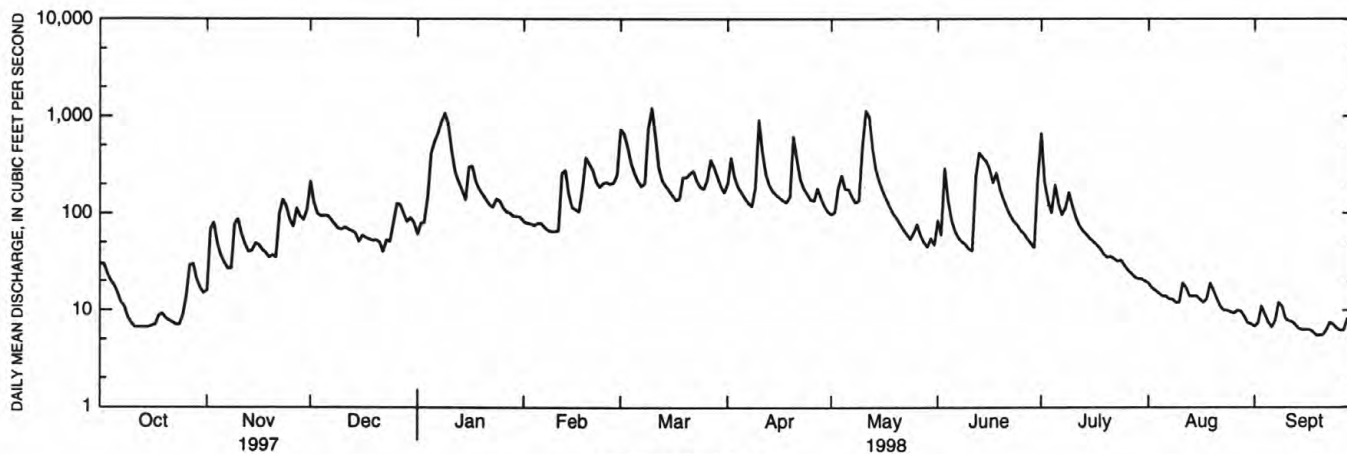
ANNUAL MEAN	114	
HIGHEST ANNUAL MEAN	170	1952
LOWEST ANNUAL MEAN	77.2	1957
HIGHEST DAILY MEAN	5880	Jul 10 1952
LOWEST DAILY MEAN	2.0	Oct 5 1953
ANNUAL SEVEN DAY MINIMUM	2.3	Sep 29 1953
INSTANTANEOUS PEAK FLOW	c15500	Jul 10 1952
INSTANTANEOUS PEAK STAGE	d14.60	Jul 10 1952
ANNUAL RUNOFF (CFSM)	1.76	
ANNUAL RUNOFF (INCHES)	23.91	
10 PERCENT EXCEEDS	252	
50 PERCENT EXCEEDS	54	
90 PERCENT EXCEEDS	9.4	

a From rating curve extended above 900 ft³/s.

b Result of shutoff at General Jadwin Reservoir.

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

d Site and datum then in use.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LACKAWAXEN RIVER BASIN

01430000 LACKAWAXEN RIVER NEAR HONESDALE, PA

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

DRAINAGE AREA.--164 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 946.34 ft above sea level.

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	37	480	e190	187	1370	542	242	200	1340	54	23
2	41	106	377	166	176	1380	851	250	172	698	52	27
3	37	130	290	184	171	1090	618	360	565	472	51	28
4	35	84	259	334	164	812	500	508	401	363	50	27
5	35	68	260	763	180	647	433	427	280	447	48	25
6	33	58	246	1190	172	544	374	413	215	361	46	24
7	30	53	217	1600	154	479	326	364	172	293	44	28
8	29	62	195	2270	139	501	300	323	149	313	42	30
9	26	137	170	2690	131	1520	451	344	128	424	39	29
10	25	159	162	1900	128	2480	1760	990	115	359	39	26
11	23	117	167	1040	133	1480	1070	2280	109	287	44	26
12	22	95	155	698	473	833	672	2190	410	233	41	26
13	23	82	145	553	690	599	516	1240	849	199	37	25
14	22	90	141	471	468	511	438	792	1030	175	39	25
15	22	99	e130	386	335	453	397	586	1000	150	36	25
16	21	96	e120	654	284	399	367	474	825	134	34	24
17	20	86	e120	729	269	354	345	398	622	122	33	25
18	21	78	117	567	424	367	322	332	616	110	35	23
19	21	72	112	475	783	541	376	280	491	96	37	22
20	19	72	113	416	795	569	1290	239	398	91	35	22
21	19	69	110	355	708	677	932	208	346	92	31	24
22	18	168	e110	311	563	740	619	181	284	89	28	26
23	17	278	105	291	492	606	497	159	238	83	27	26
24	17	282	103	338	523	527	426	142	207	87	27	26
25	21	222	187	333	517	486	368	158	175	75	25	25
26	24	186	291	286	507	549	357	206	155	66	27	26
27	44	259	299	255	509	805	436	165	137	60	27	28
28	45	250	249	239	583	794	364	138	119	58	27	28
29	35	230	198	216	---	692	307	125	107	57	25	27
30	33	279	221	215	---	565	270	137	500	56	24	28
31	31	---	e200	208	---	479	---	131	---	57	24	---
TOTAL	851	4004	6049	20323	10658	23849	16524	14782	11015	7447	1128	774
MEAN	27.5	133	195	656	381	769	551	477	367	240	36.4	25.8
MAX	45	282	480	2690	795	2480	1760	2280	1030	1340	54	30
MIN	17	37	103	166	128	354	270	125	107	56	24	22

e Estimated.

LACKAWAXEN RIVER BASIN

01430000 LACKAWAXEN RIVER NEAR HONESDALE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1969, 1986 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	143	303	302	282	282	566	571	341	181	95.2	82.3	105
MAX	344	650	925	884	716	1133	1464	985	544	255	364	656
(WY)	1990	1987	1997	1996	1990	1986	1993	1989	1989	1996	1994	1987
MIN	14.5	16.5	80.5	73.5	106	261	240	124	43.9	20.3	17.2	12.3
(WY)	1965	1965	1965	1961	1963	1965	1988	1965	1962	1965	1964	1964

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1960 - 1998

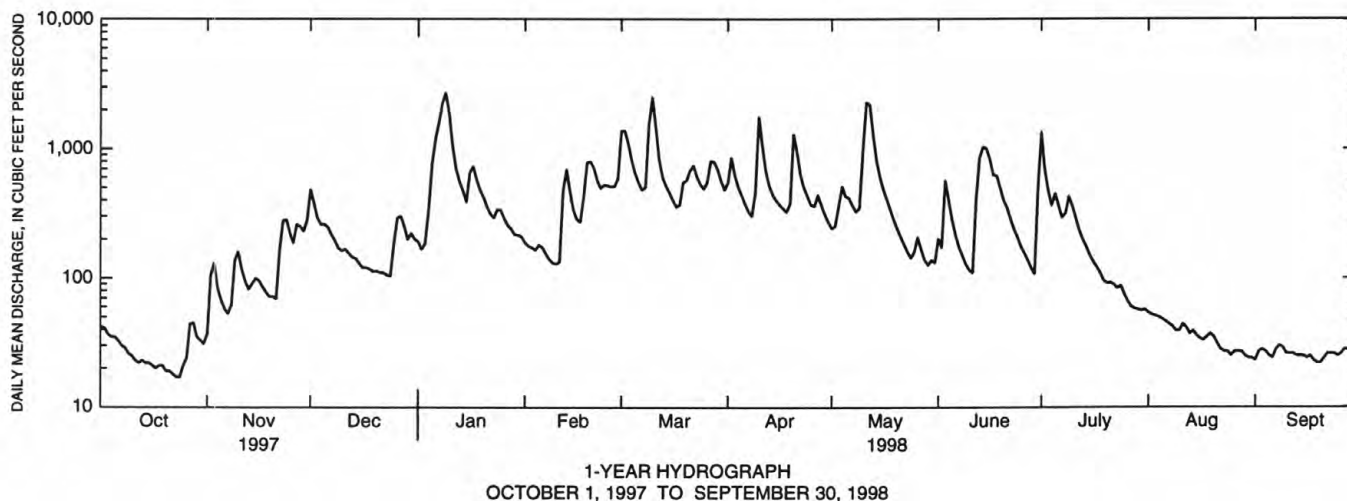
ANNUAL TOTAL	66845	117404	
ANNUAL MEAN	183	322	271
HIGHEST ANNUAL MEAN			400
LOWEST ANNUAL MEAN			130
HIGHEST DAILY MEAN	1510	Feb 22	2690
LOWEST DAILY MEAN	17	Oct 23,24	17
ANNUAL SEVEN-DAY MINIMUM	19	Oct 18	19
INSTANTANEOUS PEAK FLOW			2780
INSTANTANEOUS PEAK STAGE			5.49
INSTANTANEOUS LOW FLOW			6.2
10 PERCENT EXCEEDS	417	716	602
50 PERCENT EXCEEDS	134	187	147
90 PERCENT EXCEEDS	26	26	30

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

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

SUMMARY STATISTICS WATER YEARS 1949 - 1959

ANNUAL MEAN	302	
HIGHEST ANNUAL MEAN	428	1952
LOWEST ANNUAL MEAN	209	1957
HIGHEST DAILY MEAN	8920	Aug 19 1955
LOWEST DAILY MEAN	12	Aug 29 1953
ANNUAL SEVEN DAY MINIMUM	12	Aug 29 1953
INSTANTANEOUS PEAK FLOW	a18600	Aug 18 1955
INSTANTANEOUS PEAK STAGE	15.52	Aug 18 1955
ANNUAL RUNOFF (CFSM)	1.84	
ANNUAL RUNOFF (INCHES)	25.06	
10 PERCENT EXCEEDS	695	
50 PERCENT EXCEEDS	152	
90 PERCENT EXCEEDS	32	

a From rating curve extended above 11,000 ft³/s.

LACKAWAXEN RIVER BASIN

01431500 LACKAWAXEN RIVER AT HAWLEY, PA

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

DRAINAGE AREA.--290 mi².

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

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

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

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

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	71	812	e320	339	2420	877	426	401	2340	86	38
2	71	186	638	e310	329	2500	1590	444	301	1270	80	43
3	66	273	463	352	324	1970	1160	521	976	734	75	53
4	61	185	401	586	314	1490	900	735	721	517	71	49
5	57	143	398	1360	362	1210	762	630	442	612	69	44
6	55	122	385	1970	372	996	643	613	327	511	67	40
7	50	111	340	2700	329	851	558	543	264	405	64	43
8	49	119	307	3690	297	824	508	471	232	423	60	53
9	46	196	277	4290	280	2480	723	521	213	612	57	51
10	44	276	271	3150	276	4400	3380	1690	194	511	58	46
11	40	210	284	1830	279	2620	2110	4000	187	393	65	43
12	37	175	272	1250	843	1510	1310	3630	622	311	69	40
13	36	154	257	981	1380	1100	986	2170	1590	264	60	40
14	38	164	245	821	924	927	807	1400	1770	236	60	38
15	44	179	217	656	627	805	726	1030	1740	208	66	36
16	43	182	e220	1070	515	698	672	801	1600	191	59	38
17	40	171	e210	1320	479	609	610	649	1190	180	59	37
18	39	158	209	1020	849	633	572	532	1110	167	65	35
19	40	147	204	826	1600	1000	619	442	840	153	69	33
20	39	148	204	711	1590	1110	2350	393	648	142	66	31
21	38	142	202	607	1390	1220	1760	345	533	144	57	33
22	36	269	e200	525	1110	1390	1160	294	433	144	52	41
23	35	530	e190	490	933	1140	897	272	369	139	50	42
24	34	517	196	586	1000	977	743	240	327	139	48	38
25	43	405	306	599	1000	892	628	254	282	128	47	38
26	50	330	534	508	1010	1010	608	387	256	114	52	37
27	79	394	566	454	1030	1460	831	311	231	107	49	36
28	102	402	463	422	1130	1370	665	249	205	99	48	43
29	78	365	365	383	---	1180	540	217	190	94	45	40
30	67	412	437	386	---	965	473	238	866	92	42	39
31	63	---	454	374	---	809	---	231	---	95	40	---
TOTAL	1593	7136	10527	34547	20911	42566	30168	24679	19060	11475	1855	1218
MEAN	51.4	238	340	1114	747	1373	1006	796	635	370	59.8	40.6
MAX	102	530	812	4290	1600	4400	3380	4000	1770	2340	86	53
MIN	34	71	190	310	276	609	473	217	187	92	40	31

e Estimated.

LACKAWAXEN RIVER BASIN

01431500 LACKAWAXEN RIVER AT HAWLEY, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	249	459	557	511	575	1010	1030	620	347	185	133	184
MAX	1056	1643	1671	1915	1434	2651	2392	1826	1475	680	522	1368
(WY)	1977	1973	1997	1996	1976	1977	1994	1989	1972	1984	1994	1987
MIN	20.8	25.7	124	92.0	133	280	348	196	63.6	29.7	30.9	20.5
(WY)	1965	1965	1965	1981	1980	1981	1988	1962	1965	1965	1964	1964

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1960 - 1998

ANNUAL TOTAL	116117	205735	
ANNUAL MEAN	318	564	
HIGHEST ANNUAL MEAN			487
LOWEST ANNUAL MEAN			761
HIGHEST DAILY MEAN	2230	Feb 22	4400
LOWEST DAILY MEAN	30	Aug 11	31
ANNUAL SEVEN-DAY MINIMUM	34	Aug 6	35
INSTANTANEOUS PEAK FLOW			5020
INSTANTANEOUS PEAK STAGE			8.00
10 PERCENT EXCEEDS	723		1360
50 PERCENT EXCEEDS	223		329
90 PERCENT EXCEEDS	42		43

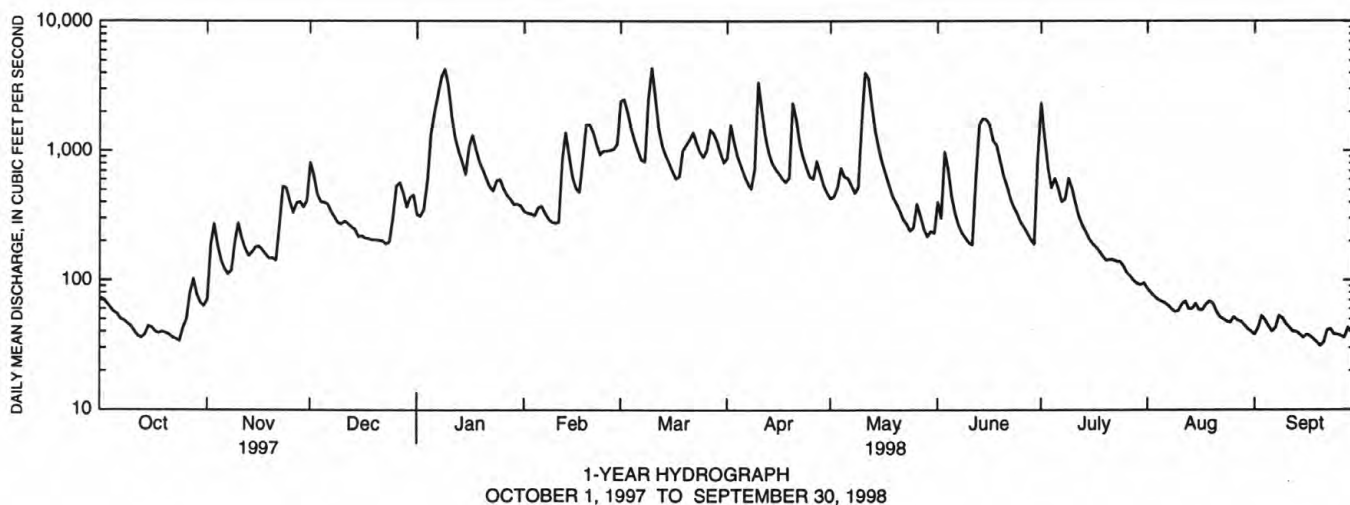
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909-17, 1939-59, BY WATER YEAR (WY) (PRIOR TO REGULATION)

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

SUMMARY STATISTICS WATER YEARS 1909 - 1917 1939 - 1959

ANNUAL MEAN	487	
HIGHEST ANNUAL MEAN	748	1952
LOWEST ANNUAL MEAN	316	1917
HIGHEST DAILY MEAN	28100	May 23 1942
LOWEST DAILY MEAN	8.0	Sep 8 1909
ANNUAL SEVEN DAY MINIMUM	12	Sep 4 1909
INSTANTANEOUS PEAK FLOW	a51900	Aug 19 1955
INSTANTANEOUS PEAK STAGE	b24.80	Aug 19 1955
ANNUAL RUNOFF (CFSM)	1.68	
ANNUAL RUNOFF (INCHES)	22.83	
10 PERCENT EXCEEDS	1110	
50 PERCENT EXCEEDS	242	
90 PERCENT EXCEEDS	49	

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



LACKAWAXEN RIVER BASIN

01432000 WALLENPAUPACK CREEK AT WILSONVILLE, PA.

LOCATION.--Lat 41°27'33", long 75°11'08", Pike County, Hydrologic Unit 02040103, at hydroelectric plant of Pennsylvania Power and Light Co., at lower end of penstock, at Kimble, and 1.2 mi south of Hawley.

DRAINAGE AREA.--228 mi².

PERIOD OF RECORD.--October 1909 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1918, 1923-24. WSP 1432: 1920-21. WSP 2102: 1966 (monthly mean). WDR PA-92-1: 1990.

GAGE.--Daily discharge determined from flow through turbines, computed from records of generator output and flow over roller gates on basis of head on gates. Prior to Nov. 3, 1925, nonrecording gage at site 1,000 ft downstream from dam at datum 1,146.78 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. No flow over spillway or roller gates. Flow regulated since 1925 by Lake Wallenpaupack (station 01431700).

COOPERATION.--Records of generator load, operation of power plant, net operation head, water-surface elevations in lake, and daily discharges furnished by Pennsylvania Power and Light Co., in connection with a Federal Power Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

[illegible]

LACKAWAXEN RIVER BASIN

01432000 WALLENPAUPACK CREEK AT WILSONVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	278	258	361	454	446	407	458	351	375	339	307	330
MAX	750	1012	1242	1070	1112	1125	1500	1849	1573	965	995	1018
(WY)	1956	1956	1997	1978	1978	1998	1958	1996	1972	1928	1969	1987
MIN	1.32	1.50	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1996	1966	1926	1926	1926	1926	1926	1926	1958	1956	1956	1956

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1926 - 1998

ANNUAL TOTAL	91727											
ANNUAL MEAN	251						158037			363		
HIGHEST ANNUAL MEAN							433			638		1996
LOWEST ANNUAL MEAN										86.9		1926
HIGHEST DAILY MEAN				971	Mar 6		1780	May 13		9650	May 25	1996
LOWEST DAILY MEAN				0	Jan 25		0	Oct 1		0	Nov 4	1925a
ANNUAL SEVEN-DAY MINIMUM				0	Apr 19		0	Oct 9		0	Nov 4	1925
10 PERCENT EXCEEDS				925			1110			921		
50 PERCENT EXCEEDS				12			358			243		
90 PERCENT EXCEEDS				0			0			0		

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

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

SUMMARY STATISTICS

WATER YEARS 1910 - 1925

MEAN	397											
HIGHEST MEAN	527					1916						
LOWEST MEAN	279					1923						
HIGHEST DAILY MEAN	4840				Mar 29	1914						
LOWEST DAILY MEAN	8.0				Sep 30	1917						
SEVEN-DAY MINIMUM	10				Aug 14	1911						
10 PERCENT EXCEEDS	910											
50 PERCENT EXCEEDS	240											
90 PERCENT EXCEEDS	60											

a Many days each year.

LACKAWAXEN RIVER BASIN

LAKES AND RESERVOIRS IN LACKAWAXEN RIVER BASIN

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,820 acre-ft, Jan. 9, elevation, 1,129.72 ft; minimum contents, 2,970 acre-ft, Oct. 24, 25, elevation, 1,123.10 ft.

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 834 acre-ft, Mar. 10, elevation, 992.34 ft; minimum contents, no storage many times.

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

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

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 92,400 acre-ft, June 6, elevation, 1,187.3 ft; minimum contents, 36,950 acre-ft, Oct. 22, elevation 1,177.5 ft.

LACKAWAXEN RIVER BASIN

LAKES AND RESERVOIRS IN LACKAWAXEN RIVER BASIN--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01428900 Prompton Reservoir</u>				<u>01429400 General Edgar Jadwin Reservoir</u>		
Sept. 30.....	1,123.40	3,050	--	--	0	--
Oct. 31.....	1,123.49	3,080	+ 0.5	--	0	0
Nov. 30.....	1,125.82	3,730	+10.9	--	0	0
Dec. 31.....	1,125.31	3,590	- 2.3	--	0	0
CAL YR 1997.....	--	--	- 0.3	--	--	0
Jan. 31.....	1,125.37	3,600	+ 0.2	--	0	0
Feb. 28.....	1,126.35	3,880	+ 5.0	--	0	0
Mar. 31.....	1,126.24	3,850	- 0.5	--	0	0
Apr. 31.....	1,125.48	3,630	- 3.7	--	0	0
May 31.....	1,124.95	3,490	- 2.3	--	0	0
June 30.....	1,127.29	4,140	+10.9	--	0	0
July 31.....	1,123.98	3,210	-15.1	--	0	0
Aug. 31.....	1,123.35	3,040	- 2.8	--	0	0
Sept. 30.....	1,123.47	3,070	+ 0.5	--	0	0
WTR YR 1998.....	--	--	0	--	--	0
<u>01431700 Lake Wallenpaupack</u>						
Sept. 30.....	1,178.7	43,810	--			
Oct. 31.....	1,177.7	38,010	- 94.3			
Nov. 30.....	1,180.5	54,970	+285			
Dec. 31.....	1,182.8	66,740	+191			
CAL YR 1997.....	--	--	- 1.6			
Jan. 31.....	1,182.9	67,300	+ 9.1			
Feb. 28.....	1,183.9	73,210	+106			
Mar. 31.....	1,183.7	71,990	- 19.8			
Apr. 30.....	1,185.2	81,290	+156			
May 31.....	1,186.2	86,400	+ 83.1			
June 30.....	1,184.7	78,310	-136			
July 31.....	1,182.1	62,910	-250			
Aug. 31.....	1,181.6	60,320	- 42.1			
Sept. 30.....	1,180.0	52,700	-128			
WTR YR 1998.....	--	--	+ 12.3			

DELAWARE RIVER BASIN

01432160 DELAWARE RIVER AT BARRYVILLE, N.Y.

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

DRAINAGE AREA.--2,659 mi².

PERIOD OF RECORD.--Water years 1958, 1968 to current year.

CHEMICAL DATA: 1958 (d), 1969 (a), 1973 (b), 1974 (d), 1975 (b).

NUTRIENT DATA: 1973 (b), 1974 (d), 1975 (b).

BIOLOGICAL DATA:

Bacteria.--1973 (b), 1974 (d), 1975 (b).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1967 to September 1973, March 1975 to current year.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1968-73, 1976-78, 1980-82, 1986-88, 1990-98), 32.0°C, July 20, 21, 1980; minimum, 0.0°C on many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.0°C, Aug. 4; minimum, 0.0°C on many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.5	13.0	14.5	10.0	7.5	9.0	3.0	2.0	2.5	.5	.0	.0
2	15.0	12.0	13.0	10.5	9.0	9.5	2.5	1.0	1.5	.5	.0	.0
3	14.5	13.5	14.0	10.0	8.0	9.0	2.0	.5	1.0	1.0	.0	.5
4	16.0	13.0	14.5	9.5	8.5	9.0	3.0	1.0	2.0	1.5	.0	1.0
5	17.0	14.5	15.5	9.0	7.5	8.0	3.0	2.0	2.5	1.5	.5	1.0
6	18.0	15.0	16.5	8.5	7.0	8.0	2.5	1.0	2.0	2.5	1.0	1.5
7	18.0	16.0	17.0	9.0	7.5	8.0	2.0	1.0	1.5	4.0	2.5	3.0
8	17.5	16.0	17.0	8.5	7.5	8.0	2.5	1.5	2.0	5.0	3.5	4.0
9	19.5	15.5	17.5	9.0	7.5	8.0	2.0	.5	1.0	6.0	4.5	5.5
10	18.5	16.5	17.5	8.0	6.5	7.5	2.0	.0	1.0	6.0	4.5	5.5
11	17.0	15.5	16.5	7.0	6.0	6.5	1.0	.0	.5	5.0	3.0	4.0
12	16.0	14.0	15.0	6.0	4.5	5.0	1.5	.0	1.0	3.5	2.5	3.0
13	15.5	14.0	15.0	4.5	3.0	4.0	1.5	.5	1.0	3.5	2.0	3.0
14	16.0	15.0	15.5	4.0	1.5	2.5	1.5	.0	.5	2.5	1.0	1.5
15	15.0	13.0	14.0	2.0	1.0	1.5	.5	.0	.0	1.5	.0	1.0
16	13.5	12.0	13.0	2.0	.5	1.5	.5	.0	.0	2.0	.5	1.5
17	13.0	11.5	12.0	1.5	.0	1.0	.5	.0	.0	2.5	1.5	2.0
18	12.5	10.5	11.5	1.0	.0	.5	.5	.0	.0	2.5	1.5	2.0
19	11.5	10.0	11.0	1.0	.0	.5	.5	.0	.0	3.0	1.5	2.5
20	11.0	9.0	10.0	1.5	.0	.5	.5	.0	.0	2.5	1.5	2.0
21	10.5	9.0	10.0	2.0	.0	1.0	.5	.0	.0	2.5	1.0	1.5
22	10.0	8.0	9.0	2.0	1.0	1.5	1.0	.0	.0	2.0	1.0	1.5
23	8.0	7.0	7.5	3.0	1.5	2.5	.5	.0	.0	1.5	.0	.5
24	8.0	7.0	7.5	3.0	1.5	2.5	1.0	.0	.5	2.0	.5	1.0
25	8.0	7.0	7.5	2.0	.5	1.5	1.0	.0	.5	2.0	.5	1.5
26	8.0	6.5	7.5	2.0	.0	1.0	1.5	.0	1.0	2.0	.0	1.0
27	9.5	7.0	8.0	2.5	1.0	1.5	1.5	.5	1.0	1.5	.0	1.0
28	8.0	5.5	6.5	2.5	1.0	1.5	1.5	.5	1.0	2.0	.5	1.0
29	7.0	4.5	6.0	3.0	1.5	2.5	1.0	.0	.5	2.0	.0	1.0
30	7.5	6.0	6.5	3.0	2.0	2.5	1.0	.0	.0	2.5	1.0	2.0
31	8.5	6.0	7.0	---	---	---	.5	.0	.0	2.0	1.0	1.5
MONTH	19.5	4.5	12.0	10.5	.0	4.0	3.0	.0	1.0	6.0	.0	2.0

(a) 1-2 samples per year.

(b) 3-5 samples per year.

(c) 6-9 samples per year.

(d) 10-20 samples per year.

DELAWARE RIVER BASIN

01432160 DELAWARE RIVER AT BARRYVILLE, N.Y.--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.0	.0	1.0	5.0	4.0	4.5	11.5	10.0	11.0	14.5	12.5	13.5
2	2.5	.0	1.5	4.5	3.0	4.0	11.5	10.5	11.0	16.0	13.5	14.5
3	2.5	1.0	2.0	4.0	3.0	3.5	10.5	8.5	9.5	16.0	14.5	15.0
4	2.5	1.5	2.0	4.0	2.5	3.0	9.0	7.0	8.0	15.0	13.5	14.0
5	3.0	1.0	2.0	4.0	2.5	3.0	7.5	6.0	7.0	14.0	13.0	13.5
6	3.0	1.0	2.0	4.0	2.0	3.0	8.0	5.5	7.0	14.5	12.5	13.5
7	2.0	.5	1.5	4.5	3.0	3.5	9.5	6.0	7.5	15.5	13.5	14.5
8	2.0	.0	1.0	3.5	3.0	3.5	8.5	7.5	8.0	15.0	14.0	14.5
9	2.5	.0	1.5	4.5	3.0	3.5	8.0	6.5	7.5	14.5	13.5	14.0
10	3.0	.5	1.5	4.5	3.0	4.0	8.0	6.0	7.0	14.5	13.5	14.0
11	3.0	1.0	2.0	3.5	1.0	2.0	9.0	6.5	8.0	13.5	12.5	13.0
12	3.5	2.5	3.0	1.5	.0	1.0	10.0	7.0	8.5	14.0	12.0	13.0
13	3.0	1.5	2.5	2.0	.0	1.0	10.5	8.0	9.0	14.5	12.0	13.5
14	2.0	.5	1.0	2.0	.5	1.0	11.5	8.5	10.0	15.5	12.5	14.0
15	1.0	.0	.5	2.5	.5	1.5	11.0	10.0	10.5	17.0	14.0	15.5
16	1.5	.0	.5	3.5	1.0	2.0	11.0	9.5	10.5	19.5	15.5	17.5
17	2.0	.5	1.0	4.0	1.0	2.5	12.0	10.5	11.5	20.5	18.0	19.0
18	2.5	1.0	1.5	3.0	2.5	3.0	13.0	10.5	11.5	20.0	18.0	19.0
19	2.5	1.5	2.0	3.5	2.5	3.0	12.5	10.0	11.5	20.0	17.5	18.5
20	3.0	2.0	2.5	4.5	2.5	3.5	10.5	8.5	9.5	21.0	18.0	19.0
21	3.5	2.5	3.0	4.5	2.0	3.5	11.0	8.0	9.5	19.5	17.5	19.0
22	4.0	2.5	3.0	2.5	1.0	2.0	11.5	9.0	10.5	19.0	16.5	17.5
23	3.5	2.0	3.0	3.5	1.0	2.0	11.0	10.0	10.5	19.5	15.0	17.5
24	3.0	1.0	2.0	4.5	1.5	3.0	12.0	9.5	10.5	20.0	16.0	18.0
25	3.0	1.0	2.0	5.0	2.5	3.5	13.0	10.5	11.5	19.5	17.0	18.5
26	3.5	1.5	2.5	6.0	3.5	4.5	12.5	9.5	11.0	20.5	17.5	19.0
27	4.0	1.5	2.5	7.5	5.0	6.0	11.0	8.5	10.0	21.0	17.5	19.5
28	5.0	2.5	3.5	9.0	6.0	7.0	12.0	8.5	10.0	22.0	18.0	20.5
29	---	---	---	10.5	7.5	9.0	13.0	9.5	11.0	23.5	19.0	21.5
30	---	---	---	11.0	8.0	9.5	13.5	11.5	12.5	24.5	20.0	22.5
31	---	---	---	12.5	9.5	10.5	---	---	---	25.0	22.5	23.5
MONTH	5.0	.0	2.0	12.5	.0	4.0	13.5	5.5	9.5	25.0	12.0	17.0

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

DELAWARE RIVER BASIN

01432805 DELAWARE RIVER AT POND EDDY, N.Y.

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

DRAINAGE AREA.--2,820 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1973 to current year.

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

REMARKS.--Interruptions of record were due to malfunction of recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1976, 1978, 1980-81, 1983-84, 1986, 1989-90, 1992-98) 31.0°C, July 21, 1980, July 31, 1995; minimum (water years 1974, 1977-78, 1980, 1983-98), 0.0°C on many days during winters, except 1978, 1980, and 1985.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 27.5°C, Aug. 3-5, 27; minimum, 0.0°C on many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.0	13.5	14.5	9.0	7.5	8.5	3.0	2.5	2.5	.0	.0	.0
2	14.5	12.0	13.0	10.0	9.0	9.5	2.5	1.5	1.5	.0	.0	.0
3	14.5	13.0	13.5	10.0	8.5	9.0	1.5	1.0	1.5	.0	.0	.0
4	15.5	13.0	14.0	9.0	8.5	9.0	2.5	1.5	2.0	.5	.0	.0
5	17.5	14.5	15.5	9.0	8.0	8.5	2.5	2.5	2.5	1.0	.0	.5
6	18.0	15.0	16.5	8.5	7.5	8.0	2.5	1.5	2.0	2.0	.5	1.0
7	18.0	16.5	17.0	8.5	7.5	8.0	2.0	1.5	1.5	3.5	2.0	3.0
8	18.0	16.5	17.0	8.0	7.5	8.0	2.0	1.5	2.0	4.5	3.5	4.0
9	19.0	16.0	17.0	8.0	7.5	8.0	1.5	1.0	1.5	5.5	4.5	5.0
10	19.0	17.0	17.5	8.0	7.0	7.5	1.5	.5	1.0	5.5	4.5	5.5
11	18.0	15.5	16.5	7.0	6.0	6.5	1.0	.5	.5	4.5	3.0	4.0
12	16.5	14.5	15.0	6.0	4.5	5.5	1.0	.5	1.0	3.0	2.5	2.5
13	16.0	13.5	15.0	4.5	3.5	4.0	1.5	1.0	1.0	2.5	2.0	2.5
14	15.5	15.0	15.0	3.5	2.0	2.5	1.5	.0	1.0	2.0	.5	1.0
15	---	---	---	2.0	1.5	2.0	.5	.0	.0	.5	.0	.0
16	---	---	---	2.0	1.0	1.5	.5	.0	.0	1.0	.0	.5
17	---	---	---	2.0	.5	1.0	.5	.0	.0	1.5	1.0	1.0
18	---	---	---	1.5	.5	1.0	.5	.0	.0	1.5	1.5	1.5
19	---	---	---	1.0	.0	.5	.5	.0	.0	2.0	1.5	1.5
20	---	---	---	1.5	.0	.5	.5	.0	.0	1.5	1.0	1.5
21	11.0	9.5	10.0	1.0	.5	1.0	.5	.0	.0	1.0	.5	1.0
22	9.5	8.0	9.0	2.0	1.0	1.5	.5	.0	.0	1.0	.5	.5
23	8.0	7.0	7.5	2.5	2.0	2.0	.0	.0	.0	.5	.0	.0
24	8.0	7.0	7.5	2.5	2.0	2.5	.5	.0	.0	1.0	.0	.5
25	7.5	7.0	7.5	2.0	1.0	1.5	.5	.0	.5	1.0	.0	.5
26	7.5	6.5	7.0	1.5	1.0	1.5	1.0	.5	1.0	.5	.0	.5
27	8.5	7.0	7.5	2.5	1.5	1.5	1.0	1.0	1.0	.5	.0	.0
28	7.5	6.5	7.0	2.0	1.5	2.0	1.0	.5	.5	.5	.0	.5
29	7.0	5.0	6.0	3.0	2.0	2.5	.5	.0	.0	1.0	.0	.5
30	8.0	6.0	6.5	3.0	2.5	2.5	.0	.0	.0	1.5	1.0	1.0
31	8.5	6.0	7.0	---	---	---	.0	.0	.0	1.5	.5	1.0
MONTH	---	---	---	10.0	.0	4.5	3.0	.0	1.0	5.5	.0	1.5

DELAWARE RIVER BASIN

01432805 DELAWARE RIVER AT POND EDDY, N.Y.--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.5	.0	.5	5.0	4.0	4.5	12.0	11.5	11.5	14.5	12.5	13.5
2	1.5	.5	1.0	4.5	4.0	4.0	11.5	10.5	11.0	15.0	13.5	14.5
3	2.0	1.0	1.5	4.0	3.5	4.0	10.5	9.0	10.0	15.5	14.5	15.0
4	1.5	1.5	1.5	4.0	3.0	3.5	9.0	7.0	8.0	15.0	13.5	14.0
5	1.5	1.0	1.5	3.5	3.0	3.5	7.0	6.5	6.5	13.5	13.0	13.5
6	2.0	1.0	1.5	4.0	2.5	3.5	7.5	6.0	6.5	14.0	13.0	13.5
7	2.0	1.0	1.5	4.0	3.5	3.5	8.5	6.0	7.5	15.5	14.0	14.5
8	2.0	.5	1.0	4.0	3.5	3.5	8.5	7.5	8.0	15.0	14.5	14.5
9	2.0	.5	1.0	4.0	3.5	3.5	8.0	6.5	7.5	14.5	14.0	14.5
10	2.5	1.0	1.5	5.0	3.5	4.5	7.5	6.5	7.0	14.5	13.5	14.0
11	2.0	1.5	2.0	3.5	1.5	2.5	8.5	6.5	7.5	13.5	13.0	13.0
12	3.0	2.0	2.5	1.5	.5	1.0	9.0	7.0	8.0	13.5	12.5	13.0
13	3.0	1.5	2.5	1.5	.0	1.0	10.0	8.0	9.0	14.5	12.5	13.5
14	1.5	.5	1.0	1.5	1.0	1.5	11.0	9.0	10.0	15.5	13.0	14.0
15	.5	.0	.0	2.0	1.0	1.5	10.5	10.5	10.5	16.5	14.5	15.5
16	.5	.0	.0	3.0	1.5	2.0	11.0	10.0	10.5	18.5	16.0	17.5
17	1.0	.5	.5	3.5	2.0	2.5	12.0	10.5	11.5	20.0	18.0	19.0
18	1.5	1.0	1.5	3.5	3.0	3.0	12.5	10.5	11.5	20.0	18.5	19.5
19	2.0	1.5	2.0	3.0	3.0	3.0	12.5	10.5	11.5	20.5	17.5	19.0
20	2.5	2.0	2.5	4.5	3.0	3.5	10.5	8.5	9.5	21.0	18.0	19.5
21	3.0	2.5	3.0	4.5	2.5	4.0	10.0	8.0	9.0	20.0	18.0	19.0
22	3.5	2.5	3.0	2.5	1.5	2.0	11.0	9.0	10.0	18.5	16.5	17.5
23	3.0	2.5	3.0	2.5	1.0	2.0	10.5	10.0	10.5	18.5	15.5	17.0
24	3.0	1.5	2.0	4.0	2.0	3.0	11.5	9.5	10.5	19.5	16.5	18.0
25	2.5	1.5	2.0	4.5	3.0	3.5	12.5	10.5	11.5	19.0	18.0	18.5
26	3.0	1.5	2.5	5.5	4.0	4.5	12.0	9.5	11.0	20.0	18.0	19.0
27	3.5	2.0	3.0	7.0	5.0	6.0	10.5	9.0	9.5	20.5	18.0	19.5
28	4.5	3.0	3.5	9.0	6.5	7.5	11.0	8.5	9.5	21.5	19.0	20.5
29	---	---	---	10.5	8.5	9.5	12.5	9.5	11.0	23.0	20.0	21.5
30	---	---	---	11.0	9.0	10.0	13.5	11.5	12.5	24.0	21.0	22.5
31	---	---	---	12.0	10.0	11.0	---	---	---	25.0	22.5	23.5
MONTH	4.5	.0	2.0	12.0	.0	4.0	13.5	6.0	9.5	25.0	12.5	17.0

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

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS. N.Y.

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

DRAINAGE AREA.--3,070 mi².

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

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

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

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Lake Wallenpaupack and by Toronto, Cliff Lake, and Swinging Bridge Reservoirs and smaller reservoirs. Large diurnal fluctuations at medium and low flows caused by powerplants on tributary streams. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi² of drainage area controlled by Cannonville Reservoir. Part of the flow from these reservoirs is diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during periods of low flow in the lower Delaware River Basin, as directed by the Delaware River Master. Telephone and satellite gage-height telemeters at station. Information on the above reservoirs can be found in the annual Water Data Report NY-98-1.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,400 ft³/s, Jan. 9, gage height, 10.14 ft; minimum, 944 ft³/s, Sept. 11, gage height, 1.81 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1590	1350	4670	e2800	2650	10000	9820	5860	4980	17100	1570	1650
2	1810	1370	5750	2530	2930	14300	15100	5200	4730	13600	1620	1570
3	2090	1650	4720	2950	3300	13600	14200	5530	7010	10700	1740	1710
4	1480	2470	3960	2960	3370	11700	11700	9650	6430	8440	1610	1770
5	1490	2030	3740	6200	3330	10100	10100	10500	4670	6930	1650	1730
6	1610	1710	3860	11500	3400	8790	8150	10400	3560	6920	1500	1650
7	2440	1540	3360	16200	2960	7880	7390	11000	2810	5810	1730	1800
8	2280	1510	3120	22700	2220	7190	7150	10200	2790	4660	1790	1600
9	1600	1510	3040	36200	2610	10400	7720	9170	2720	8320	1790	1230
10	1570	2710	2550	27700	2980	27900	16400	12900	3150	13500	1690	1160
11	1550	3150	2400	16700	2850	26300	15100	26300	3170	11400	1780	1330
12	1480	2420	2570	12100	4290	18200	11600	26800	3790	8620	1620	1620
13	1680	2030	2180	9760	7280	14200	10100	20900	7460	7110	1860	1830
14	1630	1980	2040	8330	e5800	12100	8930	16200	12000	6230	1650	1630
15	1830	1930	1940	6810	4300	10500	8440	13200	14000	4800	1820	1920
16	1610	1900	1770	8050	4490	9160	7920	10400	18500	4170	1760	1780
17	1660	1760	2130	10100	4850	8000	7090	8350	17000	3850	1870	1790
18	1580	1620	1800	8220	5230	7680	6450	7650	17500	3060	1890	1750
19	1690	1520	1810	7020	7240	8910	5830	6980	15000	2530	2040	1470
20	1610	1490	1760	6210	8840	9950	14100	6070	12600	2860	1670	1850
21	1770	1460	1770	5830	7550	10100	17200	5370	10700	2880	1680	1720
22	1630	1570	1720	5060	6220	12000	14300	4310	8450	2900	1590	1910
23	1690	2620	1670	4770	6010	10900	13000	3480	7750	2620	1530	1830
24	1630	3380	1730	4810	6990	9590	11800	2820	6460	2220	1600	1900
25	1850	3060	1910	5200	8160	9030	8720	2600	5790	2030	1790	1790
26	1590	2590	2610	4590	7840	8030	7100	3350	5080	1580	2060	1820
27	1680	2380	3190	4380	7650	10500	8340	3690	3930	1500	1530	1800
28	1370	2760	3080	4210	7080	12500	7930	3070	3470	1840	2140	1650
29	1300	2840	3170	4000	---	12700	7010	2740	3190	1830	1620	2140
30	1440	2800	3480	4030	---	11900	6440	2400	3900	1800	1620	1650
31	1350	---	e3200	3280	---	10600	---	2480	---	1710	1650	---
TOTAL	51580	63110	86700	275200	142420	364710	305130	269570	222590	173520	53460	51050
MEAN	1664	2104	2797	8877	5086	11760	10170	8696	7420	5597	1725	1702
MAX	2440	3380	5750	36200	8840	27900	17200	26800	18500	17100	2140	2140
MIN	1300	1350	1670	2530	2220	7190	5830	2400	2720	1500	1500	1160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1998, BY WATER YEAR (WY)

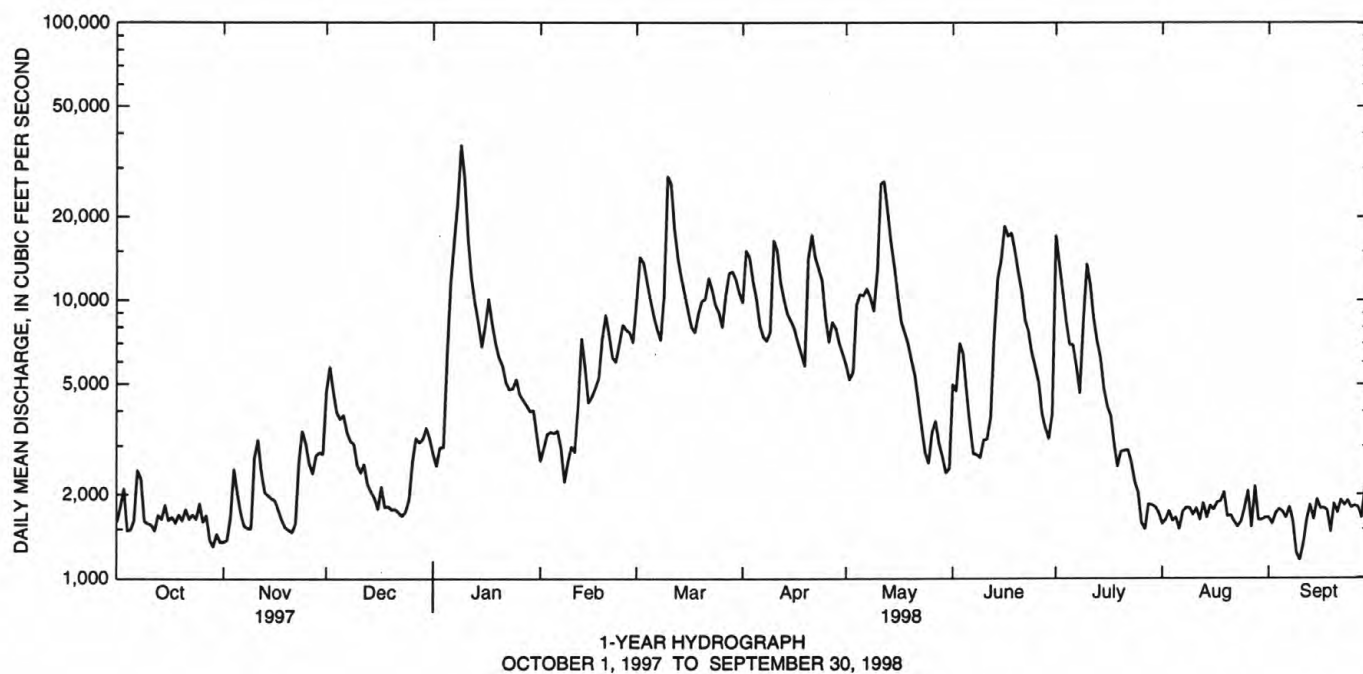
MEAN	3023	4212	5275	4905	5166	8060	9536	6181	3834	2738	2232	2396
MAX	10440	10310	17280	12980	13730	17520	23650	12670	12650	6680	4513	7928
(WY)	1978	1973	1997	1996	1976	1977	1993	1984	1972	1973	1969	1987
MIN	1001	884	1866	1216	1601	2583	2954	1890	993	699	963	1144
(WY)	1965	1965	1965	1981	1980	1981	1985	1995	1965	1965	1965	1965

e Estimated.

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, N.Y.--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1964 - 1998	
ANNUAL TOTAL	1431420		2059040		4792	
ANNUAL MEAN	3922		5641		7216	
HIGHEST ANNUAL MEAN					2028	
LOWEST ANNUAL MEAN					95200	
HIGHEST DAILY MEAN	17300	Apr 1	36200	Jan 9	95200	Jan 20 1996
LOWEST DAILY MEAN	1210	Sep 6	1160	Sep 10	385	Jul 6 1965
ANNUAL SEVEN-DAY MINIMUM	1390	Sep 4	1400	Oct 28	432	Jul 1 1965
10 PERCENT EXCEEDS	8330		12300		10400	
50 PERCENT EXCEEDS	2390		3300		2870	
90 PERCENT EXCEEDS	1510		1610		1500	



DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ

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

DRAINAGE AREA -- 3.480 mi²

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack, Cliff Lake, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, and Neversink Reservoirs and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs. Several measurements of water temperature were made during the year. Satellite telemetry at station. Information on the above reservoirs can be found in the annual Water Data Report NJ-98-1.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 10, 1903 reached a stage of 35.5 ft, from floodmark, present datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1670	1510	5130	3980	3350	10900	10500	6700	6670	17900	1840	1750
2	1740	1930	6570	3330	3570	15100	15600	6330	5780	14800	1820	1730
3	2550	2210	5400	3710	3980	14500	15300	6870	7960	11400	2010	1830
4	1700	2960	4630	3480	4060	12500	12500	10700	7640	9290	1900	1940
5	1650	2520	4370	6290	4080	11000	10900	11600	5660	7680	1830	1940
6	1640	2070	4490	10900	4130	9760	9140	11700	4440	7710	1780	1880
7	2630	1840	3990	15900	3690	8860	8250	12100	3470	6450	1980	2000
8	2530	1770	3630	23600	2840	8170	7970	11400	3190	5420	2080	1990
9	2000	2040	3560	39100	3150	10900	8440	10600	3350	8120	2020	1530
10	1660	3190	3110	31200	3600	28200	17300	15100	3490	13400	2000	1370
11	1650	3890	2900	19400	3460	29000	17000	30600	3640	11500	2060	1530
12	1610	3090	2940	13600	5430	20400	12800	32100	4170	8980	1910	1660
13	1750	2560	2750	11000	8630	15800	11200	24900	7930	7460	2080	2120
14	1810	2420	2450	9530	7680	13300	10100	19100	14700	6630	1940	1900
15	1950	2460	2240	7990	5380	11500	9470	15200	20300	5320	2030	2070
16	1850	2340	2170	8750	5260	10300	9020	12000	23900	4590	2010	1890
17	1750	2170	2440	10800	5780	9040	8180	9840	21500	4370	2120	1840
18	1740	1990	2240	9230	6420	8690	7510	8810	20700	3570	2170	1880
19	1770	1870	2060	8010	8660	9940	6780	8090	17800	3000	2300	1500
20	1750	1820	2130	7110	10200	11100	14200	7050	14400	3160	1970	1890
21	1870	1820	2120	6660	8950	11200	18700	6320	12200	3320	1910	1810
22	1750	1930	1890	5780	7500	12900	15400	5130	9790	3440	1830	2100
23	1790	3010	2260	5540	7160	11900	13800	4280	8870	3020	1760	1860
24	1780	3980	2110	5660	8330	10700	12400	3500	7530	2780	1840	2030
25	1950	3650	2300	6180	9590	10100	9910	3180	6760	2460	2030	1870
26	1800	3140	3040	5590	9200	9150	8070	3820	5950	1940	2240	1860
27	1920	2870	3750	5130	9000	11100	9220	4330	4790	1720	1740	1870
28	1580	3170	3730	4960	8470	12900	8910	3640	4170	2130	2150	1790
29	1410	3320	3560	4780	---	13200	7960	3310	3740	2250	1800	2180
30	1620	3270	4100	4740	---	12500	7280	3020	4280	2060	1710	1860
31	1480	---	4080	4250	---	11200	---	2920	---	2070	1790	---
TOTAL	56350	76810	102140	306180	171550	395810	333810	314240	268770	187940	60650	55470
MEAN	1818	2560	3295	9877	6127	12770	11130	10140	8959	6063	1956	1849
MAX	2630	3980	6570	39100	10200	29000	18700	32100	23900	17900	2300	2180
MIN	1410	1510	1890	3330	2840	8170	6780	2920	3190	1720	1710	1370

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

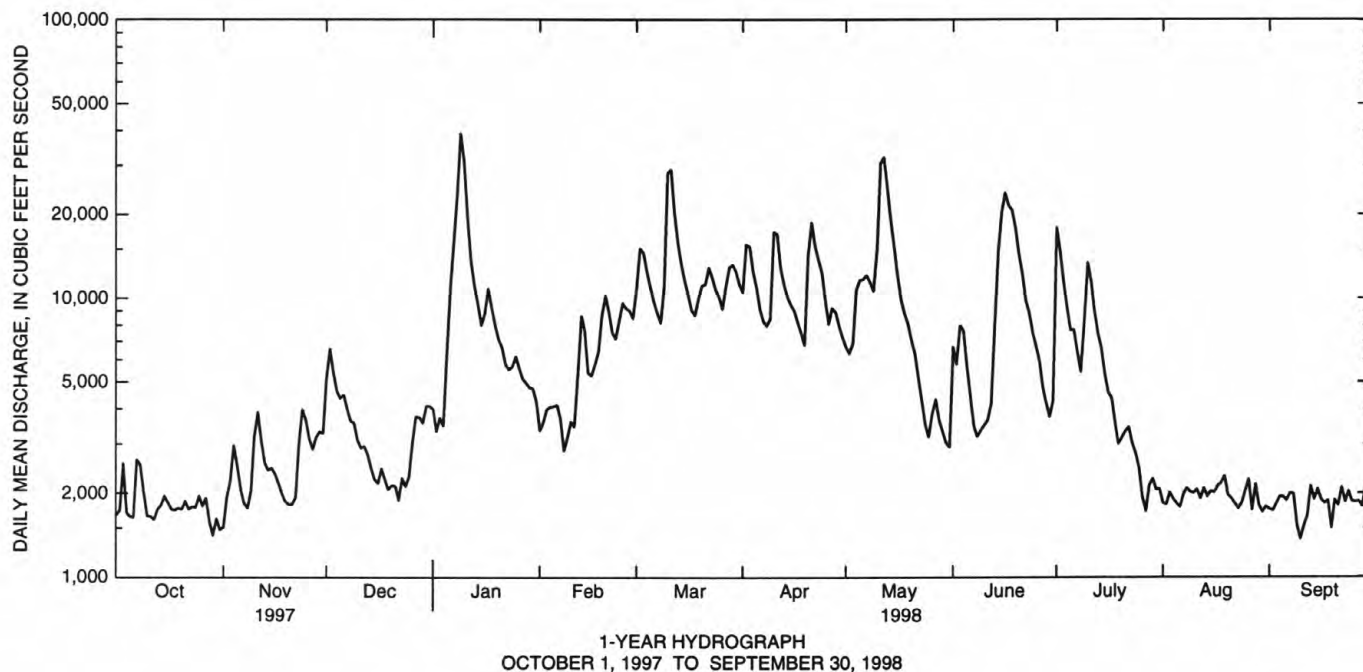
MEAN	3337	5169	6255	5914	5980	9999	11980	7452	4396	3086	2595	2637
MAX	15690	11760	18830	15600	15120	24480	31560	16090	15200	11220	14230	9167
(WY)	1956	1952	1997	1996	1976	1945	1940	1943	1972	1945	1955	1960
MIN	807	995	1968	1318	1748	3191	3322	2215	1214	864	715	892
(WY)	1942	1965	1965	1981	1980	1981	1985	1965	1965	1954	1954	1941

DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	1614960		2329720		5728	
ANNUAL MEAN	4425		6383		8621	
HIGHEST ANNUAL MEAN					2309	
LOWEST ANNUAL MEAN					187000	
HIGHEST DAILY MEAN	19300	Apr 5	39100	Jan 9	412	Aug 19 1955
LOWEST DAILY MEAN	1410	Oct 29	1370	Sep 10	565	Aug 23 1954
ANNUAL SEVEN-DAY MINIMUM	1580	Sep 24	1620	Oct 26	250000	Jul 1 1965
INSTANTANEOUS PEAK FLOW			43800	Jan 9	35.15	Aug 19 1955
INSTANTANEOUS PEAK STAGE			14.93	Jan 9	382	Aug 19 1955
INSTANTANEOUS LOW FLOW			1150	Sep 11	12100	Aug 24 1954
10 PERCENT EXCEEDS	9280		13300		3450	
50 PERCENT EXCEEDS	2860		3980		1600	
90 PERCENT EXCEEDS	1670		1800			

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



DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

WATER-QUALITY RECORDS

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

COOPERATION.--Field data and samples for laboratory analyses provided by staff of the New Jersey Department of Environmental Protection (NJDEP). Determination of fecal coliform bacteria by the MPN method and enterococcus bacteria by the membrane filtration method collected synoptically during summer, dissolved nitrite, total ammonia, dissolved ammonia, and BOD were performed by the New Jersey Department of Health, Public Health and Environmental Laboratories. Determination of fecal coliform bacteria by the 0.45 μ m-membrane filtration method (where reported) and the accompanying determination of enterococcus bacteria by the membrane filtration method were performed by the NJDEP, Bureau of Marine Water Monitoring Laboratory.

WATER QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	
		(00061)	(μS/CM) (00095)	(00400)	(00010)	(00025)	(00300)	(00301)	(00310)	(00900)	(00915)	(00925)	
NOV 1997													
05...	1130	2500	92	8.1	9.5	762	11.0	96	<1.0	27	8.0	1.8	
FEB 1998													
03...	1130	3330	93	7.3	2.0	753	13.0	95	<1.0	23	6.8	1.3	
JUN													
15...	1200	20200	58	7.1	16.5	742	10.5	110	E1.5	16	4.8	.89	
SEP													
22...	1100	2650	84	7.4	21.0	746	9.1	104	<1.0	24	7.0	1.6	
DATE		SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
		(00930)	(00935)	(90410)	(00945)	(00940)	(00950)	(00955)	(70300)	(70301)	(00530)	(00613)	(00631)
NOV 1997													
05...	6.5	1.4	19	8.3	11	<.1	1.7	59	51	<1	.003	.22	
FEB 1998													
03...	7.5	.7	12	8.8	14	<.1	3.1	61	50	<1	.005	.35	
JUN													
15...	4.3	.7	10	6.2	6.3	<.1	2.6	40	34	15	.003	.43	
SEP													
22...	5.4	.9	17	7.3	8.8	<.1	1.2	47	44	<1	.004	.35	
DATE		NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (μG/L AS B)	UV ABSORB-ANCE 254 NM, WTR, FLT (UNITS /CM)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)
		(00610)	(00608)	(00625)	(00623)	(00600)	(00602)	(00665)	(00666)	(01020)	(50624)	(00681)	(00689)
NOV 1997													
05...	<.03	.05	.2	.19	.41	.40	.03	.03	17.5	.083	--	.3	
FEB 1998													
03...	<.03	<.03	.1	<.10	.47	--	.02	<.01	<16.0	.068	2.7	.2	
JUN													
15...	.07	<.03	.4	.22	.78	.65	.04	.03	<16.0	.158	4.1	1.0	
SEP													
22...	<.03	<.03	.2	.17	.58	.52	<.05	.02	17.2	.053	2.5	.3	

DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, NJ--Continued

WATER-COLUMN BACTERIA ANALYSES SAMPLED SYNOPTICALLY JUNE TO SEPTEMBER 1998

DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	ENTERO- COCCI ME, MF WATER TOTAL (COL / 100 ML) (31649)
JUN 1998			
15...	1200	330	490
JUL			
08...	1100	20	50
20...	0930	40	100
AUG			
05...	1055	<20	10
SEP			
17...	1040	<20	<10

BUSH KILL BASIN

01439500 BUSH KILL AT SHOEMAKERS, PA

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

DRAINAGE AREA.--117 mi².

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

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

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

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

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 8	2200	1,310	3.63	May 12	0030	*1,450	*3.78
Mar. 10	0900	1,370	3.70				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	31	180	e150	245	625	345	264	311	124	19	11
2	16	90	156	e160	235	614	444	352	212	118	18	11
3	16	116	138	e170	227	576	384	372	160	109	16	13
4	15	96	133	172	227	527	346	336	137	99	15	13
5	16	79	128	220	332	480	315	331	126	97	14	13
6	16	68	125	267	350	434	284	411	115	87	14	12
7	15	68	117	383	312	395	257	474	105	78	13	16
8	15	65	112	819	282	377	240	428	98	77	12	25
9	14	84	109	1190	256	728	264	490	91	84	12	22
10	14	89	109	1000	243	1280	699	856	85	76	11	17
11	14	77	112	790	237	997	610	1350	82	65	12	14
12	13	67	109	641	505	782	522	1360	171	56	12	16
13	13	63	106	548	558	647	455	1070	344	50	12	15
14	13	68	102	476	e470	578	401	854	396	46	11	13
15	15	74	91	420	e410	517	373	696	332	43	11	12
16	17	66	94	472	386	458	344	586	335	40	10	11
17	17	62	88	446	370	408	318	490	291	40	11	11
18	17	57	86	406	560	397	299	417	249	37	19	10
19	16	55	82	364	642	503	317	354	204	33	22	9.8
20	16	53	79	332	630	488	695	304	169	30	17	9.3
21	16	53	79	298	597	466	599	262	147	34	14	9.2
22	16	92	77	271	541	492	522	222	132	41	12	10
23	16	126	87	288	497	443	464	196	126	38	12	11
24	16	125	88	413	730	419	413	169	126	33	11	9.7
25	22	117	144	414	728	405	364	157	120	29	10	9.0
26	25	109	183	358	655	419	353	148	116	25	23	9.2
27	35	108	171	323	601	455	435	133	110	23	17	9.5
28	39	103	150	305	565	428	363	121	103	21	15	9.1
29	32	103	135	281	---	407	315	117	98	20	14	8.5
30	27	107	224	275	---	369	286	120	103	18	12	8.2
31	23	---	e180	265	---	337	---	114	---	19	11	---
TOTAL	571	2471	3774	12917	12391	16451	12026	13554	5194	1690	432	367.5
MEAN	18.4	82.4	122	417	443	531	401	437	173	54.5	13.9	12.3
MAX	39	126	224	1190	730	1280	699	1360	396	124	23	25
MIN	13	31	77	150	227	337	240	114	82	18	10	8.2
CFGM	.16	.70	1.04	3.56	3.78	4.54	3.43	3.74	1.48	.47	.12	.10
IN.	.18	.79	1.20	4.11	3.94	5.23	3.82	4.31	1.65	.54	.14	.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1909 - 1998, BY WATER YEAR (WY)

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920
MEAN	124	214	266	261	275	435	435	306	193	130	97.6	92.7
MAX	773	643	841	807	707	1119	1002	773	919	747	864	569
(WY)	1956	1933	1997	1979	1909	1936	1993	1989	1972	1945	1955	1933
MIN	7.74	13.6	28.3	44.2	39.7	156	141	90.7	32.8	14.7	8.33	4.39
(WY)	1965	1965	1923	1981	1934	1981	1985	1941	1962	1965	1964	1964

e Estimated.

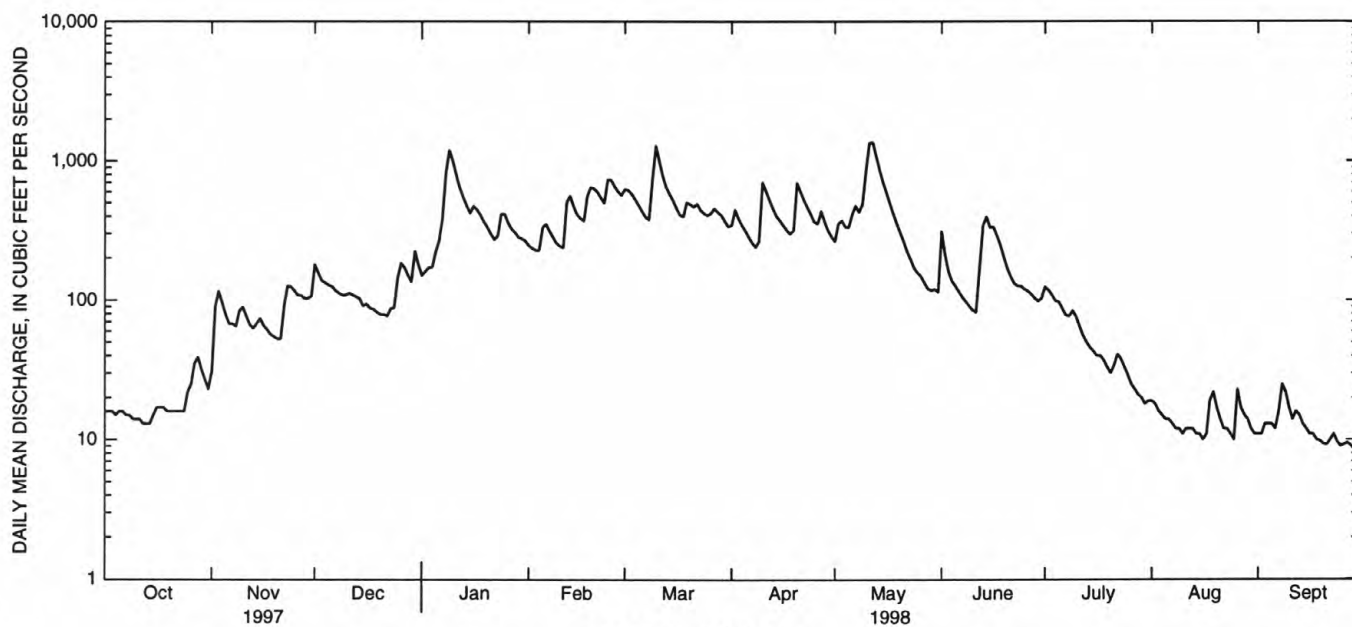
BUSH KILL BASIN

01439500 BUSH KILL AT SHOEMAKERS, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1909 - 1998	
ANNUAL TOTAL	52942.7		81838.5		236	
ANNUAL MEAN	145		224		419	
HIGHEST ANNUAL MEAN					95.4	
LOWEST ANNUAL MEAN					1928	
HIGHEST DAILY MEAN	570	Apr 4	1360	May 12	11800	Aug 19 1955
LOWEST DAILY MEAN	9.7	Aug 12	8.2	Sep 30	2.6	Sep 25 1964
ANNUAL SEVEN-DAY MINIMUM	11	Aug 7	9.0	Sep 24	2.7	Sep 21 1964
INSTANTANEOUS PEAK FLOW			1450	May 12	a23400	Aug 19 1955
INSTANTANEOUS PEAK STAGE			3.78	May 12	b13.95	Aug 19 1955
INSTANTANEOUS LOW FLOW					2.6	Sep 25 1964
ANNUAL RUNOFF (CFSM)	1.24		1.92		2.01	
ANNUAL RUNOFF (INCHES)	16.83		26.02		27.35	
10 PERCENT EXCEEDS	348		544		524	
50 PERCENT EXCEEDS	115		120		160	
90 PERCENT EXCEEDS	16		13		27	

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

b From floodmark.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

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

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

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.

<u>Date</u>	<u>Time</u>	<u>Discharge</u> <u>(ft³/s)</u>	<u>Gage height</u> <u>(ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge</u> <u>(ft³/s)</u>	<u>Gage height</u> <u>(ft)</u>
Jan. 8	1730	1,240	4.71	Mar. 9	2330	*2,820	*6.41

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	33	162	e110	139	380	224	155	219	80	16	11
2	23	114	126	e98	132	344	279	227	111	61	15	12
3	20	123	108	102	129	310	225	207	84	52	15	13
4	19	92	106	134	129	274	200	180	69	47	14	12
5	18	75	106	179	198	245	182	186	61	54	14	11
6	18	65	101	223	185	217	166	206	57	45	14	10
7	16	63	92	299	160	197	153	201	55	44	13	11
8	16	82	86	748	148	203	143	206	51	48	12	20
9	16	110	82	806	138	747	171	281	49	49	12	14
10	15	102	83	569	133	1380	464	606	46	43	14	12
11	15	90	87	414	132	772	326	892	46	40	16	11
12	16	80	82	325	393	562	274	810	221	33	15	11
13	16	73	78	282	349	424	239	543	320	29	13	10
14	16	80	74	238	280	348	217	420	315	27	13	10
15	18	79	69	209	232	306	208	346	253	27	14	10
16	20	72	68	289	205	265	188	284	218	29	14	9.6
17	17	66	69	249	201	237	175	242	167	26	14	9.9
18	16	61	66	221	447	240	166	211	152	24	23	9.9
19	15	58	65	198	448	316	204	179	126	22	17	9.5
20	15	57	65	183	401	287	601	157	107	24	14	9.5
21	14	56	63	166	360	305	397	139	95	30	13	9.4
22	13	108	59	152	311	300	317	123	89	36	12	11
23	13	126	68	177	280	258	275	110	89	26	12	11
24	13	120	73	278	435	247	240	100	92	23	11	9.5
25	19	107	135	247	387	243	210	94	78	22	11	9.6
26	23	101	148	206	343	260	220	89	69	20	17	11
27	e35	103	133	185	317	276	257	81	63	19	14	9.7
28	e32	94	121	177	307	256	202	76	61	18	12	9.3
29	e27	91	112	165	---	237	177	71	56	17	11	8.8
30	25	98	145	161	---	212	165	79	66	17	11	8.7
31	23	---	e120	152	---	194	---	70	---	17	11	---
TOTAL	587	2579	2952	7942	7319	10842	7265	7571	3485	1049	427	324.4
MEAN	18.9	86.0	95.2	256	261	350	242	244	116	33.8	13.8	10.8
MAX	35	126	162	806	448	1380	601	892	320	80	23	20
MIN	13	33	59	98	129	194	143	70	46	17	11	8.7
CFSM	.29	1.30	1.45	3.89	3.97	5.31	3.67	3.71	1.76	.51	.21	.16
IN.	.33	1.46	1.67	4.48	4.13	6.12	4.10	4.27	1.97	.59	.24	.11

MEAN	72.9	129	174	157	163	249	258	183	105	60.1	41.6	52.7
MAX	237	336	508	559	371	537	596	440	474	380	159	464
(WY)	1977	1973	1997	1996	1981	1977	1983	1989	1972	1969	1973	1987
MIN	8.36	10.2	21.3	15.1	41.8	92.7	84.0	62.3	23.2	10.7	8.30	7.56
(WY)	1964	1965	1981	1981	1980	1989	1985	1962	1962	1965	1964	1964

e Estimated.

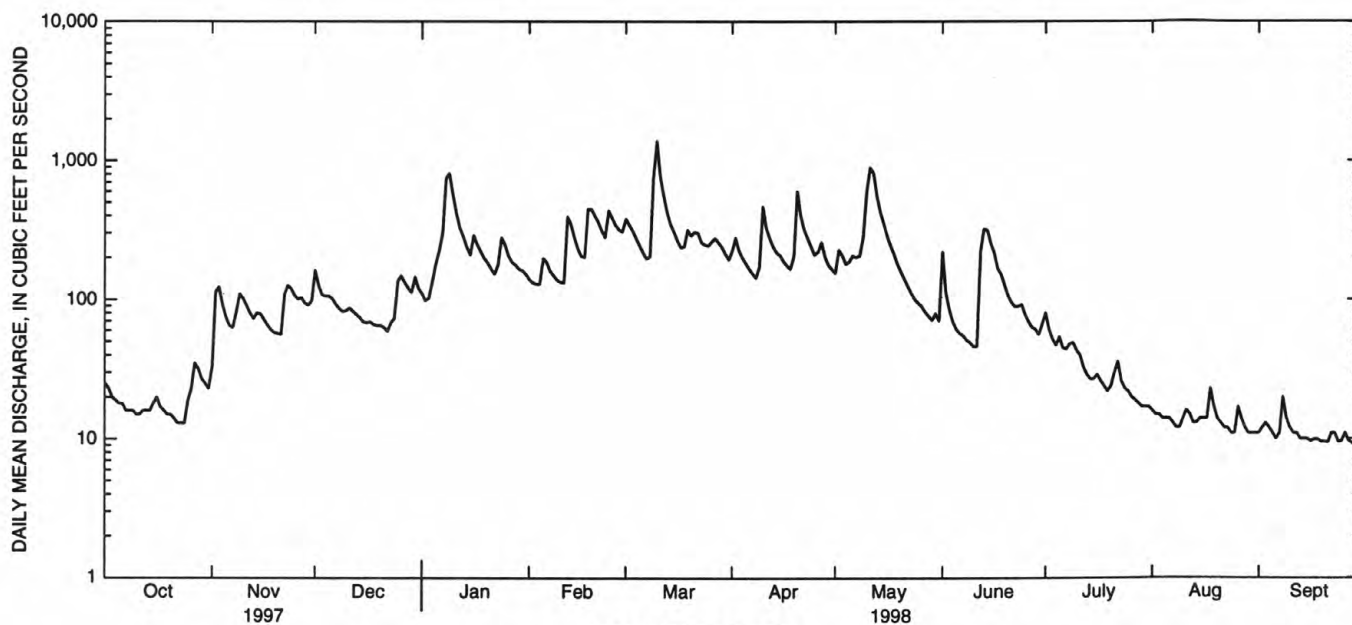
BRODHEAD CREEK BASIN

01440400 BRODHEAD CREEK NEAR ANALOMINK, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1958 - 1998	
ANNUAL TOTAL	34358.7		52342.4		137	
ANNUAL MEAN	94.1		143		213	
HIGHEST ANNUAL MEAN					1973	
LOWEST ANNUAL MEAN					59.6	
HIGHEST DAILY MEAN	403	Feb 23	1380	Mar 10	6070	Jul 28 1969
LOWEST DAILY MEAN	8.5	Aug 11	8.7	Sep 30	5.4	Sep 12 1980
ANNUAL SEVEN-DAY MINIMUM	9.2	Aug 7	9.5	Sep 24	5.9	Sep 8 1980
INSTANTANEOUS PEAK FLOW			a2820	Mar 9	a12900	Jul 28 1969
INSTANTANEOUS PEAK STAGE			6.41	Mar 9	11.82	Jul 28 1969
INSTANTANEOUS LOW FLOW					5.4	Sep 11 1980b
ANNUAL RUNOFF (CFSM)	1.43		2.18		2.08	
ANNUAL RUNOFF (INCHES)	19.40		29.55		28.23	
10 PERCENT EXCEEDS	206		315		296	
50 PERCENT EXCEEDS	82		92		85	
90 PERCENT EXCEEDS	15		12		17	

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

b Also Sept. 14, 1980.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

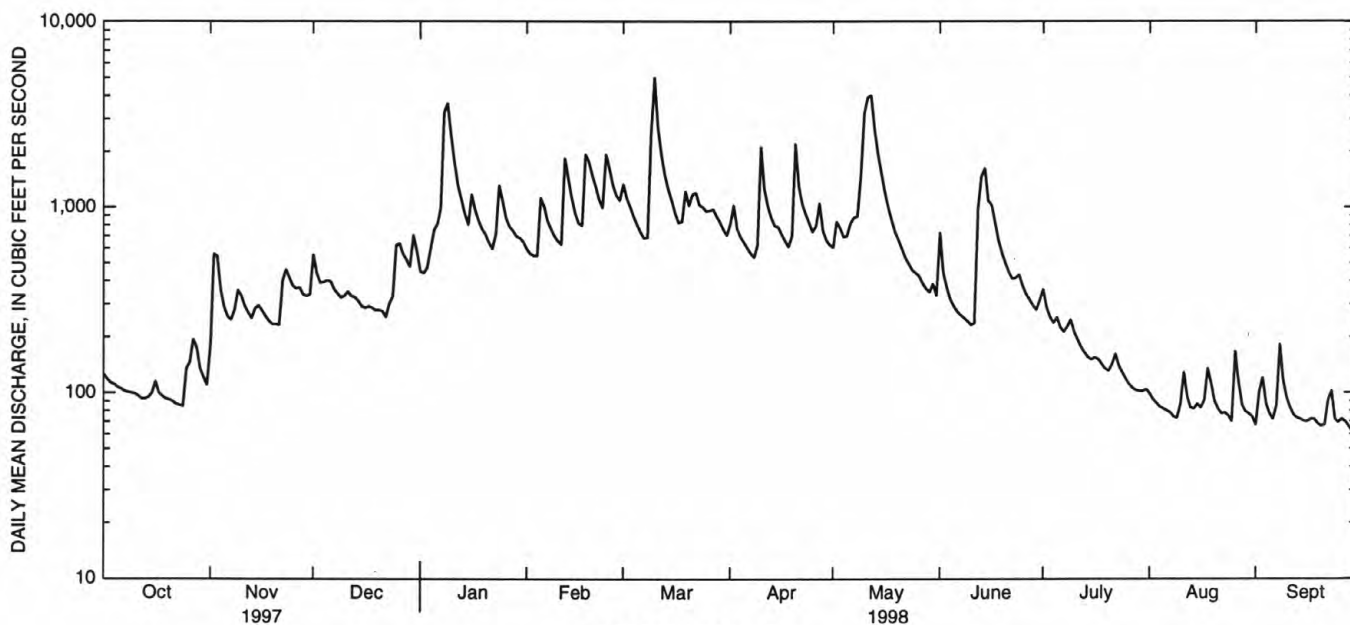
e Estimated.

BRODHEAD CREEK BASIN

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL TOTAL	143156		214654		567	
ANNUAL MEAN	392		588		957	
HIGHEST ANNUAL MEAN					238	
LOWEST ANNUAL MEAN					30500	
HIGHEST DAILY MEAN	2580	Sep 11	5010	Mar 10	30	Aug 19 1955
LOWEST DAILY MEAN	62	Aug 12	60	Sep 30	33	Sep 26 1964
ANNUAL SEVEN-DAY MINIMUM	66	Aug 7	67	Sep 24	33	Sep 6 1964
INSTANTANEOUS PEAK FLOW			a8380	Mar 10	a66800	Aug 19 1955
INSTANTANEOUS PEAK STAGE			7.91	Mar 10	b27.00	Aug 19 1955
INSTANTANEOUS LOW FLOW					29	Sep 27 1964
ANNUAL RUNOFF (CFSM)	1.51		2.27		2.19	
ANNUAL RUNOFF (INCHES)	20.56		30.83		29.74	
10 PERCENT EXCEEDS	739		1210		1220	
50 PERCENT EXCEEDS	334		376		350	
90 PERCENT EXCEEDS	96		83		94	

- a From rating curve extended above 4,600 ft³/s on basis of computation of flow-over-dam at gage height 14.43 ft and slope-area measurement of peak flow.
- b From floodmark, at site about 1,300 ft upstream at datum 2.19 ft higher.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

DELAWARE RIVER BASIN

01443000 DELAWARE RIVER AT PORTLAND, PA

LOCATION.--Lat 40°55'26", long 75°05'46", Northampton County, Hydrologic Unit 02040105, New Jersey Department of Environmental Protection Watershed Management Area 1, at walkbridge connecting Portland, PA and Columbia, NJ, and 0.5 mi upstream of Paulins Kill.

DRAINAGE AREA.--4,165 mi².

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

COOPERATION.--Samples for the determination of bacteria concentrations were collected synoptically during summer and analyzed by the New Jersey Department of Environmental Protection (NJDEP), or the New Jersey Department of Health (NJDOH). Determination of fecal coliform bacteria by the MPN method, enterococcus bacteria by the membrane filtration method, dissolved nitrite, total ammonia, dissolved ammonia, and BOD were performed by the NJDOH, Public Health and Environmental Laboratories. Determination of fecal coliform bacteria by the 0.45 µm-membrane filtration method (where reported) and the accompanying determination of enterococcus bacteria by the membrane filtration method were performed by the NJDEP, Bureau of Marine Water Monitoring Laboratory.

WATER QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	HARD-NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	
NOV 1997													
05...	1115	3280	106	7.7	9.0	763	10.6	92	<1.0	29	8.5	1.8	
FEB 1998													
10...	1245	5810	111	7.1	3.0	758	14.7	110	<1.0	30	9.1	1.7	
MAY													
18...	1243	12100	79	7.3	19.0	753	9.4	103	E1.2	22	6.7	1.2	
AUG													
06...	0947	1780	104	7.6	25.0	760	8.0	97	<1.0	30	9.2	1.8	
DATE		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 CAC03) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
NOV 1997													
05...	7.3	1.1	19	8.8	12	<.1	2.1	63	54	<1	.004	.18	
FEB 1998													
10...	8.5	.6	16	11	15	<.1	3.5	61	59	1	.004	.20	
MAY													
18...	4.9	.6	15	7.7	7.7	.1	2.6	50	41	9	<.003	.13	
AUG													
06...	6.6	.9	23	8.5	11	<.1	.8	60	53	2	.004	.12	
DATE		NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	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)	BORON, DIS-SOLVED (µG/L AS B) (01020)	UV ABSORB-ANCE 254 NM, WTR, FLT (UNITS /CM) (50624)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)
NOV 1997													
05...	<.03	<.03	.2	.18	.37	.35	.01	<.01	13.7	.096	--	.2	
FEB 1998													
10...	<.03	<.03	.1	<.10	.31	--	<.01	<.01	16.6	.060	2.0	.2	
MAY													
18...	<.03	<.03	.2	<.10	.30	--	.04	.03	16.1	.083	2.3	.4	
AUG													
06...	<.03	<.03	.3	.16	.37	.28	.01	<.01	18.6	.053	2.0	.3	

DELAWARE RIVER BASIN

01443000 DELAWARE RIVER AT PORTLAND, PA--Continued

WATER-COLUMN BACTERIA ANALYSES SAMPLED SYNOPTICALLY JUNE TO SEPTEMBER 1998

DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	ENTERO- COCCI ME, MF WATER TOTAL (COL / 100 ML) (31649)
JUN 1998			
11...	0845	<20	10
JUL			
07...	1030	20	30
23...	1030	<20	20
AUG			
06...	0947	<20	10
SEP			
16...	1130	50	10

DELAWARE RIVER BASIN

01446500 DELAWARE RIVER AT BELVIDERE, NJ

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

DRAINAGE AREA.--4,535 mi².

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

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

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

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, and Neversink Reservoirs and smaller reservoirs. Diversions from Pepacton, Cannonsville, and Neversink Reservoirs. Satellite telemetry and National Weather Service gage-height telemetry at station. Information on the above reservoirs can be found in the annual Water Data Report NJ-98-1.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2160	1950	5030	5550	6230	13600	14400	10000	7020	12400	2420	2120
2	2090	2760	7850	4370	5590	18600	17300	10500	9250	20000	2180	2180
3	2340	3520	7500	5300	6070	19900	21000	10600	8180	14600	2160	2220
4	2600	3510	6550	5480	6280	17600	17500	12300	10600	11900	2300	2190
5	1960	3910	5940	6290	7330	15500	15200	15700	8610	10000	2190	2230
6	1910	3210	5820	11900	7650	13900	13500	15900	6710	9100	2140	2160
7	2050	2810	5680	17900	7340	12500	11600	16900	5330	8320	2020	2130
8	2950	2620	5030	27000	6170	11600	10800	16600	4640	7380	2240	2610
9	2750	2740	4790	45900	5370	14500	11100	16500	4660	6570	2320	2310
10	2100	3090	4640	46900	5880	34200	20100	20400	4370	13000	2360	1810
11	1900	4640	4160	30300	5930	44000	27000	39200	4810	14300	2390	1580
12	1890	4520	3930	20600	8710	31100	19900	49400	5690	11700	2380	1720
13	1830	3720	4120	16200	12300	23100	16400	40000	9420	9280	2170	1900
14	2060	3390	3580	14100	13500	19300	15200	29800	16500	8250	2360	2270
15	2120	3430	3340	12400	10700	17000	13900	23700	24700	7030	2170	2070
16	2350	3270	3190	11700	8490	15200	13000	19300	27900	5900	2300	2340
17	2100	3130	3050	13900	9010	13400	12300	15600	28600	5420	2340	2240
18	2070	2900	3380	13800	10800	12600	11300	13500	24500	5000	2600	2190
19	2010	2700	2990	11800	12700	14100	10300	12500	22600	4040	2590	2160
20	2080	2590	2990	10700	15000	15900	15200	11200	18500	3590	2620	1770
21	2040	2540	2940	9620	14800	15900	25000	10000	15500	3910	2210	2200
22	2150	2710	2830	8780	12700	17500	21500	8690	13400	4040	2150	2220
23	2010	3370	2800	8420	11200	17200	18800	7500	11400	3940	2050	2450
24	2090	4820	2940	9970	13500	15900	17000	6260	10400	3670	1950	2220
25	2230	5280	3710	10400	15700	14600	15200	5550	9100	3090	2010	2340
26	2490	4740	4570	9780	14800	13900	12000	5400	8140	2850	2690	2220
27	2370	4210	5320	8580	14200	14200	12800	6230	7300	2360	2900	2210
28	2460	3980	5720	8200	13600	16400	13400	5920	5900	2190	2230	2190
29	2040	4450	5230	7930	---	17200	11700	5250	5320	2560	2630	2060
30	1830	4370	6520	7510	---	16600	10700	5140	5100	2580	2190	2510
31	1980	---	6700	7410	---	15400	---	4560	---	2510	2100	---
TOTAL	67010	104880	142840	428690	281550	552400	465100	470100	344150	221480	71360	64820
MEAN	2162	3496	4608	13830	10060	17820	15500	15160	11470	7145	2302	2161
MAX	2950	5280	7850	46900	15700	44000	27000	49400	28600	20000	2900	2610
MIN	1830	1950	2800	4370	5370	11600	10300	4560	4370	2190	1950	1580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1998, BY WATER YEAR (WY)

MEAN	4644	7254	8529	8120	8379	13990	15920	9965	5940	4353	3644	3747
MAX	19570	21140	27730	21020	19930	42520	40720	21470	22280	16840	19260	13940
(WY)	1956	1928	1997	1996	1976	1936	1940	1989	1972	1928	1955	1938
MIN	1055	1226	1481	1683	2452	5243	4512	3261	1590	1017	881	1199
(WY)	1942	1965	1923	1981	1980	1981	1985	1965	1965	1965	1954	1941

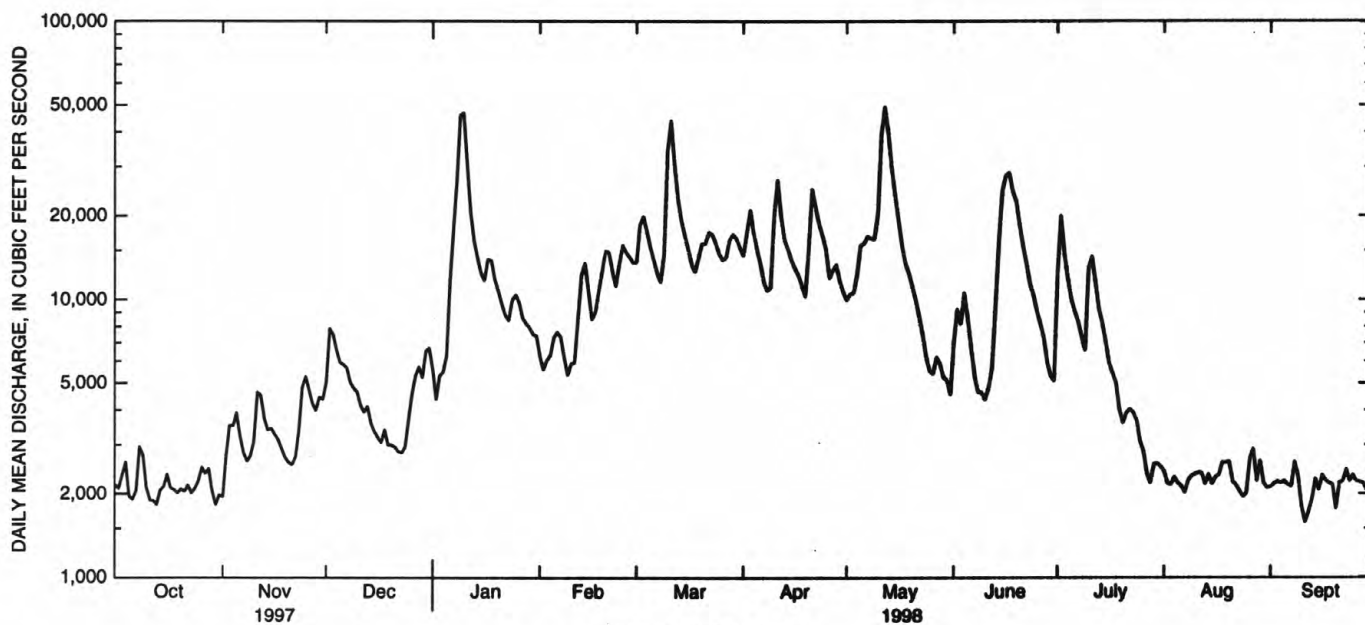
DELAWARE RIVER BASIN

01446500 DELAWARE RIVER AT BELVIDERE, NJ--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1923 - 1998	
ANNUAL TOTAL	2230190		3214380		7867	
ANNUAL MEAN	6110		8807		14130	
HIGHEST ANNUAL MEAN					1928	
LOWEST ANNUAL MEAN					2990	
HIGHEST DAILY MEAN	25300	Apr 5	49400	May 12	184000	Aug 19 1955
LOWEST DAILY MEAN	1560	Sep 7	1580	Sep 11	610	Aug 25 1954
ANNUAL SEVEN-DAY MINIMUM	1830	Sep 4	1950	Sep 9	782	Aug 14 1954
INSTANTANEOUS PEAK FLOW			54900	Jan 9	a273000	Aug 19 1955
INSTANTANEOUS PEAK STAGE			13.18	Jan 9	b30.21	Aug 19 1955
INSTANTANEOUS LOW FLOW			1470	Sep 12	609	Sep 28 1943
10 PERCENT EXCEEDS	13200		17500		16600	
50 PERCENT EXCEEDS	4350		5900		5020	
90 PERCENT EXCEEDS	2050		2150		1940	

a From rating curve extended above 170,000 ft³/s on basis of flood-routing study.

b From high-water mark in gage house.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01447500 LEHIGH RIVER AT STODDARTSVILLE, PA

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

DRAINAGE AREA.--91.7 mi².

WATER-DISCHARGE RECORDS

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

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

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

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

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

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

<u>Date</u>	<u>Time</u>	<u>Discharge</u> <u>(ft³/s)</u>	<u>Gage height</u> <u>(ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge</u> <u>(ft³/s)</u>	<u>Gage height</u> <u>(ft)</u>
Mar. 10	0730	*1,350	*3.61	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	36	247	e120	146	559	293	216	381	158	32	21
2	30	157	e190	e110	141	592	419	240	231	115	28	35
3	28	156	e140	e120	136	530	326	251	161	96	25	52
4	28	132	162	171	133	453	278	223	128	88	25	34
5	25	99	152	240	178	401	246	208	109	88	26	27
6	24	78	150	367	169	355	221	206	95	83	33	23
7	25	80	136	535	147	321	202	200	88	73	26	27
8	21	113	125	829	134	317	177	190	94	80	23	69
9	15	182	e110	1080	125	594	216	229	89	89	21	46
10	9.1	177	114	842	119	1260	524	466	84	79	23	40
11	9.3	137	121	584	118	841	540	749	94	66	36	35
12	10	114	113	447	282	e570	425	715	330	57	31	29
13	11	106	108	376	322	e440	352	530	464	52	25	26
14	13	107	103	324	e250	388	303	416	532	49	24	24
15	18	103	e92	e280	e210	347	297	347	428	49	25	24
16	20	94	e92	404	e180	309	279	296	399	59	28	30
17	17	86	e90	370	179	282	262	254	310	69	30	28
18	16	e78	87	324	300	288	277	222	273	53	56	25
19	16	e72	83	286	419	408	332	197	224	42	55	21
20	17	70	81	258	429	439	804	181	183	46	41	19
21	18	66	81	233	404	600	582	162	157	47	32	19
22	18	134	e72	212	350	581	428	142	147	68	29	24
23	19	178	85	210	323	459	355	131	134	61	27	23
24	19	165	85	251	435	397	310	122	147	65	26	20
25	30	136	128	243	413	360	270	119	128	57	24	19
26	41	125	174	e200	380	348	284	120	111	45	30	21
27	65	147	158	e180	367	368	383	110	101	36	31	21
28	78	135	137	177	394	389	295	103	94	30	26	21
29	43	129	e120	168	---	365	249	103	84	30	24	20
30	26	137	145	164	---	315	225	131	103	30	22	19
31	19	---	e130	157	---	272	---	113	---	33	21	---
TOTAL	759.4	3529	3811	10262	7183	14148	10154	7692	5903	1993	905	842
MEAN	24.5	118	123	331	257	456	338	248	197	64.3	29.2	28.1
MAX	78	182	247	1080	435	1260	804	749	532	158	56	69
MIN	9.1	36	72	110	118	272	177	103	84	30	21	19
CFSM	.27	1.28	1.34	3.61	2.80	4.98	3.69	2.71	2.15	.70	.32	.31
IN.	.31	1.43	1.55	4.16	2.91	5.74	4.12	3.12	2.39	.81	.37	.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1998, BY WATER YEAR (WY)

MEAN	120	184	217	197	200	306	360	255	157	110	91.4	85.2
MAX	613	439	561	665	709	577	867	604	655	528	1101	511
(WY)	1956	1973	1974	1996	1981	1977	1993	1989	1972	1947	1955	1987
MIN	14.1	17.1	35.5	18.3	62.2	131	135	92.9	43.0	19.8	14.2	9.18
(WY)	1964	1965	1981	1981	1980	1989	1995	1995	1962	1965	1964	1964

e Estimated.

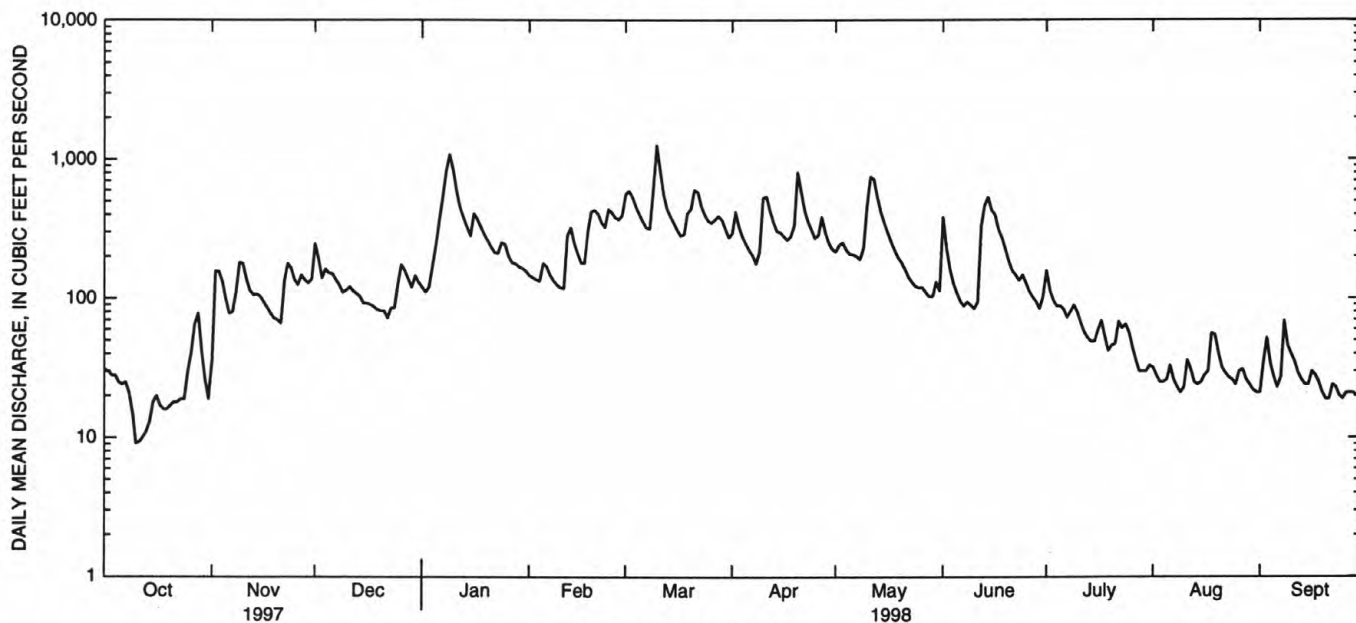
LEHIGH RIVER BASIN

01447500 LEHIGH RIVER AT STODDARTSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1944 - 1998	
ANNUAL TOTAL	48571.4		67181.4		190	
ANNUAL MEAN	133		184		268	
HIGHEST ANNUAL MEAN					86.2	
LOWEST ANNUAL MEAN					1965	
HIGHEST DAILY MEAN	729	Apr 5	1260	Mar 10	18900	Aug 19 1955
LOWEST DAILY MEAN	9.1	Oct 10	9.1	Oct 10	7.0	Sep 26 1964
ANNUAL SEVEN-DAY MINIMUM	12	Oct 9	12	Oct 9	7.4	Sep 21 1964
INSTANTANEOUS PEAK FLOW			1350	Mar 10	a31900	Aug 19 1955
INSTANTANEOUS PEAK STAGE			3.61	Mar 10	b16.37	Aug 19 1955
INSTANTANEOUS LOW FLOW					7.0	Sep 26 1964
ANNUAL RUNOFF (CFSM)	1.45		2.01		2.07	
ANNUAL RUNOFF (INCHES)	19.70		27.25		28.16	
10 PERCENT EXCEEDS	270		417		392	
50 PERCENT EXCEEDS	120		128		129	
90 PERCENT EXCEEDS	23		24		33	

a From rating curve extended above 1,700 ft³/s on basis of slope-area measurement of peak flow.

b From floodmark.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01447500 LEHIGH RIVER AT STODDARTSVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1981 to current year.

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

REMARKS.--Interruptions in the record were due to malfunctions of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 30.0°C, July 15, 1995; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 27.0°C, Aug. 8; minimum, 0.0°C, many days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	14.0	11.0	12.5	9.5	6.0	8.0	4.0	2.0	3.0	.0	.0	.0
2	13.0	9.0	11.0	10.0	8.5	9.5	2.0	.5	1.0	.5	.0	.0
3	13.5	11.0	12.0	8.5	6.5	7.5	2.0	.0	1.0	1.5	.5	.5
4	16.0	11.5	13.5	7.5	6.5	7.0	3.5	1.5	2.5	2.0	.5	1.0
5	18.0	13.0	15.0	7.5	5.0	6.0	3.0	2.0	2.5	3.0	1.0	2.0
6	18.5	13.5	16.0	7.5	4.5	6.0	2.0	.5	1.0	4.0	3.0	3.5
7	18.0	14.0	15.5	7.5	6.0	6.5	1.5	.5	1.0	5.0	3.5	4.0
8	18.5	14.0	15.5	7.0	6.5	7.0	2.0	1.0	1.5	7.0	5.0	6.0
9	18.5	13.5	15.5	7.0	6.5	7.0	1.5	.0	.5	7.5	6.0	7.0
10	19.5	14.5	16.5	6.5	5.0	6.0	1.5	.0	1.0	6.0	4.0	5.0
11	16.5	11.5	14.0	6.0	4.0	5.0	1.5	.5	1.0	4.0	3.0	3.5
12	15.0	9.0	12.0	4.0	2.5	3.5	2.0	1.5	1.5	3.0	2.0	2.5
13	15.0	9.5	12.0	3.5	1.5	2.5	2.0	1.0	1.5	3.0	2.0	2.5
14	15.5	13.0	14.0	2.5	1.0	1.5	2.0	.0	1.0	2.0	.0	.5
15	13.5	11.0	12.0	1.5	1.0	1.5	.5	.0	.0	1.0	.0	.5
16	13.0	8.5	10.5	2.0	1.0	1.5	1.5	.0	.5	2.0	1.0	1.5
17	12.0	6.5	9.0	2.0	.5	1.0	1.5	.0	.5	2.5	1.5	2.0
18	13.0	8.5	10.0	1.0	.0	.5	1.5	.0	.5	2.0	1.5	2.0
19	10.0	7.0	8.5	1.0	.0	.5	2.0	.5	1.0	2.5	1.5	2.0
20	10.5	5.0	7.5	2.0	.0	1.0	2.0	1.0	1.5	2.0	1.0	1.5
21	10.0	5.5	8.0	3.0	.5	1.5	1.5	.0	1.0	1.5	.5	1.0
22	9.0	5.0	6.5	3.5	2.5	3.0	.5	.0	.0	1.5	.5	1.0
23	6.5	3.0	5.0	4.0	3.0	3.5	1.5	.5	1.0	1.0	.0	.5
24	7.5	4.0	5.5	3.5	1.0	2.5	2.0	1.0	1.5	2.5	1.0	1.5
25	7.5	6.5	7.0	1.0	.5	1.0	3.0	2.0	2.5	1.5	.5	1.0
26	6.5	4.5	5.5	3.0	1.0	2.0	3.0	2.0	2.5	1.5	.0	.5
27	8.5	6.0	7.0	3.5	2.0	2.5	2.0	1.5	2.0	1.5	.0	1.0
28	7.0	4.5	6.0	3.0	2.0	2.5	2.0	.0	1.0	1.5	1.0	1.0
29	7.0	3.5	5.0	4.5	3.0	3.5	1.0	.0	.5	2.5	.0	1.0
30	8.0	3.5	5.5	4.0	3.5	3.5	3.5	.0	.5	2.5	2.0	2.0
31	8.5	3.5	6.0	---	---	---	.0	.0	.0	2.5	1.0	2.0
MONTH	19.5	3.0	10.3	10.0	.0	3.8	4.0	.0	1.2	7.5	.0	1.9

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	2.5	.0	1.0	5.0	3.5	4.0	14.5	13.0	13.5	13.5	11.5	12.5
2	2.5	.5	1.5	5.0	3.0	4.0	13.5	11.5	12.5	13.5	12.0	13.0
3	3.0	2.0	2.5	4.5	3.5	4.0	11.5	9.5	10.5	14.5	12.5	13.5
4	2.5	.5	2.0	4.0	3.0	3.5	10.0	7.0	8.5	14.5	13.0	13.5
5	2.5	.5	1.5	3.5	2.5	3.0	---	---	---	14.0	13.5	13.5
6	2.5	1.0	1.5	4.5	2.0	3.5	9.5	5.5	7.5	14.5	12.5	13.5
7	3.0	.5	1.5	5.5	3.5	4.5	10.5	6.0	8.0	16.0	12.5	14.0
8	3.0	.0	1.5	5.0	4.0	4.0	9.5	8.0	8.5	15.0	13.5	14.5
9	3.0	.0	1.5	5.5	3.5	4.5	9.0	5.0	7.5	14.5	13.0	13.5
10	3.5	.5	2.0	5.0	2.5	4.0	8.0	4.0	6.0	13.5	13.0	13.0
11	3.0	1.5	2.0	2.5	.5	1.5	9.0	5.0	7.0	13.0	12.5	12.5
12	3.0	2.5	3.0	1.0	.0	.5	10.0	6.0	8.0	13.5	11.5	12.5
13	2.5	1.5	2.0	2.0	.0	1.0	11.5	7.0	9.5	15.5	11.0	13.5
14	2.0	.5	1.0	2.0	.5	1.5	11.5	8.5	10.5	16.5	11.5	14.5
15	2.0	.0	.5	3.0	1.0	2.0	11.0	10.0	10.5	18.5	13.5	16.0
16	2.0	.0	1.0	3.5	.5	2.0	12.0	9.0	10.5	19.5	15.0	17.5
17	2.0	1.0	1.5	4.0	.5	2.5	12.5	11.5	12.0	21.0	17.0	19.0
18	3.0	2.0	2.5	3.5	2.5	3.0	12.5	9.5	11.0	20.0	16.0	18.0
19	3.0	2.5	2.5	3.5	3.0	3.0	12.0	9.0	10.0	19.0	16.0	18.0
20	3.0	2.5	3.0	5.5	3.0	4.5	9.5	8.5	9.0	20.0	16.0	18.0
21	3.0	2.5	2.5	5.5	2.0	3.5	12.0	7.5	9.5	19.5	16.5	17.5
22	4.0	2.5	3.0	2.0	1.0	1.5	12.0	9.0	10.5	18.0	14.0	15.5
23	3.5	2.5	3.0	4.0	1.0	2.5	11.5	10.0	11.0	18.0	12.0	14.5
24	2.5	.5	1.0	4.0	1.5	3.0	12.5	9.0	10.5	18.5	12.0	15.0
25	3.0	1.0	2.0	5.5	1.5	3.5	13.5	10.0	11.5	17.0	14.0	15.5
26	4.0	1.5	2.5	7.5	4.0	5.5	12.0	8.5	10.0	19.5	14.5	16.5
27	4.5	1.5	3.0	10.0	5.5	8.0	11.0	7.0	9.0	20.0	14.5	17.0
28	4.5	3.0	4.0	12.0	8.0	10.0	12.0	7.5	9.5	20.0	14.5	17.0
29	---	---	---	13.5	10.5	12.0	13.0	8.0	10.5	22.0	15.5	18.0
30	---	---	---	14.5	10.0	12.5	12.5	11.5	12.0	20.5	17.0	18.5
31	---	---	---	15.5	12.0	14.0	---	---	---	22.5	18.0	20.0
MONTH	4.5	.0	2.0	15.5	.0	4.4	14.5	4.0	9.8	22.5	11.0	15.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	19.5	17.5	18.5	19.0	17.5	18.5	25.0	16.0	20.0	22.0	15.5	19.0
2	19.0	15.5	17.0	21.5	16.0	18.5	25.5	15.5	20.5	19.0	15.5	17.0
3	18.0	15.5	17.0	23.0	17.0	19.5	24.0	16.5	20.5	20.5	15.0	17.5
4	17.0	13.0	15.0	20.5	17.0	19.0	25.0	17.0	20.5	22.5	16.0	18.5
5	17.5	12.5	15.0	22.5	18.0	19.5	23.5	19.0	21.0	22.0	15.5	18.5
6	18.0	13.0	15.0	21.0	16.5	18.5	24.5	18.0	21.0	23.0	15.0	19.0
7	14.5	12.5	13.5	18.5	16.5	17.5	25.5	17.5	21.5	20.5	18.0	19.0
8	15.0	11.5	13.0	18.0	16.5	17.0	27.0	19.5	23.0	18.0	15.5	17.0
9	17.0	11.5	14.0	21.5	16.0	18.0	23.5	20.0	21.5	17.0	13.5	15.0
10	18.5	14.0	15.5	22.5	17.5	19.5	23.0	20.0	21.5	19.0	13.5	15.5
11	16.0	14.5	15.0	22.5	16.0	19.0	25.0	20.0	22.0	19.0	12.5	15.5
12	14.5	14.0	14.5	23.0	15.5	19.0	24.0	19.0	21.0	21.0	14.0	17.0
13	16.5	14.5	15.5	24.5	16.0	20.0	23.0	17.5	20.0	21.5	16.0	18.5
14	16.5	15.5	16.0	24.0	18.0	21.0	20.0	19.0	19.0	23.0	16.5	19.5
15	16.0	15.0	15.5	23.0	19.0	21.0	21.0	18.0	19.5	23.0	18.5	20.5
16	19.0	15.5	17.0	24.0	19.5	21.5	24.5	18.0	21.0	22.5	19.0	20.5
17	20.0	17.0	18.5	26.0	20.0	22.5	21.5	19.5	20.5	20.5	18.0	19.5
18	19.5	17.0	18.5	26.0	20.0	22.5	21.5	18.5	20.0	21.5	14.5	18.0
19	20.5	16.5	18.5	25.5	18.0	21.5	21.5	16.0	18.5	21.0	16.5	18.5
20	21.0	18.0	19.5	24.5	20.0	21.5	22.0	14.0	17.5	20.0	16.5	18.0
21	20.5	18.5	19.5	22.5	19.0	21.0	23.0	15.0	18.5	22.5	17.0	19.5
22	20.5	18.5	19.5	25.0	19.5	22.0	24.0	17.0	20.5	20.5	16.5	19.0
23	20.0	19.0	19.5	24.0	20.5	22.0	25.5	19.5	22.0	17.5	13.0	15.5
24	21.5	19.0	20.0	24.0	19.5	21.5	24.5	20.0	22.5	16.5	10.0	13.0
25	22.0	19.0	20.5	23.0	17.5	20.0	22.5	19.5	21.0	14.0	11.5	13.0
26	23.0	20.5	21.5	25.0	17.5	21.0	25.5	19.5	22.0	19.0	13.5	16.0
27	22.0	20.0	21.0	22.5	17.0	20.0	26.5	18.5	22.0	21.0	15.5	18.0
28	23.5	18.5	20.5	25.0	18.0	21.5	26.0	18.5	22.0	19.5	15.5	17.5
29	21.5	19.0	20.0	25.0	18.5	21.5	22.0	18.5	20.5	17.5	11.5	14.5
30	21.0	19.0	19.5	25.5	18.0	21.5	25.0	18.0	21.0	16.5	12.5	14.5
31	---	---	---	25.0	19.5	21.5	23.5	19.0	21.0	---	---	---
MONTH	23.5	11.5	17.5	26.0	15.5	20.3	27.0	14.0	20.7	23.0	10.0	17.4
YEAR	27.0	.0	10.5									

LEHIGH RIVER BASIN

01447680 TUNKHANNOCK CREEK NEAR LONG POND, PA

LOCATION.--Lat 41°03'55", long 75°31'14", Monroe County, Hydrologic Unit 02040106, on left bank 0.6 mi downstream from unnamed tributary, 0.9 mi downstream from bridge on SR 4002, 3.0 mi west of Long Pond, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--18.0 mi². At site used prior to July 7, 1966, 16.8 mi².

PERIOD OF RECORD.--March 1965 to current year.

REVISED RECORDS.--WDR PA-90-1: 1990 (monthly runoff).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,804.83 ft above sea level. Prior to July 7, 1966, nonrecording gage at site 0.8 mi upstream at different datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversion upstream to Wild Creek Basin since October 1969. Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of diversion provided by the city of Bethlehem.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e12	23	27	e21	30	79	65	58	e50	34	11	11
2	e11	47	24	e20	30	81	91	68	41	38	10	11
3	e11	62	30	21	29	e96	85	78	30	36	10	11
4	e11	48	26	28	29	100	68	70	28	32	11	11
5	e10	35	23	39	39	72	61	66	27	28	12	11
6	e10	27	21	50	48	55	56	69	25	27	11	10
7	e10	24	19	62	41	48	52	69	24	25	11	11
8	e9.6	23	17	105	35	48	50	66	24	26	11	15
9	e9.4	24	e16	172	31	117	53	92	26	27	11	15
10	e9.2	24	17	170	e27	245	94	144	27	27	12	17
11	e9.0	22	19	114	e22	e220	126	188	28	26	13	16
12	e9.6	20	18	68	e40	e130	107	213	51	24	14	14
13	e10	18	18	51	e56	78	80	187	88	22	16	12
14	e11	18	17	41	e44	57	66	146	121	20	16	11
15	e12	17	e17	40	e37	50	62	108	120	19	14	9.2
16	e13	16	17	49	e35	47	63	89	103	18	13	8.2
17	e12	15	17	53	e32	45	58	77	88	17	13	8.2
18	e11	15	17	46	e55	45	52	69	69	16	14	7.3
19	e10	14	17	41	80	59	68	64	55	15	14	6.8
20	e9.5	14	17	37	74	63	177	59	46	15	14	6.2
21	e9.2	14	e15	35	63	72	180	54	39	15	15	6.1
22	e8.6	21	e17	33	56	66	135	50	37	15	14	6.1
23	e8.0	27	18	33	53	55	90	49	37	15	13	5.8
24	8.4	25	19	43	69	48	72	e42	37	14	12	5.7
25	14	e24	25	45	66	46	63	e40	37	14	11	5.8
26	17	21	34	41	62	65	68	e39	35	13	15	5.8
27	22	19	32	36	62	82	96	38	32	12	16	5.7
28	22	22	e25	33	62	90	89	31	31	11	18	5.7
29	23	20	e27	31	---	78	70	e29	30	11	18	5.4
30	20	22	e22	31	---	70	61	e40	30	11	15	5.1
31	17	---	e22	31	---	63	---	e29	---	11	13	---
TOTAL	379.5	721	650	1620	1307	2470	2458	2421	1416	634	411	279.1
MEAN	12.2	24.0	21.0	52.3	46.7	79.7	81.9	78.1	47.2	20.5	13.3	9.30
MAX	23	62	34	172	80	245	180	213	121	38	18	17
MIN	8.0	14	15	20	22	45	50	29	24	11	10	5.1
(†)	0.6	12.1	10.9	28.8	28.2	26.9	0	3.7	13.0	0.8	0.9	0.9

† Diversion to Wild Creek Basin, equivalent in cubic feet per second.

e Estimated.

LEHIGH RIVER BASIN

01447680 TUNKHANNOCK CREEK NEAR LONG POND, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.4	46.4	55.2	48.6	47.0	67.5	84.9	61.7	44.5	29.8	21.7	26.7
MAX	93.2	90.1	161	137	89.3	148	209	115	116	89.5	63.6	142
(WY)	1978	1971	1997	1996	1996	1977	1993	1990	1972	1984	1990	1987
MIN	7.35	9.39	7.07	3.85	13.2	21.1	20.5	24.8	15.9	8.68	8.30	4.59
(WY)	1981	1981	1981	1981	1980	1989	1985	1995	1987	1991	1993	1995

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1970 - 1998

ANNUAL TOTAL	12081.1			14766.6			47.4			1978		
ANNUAL MEAN	33.1			40.5			65.9			1985		
HIGHEST ANNUAL MEAN							23.7			1984		
LOWEST ANNUAL MEAN							643			Apr 6 1984		
HIGHEST DAILY MEAN	130			Apr 5			245			Mar 10		
LOWEST DAILY MEAN	e6.0			Aug 11			5.1			Sep 30		
ANNUAL SEVEN-DAY MINIMUM	a6.8			Aug 9			5.6			Sep 24		
INSTANTANEOUS PEAK FLOW							274			Mar 10		
INSTANTANEOUS PEAK STAGE							3.31			Mar 10		
10 PERCENT EXCEEDS	65						81			96		
50 PERCENT EXCEEDS	25						27			34		
90 PERCENT EXCEEDS	10						11			11		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1969, BY WATER YEAR (WY) (PRIOR TO REGULATION)

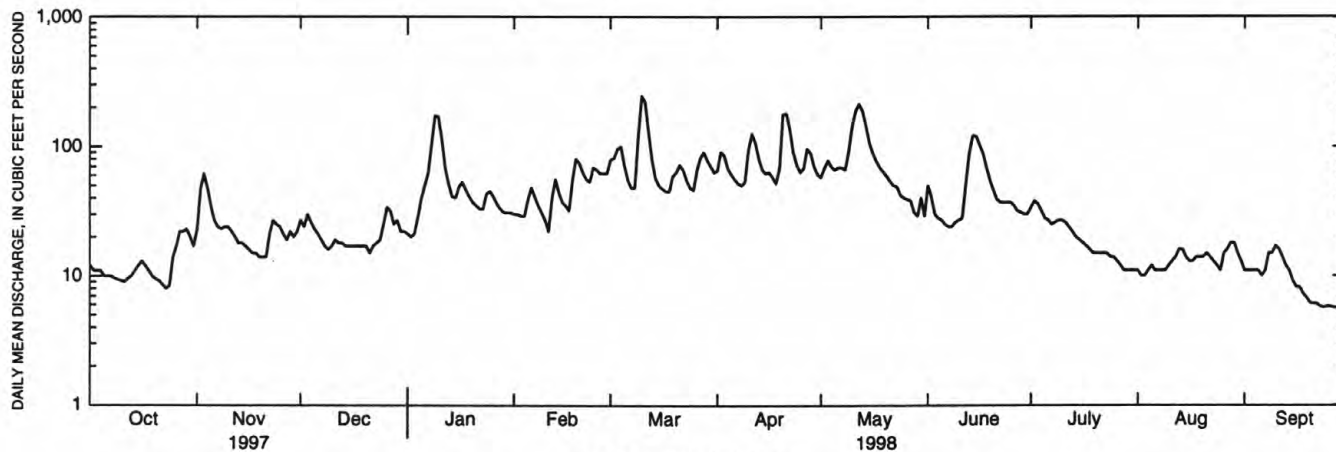
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	21.5	29.2	37.5	25.7	23.3	55.7	42.6	38.3	38.8	26.6	27.7	16.0
MAX	36.3	35.8	63.0	33.0	27.8	64.7	53.3	49.0	83.3	77.1	80.8	26.6
(WY)	1966	1969	1969	1969	1968	1966	1967	1968	1969	1969	1969	1969
MIN	12.5	22.9	21.0	17.1	21.1	42.2	29.4	20.8	10.4	7.17	8.46	8.86
(WY)	1969	1966	1966	1966	1967	1969	1966	1965	1965	1965	1966	1966

SUMMARY STATISTICS WATER YEARS 1965 - 1969

ANNUAL TOTAL	33.8			1969		
ANNUAL MEAN	47.0			1966		
HIGHEST ANNUAL MEAN	24.7			1966		
LOWEST ANNUAL MEAN	448			Jul 30 1969		
HIGHEST DAILY MEAN	4.0			Sep 13 1966		
LOWEST DAILY MEAN	4.7			Sep 8 1966		
ANNUAL SEVEN DAY MINIMUM	480			Jul 30 1969		
INSTANTANEOUS PEAK FLOW	4.34			Jul 30 1969		
INSTANTANEOUS PEAK STAGE	3.0			Mar 11 1969		
INSTANTANEOUS LOW FLOW	1.88					
ANNUAL RUNOFF (CFSM)	25.53					
ANNUAL RUNOFF (INCHES)	60					
10 PERCENT EXCEEDS	24					
50 PERCENT EXCEEDS	8.6					
90 PERCENT EXCEEDS						

a Computed using estimated daily discharges.

e Estimated.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA

LOCATION.--Lat 41°05'05", long 75°36'21", Carbon County, Hydrologic Unit 02040106, on left bank 50 ft downstream from bridge on State Highway 940, 500 ft downstream from Shingle Mill Run, and 1.5 mi southwest of Blakeslee.

DRAINAGE AREA.--118 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,511.23 ft above sea level. Prior to Jan. 16, 1962, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Power generation at Pocono Lake about 5.0 mi upstream since 1985 and minor diversion from Tunkhannock Creek Basin into Wild Creek Basin. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 19, 1955, reached a stage of 19.41 ft, from floodmark, discharge, 35,300 ft³/s, by slope-area measurement.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 10	0900	*2,140	*6.47	May 11	0630	1,620	5.80

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	136	311	e150	198	667	383	328	293	180	70	49
2	55	361	249	136	198	710	538	356	303	151	64	58
3	55	485	189	151	192	663	487	411	195	123	63	67
4	55	364	174	221	196	596	400	385	154	107	62	60
5	55	254	181	312	334	508	348	362	146	106	62	53
6	55	167	171	402	328	435	315	371	118	97	61	50
7	55	167	153	569	255	391	284	380	116	92	59	62
8	54	164	141	993	214	388	261	381	115	108	51	141
9	53	217	132	1410	198	885	296	529	114	115	51	120
10	53	230	149	1180	192	2020	565	1030	112	108	57	102
11	53	175	142	776	186	1450	708	1580	122	98	57	53
12	53	145	143	553	436	872	590	1520	358	88	54	50
13	53	129	141	442	518	599	466	1120	712	83	53	48
14	53	148	123	375	413	494	388	772	937	79	53	47
15	55	123	e130	342	326	433	366	583	759	77	53	48
16	54	134	135	412	263	392	354	478	530	75	53	48
17	49	116	122	452	252	366	330	405	395	73	55	55
18	49	109	117	395	437	359	325	355	319	72	56	54
19	47	107	119	349	645	480	419	320	237	72	50	48
20	47	101	117	317	640	559	1340	290	203	72	55	46
21	47	96	120	284	567	714	1040	256	173	73	59	44
22	47	228	113	252	486	709	701	222	150	72	58	58
23	45	268	132	282	442	564	526	214	153	68	55	58
24	45	227	126	349	671	478	433	199	160	61	51	51
25	63	182	189	361	632	426	382	195	147	64	48	51
26	77	160	259	319	533	425	389	203	134	64	79	55
27	137	171	223	272	491	488	537	183	123	62	71	54
28	110	167	193	244	496	511	477	159	112	59	66	54
29	89	149	166	225	---	476	388	158	104	57	61	50
30	81	170	207	228	---	420	344	210	119	56	57	47
31	75	---	181	215	---	372	---	173	---	59	53	---
TOTAL	1876	5650	5048	12968	10739	18850	14380	14128	7613	2671	1797	1781
MEAN	60.5	188	163	418	384	608	479	456	254	86.2	58.0	59.4
MAX	137	485	311	1410	671	2020	1340	1580	937	180	79	141
MIN	45	96	113	136	186	359	261	158	104	56	48	44
CFSM	.51	1.60	1.38	3.55	3.25	5.15	4.06	3.86	2.15	.73	.49	.50
IN.	.59	1.78	1.59	4.09	3.39	5.94	4.53	4.45	2.40	.84	.57	.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1998, BY WATER YEAR (WY)

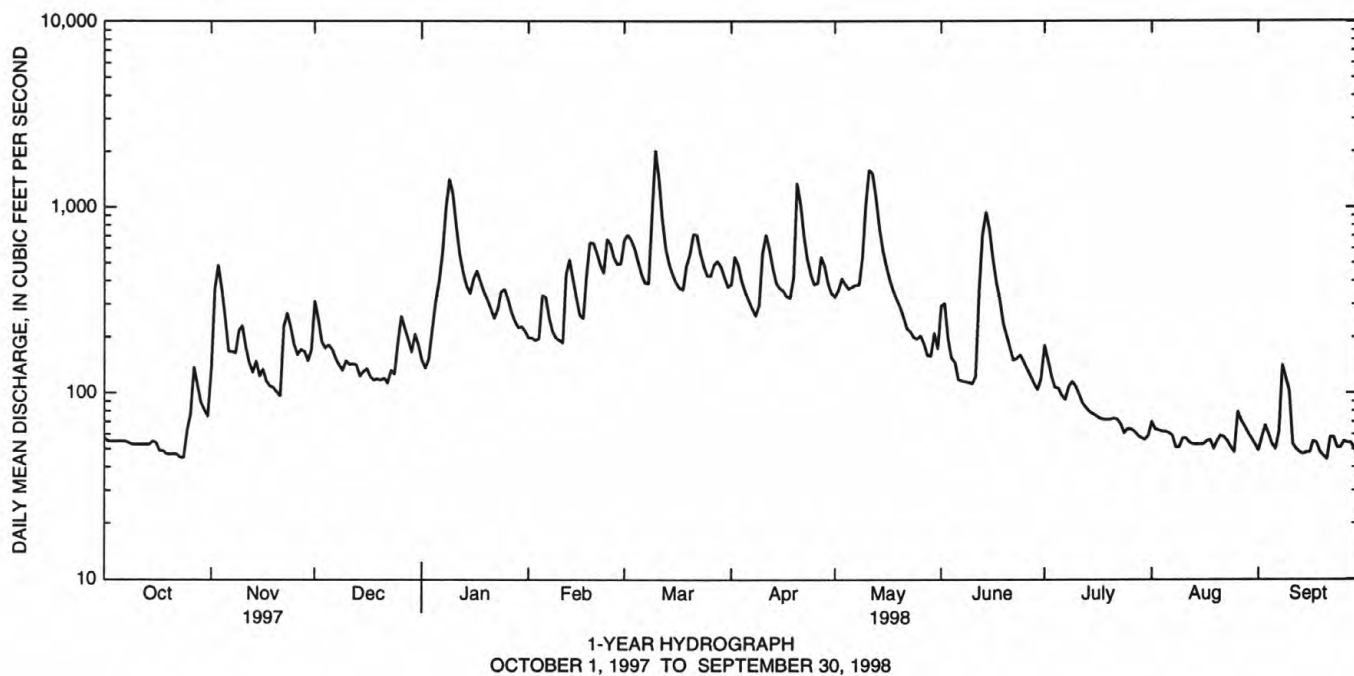
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998																																
MEAN	194	272	301	279	279	418	482	333	225	154	119	158	194	272	301	279	418	482	333	225	154	119	158	194	272	301	279	418	482	333	225	154	119	158	194	272	301	279	418	482	333	225	154	119	158																								
MAX	598	644	827	1019	768	948	1247	784	777	481	372	785	1977	1973	1997	1996	1981	1977	1993	1989	1972	1969	1987	1964	1965	1981	1981	1980	1989	1985	1962	1962	1965	1964	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MIN	31.2	48.1	58.0	40.6	100	172	162	141	66.6	42.8	34.3	28.0	1964	1965	1981	1981	1980	1989	1985	1962	1962	1965	1964	1964	1965	1981	1981	1980	1989	1985	1962	1962	1965	1964	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
(WY)	1964	1965	1981	1981	1980	1989	1985	1962	1962	1965	1964	1964	1965	1981	1981	1980	1989	1985	1962	1962	1965	1964	1964	1965	1981	1981	1980	1989	1985	1962	1962	1965	1964	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	

e Estimated.

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1962 - 1998	
ANNUAL TOTAL	68458		97501		268	
ANNUAL MEAN	188		267		399	
HIGHEST ANNUAL MEAN					1973	
LOWEST ANNUAL MEAN					129	
HIGHEST DAILY MEAN	863	Apr 5	2020	Mar 10	5540	Apr 6 1984
LOWEST DAILY MEAN	45	Oct 23,24	44	Sep 21	22	Sep 25 1964 ^a
ANNUAL SEVEN-DAY MINIMUM	47	Oct 18	47	Oct 18	23	Sep 21 1964
INSTANTANEOUS PEAK FLOW			2140	Mar 10	9190	Sep 27 1985
INSTANTANEOUS PEAK STAGE			6.47	Mar 10	12.33	Sep 27 1985
INSTANTANEOUS LOW FLOW					16	Aug 8 1991
ANNUAL RUNOFF (CFSM)	1.59		2.26		2.27	
ANNUAL RUNOFF (INCHES)	21.58		30.74		30.80	
10 PERCENT EXCEEDS	371		564		537	
50 PERCENT EXCEEDS	150		171		180	
90 PERCENT EXCEEDS	55		53		59	

^a Also Aug. 8, 1991.

LEHIGH RIVER BASIN

01447720 TOBYHANNA CREEK NEAR BLAKESLEE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1980 to current year.

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

REMARKS.--Interruptions in the record were due to malfunctions of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 28.0°C, Aug. 13, 1988; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR--

WATER TEMPERATURE: Maximum, 24.5°C, July 22; minimum, 0.0°C, several days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	13.5	11.0	12.5	10.0	7.0	8.5	4.5	2.0	3.0	---	---	---
2	11.5	8.5	10.5	9.5	8.0	9.0	2.0	1.0	1.5	5.0	.0	2.0
3	13.0	11.0	12.0	9.0	7.5	8.0	3.5	1.0	1.5	5.5	1.5	3.0
4	15.0	11.5	13.5	8.0	7.0	8.0	3.5	2.0	3.0	4.0	2.5	3.0
5	16.5	13.5	14.5	8.0	6.5	7.0	3.0	1.5	2.5	3.5	2.5	3.0
6	17.0	13.0	15.0	7.5	5.5	6.5	3.0	1.0	1.5	---	---	---
7	16.0	13.0	14.5	8.0	6.5	7.0	2.5	.5	1.5	4.0	3.5	3.5
8	16.0	13.0	14.5	8.0	7.0	7.0	3.0	1.0	2.0	5.5	4.0	5.0
9	16.5	13.0	15.0	7.5	6.5	7.0	2.0	.0	1.0	5.0	4.5	5.0
10	17.5	15.0	16.0	6.5	6.0	6.5	2.0	.0	1.0	4.5	4.0	4.0
11	15.5	12.0	13.5	7.0	5.0	6.0	1.5	1.0	1.0	4.0	3.0	3.5
12	13.0	9.5	11.5	---	---	---	2.0	1.5	1.5	3.5	2.5	3.0
13	14.0	10.5	12.5	5.0	3.0	4.0	2.0	1.0	1.5	3.5	2.5	3.0
14	15.0	13.5	14.0	4.5	2.0	3.0	1.5	.0	1.0	2.5	1.0	1.5
15	14.0	11.0	12.5	3.5	2.5	3.0	1.0	.0	.5	7.5	1.0	2.0
16	11.5	9.0	10.5	4.0	2.0	3.0	2.0	.5	1.0	7.0	2.0	2.5
17	10.5	7.5	9.5	2.5	1.5	2.0	2.0	.5	1.5	2.5	2.0	2.0
18	11.5	9.0	10.0	2.0	.5	1.5	2.0	.5	1.5	2.0	2.0	2.0
19	10.0	8.0	9.0	2.0	.0	1.0	2.5	1.0	2.0	2.5	2.0	2.0
20	10.0	7.0	8.5	3.0	1.5	2.0	2.5	2.0	2.5	2.0	1.5	2.0
21	9.0	7.5	8.5	4.0	1.5	3.0	2.0	.5	1.5	2.5	1.0	1.5
22	8.0	6.5	7.0	4.5	3.5	3.5	2.0	.0	.5	3.0	1.0	2.0
23	6.5	5.0	5.5	4.0	3.0	3.5	3.0	1.0	2.0	2.5	.5	1.5
24	7.5	5.5	6.5	3.5	1.5	2.5	3.0	2.0	2.5	2.5	1.5	2.0
25	---	---	---	2.0	1.0	1.5	3.5	2.0	3.0	2.0	1.0	1.5
26	8.0	6.0	7.0	4.0	2.0	3.0	3.0	2.0	2.5	2.0	1.0	1.5
27	9.5	7.0	8.5	---	---	---	2.5	2.0	2.0	3.0	1.0	2.0
28	7.5	6.5	7.0	4.0	2.5	3.0	2.0	1.0	1.5	2.5	1.5	2.0
29	7.5	5.0	6.0	4.5	3.0	4.0	---	---	---	3.0	1.0	2.0
30	7.5	5.0	6.5	4.5	3.0	4.0	2.0	.5	1.0	3.0	2.0	2.5
31	8.0	5.0	6.5	---	---	---	1.5	.5	1.0	2.5	1.5	2.0
MONTH	17.5	5.0	10.6	10.0	.0	4.6	4.5	.0	1.7	7.5	.0	2.5

LEHIGH RIVER BASIN

01447800 LEHIGH RIVER BELOW FRANCIS E. WALTER RESERVOIR NEAR WHITE HAVEN, PA

LOCATION.--Lat 41°06'17", long 75°43'57", Luzerne County, Hydrologic Unit 02040106, on right bank 0.7 mi downstream from Francis E. Walter Reservoir, 2.0 mi upstream from Fawn Run, and 4.0 mi northeast of White Haven.

DRAINAGE AREA.--290 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1962 published as "below Bear Creek Reservoir", October 1962 to September 1971 published as "below Francis E. Walter Reservoir."

GAGE.--Water-stage recorder. Datum of gage is 1,212.95 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. Flow regulated since February 1961 by Francis E. Walter Reservoir (station 01447780) 0.7 mi upstream. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1955 reached a discharge of 54,200 ft³/s based on slope-area measurement at site 4.9 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	196	765	437	491	1720	835	818	665	389	105	107
2	118	200	872	362	464	2030	979	765	882	416	105	108
3	118	521	633	298	446	1890	1140	765	490	395	105	109
4	273	749	473	306	420	1520	1040	773	257	293	105	109
5	115	700	473	678	528	1240	1010	773	264	193	105	109
6	118	556	473	1240	644	1050	796	770	295	193	105	87
7	121	435	473	1950	553	892	515	699	183	193	105	75
8	121	390	473	2440	552	893	451	708	197	195	105	122
9	109	391	448	3460	544	1190	533	831	228	200	105	154
10	90	466	374	3580	469	3500	1140	1060	243	257	97	155
11	84	532	347	2620	424	3850	1520	1820	274	305	91	138
12	84	438	333	1510	647	2320	1540	2650	434	199	98	98
13	84	368	313	1140	1100	1540	1500	2750	815	173	105	88
14	84	368	313	1050	1200	1270	1230	2140	948	158	105	77
15	84	368	313	838	957	1230	947	1530	1280	127	105	77
16	91	368	313	911	714	1010	832	1050	1160	127	105	77
17	128	310	313	1170	700	826	768	768	1400	169	105	82
18	133	228	313	1170	772	765	773	650	1530	209	106	211
19	89	193	286	1120	1310	923	776	650	1510	150	105	328
20	75	193	267	856	1610	1210	2110	606	901	152	105	112
21	67	211	267	604	1320	1410	2750	493	536	152	105	77
22	67	240	267	524	1320	1480	2040	445	388	152	105	78
23	67	462	277	596	1210	1590	1200	439	333	152	105	89
24	67	672	345	657	1380	1530	991	388	299	188	105	89
25	67	670	396	670	1550	1320	820	368	320	201	105	90
26	67	644	403	672	1280	1160	773	368	369	142	107	91
27	109	616	496	672	1090	998	1080	368	554	129	107	95
28	172	541	611	671	1070	972	1140	347	442	108	107	100
29	196	430	605	590	---	991	927	322	214	98	107	100
30	198	430	594	521	---	994	911	393	216	105	107	100
31	198	---	499	491	---	980	---	361	---	107	107	---
TOTAL	3512	12886	13328	33804	24765	44294	33067	26868	17627	6027	3239	3332
MEAN	113	430	430	1090	884	1429	1102	867	588	194	104	111
MAX	273	749	872	3580	1610	3850	2750	2750	1530	416	107	328
MIN	67	193	267	298	420	765	451	322	183	98	91	75

LEHIGH RIVER BASIN

01447800 LEHIGH RIVER BELOW FRANCIS E. WALTER RESERVOIR NEAR WHITE HAVEN, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	444	664	719	652	665	1033	1153	782	521	356	262	335
MAX	1435	1488	2079	2596	1542	2018	3198	1968	1359	1165	1153	1784
(WY)	1978	1986	1997	1996	1981	1977	1993	1989	1972	1973	1969	1987
MIN	68.5	68.1	156	131	197	326	341	313	135	67.1	62.0	43.2
(WY)	1964	1965	1965	1981	1980	1981	1966	1962	1962	1965	1964	1964

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1961 - 1998

ANNUAL TOTAL	165726	222749	
ANNUAL MEAN	454	610	631
HIGHEST ANNUAL MEAN			954
LOWEST ANNUAL MEAN			289
HIGHEST DAILY MEAN	2170	Apr 6	11000
LOWEST DAILY MEAN	56	Aug 2-9	22
ANNUAL SEVEN-DAY MINIMUM	56	Aug 2	33
INSTANTANEOUS PEAK FLOW			11700
INSTANTANEOUS PEAK STAGE			8.86
INSTANTANEOUS LOW FLOW			bl.3
10 PERCENT EXCEEDS	928	1320	1340
50 PERCENT EXCEEDS	381	430	419
90 PERCENT EXCEEDS	103	100	109

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1960, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	378	571	1002	692	678	790	1886	909	425	245	190	371
MAX	502	854	1504	778	1039	926	2536	1134	521	339	270	744
(WY)	1960	1960	1958	1960	1960	1958	1958	1958	1960	1960	1960	1960
MIN	173	347	371	549	467	610	1262	520	310	195	129	135
(WY)	1958	1958	1959	1959	1959	1960	1959	1959	1959	1959	1959	1959

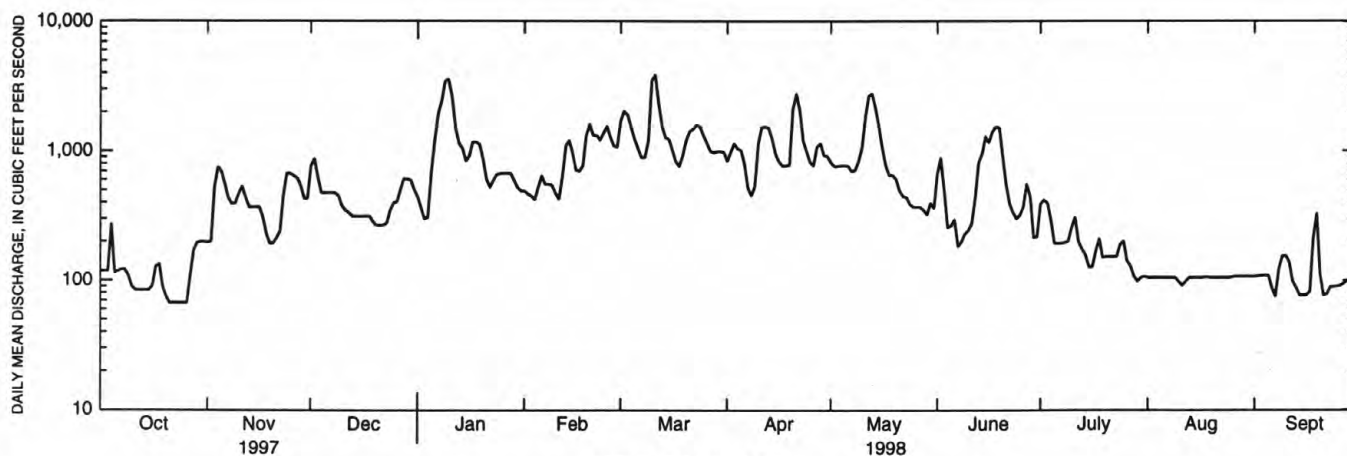
SUMMARY STATISTICS

WATER YEARS 1958 - 1960

ANNUAL TOTAL		
ANNUAL MEAN	676	
HIGHEST ANNUAL MEAN	807	1960
LOWEST ANNUAL MEAN	478	1959
HIGHEST DAILY MEAN	10700	Dec 21 1957
LOWEST DAILY MEAN	50	Oct 4 1957
ANNUAL SEVEN DAY MINIMUM	63	Oct 1 1957
INSTANTANEOUS PEAK FLOW	c13800	Dec 21 1957
INSTANTANEOUS PEAK STAGE	9.85	Dec 21 1957
ANNUAL RUNOFF (CFSM)	2.33	
ANNUAL RUNOFF (INCHES)	31.69	
10 PERCENT EXCEEDS	1390	
50 PERCENT EXCEEDS	440	
90 PERCENT EXCEEDS	141	

a Also July 22, 23, 1965.

b Result of shutoff at reservoir.

c From rating curve extended above 6,100 ft³/s.1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01447800 LEHIGH RIVER BELOW FRANCIS E. WALTER RESERVOIR NEAR WHITE HAVEN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1988 to current year.

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

REMARKS.--Interruptions in the record were due to malfunctions of the recording instrument except for an interruption, Oct. 1 to Nov. 10, due to a malfunction of the temperature probe.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 31.5°C, July 21, 1988; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 24.0°C, several days during summer; minimum, 0.5°C, Dec. 31, Jan. 1-4.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	3.5	3.0	3.5	.5	.5	.5
2	---	---	---	---	---	---	3.5	2.0	2.5	1.0	.5	.5
3	---	---	---	---	---	---	2.0	1.5	2.0	.5	.5	.5
4	---	---	---	---	---	---	2.0	1.5	2.0	1.0	.5	.5
5	---	---	---	---	---	---	3.0	2.0	2.5	1.5	1.0	1.5
6	---	---	---	---	---	---	2.5	2.5	2.5	3.0	1.5	2.0
7	---	---	---	---	---	---	2.5	1.5	2.0	3.5	3.0	3.5
8	---	---	---	---	---	---	1.5	1.0	1.5	6.0	3.5	4.5
9	---	---	---	---	---	---	1.5	1.5	1.5	7.0	6.0	6.5
10	---	---	---	---	---	---	1.5	1.0	1.5	7.0	5.5	6.0
11	---	---	---	7.0	6.0	6.5	1.5	1.0	1.0	5.5	4.0	4.5
12	---	---	---	6.0	5.5	6.0	1.5	1.0	1.0	4.0	3.0	3.5
13	---	---	---	5.5	5.0	5.0	1.5	1.0	1.5	3.0	3.0	3.0
14	---	---	---	5.0	3.0	4.0	1.5	1.0	1.5	3.0	1.5	2.0
15	---	---	---	3.0	2.5	2.5	1.5	1.0	1.0	1.5	1.0	1.5
16	---	---	---	3.5	2.0	3.0	1.5	1.0	1.0	1.5	1.0	1.5
17	---	---	---	3.0	2.0	2.5	1.0	1.0	1.0	2.0	1.5	2.0
18	---	---	---	2.5	2.0	2.0	1.0	1.0	1.0	2.5	2.0	2.0
19	---	---	---	2.5	2.0	2.0	1.0	1.0	1.0	2.0	2.0	2.0
20	---	---	---	2.5	1.5	2.0	1.0	1.0	1.0	2.0	1.5	2.0
21	---	---	---	2.5	1.5	2.0	1.5	1.0	1.0	1.5	1.0	1.5
22	---	---	---	2.5	1.5	2.0	1.5	1.0	1.0	1.5	1.0	1.5
23	---	---	---	3.0	2.5	2.5	1.0	1.0	1.0	1.5	1.0	1.0
24	---	---	---	3.0	2.5	3.0	1.0	1.0	1.0	1.0	1.0	1.0
25	---	---	---	3.0	2.5	2.5	1.5	1.0	1.0	1.5	1.0	1.5
26	---	---	---	2.5	2.0	2.0	2.0	1.5	2.0	1.5	1.0	1.5
27	---	---	---	2.5	2.0	2.5	2.5	2.0	2.0	1.5	1.0	1.0
28	---	---	---	3.0	2.5	2.5	2.0	1.5	2.0	1.5	1.0	1.0
29	---	---	---	3.0	2.5	3.0	1.5	1.5	1.5	1.5	1.0	1.5
30	---	---	---	3.5	3.0	3.5	1.5	1.0	1.0	1.5	1.0	1.5
31	---	---	---	---	---	---	1.0	.5	.5	2.0	1.5	2.0
MONTH	---	---	---	7.0	1.5	3.0	3.5	.5	1.5	7.0	.5	2.1

LEHIGH RIVER BASIN

01449000 LEHIGH RIVER AT LEHIGHTON, PA

LOCATION.--Lat 40°49'45", long 75°42'20", Carbon County, Hydrologic Unit 02040106, on left bank 190 ft downstream from highway bridge at Lehigh, and 0.3 mi upstream from Mahoning Creek.

DRAINAGE AREA.--591 mi².

PERIOD OF RECORD.--October 1945 to September 1948 (monthly discharge only, published in WSP 1302). October 1982 to current year. Gage height records beginning 1935 are contained in reports of the U.S. Weather Bureau. Miscellaneous measurements, water years 1977-78, 1980-81, and annual maximum, 1982.

GAGE.--Water-stage recorder. Datum of gage is 444.26 ft above sea level. Prior to August 1970, at same site at datum 2.0 ft higher. Prior to December 1982, nonrecording gage at highway bridge 190 ft upstream at same datum.

REMARKS.--Records good May 1 to September 30. Records fair October 1 to April 30 except those for estimated daily discharges, which are poor. Flow regulated by Francis E. Walter Reservoir (station 01447780) since February 1961. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	346	346	1100	e800	1130	3290	1770	1790	861	661	239	203
2	324	554	1300	e760	1100	3740	1790	1700	1390	746	224	234
3	318	617	1120	e700	1060	3580	1970	1730	1040	670	222	298
4	343	934	906	793	1070	3120	1770	1640	718	641	220	239
5	376	924	904	957	1760	2700	1690	1590	537	459	219	215
6	265	791	895	1610	2020	2400	1550	1570	688	420	216	206
7	267	704	870	2340	1660	2090	1250	1500	513	412	212	202
8	268	622	847	3850	1560	2090	1040	1450	492	466	209	370
9	266	646	828	5310	1480	2990	1240	1720	516	475	209	325
10	251	650	790	5240	1390	5520	2660	2170	521	437	279	292
11	229	762	739	4410	1260	6110	2930	2970	556	536	321	270
12	221	733	720	2960	1890	4090	2770	4150	869	436	234	239
13	217	580	673	2330	2320	2910	2650	4320	1550	371	224	200
14	228	620	678	2190	2370	2460	2380	3530	1790	356	233	187
15	266	626	680	1850	2190	2330	1950	2890	1870	329	225	174
16	276	613	669	2120	1710	2100	1810	2250	1590	307	221	174
17	271	589	653	2320	1700	1770	1660	1850	1850	305	256	193
18	321	496	618	2200	2290	1690	1680	1540	1880	374	289	204
19	282	411	594	2090	2670	1930	1990	1470	2030	332	249	435
20	249	407	536	1880	3210	2160	3930	1410	1430	312	225	313
21	215	409	534	1520	2720	2980	4610	1240	1030	340	216	201
22	193	579	517	1310	2600	3070	4020	1070	860	374	215	200
23	188	693	551	1410	2480	2920	3090	1070	800	325	256	222
24	185	1010	579	1740	3460	2840	2570	980	741	315	220	195
25	226	986	840	1660	3500	2490	1950	929	694	366	210	189
26	239	970	916	1560	3210	2370	1850	909	658	303	304	198
27	274	943	884	1500	2820	2120	2440	869	839	265	267	203
28	337	922	1030	1470	2760	2000	2420	841	856	254	225	202
29	358	779	1010	1390	---	1940	2030	777	621	234	213	189
30	326	777	1090	1270	---	1870	1880	918	461	229	209	184
31	310	---	1020	1180	---	1810	---	861	---	246	207	---
TOTAL	8435	20693	25091	62720	59390	85480	67340	53704	30251	12296	7268	6956
MEAN	272	690	809	2023	2121	2757	2245	1732	1008	397	234	232
MAX	376	1010	1300	5310	3500	6110	4610	4320	2030	746	321	435
MIN	185	346	517	700	1060	1690	1040	777	461	229	207	174
CFSM	.46	1.17	1.37	3.42	3.59	4.67	3.80	2.93	1.71	.67	.40	.39
IN.	.53	1.30	1.58	3.95	3.74	5.38	4.24	3.38	1.90	.77	.46	.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

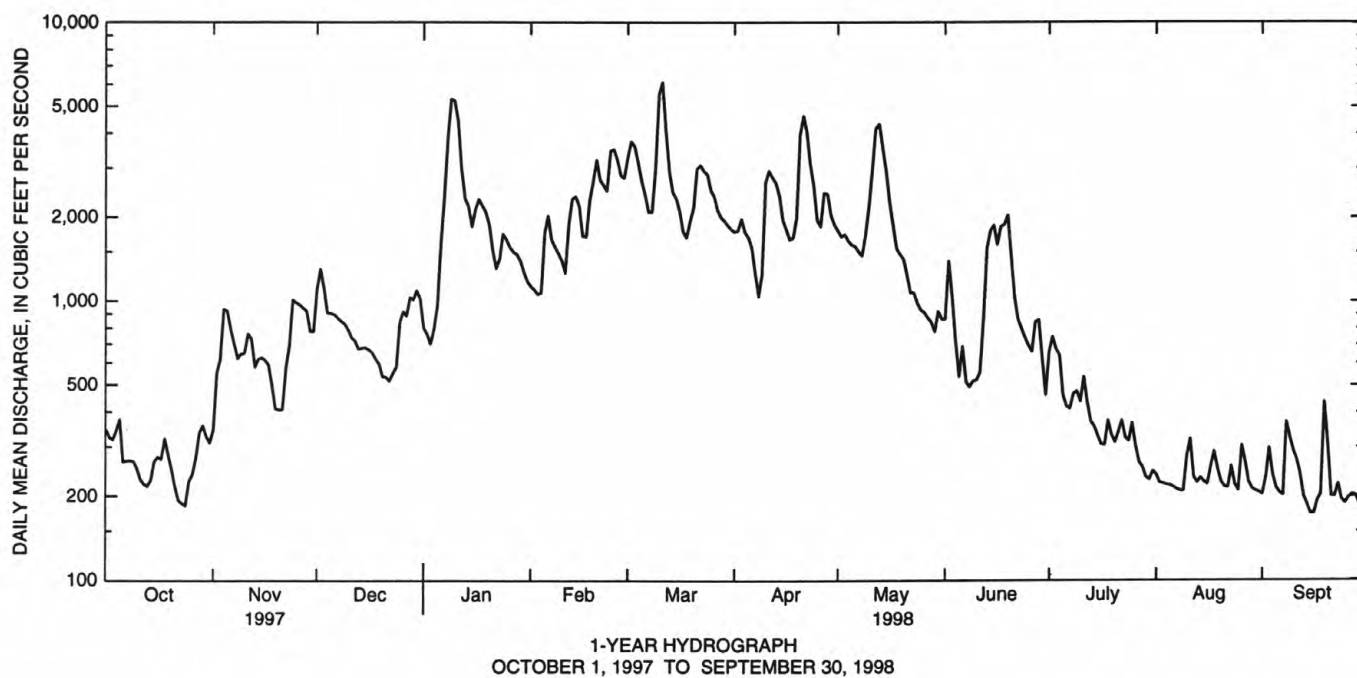
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MEAN	813	1385	1691	1335	1393	1941	2544	1822	1093	793	525	721					
MAX	2017	2366	4120	4151	2470	3164	6010	4038	1965	1955	1073	3767					
(WY)	1991	1986	1997	1996	1984	1986	1993	1989	1989	1984	1990	1987					
MIN	238	303	515	532	566	926	895	672	431	246	234	181					
(WY)	1983	1985	1990	1989	1987	1989	1995	1995	1991	1991	1998	1995					

e Estimated.

LEHIGH RIVER BASIN

01449000 LEHIGH RIVER AT LEHIGHTON, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	324553		439624		1337	
ANNUAL MEAN	889		1204		1743	
HIGHEST ANNUAL MEAN					1743	
LOWEST ANNUAL MEAN					758	
HIGHEST DAILY MEAN	3440	Apr 5	6110	Mar 11	15100	Apr 16 1983
LOWEST DAILY MEAN	167	Aug 10	174	Sep 15, 16	142	Oct 10 1983
ANNUAL SEVEN-DAY MINIMUM	178	Aug 7	194	Sep 24	151	Oct 5 1983
INSTANTANEOUS PEAK FLOW			7070	Mar 10	a25500	Sep 27 1985
INSTANTANEOUS PEAK STAGE			6.65	Mar 10	18.22	Sep 27 1985
ANNUAL RUNOFF (CFSM)	1.50		2.04		2.26	
ANNUAL RUNOFF (INCHES)	20.43		27.67		30.73	
10 PERCENT EXCEEDS	1720		2710		2740	
50 PERCENT EXCEEDS	800		840		909	
90 PERCENT EXCEEDS	266		220		293	

a From rating curve extended above 16,000 ft³/s.

LEHIGH RIVER BASIN

01449360 POHOPOCO CREEK AT KRESGEVILLE, PA

LOCATION.--Lat 40°53'51", long 75°30'10", Monroe County, Hydrologic Unit 02040106, on right bank 20 ft downstream from bridge on U.S. Highway 209 at Kresgeville, 0.2 mi downstream from Middle Creek, and 13 mi upstream from mouth.

DRAINAGE AREA.--49.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 659.72 ft above sea level.

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

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 10	0730	*862	*6.51	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	50	86	90	118	213	162	133	95	85	31	21
2	32	106	64	87	112	184	177	147	76	72	29	28
3	31	88	61	89	109	176	140	133	72	67	29	32
4	31	56	64	96	111	162	131	128	68	65	29	25
5	30	46	65	97	233	150	126	129	66	63	28	23
6	28	43	62	99	216	141	121	127	64	59	28	22
7	28	47	58	111	202	133	115	121	61	56	26	26
8	27	43	55	300	182	137	112	136	62	63	25	50
9	27	47	53	449	165	e300	144	171	59	64	25	27
10	27	44	55	343	151	e500	336	201	57	55	34	23
11	27	40	56	265	143	321	226	265	59	51	37	22
12	27	39	55	223	242	297	201	325	178	49	30	25
13	27	37	54	198	197	e250	181	290	237	47	28	22
14	27	43	52	173	187	237	167	248	352	46	30	21
15	29	44	49	159	171	210	169	213	292	45	30	21
16	29	43	47	202	159	183	147	188	234	47	28	20
17	27	42	48	164	161	166	136	167	193	46	35	20
18	26	40	47	150	224	170	125	151	156	43	41	20
19	26	39	45	142	208	205	168	138	137	40	31	19
20	26	39	45	134	191	172	315	129	124	39	27	18
21	26	40	44	124	186	233	230	123	113	42	27	18
22	25	61	42	118	174	239	206	111	111	42	26	26
23	24	58	53	147	172	226	188	105	123	40	26	23
24	25	53	56	210	333	220	173	99	115	38	25	19
25	37	51	115	184	296	202	156	98	97	36	23	19
26	32	51	108	166	257	191	176	94	91	35	31	20
27	44	51	101	156	228	181	199	89	86	34	25	19
28	34	48	96	151	212	170	150	84	80	34	23	19
29	29	48	91	142	---	160	140	84	78	34	24	17
30	27	56	132	137	---	150	136	90	83	33	23	17
31	26	---	104	127	---	142	---	78	---	33	23	---
TOTAL	894	1493	2063	5233	5340	6421	5153	4595	3619	1503	877	682
MEAN	28.8	49.8	66.5	169	191	207	172	148	121	48.5	28.3	22.7
MAX	44	106	132	449	333	500	336	325	352	85	41	50
MIN	24	37	42	87	109	133	112	78	57	33	23	17
CF5M	.58	1.00	1.33	3.38	3.82	4.15	3.44	2.97	2.42	.97	.57	.46
IN.	.67	1.11	1.54	3.90	3.98	4.79	3.84	3.43	2.70	1.12	.65	.51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1998, 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	1998
MEAN	65.7	97.1	133	117	120	161	163	129	95.4	67.7	52.4	54.5																				
MAX	181	203	354	323	191	330	369	270	248	165	193	264																				
(WY)	1977	1973	1997	1979	1998	1977	1983	1989	1972	1969	1969	1987																				
MIN	18.9	24.7	22.9	13.9	45.0	60.2	47.9	56.9	36.4	24.4	17.0	15.5																				
(WY)	1981	1981	1981	1981	1980	1985	1985	1995	1987	1985	1985	1980																				

e Estimated.

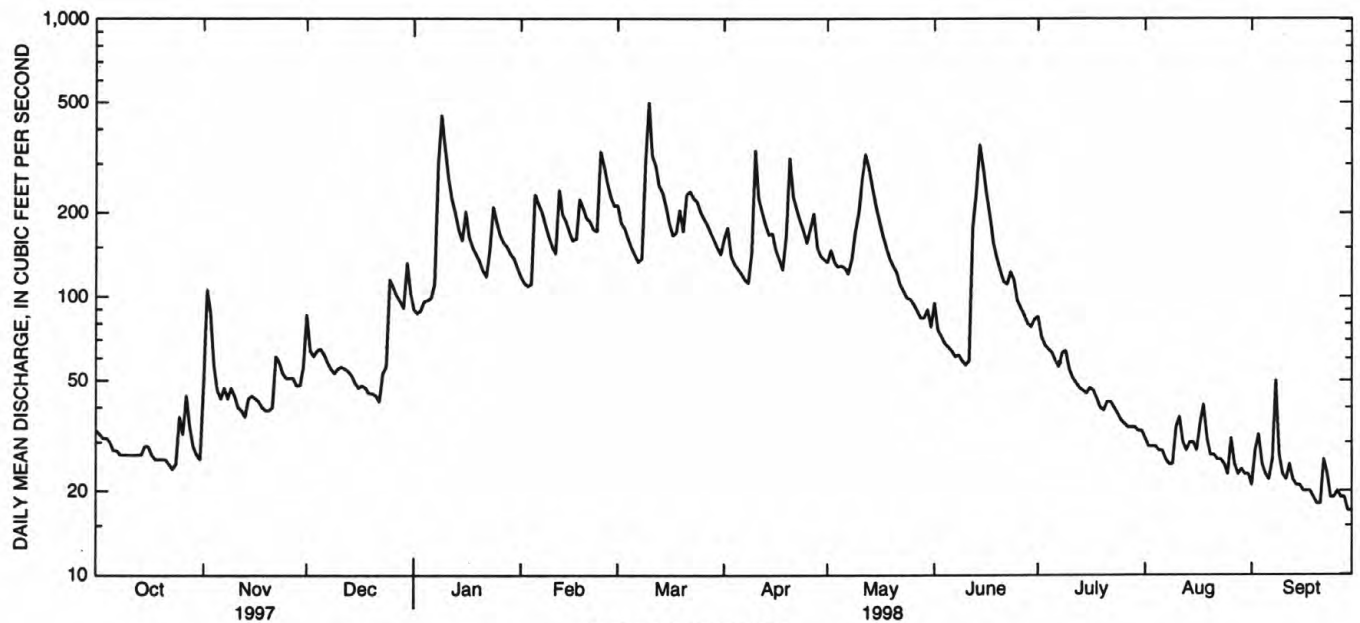
LEHIGH RIVER BASIN

01449360 POHOPOCO CREEK AT KRESGEVILLE, PA-Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1967 - 1998	
ANNUAL TOTAL	27748		37873		104	
ANNUAL MEAN	76.0		104		104	
HIGHEST ANNUAL MEAN					149	
LOWEST ANNUAL MEAN					46.5	
HIGHEST DAILY MEAN	259	Feb 5	e500	Mar 10	1550	Apr 16 1983
LOWEST DAILY MEAN	23	Aug 11,12,15	17	Sep 29,30	12	Oct 30 1980
ANNUAL SEVEN-DAY MINIMUM	24	Aug 9	19	Sep 24	13	Oct 29 1980
INSTANTANEOUS PEAK FLOW			862	Mar 10	a2080	Jul 29 1969
INSTANTANEOUS PEAK STAGE			6.51	Mar 10	9.21	Jul 29 1969
INSTANTANEOUS LOW FLOW			15	Sep 30	9.2	Sep 7 1985
ANNUAL RUNOFF (CFSM)	1.52		2.08		2.09	
ANNUAL RUNOFF (INCHES)	20.69		28.23		28.45	
10 PERCENT EXCEEDS	134		213		205	
50 PERCENT EXCEEDS	60		76		76	
90 PERCENT EXCEEDS	29		26		28	

a From rating curve extended above 800 ft³/s.

e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01449360 POHOPOCO CREEK AT KRESGEVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1969 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform since water year 1986.

REMARKS.--Interruptions in the record were due to malfunctions of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 31.5°C, July 25, 1970; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 21.5°C, several days during summer; minimum, 0.0°C, Jan. 1, 2.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	13.5	11.0	12.5	11.0	8.0	9.5	6.0	3.5	5.0	.5	.0	.0
2	11.0	9.0	10.0	11.5	10.0	11.0	3.5	2.5	3.0	2.5	.0	1.0
3	12.0	10.5	11.0	10.0	7.5	8.5	4.0	2.5	3.5	4.5	2.5	4.0
4	14.0	12.0	13.0	8.5	7.5	8.0	6.0	4.0	5.0	6.0	4.0	5.0
5	15.5	13.0	14.0	8.0	6.0	7.0	6.0	4.0	5.5	6.0	5.5	6.0
6	16.0	13.5	15.0	7.5	5.5	7.0	4.0	2.5	3.5	8.0	6.0	7.0
7	15.5	14.5	15.0	8.5	7.5	8.0	3.5	2.5	3.0	8.5	8.0	8.0
8	15.5	13.5	14.5	8.5	8.0	8.0	4.5	3.0	4.0	10.0	7.5	9.0
9	15.5	13.5	14.5	9.0	8.5	8.5	3.5	2.0	2.5	10.5	8.0	9.5
10	16.5	14.5	15.5	8.5	7.0	7.5	3.5	2.0	3.0	8.0	5.5	6.5
11	15.0	13.0	14.0	7.5	6.0	7.0	3.5	2.5	3.0	5.5	4.5	5.0
12	13.0	10.5	12.0	6.0	4.5	5.5	3.5	3.5	3.5	5.0	3.5	4.5
13	13.0	10.5	12.0	---	---	---	4.0	3.0	3.5	6.0	4.5	5.0
14	14.5	12.5	13.5	---	---	---	3.5	2.0	3.0	4.5	2.5	3.0
15	14.0	12.0	13.0	---	---	---	2.5	1.5	2.0	3.5	2.0	2.5
16	12.5	10.5	11.5	4.5	3.0	4.0	3.5	1.5	2.5	4.5	3.5	4.0
17	11.0	9.0	10.0	4.0	2.5	3.0	3.5	2.0	2.5	5.0	4.0	4.5
18	11.5	10.0	10.5	3.0	1.5	2.0	3.0	2.0	2.5	4.5	4.0	4.0
19	10.5	9.0	9.5	3.0	1.0	2.0	3.5	2.5	3.0	4.5	4.0	4.5
20	10.5	7.5	9.0	3.5	2.0	2.5	3.5	2.5	3.0	4.5	3.5	4.0
21	10.0	8.5	9.0	4.5	2.5	3.5	3.5	1.5	2.5	3.5	2.5	3.0
22	8.5	7.0	7.5	5.5	4.5	5.0	1.5	.5	1.0	3.5	2.5	3.5
23	7.0	5.0	6.0	6.0	5.0	5.5	3.0	1.5	2.5	3.5	1.5	2.0
24	7.5	5.0	6.5	5.5	3.0	4.5	4.0	3.0	3.5	4.5	2.5	3.5
25	8.5	7.5	8.0	3.0	2.0	2.5	4.5	3.5	4.0	4.0	3.0	3.5
26	8.5	7.0	7.5	4.5	2.5	3.5	5.0	4.0	4.5	4.0	2.5	3.0
27	9.5	7.0	8.5	5.0	4.0	4.5	4.0	3.5	3.5	4.0	2.5	3.5
28	8.5	7.0	8.0	5.0	4.0	4.5	3.5	2.5	3.0	4.0	3.0	3.5
29	8.0	6.0	7.0	6.5	5.0	5.5	2.5	1.5	2.0	5.0	2.5	4.0
30	8.5	6.0	7.0	6.0	5.5	5.5	3.0	2.5	2.5	5.0	4.0	4.5
31	8.5	6.0	7.0	---	---	---	2.5	.5	1.5	4.5	3.5	4.0
MONTH	16.5	5.0	10.7	11.5	1.0	5.7	6.0	.5	3.1	10.5	.0	4.4

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	4.0	2.0	3.5	8.5	7.0	7.5	14.5	12.0	12.5	13.0	11.0	12.0
2	4.5	2.5	3.5	8.5	6.5	7.5	13.0	10.5	12.0	13.0	11.5	12.0
3	5.0	4.0	4.5	7.5	6.5	7.0	11.0	8.0	9.5	14.5	12.0	13.0
4	5.0	3.5	4.0	6.5	5.0	6.0	9.5	7.5	8.5	13.5	12.0	13.0
5	5.0	3.0	4.0	6.0	5.0	5.5	8.5	6.5	7.5	13.0	12.5	12.5
6	5.0	3.5	4.5	6.5	4.0	5.5	10.0	6.0	8.0	13.0	12.0	12.5
7	4.5	3.0	4.0	7.5	5.0	6.0	11.0	6.5	9.0	15.0	11.5	13.5
8	4.5	2.5	3.5	7.0	5.5	6.0	10.5	8.5	9.5	14.5	12.5	13.0
9	5.0	2.5	3.5	8.0	5.5	6.5	10.0	7.0	8.5	13.0	12.0	12.5
10	5.0	3.0	4.0	8.0	4.5	7.0	10.0	6.5	8.0	13.0	12.0	12.5
11	5.5	3.5	4.5	4.5	3.0	3.5	10.5	6.0	8.5	12.5	11.5	12.0
12	6.0	5.5	5.5	3.5	1.5	2.5	11.5	6.5	9.0	12.5	11.0	11.5
13	5.5	4.5	5.0	4.5	2.0	3.0	12.0	7.0	9.5	13.5	10.0	12.0
14	4.5	2.5	3.5	4.5	3.0	4.0	12.0	8.0	10.0	14.0	10.0	12.5
15	3.0	1.0	2.0	5.5	3.5	4.5	11.5	10.0	10.5	15.5	11.5	13.5
16	3.5	1.5	2.5	6.0	3.0	4.5	12.0	9.0	10.5	16.5	13.0	15.0
17	4.0	3.5	4.0	6.0	2.5	4.5	13.5	10.5	12.0	16.5	14.0	15.5
18	5.5	4.0	5.0	5.5	5.0	5.5	13.0	9.5	11.5	16.0	13.5	15.0
19	6.5	5.5	6.0	6.0	5.0	5.5	12.0	9.0	10.0	16.0	13.5	15.0
20	6.5	6.0	6.0	8.5	6.0	7.0	11.0	9.0	10.0	17.0	14.0	15.5
21	6.5	6.0	6.0	8.0	3.5	5.5	12.5	7.5	10.0	16.5	14.0	15.5
22	7.0	5.5	6.0	4.5	2.5	3.5	13.0	9.0	11.0	14.5	12.5	13.5
23	6.0	4.0	5.0	6.5	3.5	5.0	12.0	10.0	10.5	14.0	11.0	13.0
24	4.5	4.0	4.0	7.0	3.5	5.5	12.5	8.5	10.5	15.0	11.5	13.5
25	6.0	4.0	5.0	7.5	3.5	5.5	13.0	9.5	11.5	14.5	13.0	14.0
26	7.0	4.5	5.5	9.5	5.5	7.5	11.5	8.5	9.5	15.5	13.5	14.5
27	8.0	4.5	6.5	12.5	7.0	10.0	11.5	7.5	9.0	16.0	13.5	15.0
28	7.5	7.0	7.5	13.5	9.5	11.5	11.5	7.0	9.5	16.0	14.0	15.0
29	---	---	---	14.0	10.5	12.5	13.0	7.5	10.5	17.5	14.5	16.0
30	---	---	---	14.5	10.0	12.5	12.0	10.5	11.5	18.0	15.5	16.5
31	---	---	---	15.5	11.5	13.5	---	---	---	18.5	16.0	17.5
MONTH	8.0	1.0	4.6	15.5	1.5	6.5	14.5	6.0	9.9	18.5	10.0	13.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	18.0	15.5	17.0	17.5	16.0	17.0	19.5	16.5	18.0	19.0	17.0	18.0
2	15.5	13.0	14.5	18.0	15.5	16.5	19.0	16.0	17.5	18.0	16.5	17.0
3	15.5	14.0	15.0	18.5	16.0	17.0	19.5	16.5	18.0	18.0	15.5	17.0
4	14.0	12.0	13.0	18.0	16.0	17.0	20.0	16.5	18.5	19.0	16.5	17.5
5	14.0	12.0	13.0	19.0	16.5	17.5	20.5	18.0	19.0	18.5	16.0	17.5
6	14.5	12.0	13.0	17.5	15.5	16.5	20.5	17.5	19.0	19.0	15.5	17.5
7	13.0	12.0	12.5	17.0	16.0	16.5	20.5	17.5	19.0	19.0	17.5	18.0
8	13.0	11.0	12.0	16.5	15.5	16.0	21.5	18.5	20.0	17.5	16.0	17.0
9	13.5	12.0	13.0	17.5	15.5	16.0	21.5	19.5	20.5	16.0	14.5	15.0
10	15.5	13.0	14.0	---	---	---	20.5	20.0	20.0	15.5	13.5	14.5
11	14.5	13.5	14.0	---	---	---	21.5	19.5	20.5	16.0	13.0	14.5
12	14.5	13.5	14.0	---	---	---	21.0	19.0	20.0	17.5	14.5	16.0
13	15.0	14.0	14.5	---	---	---	20.0	18.0	19.0	18.5	16.5	17.5
14	15.5	14.5	15.0	---	---	---	19.0	18.5	19.0	19.5	17.0	18.0
15	14.5	14.0	14.0	---	---	---	19.5	18.0	18.5	19.5	18.0	18.5
16	16.0	14.0	15.0	20.0	18.0	19.0	21.0	18.0	19.5	20.0	18.5	19.5
17	16.5	15.0	15.5	20.5	18.5	19.0	20.0	19.0	19.5	19.5	17.5	18.5
18	16.5	15.0	15.5	21.0	18.5	19.5	20.0	18.5	19.0	18.0	15.5	17.0
19	17.0	14.5	16.0	20.5	18.0	19.0	18.5	16.5	17.5	18.0	16.5	17.0
20	17.5	15.5	16.5	20.0	18.5	19.0	17.5	14.5	16.0	18.0	16.0	17.0
21	18.0	16.0	17.0	20.0	18.5	19.5	18.5	15.0	16.5	18.5	17.0	17.5
22	17.5	16.0	16.5	21.5	19.0	20.0	20.0	17.0	18.5	18.0	17.0	18.0
23	16.5	15.5	16.0	21.0	19.5	20.0	21.0	18.5	19.5	17.0	13.5	15.0
24	18.0	16.0	17.0	21.5	19.0	20.0	21.5	19.5	20.5	13.5	11.0	12.5
25	18.5	16.5	17.5	19.5	17.5	18.5	20.5	19.5	20.0	13.5	12.0	12.5
26	18.5	17.5	18.0	20.0	17.0	18.5	21.0	19.0	20.0	16.0	13.0	14.5
27	18.5	17.0	18.0	19.0	16.5	18.0	21.5	19.0	20.5	18.5	15.5	17.0
28	18.0	17.0	17.5	20.5	18.0	19.0	21.5	19.0	20.0	18.0	16.0	17.5
29	17.5	16.5	17.0	20.5	18.0	19.5	20.5	18.5	19.5	16.0	13.5	14.5
30	18.0	16.5	17.0	20.5	18.0	19.5	20.5	18.0	19.5	14.5	13.0	14.0
31	---	---	---	20.5	18.5	19.0	20.5	19.0	19.5	---	---	---
MONTH	18.5	11.0	15.3	21.5	15.5	18.3	21.5	14.5	19.1	20.0	11.0	16.5
YEAR	21.5	.0	10.6									

LEHIGH RIVER BASIN

01449800 POHOPOCO CREEK BELOW BELTZVILLE LAKE NEAR PARRYVILLE, PA

LOCATION.--Lat 40°50'44", long 75°38'46", Carbon County, Hydrologic Unit 02040106, on right bank 0.1 mi upstream from Sawmill Run, 0.4 mi downstream from Beltzville Dam, 1.3 mi upstream from Bull Run, and 2.3 mi northeast of Parryville.

DRAINAGE AREA.--96.4 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 492.05 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Flow regulated entire period of record by Wild Creek Reservoir (station 01449700) and Penn Forest Reservoir (station 01449400), 7.3 mi and 10.0 mi upstream respectively, and Beltzville Lake (station 01449790), reservoir for city of Bethlehem. Diversion upstream from Tunkhannock Creek to Wild Creek Basin since October 1969. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	23	82	92	199	373	197	273	127	120	34	108
2	36	23	95	92	154	417	290	273	195	120	34	86
3	36	90	95	93	126	367	290	273	175	120	34	62
4	36	111	95	95	126	286	259	226	118	120	34	36
5	36	83	83	110	262	261	259	199	85	120	34	36
6	36	75	68	120	354	259	225	199	73	93	84	36
7	36	75	68	137	354	259	204	199	73	75	107	35
8	36	75	68	259	354	259	195	301	72	75	86	34
9	36	75	90	571	354	302	196	393	70	75	86	34
10	36	75	82	710	269	765	412	393	70	75	61	188
11	36	75	70	704	223	1090	644	391	70	75	35	236
12	36	59	70	445	299	1100	644	474	120	75	34	130
13	36	45	70	235	345	648	444	523	194	75	34	130
14	36	45	70	199	345	403	262	484	195	75	34	77
15	36	45	70	199	345	403	245	391	463	75	34	36
16	36	45	60	209	345	398	245	388	483	75	34	36
17	36	45	53	215	346	337	220	388	378	61	35	35
18	36	45	53	217	353	301	179	257	532	53	35	34
19	36	41	53	219	378	357	181	179	496	53	34	34
20	36	36	53	219	371	388	397	179	195	53	34	34
21	36	36	53	196	340	396	644	179	203	53	34	34
22	62	36	60	183	340	398	644	173	199	51	34	34
23	89	34	70	183	340	552	602	175	195	52	34	34
24	67	34	74	183	408	555	430	175	218	53	34	34
25	36	34	80	183	609	393	348	176	232	53	34	81
26	36	49	81	268	587	392	347	170	160	53	35	130
27	36	66	81	316	427	344	349	133	120	42	34	130
28	29	66	81	316	377	316	300	126	120	127	34	78
29	23	66	236	242	---	316	273	110	120	176	34	36
30	23	66	378	199	---	316	273	100	120	179	34	36
31	23	---	220	199	---	260	---	100	---	88	81	---
TOTAL	1180	1673	2862	7608	9330	13211	10198	8000	5871	2590	1359	2064
MEAN	38.1	55.8	92.3	245	333	426	340	258	196	83.5	43.8	68.8
MAX	89	111	378	710	609	1100	644	523	532	179	107	236
MIN	23	23	53	92	126	259	179	100	70	42	34	34

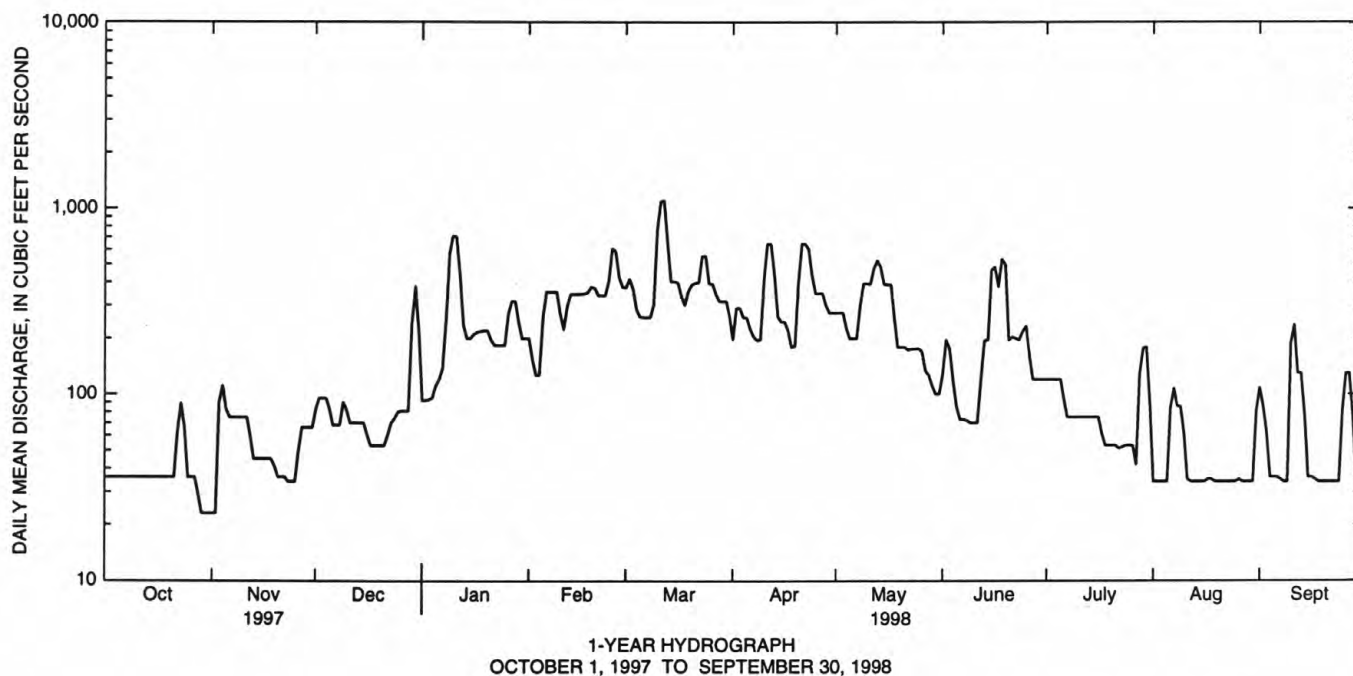
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1998, BY WATER YEAR (WY)

MEAN	113	139	210	186	197	263	278	218	147	113	86.0	94.2
MAX	405	302	675	527	459	576	754	538	358	321	491	529
(WY)	1983	1971	1997	1979	1976	1977	1993	1990	1972	1975	1969	1987
MIN	12.7	19.2	14.4	33.3	17.0	16.2	32.5	25.2	48.2	32.4	18.0	29.2
(WY)	1996	1992	1992	1981	1981	1981	1981	1971	1987	1985	1985	1970

LEHIGH RIVER BASIN

01449800 POHOPOCO CREEK BELOW BELTZVILLE LAKE NEAR PARRYVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1968 - 1998	
ANNUAL TOTAL	42380		65946			
ANNUAL MEAN	116		181		170	
HIGHEST ANNUAL MEAN					251	
LOWEST ANNUAL MEAN					60.2	
HIGHEST DAILY MEAN	527	Mar 18	1100	Mar 12	1470	Apr 15 1993
LOWEST DAILY MEAN	23	Oct 29-Nov 2	23	Oct 29-Nov 2	9.5	Oct 12 1993
ANNUAL SEVEN-DAY MINIMUM	26	Oct 27	26	Oct 27	11	Oct 7 1993
INSTANTANEOUS PEAK FLOW			1200		1740	
INSTANTANEOUS PEAK STAGE			5.09		5.62	
10 PERCENT EXCEEDS	239		394		382	
50 PERCENT EXCEEDS	90		118		108	
90 PERCENT EXCEEDS	36		34		36	



LEHIGH RIVER BASIN

01449800 POHOPOCO CREEK BELOW BELTZVILLE LAKE NEAR PARRYVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1969 to current year.

INSTRUMENTATION.--Temperature probe interfaced with a data collection platform since water year 1986.

REMARKS.--Interruptions in the record were due to malfunctions of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 26.5°C, several days during July and August 1970; minimum, 0.0°C, Dec. 9, 1969.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 18.5°C, Sept. 18; minimum, 2.5°C, several days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.5	14.0	14.5	13.0	12.0	12.5	7.5	7.0	7.5	4.0	3.5	3.5
2	15.0	13.5	14.0	12.5	11.5	12.0	7.0	7.0	7.0	3.5	3.5	3.5
3	15.0	14.0	14.0	12.5	11.5	12.0	7.0	7.0	7.0	3.5	3.5	3.5
4	15.0	14.0	14.5	12.5	11.5	12.0	7.0	7.0	7.0	4.0	3.5	3.5
5	15.5	14.0	14.5	12.5	11.5	12.0	7.0	6.5	6.5	3.5	3.5	3.5
6	15.5	14.0	14.5	12.0	11.5	12.0	6.5	6.5	6.5	3.5	3.5	3.5
7	15.5	14.0	14.5	12.0	11.5	11.5	6.5	6.5	6.5	4.0	3.5	3.5
8	15.0	14.0	14.5	11.5	11.5	11.5	6.5	6.0	6.5	4.0	3.5	4.0
9	15.5	14.0	14.5	11.5	11.0	11.5	6.0	6.0	6.0	4.0	4.0	4.0
10	15.0	14.0	14.5	11.0	11.0	11.0	6.0	5.5	6.0	4.0	4.0	4.0
11	15.5	14.0	14.5	11.5	10.5	11.0	6.0	5.5	6.0	4.0	4.0	4.0
12	15.0	14.0	14.5	11.0	10.0	10.5	6.0	5.5	5.5	4.0	4.0	4.0
13	15.0	14.0	14.5	10.5	10.0	10.0	6.0	5.5	5.5	4.0	4.0	4.0
14	15.0	14.5	14.5	10.0	9.5	9.5	5.5	5.0	5.5	4.0	3.5	3.5
15	14.5	14.0	14.5	10.0	9.5	10.0	5.5	5.0	5.0	3.5	3.5	3.5
16	15.0	13.5	14.0	10.0	9.5	9.5	5.5	5.0	5.0	3.5	3.5	3.5
17	15.0	13.5	14.0	9.5	9.0	9.0	5.5	5.0	5.0	3.5	3.5	3.5
18	15.0	14.0	14.0	9.5	8.5	9.0	5.0	5.0	5.0	3.5	3.5	3.5
19	14.0	13.5	14.0	9.0	8.5	8.5	5.0	4.5	5.0	3.5	3.5	3.5
20	14.5	13.0	13.5	9.0	8.0	8.5	5.0	4.5	5.0	3.5	3.5	3.5
21	14.0	13.0	13.5	9.0	8.0	8.5	5.0	4.5	4.5	3.5	3.5	3.5
22	13.5	13.0	13.5	8.5	8.5	8.5	4.5	4.0	4.5	3.5	3.0	3.5
23	13.5	13.0	13.5	8.5	8.0	8.5	4.5	4.5	4.5	3.0	3.0	3.0
24	13.5	13.0	13.5	8.0	7.5	8.0	4.5	4.5	4.5	3.5	3.0	3.0
25	14.0	13.0	13.5	8.0	7.5	7.5	4.5	4.5	4.5	3.5	3.0	3.0
26	13.5	12.5	13.0	8.0	7.5	8.0	4.5	4.5	4.5	3.0	3.0	3.0
27	13.5	12.0	13.0	8.0	7.5	7.5	4.5	4.0	4.5	3.0	3.0	3.0
28	12.5	11.5	12.0	7.5	7.5	7.5	4.5	4.0	4.0	3.0	3.0	3.0
29	13.0	11.5	12.0	8.0	7.5	7.5	4.0	4.0	4.0	3.0	2.5	3.0
30	13.0	11.5	12.0	7.5	7.5	7.5	4.0	4.0	4.0	3.0	3.0	3.0
31	13.0	11.5	12.0	---	---	---	4.0	3.5	4.0	3.0	3.0	3.0
MONTH	15.5	11.5	13.8	13.0	7.5	9.8	7.5	3.5	5.4	4.0	2.5	3.5

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	3.0	2.5	3.0	4.0	3.5	4.0	6.5	6.0	6.0	11.0	10.0	10.5
2	3.0	2.5	3.0	4.0	4.0	4.0	6.5	5.5	6.0	11.0	10.0	10.5
3	3.0	3.0	3.0	4.5	4.0	4.0	7.5	5.5	6.5	10.5	10.0	10.0
4	3.0	2.5	3.0	4.0	4.0	4.0	8.0	7.0	7.5	11.0	10.5	11.0
5	3.0	3.0	3.0	4.0	4.0	4.0	---	---	---	11.5	11.0	11.0
6	3.0	3.0	3.0	4.0	4.0	4.0	7.5	7.0	7.0	11.5	11.0	11.0
7	3.0	2.5	3.0	4.5	4.0	4.0	7.5	7.0	7.0	11.0	10.5	11.0
8	3.0	2.5	3.0	5.0	4.5	4.5	8.0	7.0	7.5	12.5	10.5	11.5
9	3.0	2.5	3.0	4.5	4.5	4.5	9.0	7.5	8.0	12.5	11.5	12.0
10	3.0	3.0	3.0	4.5	4.5	4.5	8.0	7.0	7.5	12.0	11.5	12.0
11	3.0	2.5	3.0	4.5	4.5	4.5	7.0	6.5	7.0	12.0	12.0	12.0
12	3.0	3.0	3.0	4.5	4.0	4.5	7.0	7.0	7.0	12.0	10.5	11.0
13	3.0	3.0	3.0	4.0	4.0	4.0	8.5	7.0	7.5	10.5	10.5	10.5
14	3.0	3.0	3.0	4.5	4.0	4.0	8.5	7.5	8.0	11.5	10.5	11.0
15	3.0	2.5	3.0	4.0	4.0	4.0	8.5	8.0	8.0	12.0	11.5	11.5
16	3.0	2.5	2.5	4.5	4.0	4.0	9.5	8.0	8.5	12.0	11.5	12.0
17	3.0	2.5	3.0	4.5	4.0	4.0	8.5	7.5	8.0	12.0	11.5	12.0
18	3.0	3.0	3.0	4.5	4.0	4.0	9.0	8.0	8.5	12.5	12.0	12.0
19	3.0	3.0	3.0	4.5	4.0	4.5	9.5	8.5	9.0	12.5	12.0	12.0
20	3.0	3.0	3.0	4.5	4.5	4.5	9.5	7.5	8.5	12.5	12.0	12.0
21	3.0	3.0	3.0	5.0	4.5	4.5	8.0	7.5	7.5	13.0	12.0	12.5
22	3.5	3.0	3.0	4.5	4.0	4.5	8.0	7.5	8.0	14.0	12.0	12.5
23	3.5	3.0	3.5	4.5	4.0	4.5	9.0	8.0	8.0	13.0	12.0	12.5
24	3.5	3.5	3.5	4.5	4.0	4.5	9.5	8.5	9.0	13.0	12.5	12.5
25	3.5	3.5	3.5	4.5	4.0	4.5	9.5	9.0	9.0	13.0	12.0	12.5
26	3.5	3.5	3.5	4.5	4.0	4.5	10.0	9.5	10.0	13.5	12.5	13.0
27	3.5	3.5	3.5	5.0	4.5	4.5	10.0	9.5	10.0	14.0	12.5	13.0
28	3.5	3.5	3.5	5.0	4.5	5.0	10.0	9.5	10.0	13.5	12.5	13.0
29	---	---	---	5.5	4.5	5.0	10.0	9.0	9.5	13.5	12.0	13.0
30	---	---	---	6.0	5.0	5.5	10.5	10.0	10.0	14.0	13.0	13.5
31	---	---	---	6.5	5.5	6.0	---	---	---	14.0	12.5	13.5
MONTH	3.5	2.5	3.1	6.5	3.5	4.4	10.5	5.5	8.1	14.0	10.0	11.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	14.5	13.0	14.0	16.0	15.0	15.5	17.5	14.5	15.5	17.0	16.0	16.0
2	14.0	13.5	13.5	16.5	15.5	16.0	17.5	14.5	15.5	16.5	16.0	16.0
3	14.0	13.0	13.5	16.5	15.5	16.0	17.0	14.5	15.5	17.5	16.0	16.5
4	14.5	13.0	14.0	16.5	15.5	16.0	16.5	14.5	15.5	18.0	15.5	16.5
5	15.0	13.5	14.0	17.0	16.0	16.0	17.0	15.0	15.5	18.0	15.5	16.5
6	15.0	13.5	14.0	17.0	15.5	16.0	16.5	15.0	15.5	17.5	15.5	16.5
7	14.0	13.0	14.0	16.5	15.5	16.0	16.0	15.0	15.5	17.0	16.0	16.5
8	14.0	13.5	13.5	16.0	16.0	16.0	16.0	15.0	15.5	17.5	15.5	16.0
9	15.0	13.5	14.0	17.0	15.5	16.0	16.0	15.0	15.5	17.0	15.5	16.0
10	15.0	13.5	14.5	17.0	16.0	16.0	16.5	15.0	15.5	16.5	15.5	16.0
11	14.5	13.5	14.0	17.0	15.5	16.0	17.5	15.0	15.5	17.0	16.5	16.5
12	14.5	14.0	14.5	17.0	15.5	16.0	17.0	15.0	15.5	17.0	16.5	17.0
13	14.5	14.0	14.5	17.0	16.0	16.0	16.5	15.0	15.5	17.5	16.5	17.0
14	14.0	13.5	14.0	17.0	16.0	16.5	16.0	15.0	15.5	18.0	16.5	17.0
15	14.0	11.5	12.5	17.0	16.0	16.5	16.5	15.0	15.5	17.5	16.5	17.0
16	14.0	11.5	13.0	17.0	16.5	16.5	17.0	15.0	15.5	18.0	16.5	17.0
17	14.5	14.0	14.0	17.5	16.0	16.5	16.0	15.0	15.5	17.5	16.5	17.0
18	15.0	11.5	13.0	18.0	16.0	16.5	16.5	15.0	15.5	18.5	16.5	17.0
19	15.0	12.0	13.0	18.0	16.0	16.5	17.0	15.0	15.5	17.5	16.5	17.0
20	15.5	15.0	15.0	17.5	16.0	16.5	17.5	14.5	15.5	17.5	16.5	17.0
21	16.0	15.0	15.5	18.0	16.5	16.5	17.5	15.0	16.0	18.0	16.5	17.0
22	15.5	15.0	15.0	17.5	14.5	16.0	17.0	15.0	16.0	17.5	16.5	17.0
23	15.5	15.0	15.5	15.5	15.0	15.0	17.5	15.0	16.0	18.0	16.0	16.5
24	15.5	15.0	15.5	16.5	14.5	15.5	17.0	15.5	16.0	17.5	15.5	16.0
25	16.0	15.0	15.5	16.0	14.5	15.0	17.0	15.5	16.0	17.0	16.0	16.5
26	16.0	15.0	15.5	16.5	14.5	15.0	17.0	15.5	16.0	17.0	16.5	16.5
27	16.0	15.0	15.5	16.5	14.5	15.5	17.5	15.0	16.0	17.0	16.0	16.5
28	16.0	15.0	15.5	15.5	14.5	15.0	18.0	15.0	16.0	17.5	16.0	16.5
29	16.0	15.5	15.5	15.5	15.0	15.0	17.0	15.5	16.0	17.5	16.0	16.5
30	16.0	15.0	15.5	15.5	15.0	15.0	17.5	15.5	16.0	17.0	16.0	16.5
31	---	---	---	17.0	14.5	15.5	17.0	15.5	16.0	---	---	---
MONTH	16.0	11.5	14.4	18.0	14.5	15.9	18.0	14.5	15.7	18.5	15.5	16.6
YEAR	18.5	2.5	10.2									

LEHIGH RIVER BASIN

01450500 AQUASHICOLA CREEK AT PALMERTON, PA

LOCATION.--Lat 40°48'22", long 75°35'54", Carbon County, Hydrologic Unit 02040106, on right bank 1,200 ft upstream from bridge on Sixth Street in Palmerton, and 1.2 mi upstream from mouth.

DRAINAGE AREA.--76.7 mi².

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

REVISED RECORDS.--WSP 1051: 1940-45 (monthly net diversion), Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 389.08 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Occasional diversion from Pohopoco Creek into Aquashicola Creek upstream of station. Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of diversion provided by Palmer Water Company.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 9	0045	1,370	6.30	Mar. 10	0515	*2,090	*7.21

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	54	97	113	163	272	229	174	108	111	39	26
2	47	130	79	113	153	231	270	190	92	93	36	39
3	45	130	79	115	148	219	227	174	87	86	34	48
4	43	98	86	122	147	198	221	168	82	82	33	34
5	43	81	88	132	255	180	212	163	79	78	31	29
6	42	72	81	144	287	170	198	160	76	71	31	27
7	41	74	77	157	275	161	184	160	72	69	31	30
8	40	68	76	542	241	164	174	184	71	86	30	53
9	39	73	69	1020	213	453	228	289	68	80	29	37
10	37	70	74	546	192	1490	768	418	67	69	35	31
11	37	64	76	395	180	673	548	565	68	62	51	28
12	36	61	73	316	306	458	402	678	162	59	36	25
13	37	58	71	272	295	365	327	587	277	56	32	24
14	37	69	68	226	267	320	285	457	607	54	33	23
15	42	73	62	204	237	278	271	373	422	53	35	22
16	44	73	61	259	217	242	233	314	314	53	31	22
17	37	67	61	227	216	214	209	274	276	51	42	25
18	36	62	61	219	275	210	189	239	248	49	62	24
19	35	63	60	207	275	260	215	210	209	46	44	22
20	34	64	61	196	274	234	382	192	185	46	35	22
21	34	61	57	175	264	350	332	180	170	49	32	23
22	33	82	54	165	237	440	288	161	162	51	31	28
23	30	81	71	216	227	387	257	149	177	45	36	36
24	32	79	73	369	424	350	230	137	170	42	30	26
25	54	73	171	371	457	316	205	137	145	40	29	25
26	48	79	224	321	376	293	218	126	132	39	67	26
27	65	79	201	273	315	270	244	115	123	38	42	25
28	51	74	174	247	281	246	195	109	112	37	31	27
29	41	73	151	219	---	223	187	106	105	37	29	23
30	38	74	175	202	---	203	181	113	106	50	28	25
31	34	---	137	184	---	188	---	98	---	42	27	---
TOTAL	1262	2259	2948	8267	7197	10058	8109	7400	4972	1824	1112	855
MEAN	40.7	75.3	95.1	267	257	324	270	239	166	58.8	35.9	28.5
MAX	65	130	224	1020	457	1490	768	678	607	111	67	53
MIN	30	54	54	113	147	161	174	98	67	37	27	22
(†)	-1.9	-1.7	-1.6	-3.1	-2.7	-3.7	-3.1	-3.0	-3.1	-2.0	-1.7	-2.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

MEAN	97.0	148	187	170	174	247	240	181	115	102	85.6	87.7
MAX	331	379	583	558	325	534	625	480	412	638	468	417
(WY)	1956	1973	1997	1996	1971	1977	1983	1989	1972	1945	1942	1987
MIN	17.2	21.6	38.3	19.4	38.4	86.5	74.7	55.9	38.8	19.8	13.7	15.2
(WY)	1964	1965	1981	1981	1940	1985	1985	1941	1955	1955	1964	1964

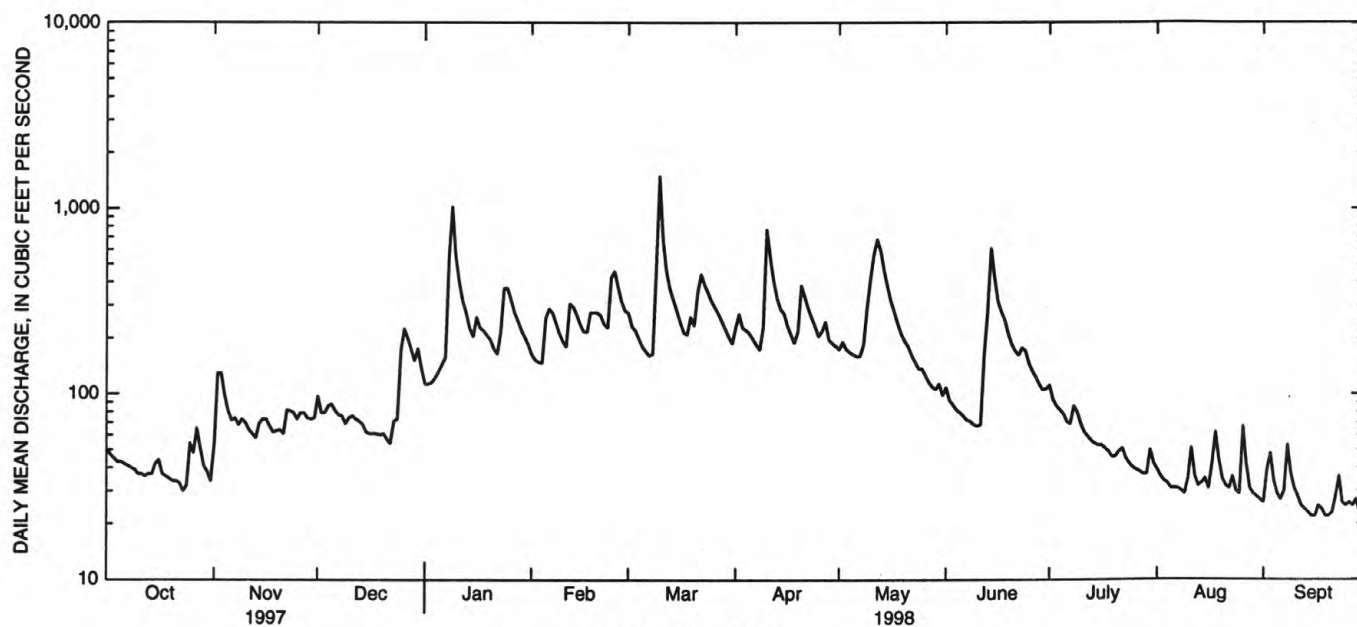
† Figures of net diversion, equivalent in cubic feet per second. Includes water diverted from Pohopoco Creek to Aquashicola Creek.

LEHIGH RIVER BASIN

01450500 AQUASHICOLA CREEK AT PALMERTON, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	38264		56263		153	
ANNUAL MEAN	105		154		242	
HIGHEST ANNUAL MEAN					69.2	
LOWEST ANNUAL MEAN					1952	
HIGHEST DAILY MEAN	559	Feb 5	1490	Mar 10	4680	Jul 10 1945
LOWEST DAILY MEAN	30	Jul 17, Oct 23	22	Sep 15, 16, 19, 20	9.1	Sep 15 1964
ANNUAL SEVEN-DAY MINIMUM	33	Oct 18	23	Sep 14	10	Sep 10 1964
INSTANTANEOUS PEAK FLOW			2090	Mar 10	all 1700	Jul 10 1945
INSTANTANEOUS PEAK STAGE			7.21	Mar 10	13.63	Jul 10 1945
INSTANTANEOUS LOW FLOW					2.6	Sep 12 1957
10 PERCENT EXCEEDS	186		315		306	
50 PERCENT EXCEEDS	82		97		100	
90 PERCENT EXCEEDS	39		31		36	

a From rating curve extended above 2,300 ft³/s on basis of contracted-opening measurement of peak flow.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01451000 LEHIGH RIVER AT WALNUTPORT, PA

LOCATION.--Lat 40°45'25", long 75°36'12", Northampton County, Hydrologic Unit 02040106, on left bank 0.3 mi upstream from bridge on SR 4022 at Walnutport, and 0.4 mi upstream from Trout Creek.

DRAINAGE AREA.--889 mi².

PERIOD OF RECORD.--October 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 350.27 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Wild Creek Reservoir (station 01449700) since January 1941, Penn Forest Reservoir (station 01449400) since October 1958, Francis E. Walter Reservoir (station 01447780) since February 1961, and Beltzville Lake (station 01449790) since February 1971. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 20.6 ft, May 23, 1942, from floodmarks, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	520	526	1420	e1300	1840	4050	2680	2570	1180	998	356	388
2	489	911	1690	e1300	1740	4380	2860	2480	1740	1070	330	427
3	479	971	1510	e1100	1640	4230	2950	2510	1480	976	320	511
4	454	1270	1280	1220	1630	3730	2690	2370	1020	931	316	375
5	574	1210	1250	1360	2840	3250	2590	2270	799	776	309	332
6	418	1050	1210	2020	3350	2900	2400	2240	851	672	325	317
7	411	952	1170	2750	2910	2600	1990	2150	743	624	390	320
8	410	864	1140	5110	2650	2570	1720	2230	672	731	356	492
9	403	890	1140	7690	2460	3970	2100	2900	682	760	356	446
10	394	918	1120	7130	2250	8010	4770	3710	694	670	417	485
11	369	963	1050	6030	2000	8170	4710	4710	717	706	505	635
12	349	958	1010	4230	3010	6100	4240	6240	1290	656	368	451
13	343	781	970	3330	3350	4540	3780	6130	2470	567	330	395
14	347	816	949	3020	3370	3730	3350	5020	3120	537	351	370
15	394	853	939	2640	3160	3470	2930	4160	2980	516	354	306
16	421	852	921	3070	2620	3200	2670	3410	2840	479	330	306
17	399	820	897	3190	2580	2740	2370	2920	2830	470	386	319
18	424	724	864	3080	3430	2590	2210	2380	2900	494	525	317
19	430	640	837	2940	3740	3010	2470	2130	3040	496	445	452
20	380	615	784	2730	4240	3210	4980	2030	2150	445	371	467
21	342	610	765	2280	3720	4430	5550	1840	1910	475	345	315
22	322	785	741	1990	3490	4760	4900	1630	1950	527	333	319
23	356	946	847	2260	3340	4500	3940	1580	1640	473	441	347
24	351	1220	894	3150	5110	4450	3190	1480	1510	451	366	312
25	397	1220	1460	3010	5350	3860	2860	1420	1370	469	342	320
26	420	1220	1700	2770	4710	3680	2690	1370	1220	454	503	392
27	487	1210	1590	2640	3940	3320	3450	1260	1240	397	441	401
28	525	1160	1640	2530	3700	3110	3180	1190	1260	415	369	371
29	510	1040	1680	2340	---	2980	2740	1110	1030	493	342	306
30	489	1020	2050	2100	---	2850	2660	1240	850	504	329	306
31	462	---	e1700	1950	---	2680	---	1160	---	453	335	---
TOTAL	13069	28015	37218	92260	88170	121070	95620	79840	48178	18685	11586	11500
MEAN	422	934	1201	2976	3149	3905	3187	2575	1606	603	374	383
MAX	574	1270	2050	7690	5350	8170	5550	6240	3120	1070	525	635
MIN	322	526	741	1100	1630	2570	1720	1110	672	397	309	306
CFSM	.47	1.05	1.35	3.35	3.54	4.39	3.59	2.90	1.81	.68	.42	.43
IN.	.55	1.17	1.56	3.86	3.69	5.07	4.00	3.34	2.02	.78	.48	.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1998, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1947	1160	4857	1956	194	1964
1948	1850	3990	1973	251	1965
1949	2331	6352	1997	370	1981
1950	2054	6136	1979	223	1981
1951	2142	4464	1951	790	1980
1952	2993	6302	1977	1335	1981
1953	3249	8455	1993	1156	1985
1954	2387	6389	1989	908	1995
1955	1485	5413	1972	489	1962
1956	1097	4465	1947	241	1965
1957	876	5264	1955	226	1964
1958	930	5812	1987	179	1964

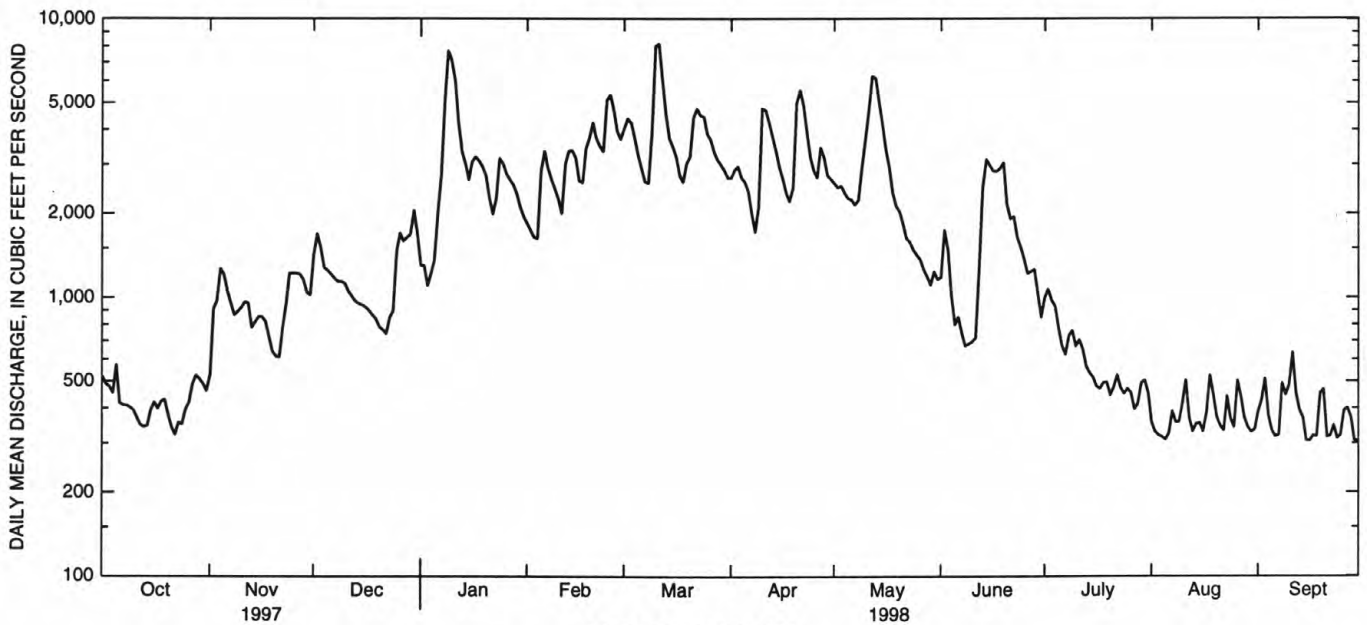
e Estimated.

LEHIGH RIVER BASIN

01451000 LEHIGH RIVER AT WALNUTPORT, PA-Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1947 - 1998	
ANNUAL TOTAL	459834		645211		1877	
ANNUAL MEAN	1260		1768		2892	
HIGHEST ANNUAL MEAN					859	
LOWEST ANNUAL MEAN					134	
HIGHEST DAILY MEAN	4550	Apr 5	8170	Mar 11	62400	Aug 19 1955
LOWEST DAILY MEAN	303	Aug 10	306	Sep 15,16,29,30	134	Sep 18 1964
ANNUAL SEVEN-DAY MINIMUM	336	Aug 6	335	Aug 1	143	Sep 16 1964
INSTANTANEOUS PEAK FLOW			9220	Mar 10	77800	Aug 19 1955
INSTANTANEOUS PEAK STAGE			5.91	Mar 10	17.68	Aug 19 1955
INSTANTANEOUS LOW FLOW					a57	Jul 27 1965
ANNUAL RUNOFF (CFSM)	1.42		1.99		2.11	
ANNUAL RUNOFF (INCHES)	19.24		27.00		28.69	
10 PERCENT EXCEEDS	2400		3760		3890	
50 PERCENT EXCEEDS	1090		1210		1300	
90 PERCENT EXCEEDS	421		356		416	

a Result of upstream shutoff.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01451500 LITTLE LEHIGH CREEK NEAR ALLENTOWN, PA

LOCATION.--Lat 40°34'56", long 75°29'00", Lehigh County, Hydrologic Unit 02040106, on right bank at downstream side of bridge on Lehigh Parkway in Allentown, 0.8 mi upstream from Cedar Creek, and 2.9 mi upstream from mouth.

DRAINAGE AREA.--80.8 mi².

PERIOD OF RECORD.--October 1945 to current year. Prior to October 1946, published as "at Allentown".

REVISED RECORDS.--WDR PA 73-1: 1946 (M), 1951 (P), 1955 (M), 1956 (M), 1958 (M), 1962 (M), 1963 (M), 1965 (M), 1969 (M), 1971 (M). WDR PA-87-1: 1946 to 1986 (P).

GAGE.--Water-stage recorder, crest-stage gage, and masonry control. Datum of gage is 253.41 ft above sea level.

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

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

<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)
Aug. 23	0700	*760	*3.75	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	57	49	e50	82	110	153	121	138	105	74	60
2	52	71	48	e49	79	104	178	128	117	97	70	70
3	51	61	46	e49	78	104	136	128	124	93	67	82
4	51	50	46	e49	76	104	126	124	116	92	67	63
5	50	46	45	e46	119	99	121	122	111	92	67	58
6	48	44	44	e46	116	96	117	133	109	88	66	56
7	47	44	43	e49	93	93	116	121	105	88	66	62
8	47	46	43	e172	87	103	116	178	105	104	64	76
9	47	50	41	e123	84	265	169	282	105	105	64	62
10	47	54	43	81	81	287	367	338	106	96	93	57
11	46	47	46	70	82	171	202	355	105	91	92	56
12	46	45	44	66	184	142	160	439	179	89	70	55
13	46	43	43	63	109	132	147	307	287	86	67	54
14	46	53	42	61	93	127	139	242	270	85	66	54
15	50	60	41	62	85	122	e135	214	169	85	67	53
16	51	51	40	105	82	119	e125	196	145	85	64	54
17	48	46	40	83	86	115	e140	183	131	85	87	57
18	56	45	39	76	110	117	e165	172	124	82	114	56
19	52	44	39	73	121	215	e170	163	118	81	102	55
20	48	43	39	67	102	161	e220	158	113	81	72	53
21	46	43	38	64	95	268	159	151	110	79	68	52
22	45	49	37	64	91	253	140	144	108	77	66	52
23	44	50	45	138	104	186	134	140	129	76	252	50
24	44	46	44	193	211	162	131	137	119	76	93	47
25	59	46	90	117	142	148	123	145	109	76	78	48
26	56	46	70	99	117	139	141	142	103	73	86	48
27	72	46	e50	91	109	135	193	133	104	72	75	47
28	56	44	e48	93	106	130	140	127	101	72	68	47
29	50	44	55	93	---	126	129	125	97	72	66	e48
30	49	44	88	90	---	123	127	131	103	72	66	e50
31	47	---	e65	86	---	121	---	128	---	80	62	---
TOTAL	1549	1458	1491	2568	2924	4577	4619	5607	3860	2635	2479	1682
MEAN	50.0	48.6	48.1	82.8	104	148	154	181	129	85.0	80.0	56.1
MAX	72	71	90	193	211	287	367	439	287	105	252	82
MIN	44	43	37	46	76	93	116	121	97	72	62	47
CFSM	.62	.60	.60	1.03	1.29	1.83	1.91	2.24	1.59	1.05	.99	.69
IN.	.71	.67	.69	1.18	1.35	2.11	2.13	2.58	1.78	1.21	1.14	.77

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1998, BY WATER YEAR (WY)

MEAN	68.5	77.4	99.8	109	121	137	145	121	102	86.8	77.5	70.6
MAX	195	177	371	385	325	355	331	315	381	366	192	213
(WY)	1997	1976	1997	1979	1979	1994	1983	1984	1972	1984	1971	1987
MIN	27.3	28.1	25.7	26.6	41.0	43.1	37.1	35.8	29.2	26.5	26.5	28.9
(WY)	1964	1966	1966	1966	1967	1965	1966	1965	1965	1965	1965	1965

e Estimated.

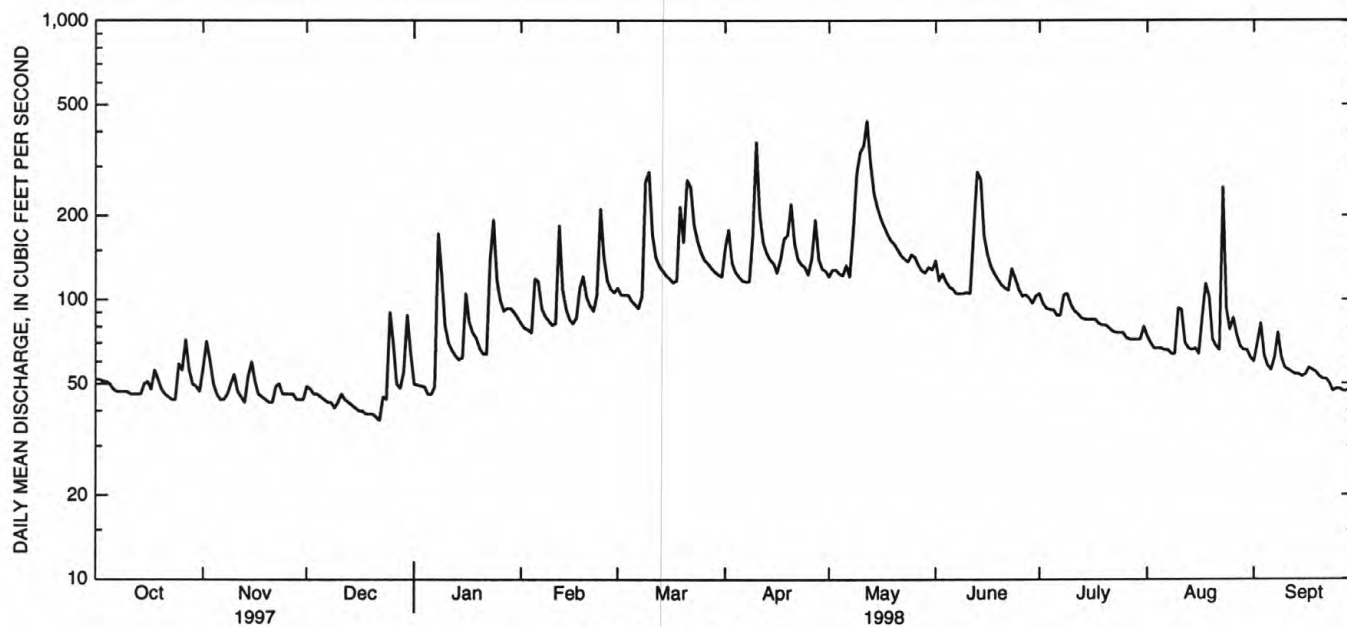
LEHIGH RIVER BASIN

01451500 LITTLE LEHIGH CREEK NEAR ALLENTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1946 - 1998	
ANNUAL TOTAL	37380		35449		101	
ANNUAL MEAN	102		97.1		203	
HIGHEST ANNUAL MEAN					33.8	
LOWEST ANNUAL MEAN					203	
HIGHEST DAILY MEAN	e700	Jan 25	439	May 12	4050	Jul 7 1984
LOWEST DAILY MEAN	37	Dec 22	37	Dec 22	23	Dec 20 1965
ANNUAL SEVEN-DAY MINIMUM	39	Dec 16	39	Dec 16	23	Dec 18 1965
INSTANTANEOUS PEAK FLOW			760	Aug 23	a11800	Jun 22 1972
INSTANTANEOUS PEAK STAGE			3.75	Aug 23	11.80	Jun 22 1972
INSTANTANEOUS LOW FLOW			37	Dec 18,21-23	17	Feb 4 1965
ANNUAL RUNOFF (CFSM)	1.27		1.20		1.25	
ANNUAL RUNOFF (INCHES)	17.21		16.32		17.02	
10 PERCENT EXCEEDS	180		162		172	
50 PERCENT EXCEEDS	79		83		79	
90 PERCENT EXCEEDS	46		46		40	

a From rating curve extended above 820 ft³/s on basis of slope-area measurement at 8.34 ft and at peak flow.

e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01451650 LITTLE LEHIGH CREEK AT TENTH STREET BRIDGE AT ALLENTOWN, PA

LOCATION.--Lat 40°35'47", long 75°28'28", Lehigh County, Hydrologic Unit 02040106, on left bank at bridge on Tenth Street, and 0.9 mi upstream from confluence with Jordan Creek in Allentown, Pa.

DRAINAGE AREA.--98.2 mi².

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Crest-stage gage and concrete control. Datum of gage is 245.63 ft above sea level.

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

COOPERATION.--Records of diversion provided by city of Allentown.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 10	0100	943	4.15	Aug. 23	0700	922	4.12
June 13	1400	*951	*4.16				

REVISIONS.--The maximum discharge for water year 1997 has been revised to 5,970 ft³/s, Oct. 19, 1996, gage height, 8.60 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	77	47	e53	95	150	210	149	179	124	90	89
2	55	103	49	52	85	124	241	165	146	122	65	119
3	52	81	47	e52	78	125	170	170	151	123	67	122
4	47	64	43	e53	82	126	161	153	150	104	64	99
5	46	67	44	49	159	119	158	146	140	102	63	90
6	46	57	61	48	e140	122	148	168	143	102	64	60
7	48	57	48	50	e110	115	144	146	140	101	76	77
8	52	56	40	e120	e100	135	142	239	126	141	73	105
9	52	73	40	e180	e95	448	252	389	123	125	52	84
10	48	63	45	102	e90	423	593	495	123	115	118	89
11	59	61	59	86	e95	238	283	503	121	118	133	89
12	48	59	52	73	274	186	213	619	256	102	71	78
13	48	59	51	72	145	164	190	407	442	85	68	51
14	45	e85	52	72	117	157	180	304	423	84	81	59
15	62	83	49	76	109	153	178	274	242	82	56	65
16	55	65	46	151	90	151	171	251	188	85	63	65
17	54	63	45	110	102	140	187	223	155	83	117	68
18	75	60	43	96	152	151	205	209	146	83	136	71
19	57	59	39	79	168	313	205	199	146	83	128	66
20	54	59	42	75	123	221	312	198	136	86	78	47
21	57	59	42	70	119	418	199	183	119	82	79	65
22	51	79	e46	70	112	355	175	175	121	73	77	60
23	51	74	e48	227	137	252	161	180	152	75	337	55
24	50	57	57	282	312	208	164	174	137	85	120	54
25	86	52	149	156	202	193	151	180	118	82	100	63
26	67	58	89	118	150	180	194	172	112	66	113	79
27	92	44	55	101	129	178	249	166	132	67	96	53
28	65	44	52	112	140	173	174	157	127	67	90	50
29	63	54	58	e110	---	159	151	159	108	67	80	54
30	55	52	119	e100	---	152	147	160	118	70	56	62
31	52	---	70	93	---	149	---	158	---	97	75	---
TOTAL	1751	1924	1727	3088	3710	6178	6108	7271	4920	2881	2886	2188
MEAN	56.5	64.1	55.7	99.6	133	199	204	235	164	92.9	93.1	72.9
MAX	92	103	149	282	312	448	593	619	442	141	337	122
MIN	45	44	39	48	78	115	142	146	108	66	52	47
(†)	15.2	13.7	14.7	9.6	9.7	10.4	11.8	11.7	12.9	15.0	13.3	14.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1998, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	88.3	105	139	139	134	183	183	152	116	108	89.3	101
MAX	210	192	435	292	219	415	355	236	184	174	147	368
(WY)	1997	1997	1997	1996	1996	1994	1994	1989	1989	1994	1994	1987
MIN	48.5	64.1	55.7	53.1	48.9	71.7	64.4	66.7	73.4	83.0	57.1	46.7
(WY)	1993	1998	1998	1992	1992	1992	1992	1992	1995	1991	1991	1995

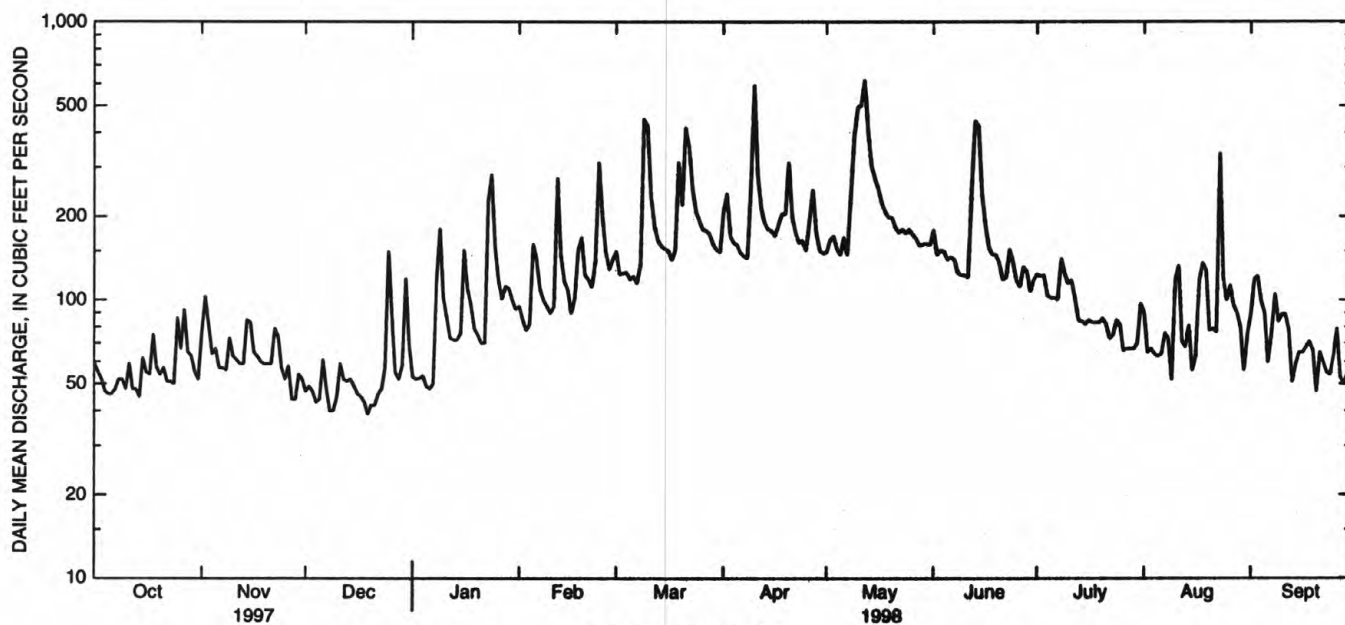
† Diversion for municipal supply of city of Allentown, equivalent in cubic feet per second.

e Estimated.

LEHIGH RIVER BASIN

01451650 LITTLE LEHIGH CREEK AT TENTH STREET BRIDGE AT ALLENTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1987 - 1998	
ANNUAL TOTAL	44097		44632		128	
ANNUAL MEAN	121		122		192	
HIGHEST ANNUAL MEAN					64.6	
LOWEST ANNUAL MEAN					1994	
HIGHEST DAILY MEAN	791	Jan 25	619	May 12	5200	Sep 9 1987
LOWEST DAILY MEAN	39	Dec 19	39	Dec 19	32	Sep 18 1991
ANNUAL SEVEN-DAY MINIMUM	43	Dec 16	43	Dec 16	39	Sep 12 1991
INSTANTANEOUS PEAK FLOW			a951	Jun 13	a7370	Sep 9 1987
INSTANTANEOUS PEAK STAGE			4.16	Jun 13	9.47	Sep 9 1987
10 PERCENT EXCEEDS	216		208		215	
50 PERCENT EXCEEDS	89		99		100	
90 PERCENT EXCEEDS	52		51		55	

a From rating curve extended above 920 ft³/s.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01451800 JORDAN CREEK NEAR SCHNECKSVILLE, PA

LOCATION.--Lat 40°39'42", long 75°37'38", Lehigh County, Hydrologic Unit 02040106, on left bank 54 ft downstream from wooden covered bridge at Trexler-Lehigh County Game Preserve, 1.0 mi downstream from Mill Creek, and 1.1 mi southwest of Schnecksville.

DRAINAGE AREA.--53.0 mi².

PERIOD OF RECORD.--February 1966 to current year.

REVISED RECORDS.--WDR PA-90-1: 1989.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 400 ft above sea level, from topographic map. Prior to Oct. 2, 1973, nonrecording gage at bridge 54 ft upstream at same datum.

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

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 8	1915	908	5.19	June 13	1500	*1,000	*5.37

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	27	54	e74	94	171	148	81	31	37	9.2	11
2	13	59	35	e90	83	130	146	97	26	29	7.2	18
3	13	44	32	93	78	131	108	83	24	26	6.7	23
4	13	32	34	90	75	107	100	85	22	24	6.4	14
5	12	29	33	80	250	90	91	75	20	23	6.2	12
6	12	27	30	75	258	79	80	72	19	20	5.7	10
7	11	29	28	77	236	73	72	63	18	19	5.2	12
8	10	28	27	454	193	86	65	113	19	51	5.2	30
9	10	31	25	606	155	342	134	222	18	42	5.2	17
10	9.8	33	27	358	128	600	639	528	16	29	14	14
11	9.4	27	e32	249	111	385	388	719	17	23	28	12
12	9.4	26	e29	188	258	271	272	755	87	20	12	11
13	9.5	23	e35	154	193	208	204	493	397	18	8.6	10
14	10	37	e32	120	176	173	163	319	392	17	11	9.9
15	14	49	e28	106	145	138	152	228	297	17	12	9.7
16	16	46	e28	223	123	111	116	173	208	17	9.3	9.5
17	12	41	30	175	124	94	100	135	177	16	16	15
18	12	39	30	188	232	102	88	106	141	15	40	17
19	12	38	34	168	229	192	108	87	108	14	43	11
20	11	37	25	151	228	155	282	74	89	13	17	10
21	10	33	25	130	201	415	176	63	75	13	14	10
22	9.5	46	23	118	163	473	152	55	75	12	12	10
23	9.2	41	40	246	162	353	132	49	88	11	30	9.9
24	8.9	34	39	477	369	279	113	44	70	11	18	8.6
25	30	30	133	392	348	225	94	45	56	9.8	15	9.4
26	20	30	126	287	285	192	123	41	48	9.4	30	12
27	44	30	118	221	224	164	158	35	45	8.8	20	e9.3
28	24	29	104	194	185	136	100	31	37	8.4	15	8.6
29	16	29	90	159	---	114	91	31	35	8.1	14	7.7
30	14	30	144	134	---	96	86	42	36	8.5	13	7.5
31	13	---	e100	110	---	85	---	30	---	10	12	---
TOTAL	431.7	1034	1570	6187	5306	6170	4681	4974	2691	580.0	460.9	369.1
MEAN	13.9	34.5	50.6	200	190	199	156	160	89.7	18.7	14.9	12.3
MAX	44	59	144	606	369	600	639	755	397	51	43	30
MIN	8.9	23	23	74	75	73	65	30	16	8.1	5.2	7.5
CFSM	.26	.65	.96	3.77	3.58	3.76	2.94	3.03	1.69	.35	.28	.23
IN.	.30	.73	1.10	4.34	3.72	4.33	3.29	3.49	1.89	.41	.32	.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1998, BY WATER YEAR (WY)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	60.8	99.1	133	123	129	162	133	98.3	65.8	41.7	32.6	44.5																					
MAX	220	270	397	404	295	479	391	353	346	126	110	343																					
(WY)	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MIN	8.37	20.1	18.6	6.85	35.2	41.3	31.0	31.5	9.18	1.68	3.77	3.69																					
(WY)	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998

e Estimated.

LEHIGH RIVER BASIN

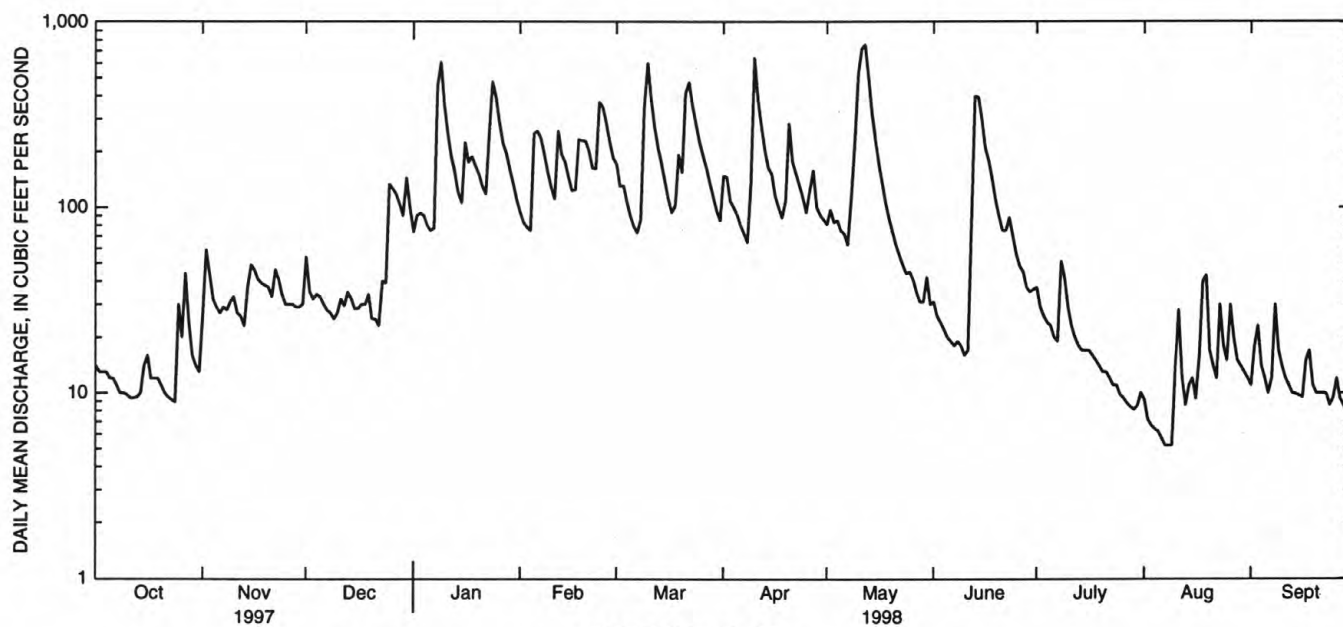
01451800 JORDAN CREEK NEAR SCHNECKSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1998	
ANNUAL TOTAL	21839.2		34454.7		94.1	
ANNUAL MEAN	59.8		94.4		148	
HIGHEST ANNUAL MEAN					1978	
LOWEST ANNUAL MEAN					1985	
HIGHEST DAILY MEAN	626	Feb 5	755	May 12	2800	Sep 9 1987
LOWEST DAILY MEAN	5.1	Jul 21	5.2	Aug 7-9	.60	Jul 26 1966
ANNUAL SEVEN-DAY MINIMUM	a6.2	Jul 15	5.8	Aug 3	1.0	Jul 13 1966
INSTANTANEOUS PEAK FLOW			1000	Jun 13	b7100	Jun 22 1972
INSTANTANEOUS PEAK STAGE			5.37	Jun 13	c12.32	Jun 22 1972
INSTANTANEOUS LOW FLOW			5.2	Aug 6-10	.40	Jul 26 1966
ANNUAL RUNOFF (CFSM)	1.13		1.78		1.78	
ANNUAL RUNOFF (INCHES)	15.33		24.18		24.12	
10 PERCENT EXCEEDS	126		230		208	
50 PERCENT EXCEEDS	35		40		47	
90 PERCENT EXCEEDS	12		10		10	

a Computed using estimated daily discharges.

b From rating curve extended above 1,300 ft³/s on basis of contracted-opening measurement of peak flow.

c From floodmark.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01452000 JORDAN CREEK AT ALLENTOWN, PA

LOCATION.--Lat 40°37'23", long 75°28'58", Lehigh County, Hydrologic Unit 02040106, on right bank 200 ft upstream from bridge on State Highway 145, 0.5 mi northwest of city limits of Allentown, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--75.8 mi².

PERIOD OF RECORD.--October 1944 to current year.

REVISED RECORDS.--WDR PA-76-1: 1970 (M), 1971.

GAGE.--Water-stage recorder, crest-stage gage and rubble masonry control. Crest raised 1 ft in August 1958 and further modified filling in square notches on sides and notching center of dam at 17:1 slope in August 1974. Datum of gage is 259.82 ft above sea level (Pennsylvania Department of Transportation datum).

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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 23, 1942, reached a stage of approximately 7.1 ft, from flood-marks 650 ft downstream.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 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)
May 12	1000	*1,210	*4.86	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	20	51	80	123	211	138	119	50	55	12	11
2	17	69	48	112	111	172	214	132	46	45	11	19
3	16	58	37	113	104	162	143	126	42	38	12	27
4	15	41	39	103	98	148	134	118	37	34	12	21
5	14	35	41	91	220	125	125	107	34	33	12	14
6	13	31	37	83	271	113	114	110	33	31	12	11
7	12	32	34	85	260	106	104	95	31	29	11	15
8	12	32	32	380	221	109	97	121	32	46	11	25
9	11	35	29	798	186	377	123	255	32	77	11	27
10	11	39	32	434	159	857	806	561	29	44	15	18
11	11	33	38	289	142	502	490	946	28	34	12	15
12	11	29	36	222	268	329	328	1040	98	29	15	13
13	11	26	42	185	223	252	249	667	359	26	11	11
14	e12	36	38	153	209	213	205	402	437	25	11	10
15	e18	59	30	134	180	179	192	288	334	24	11	11
16	e22	55	30	230	157	152	160	225	247	24	11	10
17	e18	50	33	202	150	132	143	184	207	23	15	14
18	e17	46	30	211	246	136	129	156	173	22	19	11
19	e16	43	32	195	261	223	135	134	140	20	61	14
20	e16	47	32	182	270	204	301	118	119	18	25	11
21	e15	45	29	162	247	447	210	103	101	17	17	9.5
22	e14	53	18	148	206	598	188	90	98	16	14	9.8
23	e14	60	41	216	188	438	171	81	106	15	33	9.4
24	e13	47	55	578	383	335	155	73	99	14	29	9.3
25	e40	40	126	466	406	271	135	71	79	13	19	10
26	e30	38	152	333	339	232	135	70	66	12	24	9.3
27	e40	37	139	258	271	204	217	61	65	12	29	9.3
28	42	33	126	227	226	177	143	56	55	12	19	9.2
29	24	33	108	197	---	155	132	52	50	13	15	9.4
30	19	34	165	167	---	136	124	64	52	13	13	9.7
31	16	---	132	144	---	123	---	53	---	14	11	---
TOTAL	559	1236	1812	7178	6125	7818	5940	6678	3279	828	533	402.9
MEAN	18.0	41.2	58.5	232	219	252	198	215	109	26.7	17.2	13.4
MAX	42	69	165	798	406	857	806	1040	437	77	61	27
MIN	11	20	18	80	98	106	97	52	12	11	11	9.2
CFSM	.24	.54	.77	3.05	2.89	3.33	2.61	2.84	1.44	.35	.23	.18
IN.	.27	.61	.89	3.52	3.01	3.84	2.92	3.28	1.61	.41	.26	.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

MEAN	66.5	113	152	151	164	212	173	121	77.1	54.5	51.7	60.5
MAX	309	321	520	570	354	791	551	438	517	255	326	449
(WY)	1997	1971	1997	1996	1951	1994	1983	1989	1972	1945	1955	1987
MIN	3.93	8.62	20.7	8.45	34.3	55.0	38.0	22.3	5.89	1.21	1.81	2.83
(WY)	1964	1965	1981	1981	1980	1985	1985	1965	1965	1966	1966	1964

e Estimated.

LEHIGH RIVER BASIN

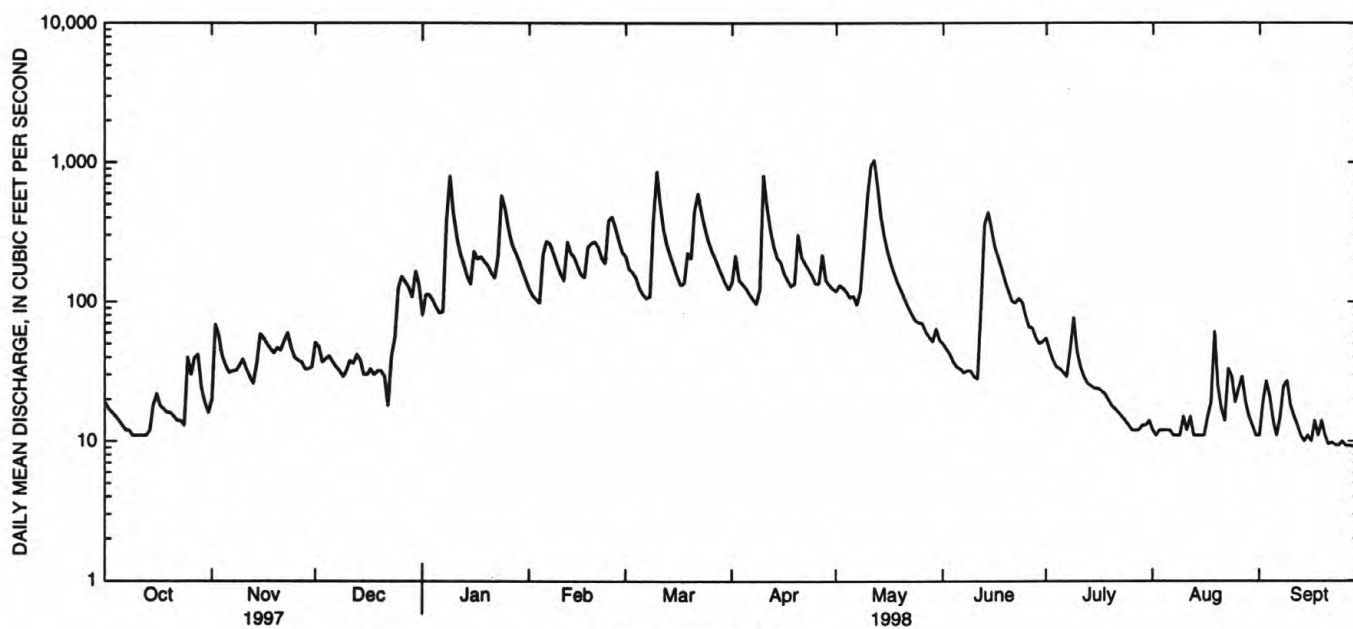
01452000 JORDAN CREEK AT ALLENTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1945 - 1998	
ANNUAL TOTAL	27818		42388.9		116	
ANNUAL MEAN	76.2		116		203	
HIGHEST ANNUAL MEAN					44.9	
LOWEST ANNUAL MEAN					1984	
HIGHEST DAILY MEAN	693	Feb 5	1040	May 12	6650	Sep 9 1987
LOWEST DAILY MEAN	11	Jul 14-21a	9.2	Sep 28	.00	Jul 7 1966
ANNUAL SEVEN-DAY MINIMUM	11	Jul 14	9.4	Sep 23	.06	Jul 9 1966
INSTANTANEOUS PEAK FLOW			1210	May 12	b16200	Jun 23 1972
INSTANTANEOUS PEAK STAGE			4.86	May 12	c11.61	Jun 23 1972
ANNUAL RUNOFF (CFSM)	1.01		1.53		1.53	
ANNUAL RUNOFF (INCHES)	13.65		20.80		20.82	
10 PERCENT EXCEEDS	162		264		251	
50 PERCENT EXCEEDS	49		53		61	
90 PERCENT EXCEEDS	16		12		12	

a Also Sept. 8-10, Oct. 9-13.

b From rating curve extended above 6,100 ft³/s on basis of slope-area measurement of peak flow.

c From floodmark.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01452500 MONOCACY CREEK AT BETHLEHEM, PA

LOCATION.--Lat 40°38'28", long 75°22'47", Northampton County, Hydrologic Unit 02040106, on right bank 40 ft downstream from highway bridge at entrance to Monocacy Park at Bethlehem, and 2.1 mi upstream from mouth.

DRAINAGE AREA.--44.5 mi².

PERIOD OF RECORD.--October 1948 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since July 17, 1969. Datum of gage is 247.24 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to May 15, 1962, nonrecording gage at site 40 ft upstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Some regulation at low flow since April 1954 by mill upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1945, reached a stage of 9.74 ft, from floodmarks, discharge, about 5,200 ft³/s, by slope-area measurement.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 10	0330	315	3.47	June 14	0130	*458	*3.83
June 13	1400	315	3.47				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	32	26	e23	e52	e86	82	74	63	65	39	e34
2	34	34	24	e27	e50	e83	91	84	60	62	37	e38
3	30	31	24	e31	e49	76	77	e88	58	58	36	e42
4	29	27	23	e30	e49	71	75	e84	57	56	39	35
5	27	25	23	e29	e90	66	72	e80	55	56	37	34
6	26	24	23	e29	e72	63	68	81	56	54	37	34
7	27	25	23	e30	e64	61	67	73	51	54	35	38
8	26	24	23	e150	e59	65	65	101	51	61	35	39
9	26	25	23	e120	e54	154	91	145	54	58	33	34
10	e26	25	24	96	50	240	215	173	53	53	43	33
11	e26	24	25	79	50	171	149	197	51	49	41	31
12	e26	24	24	68	105	132	123	229	103	47	35	30
13	e26	24	25	61	77	111	107	187	161	46	36	29
14	e26	29	24	54	76	100	96	154	301	48	35	29
15	e27	29	24	52	69	89	94	132	181	47	34	28
16	25	26	24	71	64	81	86	116	141	47	33	28
17	25	25	24	55	63	75	83	110	117	47	39	38
18	26	25	24	54	78	75	78	98	104	45	37	32
19	25	25	27	52	73	106	86	91	93	43	39	30
20	24	24	27	e50	67	85	123	87	86	42	35	28
21	24	24	27	e46	67	111	96	83	80	43	35	28
22	25	29	23	e43	64	115	91	78	76	43	33	30
23	25	26	e23	e82	74	114	87	76	78	43	41	30
24	24	24	26	e105	e170	106	83	73	76	42	34	29
25	34	23	50	e120	e130	98	79	74	70	41	33	28
26	29	23	43	e80	e110	90	91	71	64	39	43	28
27	34	23	38	e64	e96	85	98	69	62	38	35	27
28	28	24	32	e56	e90	80	80	67	59	40	36	27
29	26	24	e26	e57	---	75	77	66	59	39	34	27
30	26	24	e24	e56	---	71	75	68	64	39	32	26
31	25	---	e24	e53	---	68	---	63	---	43	31	---
TOTAL	839	771	820	1923	2112	3003	2785	3172	2584	1488	1122	944
MEAN	27.1	25.7	26.5	62.0	75.4	96.9	92.8	102	86.1	48.0	36.2	31.5
MAX	34	34	50	150	170	240	215	229	301	65	43	42
MIN	24	23	23	23	49	61	65	63	51	38	31	26
CFSM	.61	.58	.59	1.39	1.70	2.18	2.09	2.30	1.94	1.08	.81	.71
IN.	.70	.64	.69	1.61	1.77	2.51	2.33	2.65	2.16	1.24	.94	.79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1998, BY WATER YEAR (WY)

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
MEAN	39.3	46.4	56.2	59.2	65.9	75.7	75.6	59.3	51.2	44.8	40.1	38.7
MAX	101	110	191	201	163	216	181	129	142	141	88.2	106
(WY)	1997	1973	1997	1979	1979	1994	1994	1984	1972	1984	1984	1987
MIN	8.90	10.0	6.88	7.14	21.0	21.3	18.6	16.2	15.0	11.6	10.6	9.51
(WY)	1966	1966	1966	1966	1992	1965	1966	1965	1965	1966	1965	1965

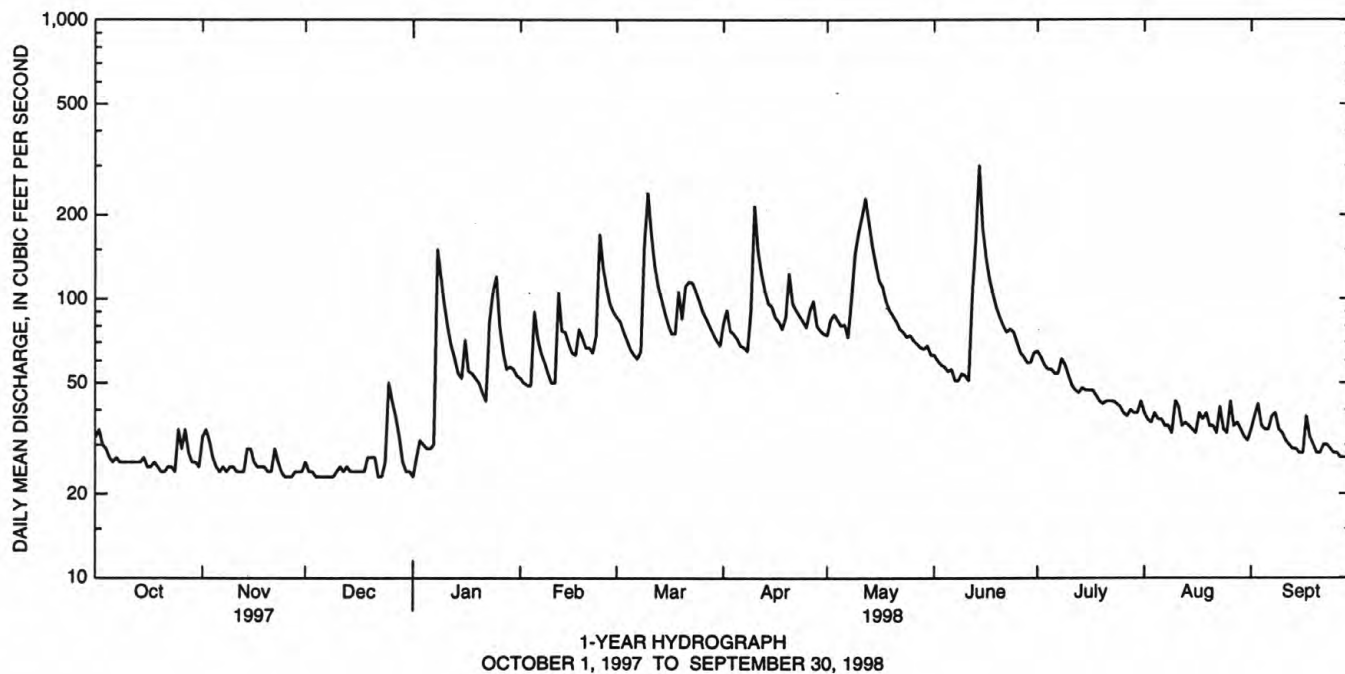
e Estimated.

LEHIGH RIVER BASIN

01452500 MONOCACY CREEK AT BETHLEHEM, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR			FOR 1998 WATER YEAR			WATER YEARS 1949 - 1998	
ANNUAL TOTAL	20063			21563				
ANNUAL MEAN	55.0			59.1			54.3	
HIGHEST ANNUAL MEAN							89.7	
LOWEST ANNUAL MEAN							15.5	
HIGHEST DAILY MEAN	213	Feb 3		301	Jun 14		1200	Jan 26 1978
LOWEST DAILY MEAN	23	Nov 27a		23	Nov 27a		5.2	Jan 1 1966
ANNUAL SEVEN-DAY MINIMUM	23	Dec 3		23	Dec 3		5.9	Dec 27 1965
INSTANTANEOUS PEAK FLOW				b458	Jun 14		b3490	Jan 25 1979
INSTANTANEOUS PEAK STAGE				3.83	Jun 14		8.19	Jan 25 1979
INSTANTANEOUS LOW FLOW				18	Dec 8		3.0	Jan 9 1966
ANNUAL RUNOFF (CFSM)	1.24			1.33			1.22	
ANNUAL RUNOFF (INCHES)	16.77			18.03			16.58	
10 PERCENT EXCEEDS	105			105			98	
50 PERCENT EXCEEDS	40			49			42	
90 PERCENT EXCEEDS	25			24			21	

a Also Dec. 4-9, 22, 23, Jan. 1.

b From rating curve extended above 440 ft³/s on basis of slope-area measurement at gage height 5.47 and at peak flow.

LEHIGH RIVER BASIN

01453000 LEHIGH RIVER AT BETHLEHEM, PA

LOCATION.--Lat 40°36'55", long 75°22'45", Lehigh County, Hydrologic Unit 02040106, on left bank 110 ft upstream from bridge on New Street at Bethlehem, and 1,800 ft upstream from Monocacy Creek. Records include flow of Monocacy Creek.

DRAINAGE AREA.--1,279 mi² (includes that of Monocacy Creek). At site used prior to Oct. 1, 1928, 1,229 mi².

PERIOD OF RECORD.--October 1902 to January 1905, May 1909 to current year. Monthly discharge only for some periods, published in WSP 1302. Published as "at South Bethlehem" prior to October 1913.

REVISED RECORDS.--WSP 261: 1903-5. WSP 321: 1910-11. WSP 1051: Drainage area. WSP 1141: 1929-34(M). WSP 1302: 1914(M), 1916(M), 1918, 1921, 1927-28. WSP 1432: 1903, 1919(M), 1920-21, 1929, 1933.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 210.94 ft above sea level. Prior to October 1928, nonrecording gage at New Street bridge 120 ft downstream at same datum. Oct. 1, 1928, to Sept. 30, 1962, water-stage recorder at site 4,250 ft downstream at datum 2.49 ft lower. Oct. 1, 1963, to Dec. 14, 1975, water-stage recorder at site 40 ft downstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by Wild Creek Reservoir (station 01449700) since January 1941, Penn Forest Reservoir (station 01449400) since October 1958, Francis E. Walter Reservoir (station 01447780) since February 1961, and Beltzville Lake (station 01449790) since February 1971. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 28, 1902 reached a stage of 24.9 ft, from floodmark, present site and datum, discharge, about 88,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	847	860	1760	1830	2560	5310	3780	3420	1850	1570	777	713
2	779	1390	2100	1830	2420	5770	4370	3360	2140	1630	682	864
3	760	1530	1980	1790	2250	5600	3990	3360	2200	1560	667	1020
4	742	1620	1760	1740	2220	5070	3680	3210	1700	1470	654	830
5	849	1650	1660	1810	3790	4360	3450	3040	1410	1380	647	713
6	696	1480	1630	2330	4740	3870	3250	3080	1300	1210	640	629
7	660	1370	1550	3070	4210	3490	2840	2900	1360	1130	723	690
8	663	1290	1500	6490	3760	3440	2500	3150	1190	1320	718	897
9	657	1290	1460	10500	3400	6130	2930	4630	1180	1450	672	905
10	650	1330	1480	9380	3130	11300	8440	5900	1210	1240	859	790
11	621	1310	1470	7990	2800	11100	7370	7730	1220	1160	1030	1010
12	585	1340	1380	5970	4520	8450	6270	9710	2130	1200	797	872
13	578	1200	1360	4590	4580	6560	5550	9000	4670	1060	675	752
14	583	1270	1290	4000	4600	5250	4820	7450	5830	987	710	739
15	665	1350	1280	3520	4290	4790	e4300	6150	4680	969	714	650
16	689	1280	1260	4340	3640	4400	e3800	5050	4540	933	667	588
17	651	1250	1230	4330	3460	3780	3540	4310	3930	922	811	656
18	714	1150	1210	4210	4690	3550	3270	3640	3920	884	1020	676
19	708	1050	1170	3980	5170	4580	3320	3140	4060	952	995	634
20	634	983	1130	3750	5640	4510	6780	2970	3160	864	803	908
21	600	968	1090	3130	5190	6500	7400	2720	2440	874	726	657
22	545	1120	1060	2750	4750	7410	6670	2450	3030	929	702	619
23	555	1400	1220	3380	4610	e6700	5460	2310	2510	900	1180	654
24	583	1510	1280	5610	7080	e6300	4420	2210	2340	866	854	630
25	780	1630	2080	4990	7660	5410	3950	2140	2090	839	740	609
26	800	1610	2420	4270	6790	5020	3710	2080	1940	876	947	706
27	896	1610	2220	3910	5570	4600	4930	1960	1820	793	955	731
28	888	1570	2190	3700	5150	4220	4310	1830	1900	740	793	719
29	811	1500	2200	3410	---	3970	3780	1760	1700	873	729	634
30	778	1390	2910	3000	---	3780	3520	1860	1520	887	661	581
31	734	---	2580	2760	---	3570	---	1820	---	949	655	---
TOTAL	21701	40301	50910	128360	122670	168790	136400	118340	74970	33417	24203	22076
MEAN	700	1343	1642	4141	4381	5445	4547	3817	2499	1078	781	736
MAX	896	1650	2910	10500	7660	11300	8440	9710	5830	1630	1180	1020
MIN	545	860	1060	1740	2220	3440	2500	1760	1180	740	640	581
CFSM	.55	1.05	1.28	3.24	3.43	4.26	3.55	2.98	1.95	.84	.61	.58
IN.	.63	1.17	1.48	3.73	3.57	4.91	3.97	3.44	2.18	.97	.70	.64

e Estimated.

LEHIGH RIVER BASIN

01453000 LEHIGH RIVER AT BETHLEHEM, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1581	2366	2942	2699	2798	3863	3956	3096	2066	1634	1327	1361
MAX	5778	5294	9067	7898	5820	7708	10180	7041	7272	6362	6192	6907
(WY)	1956	1952	1997	1979	1951	1977	1993	1989	1972	1945	1955	1987
MIN	406	474	514	286	1132	1632	1428	1053	681	366	405	334
(WY)	1964	1965	1981	1981	1980	1981	1985	1941	1965	1965	1964	1964

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1941 - 1998

ANNUAL TOTAL	706815	942138	
ANNUAL MEAN	1936	2581	2472
HIGHEST ANNUAL MEAN			3973
LOWEST ANNUAL MEAN			1165
HIGHEST DAILY MEAN	6250	Mar 15	11300
LOWEST DAILY MEAN	542	Aug 11	545
ANNUAL SEVEN-DAY MINIMUM	598	Aug 6	620
INSTANTANEOUS PEAK FLOW			12300
INSTANTANEOUS PEAK STAGE			6.40
ANNUAL RUNOFF (CFSM)	1.51		2.02
ANNUAL RUNOFF (INCHES)	20.56		27.40
10 PERCENT EXCEEDS	3590		5500
50 PERCENT EXCEEDS	1620		1700
90 PERCENT EXCEEDS	736		687

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903-1904, 1909-1940, BY WATER YEAR (WY) (PRIOR TO REGULATION)

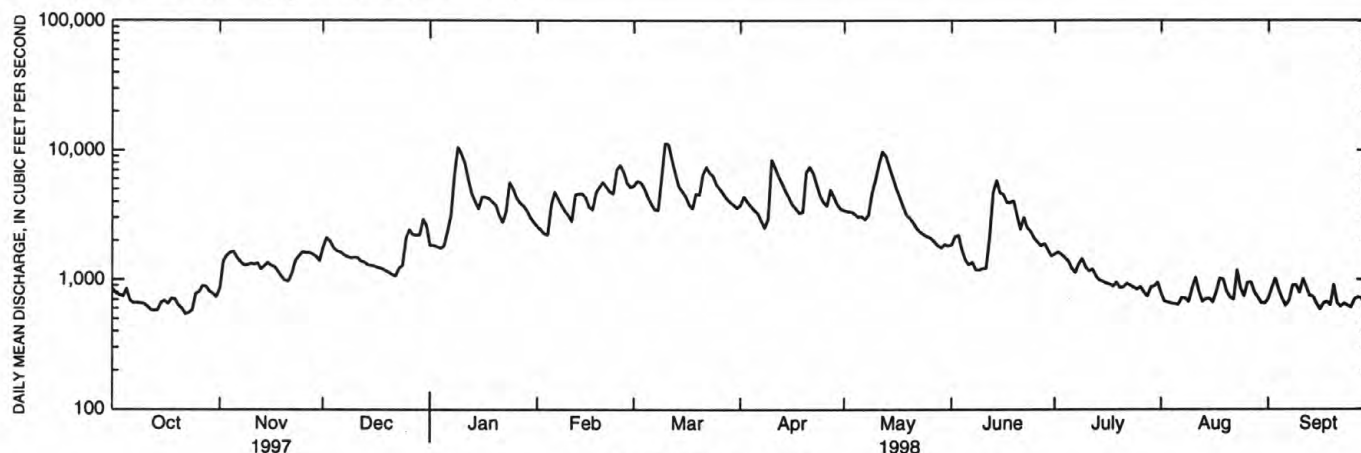
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1532	1827	2184	2346	2430	4134	3815	2280	1753	1530	1239	1214
MAX	4808	5660	5287	5287	5913	11920	7547	3681	4255	5182	4599	6407
(WY)	1903	1927	1939	1915	1915	1936	1940	1924	1928	1935	1933	1933
MIN	308	370	470	677	668	1887	1499	1020	832	572	428	374
(WY)	1911	1910	1931	1925	1934	1911	1915	1926	1921	1912	1910	1932

SUMMARY STATISTICS WATER YEARS 1903 - 1904 1909 - 1940

ANNUAL MEAN	2189	
HIGHEST ANNUAL MEAN	3600	1928
LOWEST ANNUAL MEAN	1262	1931
HIGHEST DAILY MEAN	47900	Aug 24 1933
LOWEST DAILY MEAN	160	Oct 15 1910
ANNUAL SEVEN-DAY MINIMUM	260	Oct 13 1910
INSTANTANEOUS PEAK FLOW	64800	Aug 24 1933
INSTANTANEOUS PEAK STAGE	18.70	Aug 24 1933
INSTANTANEOUS LOW FLOW	160	Oct 15 1910
ANNUAL RUNOFF (CFSM)	1.71	
ANNUAL RUNOFF (INCHES)	23.25	
10 PERCENT EXCEEDS	4420	
50 PERCENT EXCEEDS	1500	
90 PERCENT EXCEEDS	548	

a From rating curve extended above 58,000 ft³/s on basis of slope-area measurement at gage height, 20.02 ft at present site and datum.

b From floodmark, present site and datum.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LEHIGH RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, PA

LOCATION.--Lat 40°40'09", long 75°14'12", Northampton County, Hydrologic Unit 02040106, on right bank 140 ft upstream from highway bridge in Hugh Moore Parkway at Glendon, 2.3 mi upstream from mouth, and 2.0 mi southwest of Easton.

DRAINAGE AREA.--1,359 mi².

PERIOD OF RECORD.--October 1966 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 164.30 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Francis E. Walter Reservoir (station 01447780), Penn Forest Reservoir (station 01449400), Wild Creek Reservoir (station 01449700), and since February 1971, by Beltzville Lake (station 01449790) about 60 mi upstream. Flows above 10,000 ft³/s may be affected by backwater from the Delaware River. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	978	972	1880	2040	2820	5580	4040	3700	2130	1740	857	716
2	911	1460	2230	1980	2680	6030	4860	3730	2330	1780	750	894
3	895	1650	2130	1960	2480	5890	4290	3640	2490	1710	724	1110
4	874	1660	1910	1900	2430	5380	4000	3490	1960	1590	717	890
5	948	1740	1760	1950	4050	4650	3790	3320	1630	1510	707	744
6	841	1580	1730	2440	5040	4160	3600	3490	1470	1310	699	668
7	795	1490	1650	3230	4490	3820	3180	3230	1570	1230	740	720
8	796	1390	1600	6490	4020	3750	2810	3620	1360	e1460	752	954
9	788	1390	1550	10900	3700	6570	3210	5450	1350	1620	711	928
10	776	1420	1600	9810	3440	11700	9180	6620	1360	1370	891	809
11	726	1400	1600	8200	3070	11600	7800	8480	1360	1250	1170	980
12	723	1430	1490	6280	5050	9010	6660	10700	2430	1310	863	908
13	718	1310	1470	e4800	4880	7030	5940	9780	5230	1150	733	754
14	722	1420	1400	4210	4830	5640	5170	8070	6610	1080	740	730
15	798	1500	1390	3790	4530	5120	4700	6700	5330	1070	746	675
16	822	1400	1360	4670	3940	4720	4260	5560	5020	1030	705	606
17	783	1350	1330	4570	3780	4130	3910	4740	4290	1020	878	714
18	829	1270	1300	4450	4940	3900	3650	4100	4260	980	1050	715
19	788	1170	1270	4190	5470	5110	3610	3550	4350	1030	1070	662
20	731	1100	1240	3970	5870	4890	6960	3340	3560	947	843	887
21	700	1080	1190	3430	5480	6760	7690	3080	2720	952	748	699
22	655	1250	1160	3010	5000	7840	7010	2760	3220	990	731	653
23	706	1520	1340	3780	4900	6960	e5780	2580	2730	972	1310	673
24	741	1580	1390	6080	7610	6680	e4710	2460	2570	922	918	655
25	927	1730	2280	5350	8060	5810	e4180	2390	2290	893	764	630
26	911	1710	2650	4590	7120	5350	e3950	2320	2130	928	999	706
27	1070	1720	2380	4200	5930	4950	e5100	2190	1960	847	1000	724
28	1010	1680	2330	4000	5460	4540	e4490	2060	2050	803	808	711
29	913	1620	2340	3750	---	4280	e4040	2000	1880	902	730	649
30	888	1510	3390	3330	---	4080	3840	2080	1690	935	686	587
31	823	---	2880	3060	---	3890	---	2060	---	1030	675	---
TOTAL	25586	43502	55220	136410	131070	179820	146410	131290	83330	36361	25715	22751
MEAN	825	1450	1781	4400	4681	5801	4880	4235	2778	1173	830	758
MAX	1070	1740	3390	10900	8060	11700	9180	10700	6610	1780	1310	1110
MIN	655	972	1160	1900	2430	3750	2810	2000	1350	803	675	587

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1998, BY WATER YEAR (WY)

	1983	2783	3532	3127	3299	4334	4558	3500	2555	1894	1492	1668
MEAN	1983	2783	3532	3127	3299	4334	4558	3500	2555	1894	1492	1668
MAX	5272	5438	9593	8414	5385	8344	10810	8542	7607	4641	4179	7920
(WY)	1977	1971	1997	1996	1976	1977	1993	1989	1972	1984	1969	1987
MIN	771	835	633	405	1278	1805	1639	1502	1104	811	711	660
(WY)	1981	1985	1981	1981	1980	1981	1985	1995	1987	1991	1980	1983

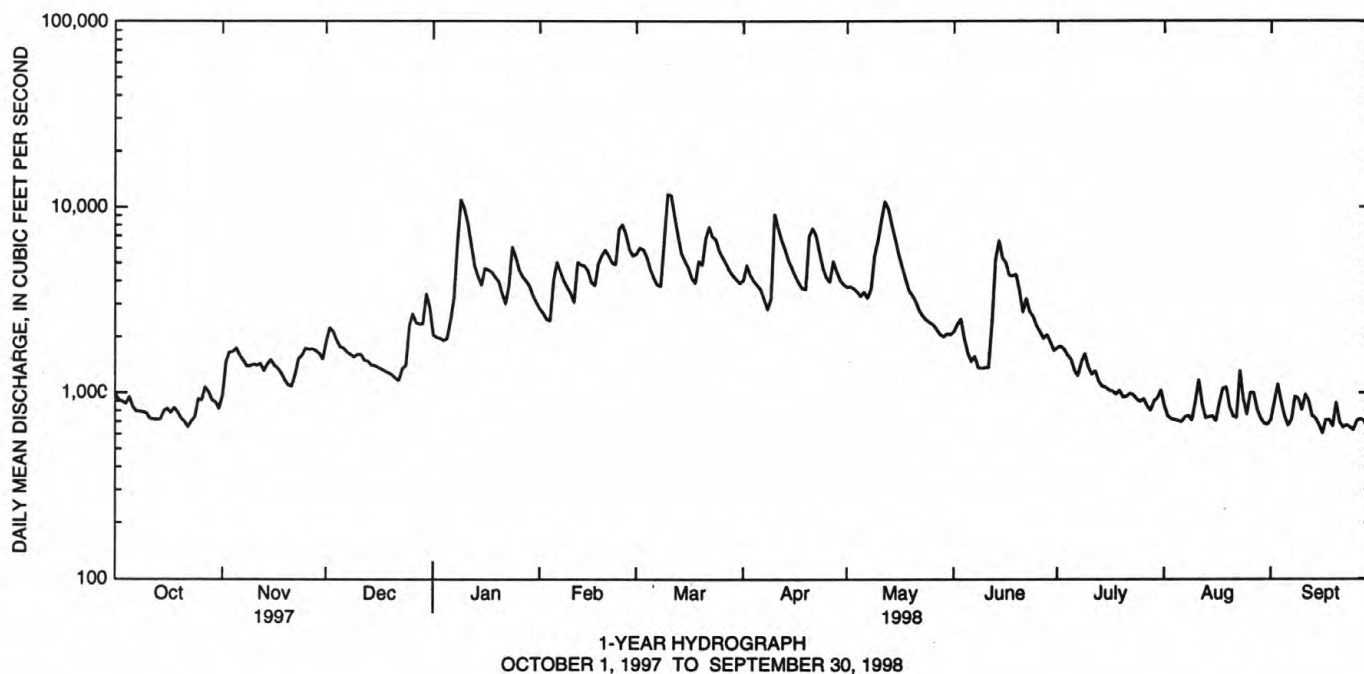
e Estimated.

LEHIGH RIVER BASIN

01454700 LEHIGH RIVER AT GLENDON, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1967 - 1998	
ANNUAL TOTAL	751269		1017465			
ANNUAL MEAN	2058		2788		2891	
HIGHEST ANNUAL MEAN					3997	
LOWEST ANNUAL MEAN					1594	
HIGHEST DAILY MEAN	6440	Jan 25	11700	Mar 10	44300	Jun 23 1972
LOWEST DAILY MEAN	655	Aug 9, Oct 22	587	Sep 30	330	Jan 31 1981a
ANNUAL SEVEN-DAY MINIMUM	699	Aug 7	666	Sep 24	349	Jan 26 1981
INSTANTANEOUS PEAK FLOW			12600	Mar 11	b60600	Jun 23 1972
INSTANTANEOUS PEAK STAGE			13.19	Mar 11	24.86	Jun 23 1972
10 PERCENT EXCEEDS	3680		5830		5730	
50 PERCENT EXCEEDS	1740		1880		2100	
90 PERCENT EXCEEDS	824		731		891	

a Also Feb. 1, 1981.

b From rating curve extended above 36,000 ft³/s.

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA

LOCATION.--Lat 40°41'12", long 75°12'32", Northampton County, Hydrologic Unit 02040106, near bridge on U.S. Highway 611 in Easton.

DRAINAGE AREA.--1,364 mi².

PERIOD OF RECORD.--October 1961 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to current year.

pH: November 1972 to current year.

WATER TEMPERATURE: October 1961 to current year.

DISSOLVED OXYGEN: June 1966 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1961. Probes interfaced with a data collection platform since the 1986 water year.

REMARKS.--Beginning with the 1978 water year, no data were recorded during the months of October through March. Other interruptions in the record were due to malfunctions of the pump or recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 581 microsiemens, Aug. 19, 1963; minimum, 70 microsiemens, Nov. 14, 1970.

pH: Maximum, 8.7, July 18, 19, 1991; minimum, 6.0, Mar. 16, 1978.

WATER TEMPERATURE: Maximum, 30.5°C, July 29, 1970, July 21, 1980; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 15.7 mg/L, Apr. 14, 1986; minimum, 0.0 mg/L, Aug. 4, 1966.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	196	188	192
2	---	---	---	---	---	---	---	---	---	197	186	193
3	---	---	---	---	---	---	---	---	---	199	188	194
4	---	---	---	---	---	---	196	191	193	195	191	193
5	---	---	---	---	---	---	197	188	194	204	194	201
6	---	---	---	---	---	---	190	169	181	209	188	202
7	---	---	---	---	---	---	174	169	171	211	203	208
8	---	---	---	---	---	---	172	159	167	215	208	212
9	---	---	---	---	---	---	169	144	161	215	194	204
10	---	---	---	---	---	---	---	---	---	198	193	196
11	---	---	---	---	---	---	---	---	---	194	179	186
12	---	---	---	---	---	---	---	---	---	191	176	181
13	---	---	---	---	---	---	---	---	---	180	161	174
14	---	---	---	---	---	---	---	---	---	168	161	164
15	---	---	---	---	---	---	193	183	186	---	---	---
16	---	---	---	---	---	---	196	191	194	---	---	---
17	---	---	---	---	---	---	204	196	200	---	---	---
18	---	---	---	---	---	---	212	204	208	---	---	---
19	---	---	---	---	---	---	213	200	210	---	---	---
20	---	---	---	---	---	---	211	160	182	---	---	---
21	---	---	---	---	---	---	164	147	154	---	---	---
22	---	---	---	---	---	---	157	149	153	244	231	238
23	---	---	---	---	---	---	160	149	154	251	238	245
24	---	---	---	---	---	---	177	160	169	245	240	243
25	---	---	---	---	---	---	181	177	179	251	241	247
26	---	---	---	---	---	---	191	179	183	258	247	255
27	---	---	---	---	---	---	194	164	179	272	255	266
28	---	---	---	---	---	---	174	167	171	285	270	277
29	---	---	---	---	---	---	187	174	179	287	270	278
30	---	---	---	---	---	---	192	187	189	290	274	283
31	---	---	---	---	---	---	---	---	---	279	266	274
MONTH	---	---	---	---	---	---	213	144	180	290	161	221

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	277	263	268	294	270	281	369	359	364	392	383	387
2	275	258	268	288	277	280	367	363	365	401	379	388
3	258	227	240	279	269	272	389	364	379	398	374	386
4	253	228	243	283	270	279	395	382	388	378	339	357
5	291	252	274	284	272	278	418	389	402	371	346	362
6	312	286	297	295	274	281	427	410	418	402	371	390
7	316	303	311	315	291	298	427	416	421	400	385	394
8	309	289	297	327	306	317	428	408	421	391	357	381
9	332	309	316	327	301	312	410	398	407	366	354	360
10	335	322	329	316	300	304	400	383	394	372	361	368
11	335	323	330	312	307	310	384	336	364	384	368	378
12	333	275	309	312	285	306	359	336	347	386	339	366
13	275	181	229	319	279	307	359	339	352	339	333	334
14	181	163	171	322	308	317	398	359	384	355	334	348
15	198	179	186	338	321	332	409	395	402	368	347	359
16	201	178	189	360	337	346	407	397	402	387	361	370
17	203	189	197	367	355	360	397	374	387	430	386	408
18	199	191	195	372	357	365	381	352	369	437	411	428
19	199	182	190	375	356	366	366	331	350	430	408	421
20	204	187	191	368	340	354	361	334	345	426	400	414
21	223	204	215	364	342	349	368	359	363	422	355	399
22	242	201	221	395	362	376	381	361	372	358	345	350
23	252	209	239	383	356	371	389	351	374	403	358	375
24	260	250	255	370	347	359	353	291	317	434	401	417
25	263	252	258	370	356	363	348	294	326	---	---	---
26	267	252	259	377	363	370	379	345	367	---	---	---
27	270	254	262	364	340	355	381	367	374	---	---	---
28	269	252	263	356	339	349	368	349	358	---	---	---
29	255	249	252	385	353	372	378	351	367	377	368	372
30	275	248	260	395	369	383	390	370	382	385	362	369
31	---	---	---	377	360	368	395	385	390	---	---	---
MONTH	335	163	250	395	269	332	428	291	376	437	333	380

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	7.6	7.4	7.5	7.6	7.5	7.5
2	---	---	---	---	---	---	7.4	7.4	7.4	7.6	7.5	7.6
3	---	---	---	---	---	---	7.6	7.4	7.5	7.6	7.5	7.6
4	---	---	---	---	---	---	7.6	7.4	7.5	7.6	7.5	7.5
5	---	---	---	---	---	---	7.6	7.5	7.5	7.6	7.5	7.5
6	---	---	---	---	---	---	7.6	7.6	7.6	7.6	7.4	7.5
7	---	---	---	---	---	---	7.6	7.6	7.6	7.6	7.4	7.5
8	---	---	---	---	---	---	7.7	7.6	7.6	7.6	7.3	7.5
9	---	---	---	---	---	---	7.7	7.5	7.6	7.5	7.4	7.4
10	---	---	---	---	---	---	7.5	7.4	7.4	7.5	7.5	7.5
11	---	---	---	---	---	---	7.4	7.4	7.4	7.5	7.5	7.5
12	---	---	---	---	---	---	7.4	7.3	7.4	7.5	7.4	7.5
13	---	---	---	---	---	---	7.4	7.3	7.4	7.4	7.4	7.4
14	---	---	---	---	---	---	7.5	7.3	7.4	7.4	7.4	7.4
15	---	---	---	---	---	---	7.5	7.4	7.4	7.4	7.2	7.3
16	---	---	---	---	---	---	7.5	7.4	7.5	7.3	7.2	7.3
17	---	---	---	---	---	---	7.5	7.4	7.5	7.4	7.3	7.3
18	---	---	---	---	---	---	7.6	7.5	7.5	7.4	7.3	7.4
19	---	---	---	---	---	---	7.7	7.5	7.5	7.4	7.3	7.4
20	---	---	---	---	---	---	7.5	7.4	7.4	7.4	7.3	7.4
21	---	---	---	---	---	---	7.4	7.3	7.4	7.5	7.4	7.4
22	---	---	---	---	---	---	7.5	7.3	7.4	7.6	7.5	7.5
23	---	---	---	---	---	---	7.5	7.4	7.4	7.7	7.6	7.6
24	---	---	---	---	---	---	7.6	7.4	7.5	7.7	7.6	7.6
25	---	---	---	---	---	---	7.6	7.5	7.6	7.7	7.5	7.6
26	---	---	---	---	---	---	7.6	7.5	7.5	7.6	7.5	7.5
27	---	---	---	---	---	---	7.6	7.5	7.5	7.7	7.6	7.6
28	---	---	---	---	---	---	7.6	7.5	7.5	7.7	7.6	7.6
29	---	---	---	---	---	---	7.6	7.5	7.6	7.7	7.6	7.7
30	---	---	---	---	---	---	7.6	7.5	7.6	7.8	7.6	7.6
31	---	---	---	7.6	7.4	7.5	---	---	---	7.7	7.5	7.6
MONTH	---	---	---	7.6	7.4	7.5	7.7	7.3	7.5	7.8	7.2	7.5

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.7	7.5	7.6	7.6	7.5	7.5	7.7	7.4	7.5	7.7	7.4	7.5
2	7.7	7.6	7.6	7.6	7.5	7.6	7.7	7.5	7.6	7.7	7.4	7.5
3	7.7	7.5	7.6	7.6	7.5	7.6	7.7	7.5	7.6	7.5	7.2	7.3
4	7.7	7.5	7.6	7.7	7.5	7.6	7.8	7.5	7.6	7.5	7.2	7.3
5	7.8	7.7	7.7	7.6	7.5	7.6	7.8	7.5	7.6	7.6	7.3	7.4
6	7.9	7.7	7.8	7.8	7.6	7.6	7.8	7.5	7.6	7.6	7.3	7.4
7	7.9	7.8	7.9	7.8	7.6	7.7	7.8	7.5	7.7	7.6	7.3	7.4
8	7.9	7.7	7.8	7.6	7.5	7.5	7.9	7.5	7.7	7.5	7.3	7.4
9	8.0	7.7	7.8	7.5	7.4	7.5	7.9	7.5	7.6	7.5	7.3	7.3
10	7.9	7.7	7.8	7.6	7.5	7.6	7.8	7.3	7.5	7.6	7.3	7.4
11	7.8	7.6	7.8	7.7	7.6	7.6	7.4	7.3	7.3	7.5	7.3	7.4
12	7.6	7.4	7.5	7.7	7.6	7.7	7.4	7.3	7.3	7.6	7.3	7.4
13	7.4	7.3	7.4	7.9	7.6	7.7	7.6	7.3	7.4	7.6	7.2	7.3
14	7.3	7.3	7.3	7.9	7.7	7.8	7.5	7.3	7.4	7.6	7.1	7.3
15	7.3	7.3	7.3	7.9	7.6	7.7	7.6	7.4	7.5	7.6	7.1	7.3
16	7.3	7.3	7.3	7.8	7.6	7.7	7.6	7.4	7.5	7.6	7.1	7.3
17	7.4	7.3	7.3	7.8	7.5	7.7	7.6	7.3	7.4	7.5	7.2	7.3
18	7.4	7.2	7.3	7.8	7.6	7.7	7.4	7.3	7.4	7.5	7.3	7.4
19	7.4	7.3	7.3	7.8	7.6	7.7	7.3	7.2	7.3	7.6	7.3	7.4
20	7.4	7.3	7.3	7.9	7.6	7.7	7.5	7.2	7.3	7.7	7.4	7.5
21	7.5	7.4	7.4	7.8	7.6	7.7	7.5	7.3	7.4	7.7	7.3	7.5
22	7.5	7.3	7.4	7.8	7.6	7.7	7.6	7.3	7.4	7.6	7.3	7.4
23	7.4	7.3	7.4	7.8	7.6	7.7	7.5	7.2	7.3	7.6	7.4	7.4
24	7.5	7.4	7.4	7.8	7.6	7.7	7.3	7.2	7.3	7.7	7.4	7.5
25	7.5	7.4	7.5	7.8	7.6	7.7	7.5	7.2	7.3	---	---	---
26	7.5	7.5	7.5	7.9	7.6	7.7	7.4	7.3	7.4	---	---	---
27	7.6	7.4	7.5	7.8	7.5	7.7	7.5	7.3	7.3	---	---	---
28	7.6	7.5	7.6	7.8	7.5	7.6	7.6	7.3	7.4	---	---	---
29	7.6	7.5	7.5	7.8	7.5	7.6	7.5	7.2	7.4	7.8	7.4	7.5
30	7.5	7.5	7.5	7.8	7.5	7.6	7.5	7.2	7.3	7.8	7.4	7.5
31	---	---	---	7.7	7.4	7.5	7.6	7.3	7.4	---	---	---
MONTH	8.0	7.2	7.5	7.9	7.4	7.6	7.9	7.2	7.4	7.8	7.1	7.4

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	16.0	15.5	15.5	14.0	13.5	14.0
2	---	---	---	---	---	---	15.5	14.5	15.0	15.0	13.5	14.0
3	---	---	---	---	---	---	14.5	13.0	13.5	15.5	14.5	15.0
4	---	---	---	---	---	---	13.0	11.0	12.0	15.5	15.0	15.5
5	---	---	---	---	---	---	11.0	9.5	10.0	15.5	15.0	15.5
6	---	---	---	---	---	---	11.0	9.5	10.0	15.5	15.0	15.0
7	---	---	---	---	---	---	12.0	10.0	11.0	16.5	15.0	15.5
8	---	---	---	---	---	---	12.5	11.5	12.0	16.5	15.5	16.0
9	---	---	---	---	---	---	12.5	10.0	11.5	15.5	15.0	15.0
10	---	---	---	---	---	---	10.0	8.5	9.0	15.0	14.5	14.5
11	---	---	---	---	---	---	10.5	9.0	9.5	14.5	13.5	14.0
12	---	---	---	---	---	---	11.0	10.0	10.5	13.5	13.0	13.0
13	---	---	---	---	---	---	12.0	10.5	11.0	14.5	13.0	14.0
14	---	---	---	---	---	---	12.5	11.0	12.0	15.5	14.0	14.5
15	---	---	---	---	---	---	13.0	12.0	12.5	17.0	14.5	15.5
16	---	---	---	---	---	---	13.0	12.5	12.5	18.5	16.0	17.0
17	---	---	---	---	---	---	14.0	12.5	13.0	19.0	17.5	18.5
18	---	---	---	---	---	---	14.5	13.5	14.0	19.5	18.0	19.0
19	---	---	---	---	---	---	14.5	13.0	13.5	19.5	18.5	19.0
20	---	---	---	---	---	---	13.0	11.5	12.0	20.0	18.5	19.5
21	---	---	---	---	---	---	12.0	11.0	11.5	20.5	19.5	20.0
22	---	---	---	---	---	---	13.0	12.0	12.5	20.0	18.5	19.0
23	---	---	---	---	---	---	12.5	12.5	12.5	18.5	17.0	18.0
24	---	---	---	---	---	---	13.0	11.5	12.5	18.5	17.0	18.0
25	---	---	---	---	---	---	14.5	13.0	13.5	18.5	18.0	18.5
26	---	---	---	---	---	---	14.0	12.0	13.0	19.0	17.5	18.0
27	---	---	---	---	---	---	12.0	11.0	11.5	19.5	18.5	19.0
28	---	---	---	13.0	11.0	12.0	13.0	11.0	12.0	20.0	19.0	19.5
29	---	---	---	14.5	12.5	13.5	13.5	12.0	12.5	21.5	20.0	20.5
30	---	---	---	---	---	---	14.0	13.5	13.5	22.0	21.0	21.5
31	---	---	---	16.0	14.5	15.0	---	---	---	23.0	22.0	22.5
MONTH	---	---	---	16.0	11.0	13.8	16.0	8.5	12.2	23.0	13.0	17.0

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	23.0	22.5	22.5	22.0	21.0	21.5	24.5	23.0	23.5	24.5	23.5	24.0
2	22.5	21.0	21.5	22.0	21.0	21.5	24.0	22.5	23.0	24.0	22.5	23.0
3	21.0	19.5	20.5	22.5	21.5	22.0	24.0	22.5	23.5	22.5	21.5	22.0
4	19.5	18.5	19.0	23.0	22.5	22.5	24.5	23.0	23.5	23.0	21.0	22.0
5	19.0	18.5	18.5	23.0	22.5	22.5	25.0	23.0	24.0	22.5	21.0	22.0
6	19.0	18.0	18.5	23.0	22.0	22.5	25.0	23.5	24.0	23.0	21.0	22.0
7	18.5	17.5	18.5	23.0	22.0	22.5	25.0	23.5	24.0	23.0	22.0	22.0
8	17.5	16.5	17.0	22.0	20.5	21.5	25.5	23.5	24.5	22.0	21.5	22.0
9	17.5	16.5	17.0	20.5	20.0	20.5	25.5	24.0	25.0	21.5	20.0	20.5
10	18.5	17.0	18.0	21.5	20.5	21.0	25.5	24.5	25.0	20.0	18.5	19.0
11	18.5	17.5	18.0	22.5	21.0	21.5	24.5	23.5	24.0	19.5	18.0	18.5
12	17.5	17.5	17.5	22.5	21.0	22.0	25.0	23.5	24.0	20.5	18.0	19.0
13	18.0	17.0	17.5	23.5	21.5	22.5	24.5	23.5	24.0	21.5	19.5	20.0
14	18.0	17.5	17.5	24.0	22.0	23.0	24.5	23.0	23.5	22.5	20.5	21.5
15	18.0	17.5	17.5	24.5	22.5	23.5	23.0	22.0	22.5	23.0	21.5	22.0
16	18.5	17.0	18.0	24.5	23.0	23.5	24.0	22.5	23.0	23.0	22.5	23.0
17	20.0	18.5	19.0	25.0	23.0	24.0	24.0	23.0	23.5	23.0	22.0	22.5
18	20.5	19.5	20.0	25.5	23.5	24.0	23.5	22.5	23.0	22.0	20.5	21.0
19	20.5	19.5	20.0	25.5	24.0	24.5	23.0	22.0	22.5	21.5	20.0	21.0
20	21.5	20.0	20.5	25.5	24.0	24.5	22.5	21.0	21.5	21.5	20.5	21.0
21	23.5	21.5	22.5	25.5	24.0	24.5	22.5	20.5	21.5	22.0	20.5	21.0
22	23.5	21.5	22.5	26.0	24.0	25.0	23.5	21.5	22.5	22.0	21.0	21.5
23	21.5	20.0	20.5	26.0	24.5	25.0	24.0	22.5	23.0	21.0	20.0	20.5
24	21.5	20.0	20.5	26.0	24.5	25.0	24.5	23.0	23.5	20.0	18.5	19.0
25	23.5	21.5	22.5	25.0	24.0	24.5	24.5	23.5	24.0	---	---	---
26	23.5	23.0	23.5	24.5	23.0	24.0	24.5	23.5	24.0	---	---	---
27	23.5	22.5	23.0	24.5	23.0	24.0	25.0	23.0	24.0	---	---	---
28	23.0	22.0	22.5	25.0	23.0	24.0	25.0	23.5	24.0	---	---	---
29	23.0	22.0	22.5	25.0	23.5	24.5	25.0	23.5	24.0	20.5	19.5	20.0
30	22.0	21.5	22.0	25.5	24.0	24.5	24.5	23.5	24.0	20.0	18.5	19.0
31	---	---	---	25.5	24.0	24.5	24.5	23.5	24.0	---	---	---
MONTH	23.5	16.5	20.0	26.0	20.0	23.2	25.5	20.5	23.5	24.5	18.0	21.1

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	10.0	9.5	9.7	---	---	---
2	---	---	---	---	---	---	9.8	9.3	9.6	---	---	---
3	---	---	---	---	---	---	10.4	9.7	10.0	---	---	---
4	---	---	---	---	---	---	10.6	10.2	10.3	---	---	---
5	---	---	---	---	---	---	11.2	10.6	10.9	---	---	---
6	---	---	---	---	---	---	11.2	10.9	11.1	---	---	---
7	---	---	---	---	---	---	11.1	10.7	10.9	---	---	---
8	---	---	---	---	---	---	10.9	10.5	10.7	---	---	---
9	---	---	---	---	---	---	10.6	10.3	10.4	---	---	---
10	---	---	---	---	---	---	11.1	10.6	10.9	---	---	---
11	---	---	---	---	---	---	11.2	10.9	11.0	---	---	---
12	---	---	---	---	---	---	11.1	10.9	11.0	---	---	---
13	---	---	---	---	---	---	11.0	10.8	10.9	---	---	---
14	---	---	---	---	---	---	10.9	10.3	10.7	---	---	---
15	---	---	---	---	---	---	10.7	10.3	10.5	---	---	---
16	---	---	---	---	---	---	10.7	10.3	10.5	---	---	---
17	---	---	---	---	---	---	11.1	10.3	10.8	---	---	---
18	---	---	---	---	---	---	11.1	10.5	10.9	---	---	---
19	---	---	---	---	---	---	11.1	10.6	10.8	---	---	---
20	---	---	---	---	---	---	11.4	10.9	11.2	---	---	---
21	---	---	---	---	---	---	11.6	11.2	11.4	---	---	---
22	---	---	---	---	---	---	11.3	11.0	11.2	---	---	---
23	---	---	---	---	---	---	11.0	10.6	10.8	---	---	---
24	---	---	---	---	---	---	10.8	10.4	10.6	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	10.2	9.8	10.0	---	---	---	---	---	---
MONTH	---	---	---	10.2	9.8	10.0	11.6	9.3	10.7	---	---	---

LEHIGH RIVER BASIN
01454720 LEHIGH RIVER AT EASTON, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	8.7	8.1	8.4	8.8	7.1	7.8	9.2	7.0	8.0
2	---	---	---	9.0	8.3	8.6	8.3	7.3	7.6	8.6	7.1	7.7
3	---	---	---	9.1	8.3	8.6	8.5	7.1	7.7	8.4	7.4	7.9
4	---	---	---	9.0	8.0	8.5	8.3	7.0	7.6	8.7	7.4	7.9
5	9.6	8.7	9.0	8.9	8.0	8.4	8.7	6.8	7.6	8.9	7.6	8.1
6	9.8	8.7	9.1	9.2	7.2	8.4	8.8	6.7	7.6	9.0	7.5	8.2
7	9.6	8.8	9.1	---	---	---	9.0	6.8	7.8	8.7	7.5	8.0
8	9.8	8.8	9.2	---	---	---	8.8	6.9	7.7	8.7	7.5	8.1
9	10.2	9.1	9.5	---	---	---	8.4	6.3	7.4	9.0	7.7	8.2
10	10.2	9.0	9.4	8.8	8.3	8.5	8.0	6.3	7.0	9.6	8.3	8.8
11	9.3	8.8	9.0	8.7	8.2	8.4	7.1	6.3	6.8	9.7	8.4	9.0
12	8.9	8.6	8.7	8.6	8.0	8.3	8.1	6.2	6.9	9.7	8.6	9.0
13	8.7	8.4	8.5	8.9	8.0	8.4	8.2	6.8	7.3	9.6	8.1	8.7
14	8.5	8.4	8.5	8.8	8.0	8.3	7.9	6.8	7.3	9.4	7.7	8.4
15	8.5	8.3	8.4	8.7	7.7	8.2	8.5	7.0	7.7	9.2	7.3	8.1
16	8.7	8.4	8.6	8.7	7.5	8.0	8.6	7.2	7.8	8.9	7.2	7.9
17	8.4	8.1	8.3	8.7	7.3	8.0	8.4	7.0	7.5	---	---	---
18	8.4	8.0	8.2	8.6	7.4	7.9	8.3	7.4	7.7	---	---	---
19	8.5	8.2	8.3	8.5	7.3	7.9	8.4	7.2	7.7	---	---	---
20	8.3	8.1	8.2	8.4	7.1	7.7	9.0	7.6	8.2	---	---	---
21	8.1	7.8	8.0	8.4	7.1	7.7	9.6	7.9	8.6	---	---	---
22	8.1	7.8	7.9	8.5	7.3	7.8	9.6	8.0	8.6	---	---	---
23	8.5	7.9	8.2	8.2	7.2	7.7	8.9	7.3	8.0	---	---	---
24	8.4	8.1	8.3	8.6	7.1	7.7	7.9	7.3	7.6	---	---	---
25	8.2	7.8	8.0	8.5	7.1	7.8	8.2	6.9	7.5	---	---	---
26	8.2	7.6	7.9	8.7	7.3	7.9	8.2	6.8	7.5	---	---	---
27	8.3	7.7	8.0	8.6	7.3	7.9	8.6	7.2	7.7	---	---	---
28	8.7	8.1	8.3	8.7	7.1	7.8	8.4	7.0	7.6	---	---	---
29	8.5	8.1	8.3	8.3	6.6	7.4	8.5	6.8	7.6	---	---	---
30	8.8	8.1	8.4	8.7	6.7	7.6	8.6	6.7	7.5	---	---	---
31	---	---	---	8.4	6.8	7.5	8.8	6.8	7.6	---	---	---
MONTH	10.2	7.6	8.5	9.2	6.6	8.0	9.6	6.2	7.6	9.7	7.0	8.3

LEHIGH RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (000003)	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
AUG						
20...	1116	1.0	255	361	21.0	7.9
20...	1117	1.0	245	361	21.0	8.0
20...	1118	1.0	225	359	21.0	8.1
20...	1119	1.0	205	357	21.0	8.1
20...	1120	1.0	185	357	21.0	8.2
20...	1121	1.0	165	357	20.5	8.2
20...	1122	1.0	145	355	21.0	8.2
20...	1123	1.0	125	355	21.0	8.2
20...	1124	1.0	105	354	21.0	8.2
20...	1125	1.0	85	354	21.0	8.2
20...	1126	1.0	65	354	21.0	8.2
20...	1127	1.0	45	354	20.5	8.2
20...	1128	1.0	25	354	20.5	8.2
20...	1129	1.0	5	355	20.5	8.1
20...	1130	5.0	5	355	20.5	8.1
20...	1131	5.0	20	355	20.5	8.1
20...	1132	5.0	35	355	20.5	8.1
20...	1133	5.0	50	354	20.5	8.1
20...	1134	5.0	65	355	20.5	8.1
20...	1135	5.0	80	355	20.5	8.1
20...	1136	5.0	95	355	20.5	8.1
20...	1137	5.0	110	355	20.5	8.1
20...	1138	5.0	125	355	20.5	8.1
20...	1139	5.0	140	355	20.5	8.1
20...	1140	5.0	155	355	20.5	8.1
20...	1141	5.0	165	355	20.5	8.1
20...	1142	5.0	175	356	20.5	8.1
20...	1143	5.0	185	356	20.5	8.0
20...	1144	5.0	195	355	20.5	8.0
20...	1145	5.0	205	357	20.5	8.1
20...	1146	5.0	220	359	20.5	8.0
20...	1147	5.0	235	360	20.5	8.0
20...	1148	5.0	245	360	20.5	8.0
20...	1149	5.0	255	361	20.5	7.9
20...	1150	10.0	255	361	20.5	7.7
20...	1151	10.0	240	361	20.5	7.8
20...	1152	10.0	230	359	20.5	7.8
20...	1153	10.0	215	357	20.5	7.9
20...	1154	10.0	200	356	20.5	8.0
20...	1155	10.0	190	355	20.5	8.0
20...	1156	10.0	180	355	20.5	8.0
20...	1157	10.0	170	355	20.5	8.0
20...	1158	10.0	160	355	20.5	8.0
20...	1159	10.0	145	355	20.5	8.0
20...	1200	10.0	130	354	20.5	8.0
20...	1201	10.0	115	355	20.5	8.0
20...	1202	10.0	100	355	20.5	8.0
20...	1203	10.0	90	355	20.5	8.0
20...	1204	10.0	80	354	20.5	8.0
20...	1205	10.0	70	355	20.5	8.0
20...	1206	10.0	60	354	20.5	8.0
20...	1207	10.0	50	355	20.5	8.0
20...	1208	10.0	40	355	20.5	8.0
20...	1209	10.0	30	355	20.5	8.0
20...	1210	10.0	20	355	20.5	7.9
20...	1211	10.0	15	355	20.5	8.1
20...	1212	10.0	5	355	20.5	8.1

LEHIGH RIVER BASIN

LAKES AND RESERVOIRS IN LEHIGH RIVER BASIN

01447780 FRANCIS E. WALTER RESERVOIR (formerly published as Bear Creek Reservoir).--Lat 41°06'45", long 75°43'15", Luzerne County, Hydrologic Unit 02040106, at dam on Lehigh River, 2,200 ft downstream from Bear Creek, and 5.0 mi northeast of White Haven. DRAINAGE AREA, 289 mi². PERIOD OF RECORD, February 1961 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Reservoir formed by an earthfill embankment covered with a rock shell, with concrete spillway at elevation 1,450.0 ft. Storage began Feb. 17, 1961; reservoir first reached conservation pool in June 1961. Total capacity (elevation 1,450.0 ft) is 110,700 acre-ft of which 108,700 acre-ft is controlled storage above elevation 1,300.0 ft, (conservation pool). Dead storage is 2,000 acre-ft. Flow regulated by three gates and low-flow by-pass system. Reservoir is used for flood control and recreation. Satellite telemetry at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 62,100 acre-ft, Sept. 28, 1985, elevation, 1,417.08 ft; minimum contents (after establishment of conservation pool), 980 acre-ft, July 6, 1982, elevation, 1,287.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 6,550 acre-ft, June 16, elevation, 1,332.27 ft; minimum contents, 1,510 acre-ft, Jan. 20, elevation, 1,296.26 ft.

01449400 PENN FOREST RESERVOIR.--Lat 40°55'45", long 75°33'45", Carbon County, Hydrologic Unit 02040106, at dam on Wild Creek, 0.7 mi upstream from hatchery, 2.6 mi upstream from Wild Creek Dam, 4.4 mi upstream from mouth, and 10.0 mi northeast of Palmerton. DRAINAGE AREA, 16.5 mi². PERIOD OF RECORD, October 1958 to current year. GAGE, water-stage recorder. Datum of gage is sea level (levels by city of Bethlehem).

REMARKS.--Reservoir formed by an earthfill dam with ungated concrete spillway at elevation 1,000.00 ft (capacity, 19,980 acre-ft). Storage began October 1958. Reservoir is used for municipal water supply. Regulation by valves on pipe through dam. Figures given herein represent total contents and include diversion since October 1969 from Tunkhannock Creek Basin to Wild Creek Basin. Reservoir out of service all year.

COOPERATION.--Records provided by city of Bethlehem.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 20,800 acre-ft, Apr. 16, 1983, elevation, 1,001.69 ft; minimum contents, 0 acre-ft, many days during 1996, 1997, and 1998 water years, elevation, 890.60 ft.

EXTREMES FOR CURRENT YEAR.--No contents all year.

01449700 WILD CREEK RESERVOIR.--Lat 40°53'50", long 75°33'50", Carbon County, Hydrologic Unit 02040106, at dam on Wild Creek, 1.6 mi upstream from mouth, 2.4 mi south of hatchery, and 7.5 mi northeast of Palmerton. DRAINAGE AREA, 22.2 mi². PERIOD OF RECORD, January 1941 to current year. GAGE, nonrecording gage. Datum of gage is sea level (levels by city of Bethlehem).

REMARKS.--Reservoir formed by earthfill dam with concrete ungated spillway at elevation 820.00 ft. Storage began January 27, 1941; reservoir first reached minimum contents pool elevation in February 1941. Total capacity at elevation 820.00 ft is 12,500 acre-ft of which 12,000 acre-ft is controlled storage. Reservoir is used for municipal water supply. Regulation by valves on pipe through dam. Figures given herein represent usable contents and include diversion since October 1969 from Tunkhannock Creek Basin to Wild Creek Basin.

COOPERATION.--Records provided by city of Bethlehem.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 12,880 acre-ft, May 23, 1942, elevation, 822.93 ft; minimum contents (after first filling), 2,680 acre-ft, Nov. 15, 1966, elevation, 774.10 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,200 acre-ft, Mar. 10, elevation, 820.66 ft; minimum contents 7,300 acre-ft, Dec. 24, elevation 801.21 ft.

01449790 BELTZVILLE LAKE.--Lat 40°50'56", long 75°38'19", Carbon County, Hydrologic Unit 02040106, at dam on Pohopoco Creek, 0.4 mi upstream from gaging station on Pohopoco Creek, 0.6 mi upstream from Sawmill Run, and 2.3 mi northeast of Parryville. DRAINAGE AREA, 96.3 mi². PERIOD OF RECORD, February 1971 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Lake formed by an earth and rockfill dam with ungated, partially lined spillway at an elevation of 651.00 ft. Storage began Feb. 8, 1971. Capacity at elevation 651.00 ft is 68,300 acre-ft. Ordinary minimum contents (conservation) pool elevation is 628.00 ft, capacity, 41,250 acre-ft. Dead storage is 1,390 acre-ft. Lake is used for recreation, flood control, low-flow augmentation, and water supply. Figures given herein represent total contents. Regulation is accomplished by a multi-level water-quality outlet system, and two flood-control gates.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 49,730 acre-ft, Jan. 29, 1976, elevation, 636.30 ft; minimum contents, 15,110 acre-ft, Mar. 31, 1983, elevation, 588.79 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 43,060 acre-ft, June 15, elevation, 629.86 ft; minimum contents, 37,120 acre-ft, Sept. 30, elevation, 623.49 ft.

LEHIGH RIVER BASIN

LAKES AND RESERVOIRS IN LEHIGH RIVER BASIN--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
01447780 Francis E. Walter Reservoir				01449400 Penn Forest Reservoir		
Sept. 30	1,302.93	2,060	--	--	0	--
Oct. 31	1,301.32	1,910	- 2.4	--	0	0
Nov. 30	1,302.60	2,030	+ 2.0	--	0	0
Dec. 31	1,299.44	1,750	- 4.6	--	0	0
CAL YR 1997	--	--	- 0.3	--	--	0
Jan. 31	1,300.80	1,860	+ 1.8	--	0	0
Feb. 28	1,303.71	2,130	+ 4.9	--	0	0
Mar. 31	1,302.17	1,990	- 2.3	--	0	0
Apr. 31	1,300.75	1,860	- 2.2	--	0	0
May 31	1,301.36	1,920	+ 1.0	--	0	0
June 30	1,302.29	2,000	+ 1.3	--	0	0
July 31	1,300.51	1,840	- 2.6	--	0	0
Aug. 31	1,301.81	1,960	+ 2.0	--	0	0
Sept. 30	1,300.54	1,840	- 2.0	--	0	0
WTR YR 1998	--	--	- 0.3	--	--	0
01449700 Wild Creek Reservoir				01449790 Beltzville Lake		
Sept. 30	809.28	9,150	--	628.15	41,390	--
Oct. 31	804.10	7,960	-19.4	627.83	41,090	- 4.9
Nov. 30	802.06	7,490	- 7.9	628.19	41,430	+ 5.7
Dec. 31	802.21	7,530	+ 0.7	627.91	41,160	- 4.4
CAL YR 1997	--	--	- 6.3	--	--	- 0.1
Jan. 31	818.41	11,640	+66.8	628.05	41,300	+ 2.3
Feb. 28	820.28	12,080	+ 7.9	628.18	41,420	+ 2.2
Mar. 31	820.11	12,030	- 0.8	628.02	41,270	- 2.4
Apr. 30	820.02	12,010	- 0.3	627.94	41,190	- 1.3
May 31	820.09	12,030	+ 0.3	628.20	41,440	+ 4.1
June 30	820.04	12,010	- 0.3	628.10	41,340	- 1.7
July 31	818.16	11,570	- 7.2	627.04	40,340	- 16.3
Aug. 31	814.87	10,660	-14.8	626.30	39,630	- 11.5
Sept. 30	811.33	9,690	-16.3	623.49	37,120	- 42.2
WTR YR 1998	--	--	+ 0.7	--	--	- 5.9

DELAWARE RIVER BASIN

01457500 DELAWARE RIVER AT RIEGELSVILLE, N.J.

LOCATION.--Lat 40°35'36", long 75°11'17", Warren County, N.J., Hydrologic Unit 02040105, New Jersey Department of Environmental Protection Watershed Management Area 11, just upstream of suspension bridge at Riegelsville, 600 ft upstream from Musconetcong River (flow of which is included in the records for this station since Oct. 1, 1931). Water-quality samples are collected from the bridge and do not include flow of the Musconetcong River.

DRAINAGE AREA.--6,328 mi².

PERIOD OF RECORD.--Water years 1934, 1943, 1950, 1960-79, 1991 to current year.

COOPERATION.--Field data and samples for laboratory analyses were provided by the New Jersey Department of Environmental Protection (NJDEP). Determination of fecal coliform bacteria by the MPN method and enterococcus bacteria by the membrane filtration method collected synoptically during summer, dissolved nitrite, total ammonia, dissolved ammonia, and BOD were performed by the New Jersey Department of Health, Public Health and Environmental Laboratories. Determination of fecal coliform bacteria by the 0.45 µm-membrane filtration method (where reported) and the accompanying determination of enterococcus bacteria by the membrane filtration method were performed by the NJDEP, Bureau of Marine Water Monitoring Laboratory.

WATER QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE	PH WATER WHOLE FIELD (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	
		(00061)	(µS/CM) (00095)	(00400)	(00010)	(00025)	(00300)	(00301)	(00310)	(00900)	(00915)	(00925)	
NOV 1997													
06...	1130	2060	192	7.9	10.0	765	10.5	93	<1.0	59	16	4.9	
FEB 1998													
04...	1100	3990	182	7.8	4.5	755	11.5	90	E1.0	57	15	4.6	
JUN													
16...	1100	24600	104	7.4	17.0	752	11.0	115	E1.4	35	9.6	2.6	
AUG													
26...	1100	2910	232	7.7	25.0	753	7.8	96	E1.1	77	19	7.1	
DATE		SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ANC UNPLTRD TIT 4.5 LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
		(00930)	(00935)	(90410)	(00945)	(00940)	(00950)	(00955)	(70300)	(70301)	(00530)	(00613)	(00631)
NOV 1997													
06...	11	1.5	42	19	17	<.1	3.2	111	101	<1	.009	.82	
FEB 1998													
04...	11	1.0	36	18	18	<.1	4.3	110	97	<1	.007	.98	
JUN													
16...	6.0	1.4	23	9.8	8.2	<.1	3.5	68	58	13	.006	.59	
AUG													
26...	12	2.0	57	21	16	<.1	3.2	110	121	1	.017	1.3	
DATE		NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. TOTAL (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (µG/L AS B)	UV ABSORB-ANCE 254 NM, WTR, FLT (UNITS /CM)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	
		(00610)	(00608)	(00625)	(00623)	(00600)	(00602)	(00665)	(00666)	(01020)	(50624)	(00681)	(00689)
NOV 1997													
06...	<.03	<.03	.2	.17	1.0	.99	.07	.06	22.0	.082	--	.2	
FEB 1998													
04...	<.03	<.03	.1	.11	1.1	1.1	.02	.02	21.6	.055	1.9	.2	
JUN													
16...	.03	.03	.3	.37	.92	.97	.05	.02	<16.0	.160	4.1	1.2	
AUG													
26...	<.03	<.03	.2	.20	1.5	1.5	.09	.09	36.1	.054	2.4	.5	

DELAWARE RIVER BASIN

01457500 DELAWARE RIVER AT RIEGELSVILLE, N.J.--Continued

WATER-COLUMN BACTERIA ANALYSES SAMPLED SYNOPTICALLY JUNE TO SEPTEMBER 1998

DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	ENTERO- COCCI ME,MF WATER TOTAL (COL / 100 ML) (31649)
JUN 1998			
16...	1100	490	1700
JUL			
01...	1100	170	130
21...	1245	70	10
AUG			
06...	0945	80	10
26...	1100	1700	400

TOHICKON CREEK BASIN

01459350 NOCKAMIXON RESERVOIR NEAR OTTSVILLE, PA

LOCATION.--Lat 40°28'13", long 75°11'10", Bucks County, Hydrologic Unit 02040105, at dam on Tohickon Creek, 6.2 mi upstream from gaging station on Tohickon Creek, 1.3 mi east of Ottsville, and 2.9 mi upstream from Mink Run.

DRAINAGE AREA.-- 73.3 mi².

PERIOD OF RECORD.--December 1973 to current year.

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

REMARKS.--Reservoir formed by earthfill dam with concrete spillway at elevation 395.0 ft. Storage began December 1973. Total capacity is 66,500 acre-ft at elevation 410 ft. Reservoir is used primarily for recreation, but can be used for water supply and flood control.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 44,380 acre-ft, Jan. 20, 1979, elevation, 397.85 ft; minimum contents (after first filling), 15,900 acre-ft, around Dec. 31, 1975, elevation, 372.78 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents 43,400 acre-ft, May 11, elevation, 397.20 ft; minimum contents, 37,820 acre-ft, Sept. 27-30, elevation, 394.30 ft.

MONTHEND ELEVATION IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
01459350 Nockamixon Reservoir			
Sept. 30	394.20	39,080	--
Oct. 31	394.20	39,080	0
Nov. 30	394.40	39,350	+ 4.5
Dec. 31	394.60	39,630	+ 4.6
CAL YR 1997	--	--	- 0.8
Jan. 31	394.90	40,060	+ 7.0
Feb. 28	395.00	40,200	+ 2.5
Mar. 31	395.30	40,620	+ 6.8
Apr. 30	395.90	41,460	+14.1
May 31	395.10	40,340	-18.2
June 30	395.20	40,480	+ 2.4
July 31	394.80	39,920	- 9.1
Aug. 31	393.80	38,520	-22.8
Sept. 30	393.30	37,820	-11.8
WTR YR 1998	--	--	- 1.7

TOHICKON CREEK BASIN

01459500 TOHICKON CREEK NEAR PIPERSVILLE, PA

LOCATION.--Lat 40°26'01", long 75°07'01", Bucks County, Hydrologic Unit 02040105, on right bank at Traugers bridge 1.5 mi northeast of Pipersville, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--97.4 mi².

PERIOD OF RECORD.--July 1935 to current year.

REVISED RECORDS.--WDR PA-75-1: 1974.

GAGE.--Water-stage recorder. Datum of gage is 258.96 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since December 1973 by Nockamixon Reservoir about 6.2 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	366	38	203	114	154	102	98	38	21	3.3	15
2	7.3	379	36	120	94	139	500	243	30	18	2.9	13
3	5.4	24	27	89	83	141	297	304	30	15	2.7	14
4	4.7	14	28	77	74	143	195	210	27	14	2.7	14
5	4.6	11	29	71	368	124	144	154	23	15	2.7	12
6	5.5	9.4	28	67	481	101	106	569	20	17	2.7	9.9
7	4.1	10	26	164	281	87	85	949	18	16	2.6	9.0
8	4.5	10	25	550	177	109	74	1400	17	17	2.5	11
9	3.9	12	22	747	127	1360	367	2660	15	22	2.5	10
10	3.8	14	23	380	101	1240	2340	2400	13	21	2.5	8.4
11	3.2	11	37	218	86	448	815	1670	12	18	3.0	6.4
12	3.7	10	41	140	655	240	338	2000	45	15	2.8	5.0
13	3.9	8.9	49	107	584	153	205	784	178	13	2.5	4.2
14	3.9	31	51	87	284	125	147	365	435	11	2.5	3.9
15	4.0	50	44	77	170	109	123	214	482	10	2.7	3.7
16	4.9	25	39	540	118	92	105	137	297	9.0	2.7	3.6
17	4.9	18	36	414	108	81	99	109	276	8.7	2.9	3.6
18	5.6	15	33	275	442	86	143	90	115	8.3	5.4	4.1
19	5.5	14	31	222	514	744	145	73	72	7.0	4.2	4.1
20	5.0	14	29	182	364	688	341	55	53	5.9	3.4	3.7
21	4.6	14	27	140	252	733	296	47	41	5.3	3.1	3.7
22	4.6	69	24	108	177	709	217	40	32	4.6	3.0	4.3
23	4.5	53	50	753	208	414	104	30	31	4.0	27	5.6
24	4.4	55	67	1530	1260	261	94	26	31	3.6	20	5.2
25	8.4	49	339	628	994	180	80	25	29	3.2	24	4.3
26	9.3	44	345	334	409	139	104	27	27	2.8	28	4.1
27	16	45	204	221	238	118	488	24	25	2.7	40	3.9
28	10	35	152	213	170	411	319	22	21	2.6	31	3.8
29	12	32	155	222	---	378	182	21	19	2.6	24	3.6
30	13	31	648	189	---	24	123	24	20	2.7	20	3.3
31	13	---	425	149	---	17	---	20	---	4.0	17	---
TOTAL	197.0	1473.3	3108	9217	8933	9748	8678	14790	2472	320.0	296.3	200.4
MEAN	6.35	49.1	100	297	319	314	289	477	82.4	10.3	9.56	6.68
MAX	16	379	648	1530	1260	1360	2340	2660	482	22	40	15
MIN	3.2	8.9	22	67	74	17	74	20	12	2.6	2.5	3.3

TOHICKON CREEK BASIN

01459500 TOHICKON CREEK NEAR PIPERSVILLE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	91.6	179	240	252	203	310	246	197	79.1	74.0	50.2	74.6
MAX	528	553	813	916	436	867	707	579	314	602	232	430
(WY)	1997	1976	1997	1979	1984	1994	1983	1984	1989	1984	1978	1989
MIN	5.87	24.7	19.5	16.4	28.3	43.1	36.9	29.1	11.4	8.85	4.12	4.03
(WY)	1983	1974	1981	1977	1974	1976	1985	1986	1977	1980	1983	1980

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1974 - 1998

ANNUAL TOTAL	41402.7	59433.0	
ANNUAL MEAN	113	163	166
HIGHEST ANNUAL MEAN			300
LOWEST ANNUAL MEAN			78.7
HIGHEST DAILY MEAN	2130	Jan 25	2660
LOWEST DAILY MEAN	2.5	Jul 17, 18	2.5
ANNUAL SEVEN-DAY MINIMUM	2.8	Jul 15	2.6
INSTANTANEOUS PEAK FLOW			4610
INSTANTANEOUS PEAK STAGE			6.50
10 PERCENT EXCEEDS	285		418
50 PERCENT EXCEEDS	51		32
90 PERCENT EXCEEDS	5.5		3.8

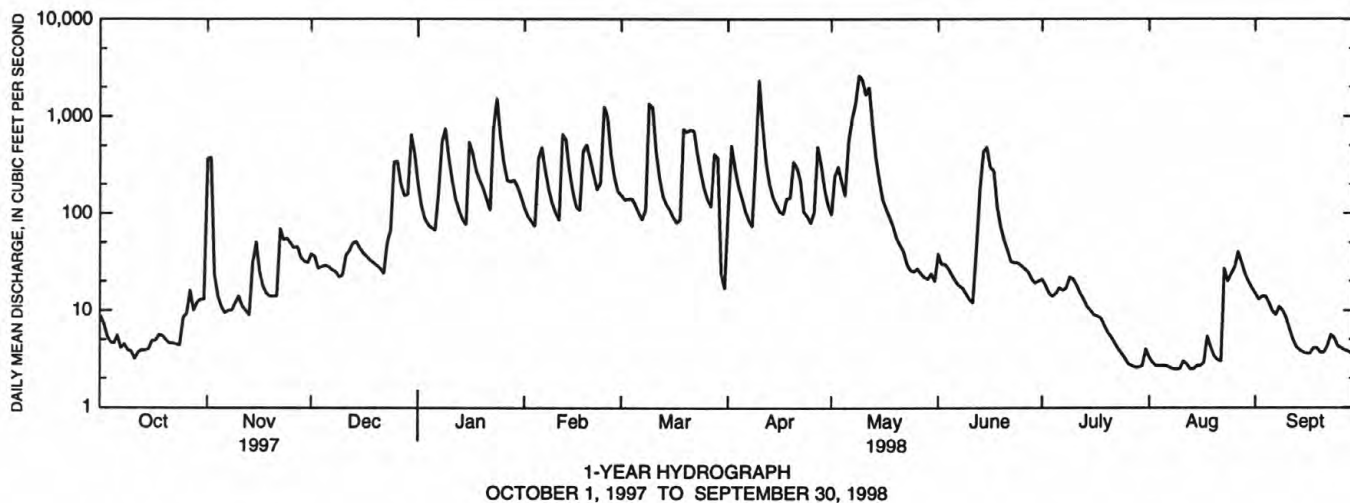
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1973, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	43.4	138	183	190	235	300	217	121	79.0	54.0	66.8	54.3
MAX	367	601	464	501	572	795	612	430	413	288	515	513
(WY)	1956	1973	1973	1949	1971	1936	1952	1948	1972	1938	1955	1960
MIN	1.46	3.51	11.5	37.8	42.5	133	35.2	15.9	4.64	1.68	1.12	1.21
(WY)	1965	1965	1966	1966	1947	1949	1946	1955	1965	1957	1957	1957

SUMMARY STATISTICS WATER YEARS 1936 - 1973

ANNUAL MEAN	140	
HIGHEST ANNUAL MEAN	240	1973
LOWEST ANNUAL MEAN	45.8	1965
HIGHEST DAILY MEAN	6820	Sep 12 1960
LOWEST DAILY MEAN	.10	Sep 24 1941b
ANNUAL SEVEN DAY MINIMUM	.47	Jul 24 1955
INSTANTANEOUS PEAK FLOW	a16000	Aug 18 1955
INSTANTANEOUS PEAK STAGE	11.26	Aug 18 1955
INSTANTANEOUS LOW FLOW	.05	Sep 24 1941
ANNUAL RUNOFF (CFSM)	1.43	
ANNUAL RUNOFF (INCHES)	19.48	
10 PERCENT EXCEEDS	325	
50 PERCENT EXCEEDS	37	
90 PERCENT EXCEEDS	3.8	

a From rating curve extended above 13,600 ft³/s on basis of slope-area measurement at gage height 10.48 ft.
 b Also Sept. 29, Oct. 6, 1941.



DELAWARE RIVER BASIN

01461000 DELAWARE RIVER AT LUMBERVILLE, PA

LOCATION.--Lat 40°24'27", long 75°02'16", Bucks County, Hydrologic Unit 02040105, New Jersey Department of Environmental Protection Watershed Management Area 11, at pedestrian bridge at Lumberville, 1.4 mi upstream of Lockatong Creek.

DRAINAGE AREA.--6,598 mi².

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

COOPERATION.--Field data and samples for laboratory analyses were provided by the New Jersey Department of Environmental Protection (NJDEP). Determination of fecal coliform bacteria by the MPN method and enterococcus bacteria by the membrane filtration method collected synoptically during summer, dissolved nitrite, total ammonia, dissolved ammonia, and BOD were performed by the New Jersey Department of Health, Public Health and Environmental Laboratories. Determination of fecal coliform bacteria by the 0.45 µm-membrane filtration method (where reported) and the accompanying determination of enterococcus bacteria by the membrane filtration method were performed by the NJDEP, Bureau of Marine Water Monitoring Laboratory.

WATER QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg) (00925)	
NOV 1997 06...	1100	5220	197	7.9	10.0	770	12.2	107	<1.0	66	17	5.7	
FEB 1998 04...	1100	9060	192	7.9	4.5	756	12.3	96	E1.9	60	16	5.0	
JUN 16...	1100	31900	113	7.7	17.0	751	8.9	93	E1.9	38	10	2.9	
AUG 27...	1100	4290	235	7.7	25.0	757	7.5	92	E1.4	79	19	7.3	
DATE		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 (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
NOV 1997 06...	12	1.5	48	19	17	<.1	3.1	116	108	1	.008	.80	
FEB 1998 04...	12	1.1	38	18	19	<.1	4.3	115	102	<1	.009	1.0	
JUN 16...	6.6	1.0	25	10	9.3	<.1	3.6	75	62	30	.006	.62	
AUG 27...	12	1.8	59	20	17	<.1	3.2	127	122	4	.015	1.3	
DATE		NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00610)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00625)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	BORON, DIS-SOLVED (UG/L AS B) (01020)	UV ABSORB-ANCE 254 NM, WTR, FLT (UNITS /CM) (50624)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)
NOV 1997 06...	<.03	<.03	.2	.20	1.0	.99	.07	.06	23.6	.081	2.5	<.2	
FEB 1998 04...	<.03	<.03	.5	.14	1.5	1.1	.03	.02	20.2	.058	1.8	.3	
JUN 16...	.05	.05	.6	.34	1.2	.96	.09	<.01	<16.0	.192	21	1.3	
AUG 27...	<.03	<.03	.3	.22	1.5	1.5	.11	.08	38.1	.053	2.5	.3	

DELAWARE RIVER BASIN

01461000 DELAWARE RIVER AT LUMBERVILLE, PA--Continued

WATER-COLUMN BACTERIA ANALYSES SAMPLED SYNOPTICALLY JUNE TO SEPTEMBER 1998

DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	ENTERO- COCCI ME,MF WATER TOTAL (COL / 100 ML) (31649)
JUN 1998			
16...	1100	1300	630
JUL			
01...	1300	220	40
14...	1215	20	<10
21...	1400	50	<10
AUG			
06...	0845	<20	20

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J.

LOCATION.--Lat 40°13'18", long 74°46'42", Mercer County, N.J., Hydrologic Unit 02040105, on left bank 450 ft upstream from Calhoun Street Bridge at Trenton, 0.5 mi upstream from Assunpink Creek, and at river mile 134.5.

DRAINAGE AREA.--6,780 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1913 to current year. October 1912 to February 1913 monthly discharge only, published in WSP 1302. Gage-height records collected in this vicinity since 1904 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 951: Drainage area. WSP 1302: 1913-20. WSP 1382: 1924, 1928.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Sept. 30, 1965, at datum 7.77 ft higher. Feb. 24, 1913 to Oct. 2, 1928, nonrecording gage on downstream side of highway bridge at site 450 ft downstream.

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lakes Wallenpaupack and Hopatcong, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, Neversink, Wild Creek, and Merrill Creek Reservoirs and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs. Diversion to Bradshaw and Merrill Creek Reservoirs and to Delaware and Raritan Canal. Water diverted just above station by borough of Morrisville, Pa, and city of Trenton, N.J. for municipal supply. Satellite gage height and water-quality telemetry at station. Information on the above reservoirs can be found in the annual Water Data Report NT-98-1.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 11, 1903, reached an elevation of about 28.5 ft above sea level, estimated discharge, 295,000 ft³/s. Maximum elevation since 1957, 30.6 ft above sea level, Mar. 8, 1904, from floodmark. due to ice jam.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50,000 ft³/s and maximum (*):

<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>
Jan. 10	1230	63,900	15.24	May. 12	1600	*69,500	*15.67
Mar. 11	1545	59,100	14.86				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3240	3340	6380	10500	11400	20500	20000	15400	7930	7610	3670	2790
2	3220	4270	8010	8550	9890	23000	27000	16200	11500	21100	3380	2890
3	3130	5250	10800	7510	9180	27500	27200	16500	12000	18900	3030	3360
4	3350	5610	9630	8390	9650	26000	25400	16300	12200	15500	2920	3490
5	3670	5650	8570	8270	11600	22600	21600	19000	12500	13200	3060	3130
6	3130	5900	8080	10300	15600	20100	19200	22600	10300	11200	2960	3030
7	2940	5120	7940	18300	14100	18000	16900	25400	8710	10900	2860	2940
8	2990	4630	7590	29100	12900	16800	15400	25800	7300	9910	2830	3350
9	3830	4320	6940	49400	10900	24000	15100	32600	6610	9400	3000	3670
10	3680	4480	6790	60200	9990	38900	33200	34900	6710	9800	3100	3360
11	3170	4850	6850	45900	10400	56100	39200	46300	6370	16300	3610	2820
12	2750	6490	6220	32400	13100	47000	32800	66800	7620	14900	3670	2710
13	2770	6100	5900	24500	17700	35400	26600	59400	11800	12500	3300	2750
14	2790	5500	6020	20300	19400	28600	23000	45700	23100	10400	2980	2660
15	2950	5670	5400	17800	18100	24900	20900	36400	29100	9530	3120	3070
16	3160	5480	5130	18600	15200	22100	19400	30000	33000	8210	3020	2810
17	3280	5120	4930	19100	13400	19700	18100	25200	35900	7200	3230	2980
18	3180	4840	4770	20100	17600	17800	17000	21000	31300	6760	3610	3110
19	3100	4510	5040	18000	20000	23100	15900	18300	29700	6170	3840	2940
20	3060	4190	4570	16400	21600	24300	19200	16900	25700	5290	3740	2940
21	2970	4020	4540	15000	22700	26000	30500	15400	20900	4790	3510	2770
22	2960	4480	4440	13600	20200	29000	32300	13900	18400	5110	3090	2960
23	2940	4820	4540	15000	18100	28100	27500	12200	16000	5230	3070	2920
24	2940	5540	4820	23800	25400	25500	24400	11100	14900	5060	3550	3210
25	3150	7240	6410	19200	28900	23100	21700	9820	13200	4700	2950	2890
26	3520	7360	8640	17400	26000	21300	18600	9250	11900	4160	3120	3080
27	3960	6760	8510	15500	22900	19800	20100	8930	10600	3950	4120	3000
28	3780	6260	8890	14100	21100	21500	19600	9480	9750	3330	4050	2970
29	3660	6120	9180	13700	---	23000	18000	8780	8430	3100	3260	2910
30	3180	6430	14000	12900	---	22400	16300	8350	7780	3560	3390	2780
31	2930	---	12700	12100	---	21000	---	8180	---	3730	3000	---
TOTAL	99380	160350	222230	615920	467010	797100	682100	706090	461210	271500	102040	90290
MEAN	3206	5345	7169	19870	16680	25710	22740	22780	15370	8758	3292	3010
MAX	3960	7360	14000	60200	28900	56100	39200	66800	35900	21100	4120	3670
MIN	2750	3340	4440	7510	9180	16800	15100	8180	6370	3100	2830	2660

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1998, BY WATER YEAR (WY)

MEAN	6879	10580	12750	12540	12860	20660	22420	14230	9055	7089	5903	5716
MAX	28710	27340	42860	34950	27550	60840	52680	31690	33460	25720	30290	22490
(WY)	1956	1928	1997	1979	1951	1936	1940	1989	1972	1928	1955	1933
MIN	1632	1868	2037	2539	3500	7715	6828	5074	2572	1548	1808	1762
(WY)	1942	1915	1923	1981	1920	1981	1985	1995	1965	1965	1965	1932

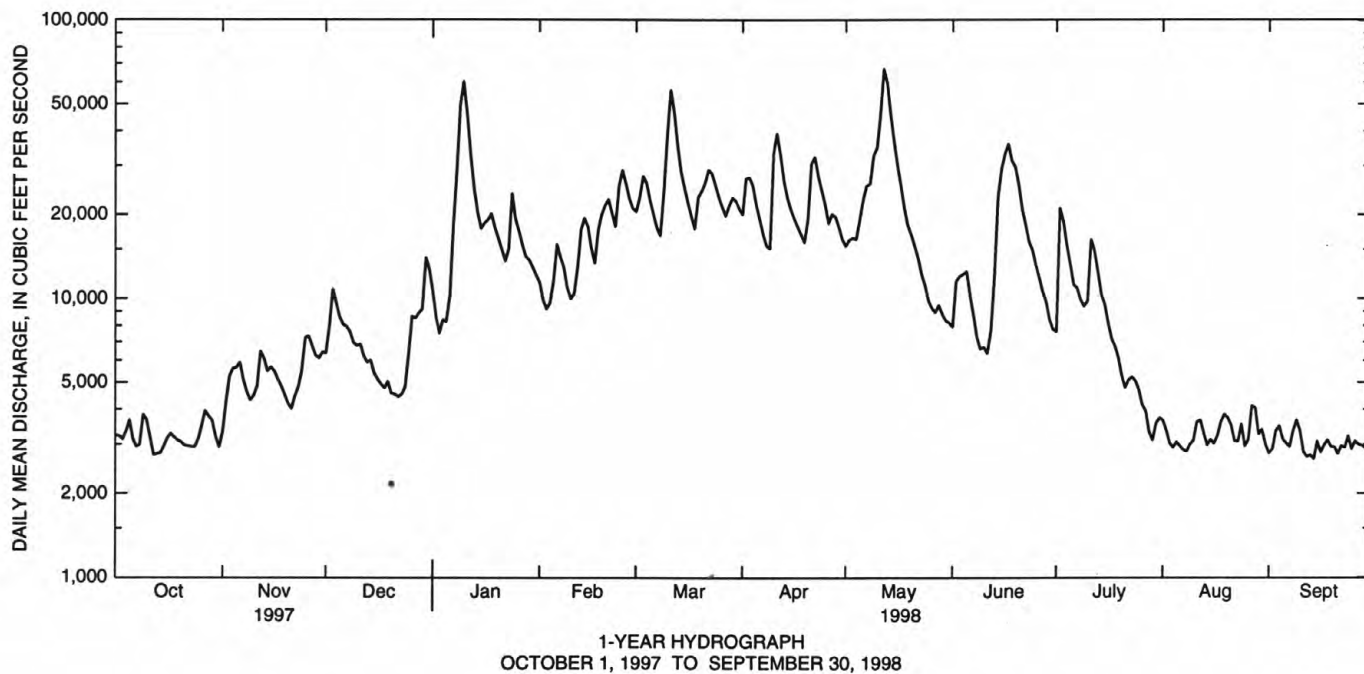
DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J.--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1913 - 1998	
ANNUAL TOTAL	3402990		4675220		11710	
ANNUAL MEAN	9323		12810		19810	
HIGHEST ANNUAL MEAN					1928	
LOWEST ANNUAL MEAN					4708	
HIGHEST DAILY MEAN	35000	Apr 2	66800	May 12	279000	Aug 20 1955
LOWEST DAILY MEAN	2590	Sep 8	2660	Sep 14	1240	Oct 31 1914
ANNUAL SEVEN-DAY MINIMUM	2870	Aug 10	2830	Sep 11	1310	Oct 31 1914
INSTANTANEOUS PEAK FLOW			69500	May 12	a329000	Aug 20 1955
INSTANTANEOUS PEAK STAGE			15.67	May 12	b28.60	Aug 20 1955
INSTANTANEOUS LOW FLOW			2460	Sep 14	1180	Oct 31 1963
10 PERCENT EXCEEDS	18500		26200		24700	
50 PERCENT EXCEEDS	6870		9180		7950	
90 PERCENT EXCEEDS	3170		3000		3020	

a From rating curve extended above 230,000 ft³/s, maximum flow since 1962.

b From high-water mark in gage house.



DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1944 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to current year. Recorded as once daily during years 1964 to 1968, 1979.

pH: June 1968 to current year. Recorded as once daily during 1979.

WATER TEMPERATURE: October 1944 to current year. Recorded as once daily during years 1945 to 1953, 1962, 1964, 1979.

DISSOLVED OXYGEN: October 1962 to current year. Recorded as once daily during 1979.

SUSPENDED-SEDIMENT DISCHARGE: September 1949 to September 1981.

INSTRUMENTATION.--

TEMPERATURE MONITOR (graphic recorder at gage house, in situ system):

October 1953 to September 1961.

TEMPERATURE / DISSOLVED-OXYGEN MONITOR:

October 1962 to September 1965: graphic recorder; only dissolved-oxygen concentration recorded during water year 1964. October 1965 to May 1968: digital recorder.

WATER-QUALITY MONITOR (continuous pumping system, measurements recorded hourly):

June 1968 to August 1975: water withdrawn from raw-water intake within Trenton Water Filtration Plant, Trenton, N.J. November 1975 to November 1978: water withdrawn from river through PVC pipe to gage house outside Trenton Water Filtration Plant, Trenton, N.J. February 1980 to September 1986: water withdrawn from raw-water intake within Trenton Water Filtration Plant, Trenton, N.J.

WATER-QUALITY MONITOR (in situ system, measurements recorded hourly):

October 1986 to September 1995: probes located inside raw-water intake of Trenton Water Filtration Plant, Trenton, N.J. October 1995 to current year: monitor suspended within stilling well of Morrisville Water Filtration Plant, Morrisville, Pa., 1600 feet upstream from the gage house.

REMARKS.--Missing continuous water-quality records are the result of instrument malfunction, or interruption of flow through the filtration plant. Unpublished records of suspended-sediment discharge for the period Oct. 1, 1981, to Mar. 31, 1982, are available at the U.S. Geological Survey office in West Trenton, NJ. For the definition of a field blank sample, refer to "Quality-control data" in the "Explanation of the Records" section.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 377 microsiemens, Feb. 12, 1985; minimum, 63 microsiemens, July 7, 1984.

pH: Maximum, 10.3, Aug. 9, 10, 1983; minimum, 5.3, June 22, 1972.

WATER TEMPERATURE: Maximum, 34.0°C, June 18, 1957; minimum, 0.0°C, on many days during winters.

DISSOLVED OXYGEN: Maximum, 20.0 mg/L, Feb. 11, 1989; minimum recorded, 4.0 mg/L, Nov. 9, 1972, Sept. 9, 1995, but may have been lower during instrument malfunction, July 29-Aug. 21, 1995.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 268 microsiemens, Sept. 14; minimum, 94 microsiemens, Mar. 12.

pH: Maximum, 9.5, May 30, 31; minimum, 7.2, May 13.

WATER TEMPERATURE: Maximum, 29.0°C, July 22, 30; minimum, 0.5°C, Jan. 1, 2.

COOPERATION.--Field data and samples for laboratory analyses provided by the staff of the New Jersey Department of Environmental Protection (NJDEP). Determination of dissolved nitrite, total ammonia, dissolved ammonia, and BOD were performed by the New Jersey Department of Health, Public Health and Environmental Laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS- CHARGE, INST- CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV 1997										
06...	1130	6000	205	8.2	10.5	1.1	770	E1.1	71	19
FEB 1998										
05...	1130	11300	188	7.9	4.0	1.2	748	E1.1	61	16
APR										
21...	1300	32900	138	7.4	12.5	6.5	764	2.2	45	12
JUN										
10...	1000	6810	203	7.6	18.0	.6	766	E1.3	73	18
SEP										
02...	1130	2860	245	8.1	25.0	.6	753	E1.1	82	20

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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 (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
NOV 1997 06...	6.1	12	1.8	51	21	18	<.1	3.0	123	114
FEB 1998 05...	5.2	11	1.2	38	18	18	<.1	4.5	108	101
APR 21...	3.7	7.8	.9	31	13	12	<.1	4.0	82	75
JUN 10...	6.7	9.8	1.3	52	17	15	<.1	3.6	117	108
SEP 02...	7.8	13	1.8	62	20	18	<.1	2.7	137	124

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)
NOV 1997 06...	<1	.009	.95	<.03	<.03	.2	.20	1.2	1.1
FEB 1998 05...	--	.009	1.0	.03	<.03	.2	.14	1.3	1.2
APR 21...	--	.005	.66	<.03	<.03	.4	.19	1.1	.85
JUN 10...	--	.008	1.1	<.03	<.03	.3	.20	1.3	1.3
SEP 02...	--	.011	1.1	<.03	.04	.3	.19	1.4	1.3

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)	BORON, DIS- SOLVED (MG/L AS B) (01020)	UV ABSORB- ANCE 254 NM, WTR,FLT (UNITS /CM) (50624)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
NOV 1997 06...	.06	.05	--	36.5	.072	--	.3	--	--
FEB 1998 05...	.03	.02	--	25.4	.055	1.9	.2	3	92
APR 21...	.09	.03	.019	<16.0	.093	2.9	1.0	19	1690
JUN 10...	.03	.02	.02	17.8	.081	2.5	.3	3	57
SEP 02...	.06	.06	--	36.7	.050	2.2	.2	3	21

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLE TYPE	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	ARSENIC TOTAL (µG/L AS AS) (01002)	BERYL- LIUM, TOTAL RECOV- ERABLE (µG/L AS BE) (01012)	BORON, TOTAL RECOV- ERABLE (µG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (µG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (µG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (µG/L AS CU) (01042)	COPPER, DIS- SOLVED (µG/L AS CU) (01040)
NOV 1997										
06...	1130	ENVIRONMENTAL	--	<1	--	--	--	--	--	--
FEB 1998										
05...	1130	ENVIRONMENTAL	--	--	--	--	--	--	2	--
APR										
21...	1300	ENVIRONMENTAL	10	<1	<10	<10	<1	<1.0	3	--
JUN										
10...	1000	ENVIRONMENTAL	<10	<1	<10	30	<1	<1.0	1	--
SEP										
02...	1130	ENVIRONMENTAL	--	--	--	--	--	--	2	--
02...	1130	FIELD BLANK	--	--	--	--	--	--	--	<1

DATE	IRON, TOTAL RECOV- ERABLE (µG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (µG/L AS PB) (01051)	LEAD, DIS- SOLVED (µG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (µG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (µG/L AS HG) (71900)	MERCURY DIS- SOLVED (µG/L AS HG) (71890)	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)	ZINC, TOTAL RECOV- ERABLE (µG/L AS ZN) (01092)	ZINC, DIS- SOLVED (µG/L AS ZN) (01090)
NOV 1997											
06...	--	--	--	--	<.1	--	--	--	<1	--	--
FEB 1998											
05...	--	<1	--	--	<.1	--	2	--	--	30	--
APR											
21...	520	2	--	80	<.1	--	2	--	<1	40	--
JUN											
10...	100	<1	--	30	<.1	--	1	--	<1	10	--
SEP											
02...	--	1	--	--	<.1	--	5	--	--	<10	--
02...	--	--	<1	--	--	<.1	--	<1	--	--	.7

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

[illegible]

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	ALPHA BHC TOTAL ($\mu\text{G/L}$) (39337)	BETA BENZENE HEXA- CHLOR- IDE TOTAL ($\mu\text{G/L}$) (39338)	DELTA BENZENE HEXA- CHLOR- IDE TOTAL ($\mu\text{G/L}$) (34259)	ALDRIN, TOTAL ($\mu\text{G/L}$) (39330)	CHLOR- DANE, TECH- NICAL TOTAL ($\mu\text{G/L}$) (39350)	CHLOR- DANE CIS WATER WHOLE TOTAL ($\mu\text{G/L}$) (39062)	CHLOR- DANE TRANS WATER WHOLE TOTAL ($\mu\text{G/L}$) (39065)	P, P' DDD, TOTAL ($\mu\text{G/L}$) (39310)	P, P' DDE, TOTAL ($\mu\text{G/L}$) (39320)
NOV 1997										
06...	1130	<.03	<.03	<.09	<.04	<.1	<.1	<.1	<.1	<.04
FEB 1998										
05...	1130	<.030	<.030	<.090	<.040	<.1	<.1	<.1	<.1	<.040
APR										
21...	1300	<.03	<.03	<.09	<.04	<.1	<.1	<.1	<.1	<.04
JUN										
10...	1000	<.03	<.03	<.09	<.04	<.1	<.1	<.1	<.1	<.04
SEP										
02...	1130	<.030	<.030	<.090	<.040	<.1	<.1	<.1	<.1	<.040

DATE	P, P' DDT, TOTAL ($\mu\text{G/L}$) (39300)	DI- ELDRIN TOTAL ($\mu\text{G/L}$) (39380)	ENDO- SULFAN- I WATER WHOLE REC ($\mu\text{G/L}$) (34361)	ENDO- SULFAN II TOTAL ($\mu\text{G/L}$) (34356)	ENDO- SULFAN SULFATE TOTAL ($\mu\text{G/L}$) (34351)	ENDRIN WATER UNFLTRD REC ($\mu\text{G/L}$) (39390)	ENDRIN ALDE- HYDE TOTAL ($\mu\text{G/L}$) (34366)	HEPTA- CHLOR, TOTAL ($\mu\text{G/L}$) (39410)	HEPTA- CHLOR EPOXIDE TOTAL ($\mu\text{G/L}$) (39420)
NOV 1997									
06...	<.1	<.02	<.1	<.04	<.6	<.06	<.2	<.03	<.8
FEB 1998									
05...	<.1	<.020	<.1	<.040	<.6	<.060	<.2	<.030	<.8
APR									
21...	<.1	<.02	<.1	<.04	<.6	<.06	<.2	<.03	<.8
JUN									
10...	<.1	<.02	<.1	<.04	<.6	<.06	<.2	<.03	<.8
SEP									
02...	<.1	<.020	<.1	<.040	<.6	<.060	<.2	<.030	<.8

DATE	LINDANE TOTAL ($\mu\text{G/L}$) (39340)	TOX- APHENE, TOTAL ($\mu\text{G/L}$) (39400)	AROCLOR 1016 PCB TOTAL ($\mu\text{G/L}$) (34671)	AROCLOR 1221 PCB TOTAL ($\mu\text{G/L}$) (39488)	AROCLOR 1232 PCB TOTAL ($\mu\text{G/L}$) (39492)	AROCLOR 1242 PCB TOTAL ($\mu\text{G/L}$) (39496)	AROCLOR 1248 PCB TOTAL ($\mu\text{G/L}$) (39500)	AROCLOR 1254 PCB TOTAL ($\mu\text{G/L}$) (39504)	AROCLOR 1260 PCB TOTAL ($\mu\text{G/L}$) (39508)
NOV 1997									
06...	<.03	<2	<.1	<1	<.1	<.1	<.1	<.1	<.1
FEB 1998									
05...	<.030	<2	<.1	<1	<.1	<.1	<.1	<.1	<.1
APR									
21...	<.03	<2	<.1	<1	<.1	<.1	<.1	<.1	<.1
JUN									
10...	<.03	<2	<.1	<1	<.1	<.1	<.1	<.1	<.1
SEP									
02...	<.030	<2	<.1	<1	<.1	<.1	<.1	<.1	<.1

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J.--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

WATER-COLUMN BACTERIA ANALYSES PERFORMED BY THE NEW JERSEY DEPARTMENT OF HEALTH, PUBLIC HEALTH,
AND ENVIRONMENTAL LABORATORIES.

DATE	TIME	COLI- FORM, FECAL, EC BROTH (MPN) (31615)	ENTERO- COCCI ME, MF WATER TOTAL (COL / 100 ML) (31649)
FEB 1998			
05...	1130	20	10
APR			
21...	1300	790	130
JUN			
10...	1000	<20	40
JUL			
01...	1400	80	40
21...	1500	50	10
AUG			
06...	1430	<20	<10
SEP			
02...	1130	<20	20
16...	1330	50	10

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	250	245	247	240	234	237	176	168	171	197	189	194
2	246	241	244	240	224	232	176	169	172	191	187	188
3	245	234	240	240	226	232	173	146	159	199	186	189
4	237	234	236	239	224	231	146	140	142	200	192	198
5	237	226	232	224	211	218	149	143	146	192	178	183
6	226	214	217	213	200	208	154	147	151	183	174	180
7	235	217	226	200	196	198	160	154	157	174	135	152
8	238	233	236	200	196	198	156	154	155	135	121	127
9	233	224	229	207	198	202	158	154	156	129	120	126
10	224	213	217	---	---	---	166	158	162	125	113	119
11	218	209	212	---	---	---	170	164	167	113	109	111
12	226	218	220	---	---	---	178	170	174	110	105	108
13	241	226	237	187	174	178	191	178	184	116	106	109
14	242	239	240	177	174	175	197	190	193	124	116	120
15	242	238	240	188	175	181	194	188	190	127	124	125
16	243	238	240	201	188	195	193	189	191	146	127	134
17	242	234	237	204	198	200	194	191	193	---	---	---
18	243	235	240	201	198	199	198	192	195	---	---	---
19	238	232	233	203	199	201	203	198	201	---	---	---
20	241	238	239	209	202	205	203	198	200	---	---	---
21	239	232	235	213	208	210	204	198	201	---	---	---
22	238	232	235	215	209	212	207	203	205	159	156	158
23	232	225	228	224	215	219	203	200	201	---	---	---
24	231	225	228	225	221	223	214	201	205	---	---	---
25	233	225	227	221	194	211	223	214	218	---	---	---
26	233	227	230	194	176	183	225	215	220	---	---	---
27	234	226	231	177	174	176	223	204	213	---	---	---
28	233	222	226	182	176	179	204	188	196	176	172	174
29	231	225	227	184	179	181	188	180	184	182	173	176
30	233	225	228	180	174	177	183	171	175	188	176	182
31	234	227	230	---	---	---	197	183	193	178	175	176
MONTH	250	209	232	240	174	202	225	140	183	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	176	172	175	148	144	146	127	125	126	145	141	143
2	179	172	175	149	139	146	141	123	132	148	143	145
3	184	179	182	139	123	129	142	124	133	152	148	149
4	188	182	185	125	121	122	124	122	123	155	150	152
5	184	178	179	124	120	122	130	123	125	152	136	146
6	217	182	201	128	123	125	132	127	129	136	121	130
7	205	186	192	134	127	130	137	131	133	132	120	128
8	186	176	180	136	132	133	155	136	145	136	119	130
9	---	---	---	137	131	134	153	140	145	132	116	126
10	---	---	---	143	124	137	146	122	137	136	130	133
11	188	183	187	130	95	111	143	119	129	135	114	129
12	183	174	180	102	94	98	121	117	119	114	102	107
13	182	169	176	108	100	104	126	119	123	104	100	102
14	170	152	159	119	107	113	134	125	129	118	102	111
15	154	143	147	129	118	122	139	130	133	127	116	121
16	151	147	148	131	125	128	143	138	140	136	124	129
17	159	150	154	134	128	131	145	140	142	144	133	137
18	162	153	156	141	134	137	148	141	144	153	143	147
19	160	151	155	142	136	139	151	146	148	157	150	153
20	152	145	149	157	139	151	161	147	151	162	155	157
21	146	136	139	153	138	145	155	111	133	169	158	163
22	138	133	135	157	142	149	111	105	107	174	161	169
23	---	---	---	156	142	147	112	106	109	179	170	176
24	144	134	138	150	137	141	116	110	112	---	---	---
25	144	141	143	140	135	137	123	115	119	---	---	---
26	145	143	143	142	138	141	130	122	124	205	196	200
27	146	143	144	146	141	143	143	129	135	208	203	206
28	148	144	146	146	138	142	142	135	138	207	198	204
29	---	---	---	139	130	133	137	131	133	201	191	196
30	---	---	---	130	124	126	141	135	138	208	197	200
31	---	---	---	126	123	124	---	---	---	212	205	208
MONTH	217	133	163	157	94	132	161	105	131	212	100	152

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	192	183	185	238	232	236	238	232	234
2	218	188	208	192	110	155	243	238	240	243	236	239
3	189	170	175	113	104	108	242	234	238	241	234	238
4	175	159	171	117	111	112	236	235	235	251	240	245
5	159	147	150	126	114	120	243	236	239	253	250	252
6	156	147	152	133	126	130	245	242	242	252	241	245
7	173	155	164	139	133	136	246	240	242	241	232	237
8	189	172	179	144	135	139	253	246	250	233	226	228
9	195	189	192	165	144	154	261	253	256	236	228	230
10	208	193	201	174	164	170	264	249	259	238	226	233
11	211	204	206	169	118	136	249	234	240	228	224	225
12	214	200	207	118	111	113	250	235	240	243	228	234
13	217	197	206	125	113	120	254	238	246	263	243	251
14	197	151	172	131	124	128	238	230	234	268	262	266
15	151	127	140	140	130	136	233	225	229	262	242	250
16	127	113	117	151	136	144	235	231	233	242	229	234
17	113	100	104	165	150	159	237	229	234	230	225	227
18	110	101	105	177	165	170	231	225	229	227	216	222
19	114	106	108	180	173	176	242	222	232	235	218	225
20	116	107	110	189	179	182	241	234	239	243	235	241
21	121	112	115	201	189	198	239	233	236	241	235	238
22	130	121	124	207	201	204	233	226	229	251	235	240
23	139	128	132	205	203	204	233	227	229	251	236	246
24	146	132	141	207	203	206	---	---	---	236	218	224
25	151	145	147	208	203	206	---	---	---	---	---	---
26	159	151	156	210	204	209	259	226	244	---	---	---
27	164	159	162	220	209	215	231	221	226	231	222	226
28	169	163	166	228	219	222	236	228	233	---	---	---
29	181	169	176	234	228	231	235	227	231	234	227	232
30	---	---	---	241	234	238	245	235	241	---	---	---
31	---	---	---	239	236	238	245	233	240	---	---	---
MONTH	218	100	157	241	104	169	264	221	238	268	216	237

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	9.3	8.3	8.8	8.6	8.0	8.3	8.7	7.9	8.2	8.0	7.8	7.9
2	9.4	8.7	9.0	8.2	7.8	7.9	8.5	8.0	8.2	8.1	7.8	8.0
3	9.1	8.3	8.7	8.3	7.7	7.9	8.0	7.7	7.9	8.2	7.8	8.0
4	9.2	8.4	8.8	8.3	7.8	8.0	7.8	7.6	7.7	8.3	7.9	8.1
5	9.2	8.3	8.8	8.5	7.8	8.1	8.0	7.6	7.8	8.3	7.8	8.0
6	9.2	8.3	8.8	8.4	7.8	8.0	8.2	7.7	7.9	7.9	7.8	7.8
7	9.0	8.3	8.7	8.2	7.8	7.9	8.2	7.8	8.0	7.8	7.4	7.6
8	9.0	8.2	8.7	8.0	7.7	7.8	8.4	7.8	8.0	7.4	7.3	7.4
9	9.0	8.1	8.7	8.1	7.7	7.8	8.5	7.9	8.1	---	---	---
10	9.0	7.8	8.5	---	---	---	8.0	7.7	7.9	---	---	---
11	8.9	7.8	8.4	---	---	---	7.8	7.7	7.7	---	---	---
12	8.9	7.9	8.4	---	---	---	8.2	7.7	7.9	---	---	---
13	8.7	7.9	8.4	8.6	8.2	8.4	8.7	7.8	8.2	---	---	---
14	8.4	7.8	8.1	8.3	8.2	8.2	8.7	8.0	8.3	---	---	---
15	8.0	7.7	7.8	8.6	8.1	8.3	8.8	8.0	8.3	---	---	---
16	8.4	7.6	8.0	8.8	8.3	8.5	8.9	8.0	8.4	---	---	---
17	8.6	7.8	8.1	8.8	8.2	8.4	8.9	8.0	8.4	---	---	---
18	8.6	7.8	8.2	8.9	8.2	8.5	9.0	8.0	8.5	---	---	---
19	8.4	7.8	8.1	8.9	8.2	8.5	8.9	8.0	8.5	---	---	---
20	8.6	7.8	8.2	9.0	8.2	8.6	9.0	8.0	8.5	---	---	---
21	8.7	7.9	8.3	9.1	8.2	8.6	9.1	8.1	8.6	---	---	---
22	8.7	8.0	8.4	8.6	8.2	8.4	9.0	8.1	8.5	7.7	7.6	7.7
23	8.8	8.0	8.4	8.7	8.1	8.3	8.9	8.0	8.5	---	---	---
24	8.8	8.1	8.5	8.9	8.2	8.5	8.9	8.0	8.5	---	---	---
25	8.5	8.0	8.2	8.7	8.2	8.4	8.9	7.9	8.4	---	---	---
26	8.4	7.8	8.1	8.4	8.1	8.2	8.1	7.9	8.0	---	---	---
27	8.6	7.8	8.2	8.6	8.0	8.2	7.9	7.8	7.8	---	---	---
28	8.7	7.9	8.3	8.3	8.0	8.1	8.3	7.8	8.0	7.7	7.6	7.6
29	8.8	7.9	8.4	8.7	8.0	8.3	8.3	7.8	8.0	7.7	7.6	7.7
30	8.8	8.0	8.4	8.2	7.9	8.1	7.9	7.6	7.7	7.7	7.6	7.7
31	8.9	8.0	8.5	---	---	---	7.8	7.7	7.7	7.8	7.6	7.7
MONTH	9.4	7.6	8.4	9.1	7.7	8.2	9.1	7.6	8.1	---	---	---

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	7.8	7.7	7.7	7.7	7.6	7.6	7.8	7.6	7.7	7.9	7.6	7.7
2	7.8	7.7	7.7	7.8	7.6	7.7	7.7	7.5	7.6	7.9	7.6	7.8
3	7.8	7.7	7.7	7.7	7.5	7.6	7.7	7.6	7.6	8.0	7.7	7.8
4	7.8	7.7	7.8	7.6	7.4	7.5	7.6	7.5	7.6	7.9	7.7	7.8
5	7.8	7.7	7.8	7.7	7.5	7.6	7.8	7.6	7.6	7.8	7.7	7.7
6	7.8	7.7	7.8	7.8	7.6	7.7	7.9	7.6	7.8	7.7	7.5	7.6
7	7.8	7.7	7.7	7.8	7.6	7.7	8.0	7.7	7.8	7.6	7.5	7.5
8	7.8	7.7	7.8	7.8	7.6	7.7	8.0	7.7	7.8	7.6	7.4	7.6
9	---	---	---	7.7	7.6	7.6	7.9	7.7	7.8	7.6	7.3	7.5
10	---	---	---	7.7	7.5	7.6	7.8	7.6	7.6	7.6	7.5	7.6
11	7.9	7.7	7.8	---	---	---	7.6	7.6	7.6	7.8	7.5	7.6
12	7.9	7.7	7.8	---	---	---	7.6	7.5	7.6	7.5	7.4	7.4
13	7.8	7.7	7.7	---	---	---	7.7	7.5	7.6	7.5	7.2	7.4
14	7.8	7.6	7.7	---	---	---	7.8	7.6	7.7	7.5	7.3	7.5
15	7.8	7.6	7.7	---	---	---	7.8	7.6	7.7	7.6	7.4	7.5
16	7.8	7.6	7.7	---	---	---	7.8	7.6	7.7	7.6	7.5	7.6
17	7.8	7.6	7.7	---	---	---	7.8	7.6	7.7	7.7	7.4	7.6
18	7.7	7.6	7.7	---	---	---	8.0	7.6	7.8	7.9	7.6	7.7
19	7.7	7.6	7.7	7.7	7.6	7.6	7.9	7.6	7.7	8.0	7.7	7.8
20	7.7	7.6	7.6	7.7	7.6	7.7	7.9	7.7	7.8	8.1	7.7	7.9
21	7.6	7.5	7.6	7.7	7.6	7.6	7.7	7.5	7.6	8.1	7.7	7.9
22	7.8	7.5	7.6	7.7	7.6	7.6	7.6	7.4	7.5	8.4	7.8	8.0
23	---	---	---	7.7	7.6	7.6	7.6	7.5	7.5	8.5	7.8	8.1
24	7.7	7.6	7.6	7.7	7.6	7.7	7.7	7.5	7.6	---	---	---
25	7.6	7.6	7.6	7.8	7.6	7.7	7.9	7.6	7.7	---	---	---
26	7.7	7.6	7.6	7.8	7.6	7.7	7.7	7.6	7.6	8.8	7.9	8.4
27	7.8	7.6	7.7	7.9	7.6	7.7	7.8	7.6	7.7	8.9	8.4	8.6
28	7.7	7.6	7.6	7.9	7.6	7.8	7.9	7.7	7.8	9.1	8.7	8.8
29	---	---	---	7.9	7.6	7.7	8.1	7.6	7.8	9.3	8.9	9.1
30	---	---	---	7.9	7.6	7.7	8.0	7.6	7.8	9.5	9.1	9.3
31	---	---	---	8.0	7.6	7.8	---	---	---	9.5	9.2	9.3
MONTH	7.9	7.5	7.7	---	---	---	8.1	7.4	7.7	9.5	7.2	7.9

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	8.6	7.9	8.2	8.4	7.6	7.9	8.8	8.0	8.4
2	9.3	8.6	9.0	8.2	7.4	7.8	8.4	7.7	8.0	8.7	8.0	8.3
3	8.8	7.7	8.4	7.5	7.3	7.4	8.3	7.6	8.0	8.7	7.9	8.3
4	8.5	7.7	8.1	7.6	7.4	7.5	8.3	7.7	8.0	8.7	8.0	8.3
5	8.2	7.6	7.9	7.9	7.5	7.7	8.4	7.7	8.0	8.8	7.9	8.3
6	8.2	7.7	7.9	8.1	7.6	7.8	8.3	7.7	8.0	8.8	8.0	8.4
7	8.0	7.8	7.9	8.3	7.7	8.0	8.3	7.8	8.0	8.7	8.0	8.3
8	8.1	7.8	7.9	7.9	7.7	7.7	8.3	7.8	8.0	8.7	7.8	8.2
9	8.2	7.9	8.0	8.2	7.7	7.9	8.3	7.8	8.0	8.7	7.9	8.3
10	8.4	8.0	8.1	8.4	7.8	8.1	8.3	7.8	8.0	8.8	8.0	8.4
11	8.2	7.9	8.0	8.1	7.7	7.8	8.1	7.7	7.9	8.9	8.0	8.4
12	7.9	7.6	7.8	7.9	7.5	7.7	8.2	7.7	7.9	8.9	8.1	8.5
13	7.8	7.7	7.7	8.3	7.6	7.9	8.1	7.8	7.9	8.9	8.1	8.5
14	7.7	7.5	7.6	8.6	7.8	8.1	8.1	7.7	7.9	8.9	8.1	8.5
15	7.5	7.4	7.5	8.7	7.9	8.2	8.2	7.7	7.9	8.8	8.1	8.4
16	7.4	7.4	7.4	8.8	7.9	8.3	8.3	7.8	8.0	8.8	7.9	8.4
17	7.4	7.4	7.4	8.7	7.8	8.2	8.0	7.8	7.9	8.4	7.9	8.1
18	7.5	7.3	7.4	8.9	8.0	8.5	8.2	7.7	7.9	8.5	7.8	8.1
19	7.5	7.4	7.5	9.0	8.0	8.5	8.3	7.8	8.0	8.6	7.8	8.2
20	7.5	7.4	7.5	9.1	8.2	8.7	8.4	7.8	8.1	8.6	7.8	8.2
21	7.6	7.4	7.5	9.1	8.1	8.7	8.5	7.8	8.1	8.6	7.9	8.2
22	7.6	7.5	7.5	9.0	8.3	8.7	8.5	7.9	8.2	8.2	7.7	8.0
23	7.6	7.5	7.5	8.8	8.1	8.5	8.5	7.9	8.1	8.6	7.8	8.2
24	7.8	7.5	7.6	8.8	7.9	8.4	---	---	---	8.6	7.9	8.3
25	8.0	7.6	7.8	8.6	7.8	8.3	---	---	---	---	---	---
26	8.1	7.7	7.8	8.6	7.7	8.1	8.5	7.9	8.2	---	---	---
27	8.1	7.7	7.9	8.4	7.7	8.1	8.4	7.8	8.1	8.7	7.9	8.3
28	8.3	7.7	8.0	8.4	7.7	8.0	8.5	7.9	8.2	---	---	---
29	---	---	---	8.5	7.7	8.1	8.6	7.9	8.2	8.3	7.6	8.0
30	---	---	---	8.4	7.7	8.0	8.7	7.9	8.3	---	---	---
31	---	---	---	8.1	7.6	7.8	8.7	7.9	8.3	---	---	---
MONTH	9.3	7.3	7.8	9.1	7.3	8.1	8.7	7.6	8.0	8.9	7.6	8.3

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.0	16.5	17.5	12.5	11.0	12.0	6.0	4.5	5.5	1.5	.5	1.0
2	17.0	15.0	16.0	13.0	12.5	12.5	4.5	4.0	4.0	1.0	.5	.5
3	17.5	15.5	16.5	13.0	11.5	12.0	4.5	4.0	4.0	2.5	1.0	2.0
4	18.5	16.5	17.5	12.5	11.0	12.0	4.5	4.0	4.5	3.5	2.5	3.0
5	19.5	17.0	18.5	11.5	10.5	11.0	4.5	4.0	4.5	4.0	3.5	3.5
6	20.5	18.0	19.5	10.5	10.0	10.0	4.0	3.5	4.0	4.5	3.5	4.0
7	20.5	19.0	19.5	10.5	10.0	10.0	3.5	3.5	3.5	5.0	4.5	4.5
8	20.0	18.5	19.5	10.0	10.0	10.0	4.0	3.5	3.5	5.5	4.5	5.0
9	20.5	18.5	19.5	10.0	9.5	10.0	3.5	3.0	3.5	7.5	5.5	7.0
10	21.5	19.5	20.5	---	---	---	3.5	3.5	3.5	7.0	6.5	6.5
11	20.5	19.0	20.0	---	---	---	3.5	3.5	3.5	6.5	5.5	6.0
12	19.5	17.5	18.5	---	---	---	3.5	3.0	3.0	5.5	5.0	5.0
13	18.5	17.0	18.0	8.5	7.5	8.0	3.5	3.0	3.5	5.0	4.5	5.0
14	19.0	17.5	18.0	7.5	6.5	7.0	4.0	3.0	3.5	4.5	3.5	4.0
15	18.5	16.5	17.5	6.5	6.0	6.0	3.5	2.5	3.0	3.5	3.0	3.0
16	16.5	16.0	16.0	6.0	5.0	5.5	3.5	2.5	3.0	3.0	2.5	3.0
17	17.0	15.0	16.0	5.5	4.5	5.0	3.5	2.5	3.0	3.0	2.5	3.0
18	16.5	15.0	16.0	5.5	4.0	4.5	3.5	2.5	3.0	3.0	3.0	3.0
19	16.0	14.5	15.0	5.0	3.5	4.5	3.5	2.5	3.0	3.5	3.0	3.0
20	15.0	13.0	14.0	5.0	3.5	4.5	3.5	2.5	3.0	3.5	3.0	3.0
21	14.5	13.0	14.0	5.5	4.0	4.5	3.5	2.5	3.0	3.5	3.0	3.0
22	14.0	12.0	13.0	6.0	5.0	6.0	2.5	2.0	2.5	3.5	3.0	3.0
23	12.5	11.0	11.5	6.5	6.0	6.0	3.0	2.5	3.0	3.5	3.0	3.0
24	12.0	10.5	11.0	6.0	5.0	5.5	3.0	2.5	3.0	4.0	3.5	3.5
25	12.0	11.5	11.5	5.0	4.0	4.5	4.5	3.0	4.0	4.0	3.0	3.5
26	11.5	11.0	11.0	5.0	4.5	4.5	4.5	4.0	4.5	3.5	3.0	3.0
27	12.5	11.0	12.0	5.0	4.5	4.5	4.0	3.5	4.0	3.5	3.0	3.0
28	11.5	10.5	11.0	5.0	4.5	4.5	3.5	3.0	3.0	3.5	2.5	3.0
29	10.5	9.5	10.0	5.5	4.5	5.0	3.0	2.5	2.5	3.5	2.5	3.0
30	11.0	9.0	10.0	5.5	5.0	5.5	3.0	2.5	3.0	3.5	3.0	3.0
31	11.5	9.5	10.5	---	---	---	2.5	1.5	2.0	4.0	3.0	3.5
MONTH	21.5	9.0	15.5	13.0	3.5	7.0	6.0	1.5	3.5	7.5	.5	3.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	4.0	3.0	3.5	7.0	6.0	6.5	15.1	14.3	14.8	14.5	14.0	14.0
2	4.0	3.0	3.5	7.5	6.5	7.0	15.5	14.5	15.0	15.0	14.0	14.5
3	5.5	4.0	4.0	7.5	7.0	7.0	14.5	13.0	14.0	16.0	14.5	15.5
4	4.5	4.0	4.0	7.0	6.5	6.5	13.0	11.0	12.0	16.0	15.5	15.5
5	4.0	4.0	4.0	6.5	5.5	6.0	11.0	10.0	10.5	16.0	16.0	16.0
6	4.5	3.5	4.0	6.5	5.0	6.0	10.0	9.0	10.0	16.0	15.0	15.5
7	4.0	3.5	4.0	6.5	5.5	6.0	11.0	9.0	10.0	16.0	15.0	15.5
8	4.5	3.5	4.0	6.5	6.0	6.5	11.5	10.0	11.0	16.0	15.0	15.5
9	---	---	---	7.5	6.0	6.5	11.0	10.0	10.5	15.0	15.0	15.0
10	---	---	---	7.5	6.5	7.0	10.0	9.0	9.5	15.0	14.5	14.5
11	5.0	4.0	4.5	6.5	4.5	5.5	10.0	8.5	9.0	14.5	13.5	14.0
12	5.5	5.0	5.5	4.5	3.5	4.0	10.5	9.0	9.5	13.5	13.0	13.5
13	6.0	5.0	5.5	3.5	2.5	3.0	11.5	9.5	10.5	14.0	13.0	13.5
14	5.5	4.5	5.0	3.5	2.5	3.0	12.5	11.0	11.5	15.5	14.0	14.5
15	4.5	3.0	3.5	4.0	2.5	3.5	13.0	12.0	12.5	16.5	15.0	15.5
16	3.5	2.5	3.0	4.5	3.0	4.0	13.0	12.0	12.5	18.0	16.0	17.0
17	3.5	3.0	3.0	5.5	4.0	4.5	13.5	12.5	13.0	19.0	17.5	18.0
18	4.0	3.5	4.0	5.5	5.0	5.0	14.5	12.5	13.5	20.5	18.0	19.0
19	5.0	4.0	4.5	5.5	5.0	5.0	14.5	13.0	13.5	20.5	19.0	20.0
20	5.0	4.5	5.0	6.0	5.5	5.5	13.5	12.5	13.0	21.5	19.5	20.5
21	5.5	5.0	5.0	5.5	5.5	5.5	13.0	11.5	12.5	21.5	20.5	21.0
22	6.0	4.5	5.5	5.5	5.0	5.5	12.5	11.5	12.0	20.5	19.5	20.0
23	---	---	---	5.0	4.5	4.5	12.0	12.0	12.0	20.5	19.0	19.5
24	5.5	5.0	5.0	5.5	4.0	5.0	13.0	12.0	12.5	---	---	---
25	5.0	4.5	5.0	6.0	4.5	5.5	14.0	12.5	13.0	---	---	---
26	5.5	4.5	5.0	7.5	5.5	6.5	13.5	12.5	13.0	20.5	19.0	19.5
27	6.0	5.0	5.5	10.0	7.0	8.5	13.0	11.5	12.5	21.0	20.0	20.5
28	6.0	5.5	6.0	11.5	9.0	10.5	13.0	11.5	12.5	22.0	20.5	21.0
29	---	---	---	12.5	10.5	11.5	14.0	12.0	13.0	23.0	21.5	22.0
30	---	---	---	13.6	11.7	12.7	14.0	13.0	13.5	24.5	22.5	23.5
31	---	---	---	15.1	13.0	14.1	---	---	---	25.0	23.5	24.5
MONTH	6.0	2.5	4.5	15.0	2.5	6.5	15.5	8.5	12.0	25.0	13.0	17.5

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	24.5	23.0	24.0	27.5	24.5	26.0	27.0	25.5	26.0
2	23.5	22.5	23.0	23.5	22.5	23.0	27.5	24.5	26.0	26.0	24.0	25.0
3	23.0	21.5	22.0	23.0	21.5	22.5	27.5	24.5	26.0	25.5	23.5	24.5
4	21.5	20.0	20.5	22.5	21.5	22.0	28.0	25.0	26.5	25.5	23.5	24.5
5	20.5	19.0	20.0	23.5	22.0	23.0	28.0	25.0	26.5	25.5	23.0	24.0
6	20.0	18.5	19.5	23.5	22.5	23.0	28.0	25.0	26.5	25.5	23.0	24.5
7	19.5	18.5	19.0	24.0	22.5	23.0	27.5	25.0	26.5	25.5	24.0	25.0
8	18.5	17.5	18.0	23.0	21.5	22.5	28.5	25.5	27.0	25.0	23.0	24.0
9	19.0	17.0	18.0	23.0	21.0	22.0	28.5	26.5	27.5	23.0	21.0	21.5
10	20.0	18.0	19.0	24.0	22.0	23.0	28.5	26.5	27.5	21.5	19.5	20.5
11	19.5	18.5	19.0	23.0	21.5	22.5	28.0	26.5	27.0	22.0	19.0	20.5
12	19.0	18.5	19.0	22.5	21.0	22.0	28.0	26.0	27.0	23.0	20.0	21.5
13	19.0	18.5	19.0	23.5	21.5	22.5	27.0	25.5	26.5	24.5	22.0	23.0
14	19.0	18.0	18.5	24.5	23.0	23.5	26.5	25.0	25.5	24.5	22.5	23.5
15	18.0	18.0	18.0	25.0	24.0	24.5	26.5	24.0	25.0	25.0	23.0	24.0
16	18.5	17.5	18.0	25.5	24.0	24.5	26.5	24.5	25.5	26.0	24.0	25.0
17	19.5	18.0	19.0	26.0	25.0	25.5	26.5	25.5	26.0	25.5	23.5	24.0
18	20.5	18.5	19.5	27.5	25.5	26.5	27.0	24.5	26.0	23.5	22.5	23.0
19	21.5	19.5	20.5	27.5	26.0	27.0	26.0	24.0	25.0	24.0	21.5	23.0
20	22.5	20.5	21.5	28.0	26.0	27.0	25.5	22.5	24.0	24.5	22.5	23.5
21	23.5	21.0	22.0	28.5	26.0	27.5	25.5	22.5	24.0	25.0	23.0	24.0
22	23.0	22.0	22.5	29.0	26.5	28.0	26.5	24.0	25.5	24.5	22.5	23.5
23	22.5	22.0	22.0	28.5	27.0	27.5	27.0	25.0	26.0	22.5	20.0	21.0
24	23.5	21.5	22.5	28.5	26.5	27.5	---	---	---	20.5	18.5	19.5
25	24.5	22.5	23.5	28.0	26.0	27.0	---	---	---	---	---	---
26	25.5	24.0	24.5	28.0	25.5	26.5	28.0	26.0	27.0	---	---	---
27	25.5	24.0	25.0	27.5	25.5	26.5	27.5	26.0	27.0	23.0	20.5	21.5
28	25.5	24.0	24.5	27.5	25.0	26.0	27.5	26.0	26.5	---	---	---
29	---	---	---	28.5	26.0	27.0	27.5	25.5	26.5	21.5	19.5	21.0
30	---	---	---	29.0	26.5	27.5	28.0	25.5	27.0	---	---	---
31	---	---	---	28.0	26.0	26.5	28.0	26.0	27.0	---	---	---
MONTH	25.5	17.0	20.5	29.0	21.0	25.0	28.5	22.5	26.0	27.0	18.5	23.0

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	11.7	9.1	10.2	11.4	10.1	10.7	13.1	11.6	12.3	14.2	13.2	13.7
2	12.4	9.1	10.6	10.7	9.4	10.0	13.3	12.3	12.7	14.0	13.1	13.7
3	11.7	9.4	10.6	11.3	9.4	10.3	12.8	12.1	12.4	13.6	12.8	13.1
4	12.9	9.3	11.0	11.2	9.9	10.5	12.7	12.0	12.4	13.1	12.3	12.7
5	12.9	9.4	11.0	11.9	10.1	10.9	12.9	12.0	12.4	12.9	12.0	12.3
6	12.5	9.3	10.8	11.9	10.6	11.1	13.2	12.2	12.6	12.1	11.6	11.8
7	11.9	8.8	10.2	11.4	10.6	10.9	13.4	12.4	12.9	11.6	11.2	11.3
8	12.4	8.7	10.4	10.9	10.4	10.6	13.8	12.6	13.1	11.2	10.8	11.0
9	12.2	8.7	10.4	11.2	10.1	10.6	14.1	12.8	13.4	---	---	---
10	11.6	8.3	9.9	---	---	---	13.3	12.5	13.0	---	---	---
11	11.6	8.2	9.8	---	---	---	12.9	12.3	12.6	---	---	---
12	11.8	8.6	10.1	---	---	---	13.9	12.7	13.2	---	---	---
13	11.4	8.8	10.1	---	---	---	14.6	13.0	13.7	---	---	---
14	10.5	8.7	9.5	12.3	11.9	12.1	14.4	13.1	13.6	---	---	---
15	9.2	8.3	8.7	13.1	11.9	12.4	14.7	13.2	13.9	---	---	---
16	11.0	8.5	9.6	13.5	12.3	12.8	14.7	13.4	14.0	---	---	---
17	11.3	9.1	10.1	13.8	12.6	13.1	15.3	13.6	14.3	---	---	---
18	11.4	9.1	10.1	14.2	12.8	13.5	15.3	13.5	14.3	---	---	---
19	10.9	9.1	10.0	14.4	13.0	13.6	15.2	13.6	14.3	---	---	---
20	11.9	9.4	10.4	14.4	12.9	13.6	15.5	13.4	14.3	---	---	---
21	11.8	9.6	10.6	14.6	12.9	13.6	15.5	13.3	14.3	12.7	12.4	12.5
22	11.8	9.7	10.7	13.2	12.2	12.7	15.3	13.6	14.4	12.8	12.4	12.6
23	12.1	10.1	11.0	13.4	11.9	12.5	15.2	13.4	14.3	12.6	12.3	12.5
24	12.4	10.3	11.3	13.7	12.1	12.9	15.4	13.3	14.2	---	---	---
25	11.2	10.1	10.6	13.9	12.7	13.1	14.8	12.7	13.7	---	---	---
26	11.6	9.9	10.7	13.4	12.7	13.0	13.2	12.5	12.8	---	---	---
27	11.9	9.9	10.8	13.6	12.4	12.9	12.7	12.2	12.5	13.0	12.7	12.8
28	12.0	10.0	11.0	13.1	12.5	12.7	13.8	12.3	13.0	---	---	---
29	12.6	10.4	11.5	13.8	12.3	12.9	14.0	12.8	13.3	---	---	---
30	12.9	10.7	11.7	12.7	11.8	12.3	13.0	12.3	12.5	---	---	---
31	13.0	10.6	11.7	---	---	---	13.2	12.3	12.7	---	---	---
MONTH	13.0	8.2	10.5	14.6	9.4	12.1	15.5	11.6	13.3	---	---	---

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

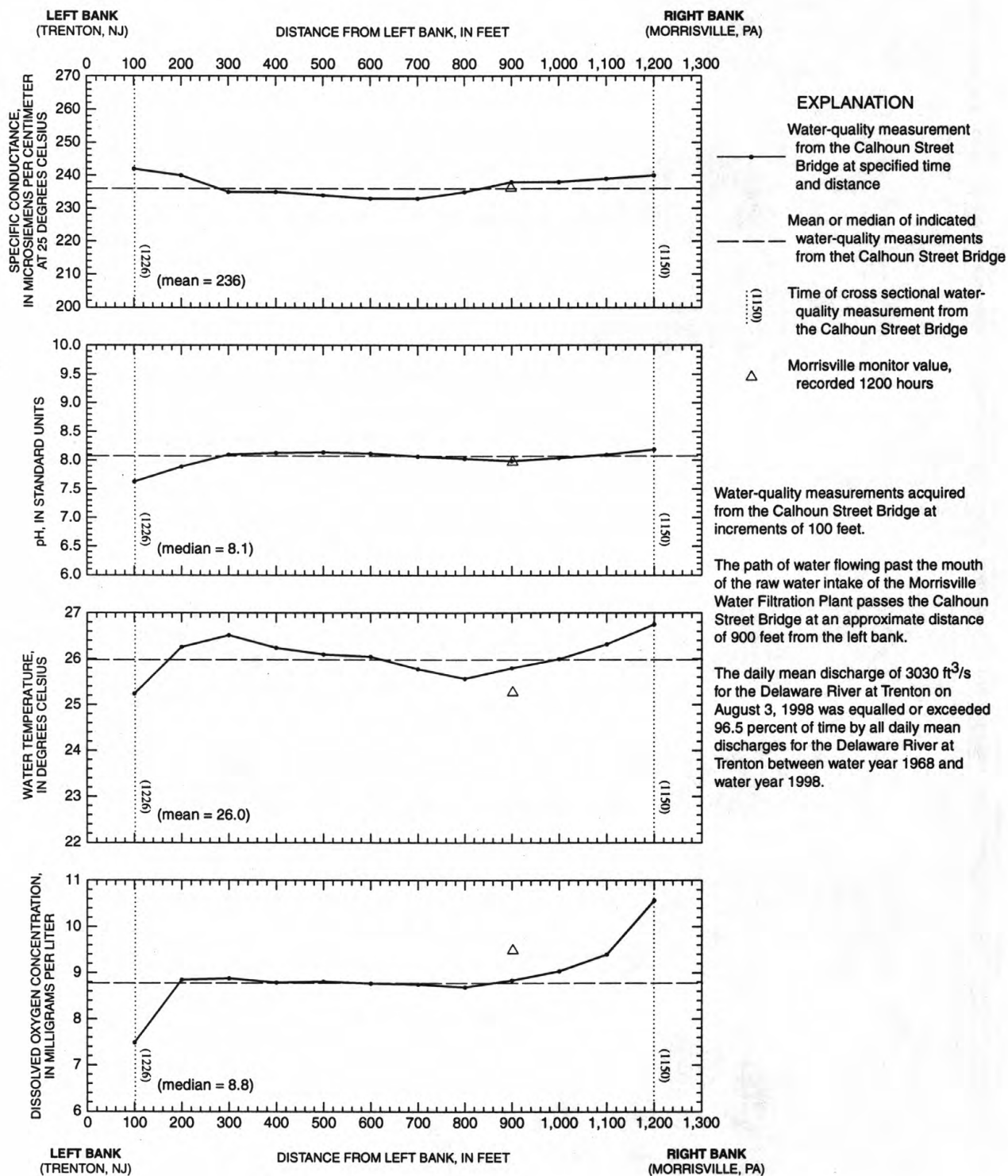
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	12.2	11.8	12.0	10.4	9.7	10.0	10.1	9.6	9.9
2	---	---	---	11.9	11.4	11.6	10.0	9.8	9.9	10.0	9.3	9.7
3	13.2	12.8	13.0	11.7	11.4	11.5	10.6	10.0	10.3	10.1	9.1	9.5
4	12.9	12.6	12.7	12.3	11.6	12.1	10.9	10.4	10.6	9.7	9.0	9.3
5	12.8	12.5	12.7	12.9	12.3	12.6	11.6	10.9	11.2	9.3	8.7	9.0
6	13.1	12.6	12.9	13.4	12.7	13.1	12.0	11.4	11.7	9.3	8.6	9.0
7	13.3	12.9	13.0	13.6	12.9	13.2	12.1	11.4	11.7	9.1	8.9	9.0
8	13.3	12.8	13.0	13.1	12.7	12.9	11.7	11.0	11.3	9.0	8.4	8.7
9	---	---	---	12.9	12.6	12.7	11.0	10.6	10.8	8.9	8.5	8.8
10	---	---	---	12.8	12.4	12.7	10.7	10.5	10.6	9.0	8.6	8.9
11	13.4	12.8	13.1	---	---	---	---	---	---	9.1	8.6	9.0
12	12.9	12.1	12.5	---	---	---	---	---	---	---	---	---
13	12.5	12.1	12.3	---	---	---	---	---	---	---	---	---
14	13.0	12.4	12.7	---	---	---	---	---	---	---	---	---
15	13.6	12.8	13.2	---	---	---	---	---	---	9.7	9.4	9.6
16	14.0	13.3	13.6	---	---	---	10.8	10.3	10.5	9.5	9.2	9.3
17	13.9	13.2	13.5	---	---	---	10.6	10.2	10.3	9.4	8.7	9.2
18	13.2	12.8	12.9	---	---	---	10.8	10.0	10.4	9.6	8.9	9.3
19	12.8	12.6	12.7	---	---	---	10.3	9.8	10.0	9.6	8.8	9.2
20	12.7	12.5	12.6	---	---	---	10.5	9.8	10.1	9.7	8.7	9.2
21	12.7	12.4	12.5	---	---	---	10.4	10.1	10.3	9.7	8.6	9.2
22	13.0	12.5	12.7	---	---	---	10.6	10.3	10.5	10.4	8.9	9.6
23	---	---	---	---	---	---	10.5	10.3	10.3	10.7	9.1	9.9
24	12.9	12.6	12.7	---	---	---	10.6	10.1	10.3	---	---	---
25	12.8	12.6	12.7	12.2	11.7	11.8	10.7	10.1	10.3	---	---	---
26	13.0	12.7	12.8	11.9	11.5	11.7	10.2	10.0	10.1	12.1	9.6	10.8
27	12.9	12.5	12.7	11.7	11.0	11.4	10.7	9.6	10.2	12.2	10.1	11.1
28	12.5	12.1	12.3	11.2	10.6	11.0	11.0	10.3	10.5	12.6	10.2	11.3
29	---	---	---	10.9	10.5	10.7	11.1	10.2	10.5	13.2	10.1	11.3
30	---	---	---	10.9	10.3	10.6	10.6	9.9	10.3	13.5	10.0	11.6
31	---	---	---	10.7	10.0	10.3	---	---	---	13.8	9.7	11.5
MONTH	14.0	12.1	12.8	---	---	---	12.1	9.6	10.5	13.8	8.4	9.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	10.1	8.2	9.1	10.4	8.1	9.2	10.4	7.7	9.0
2	11.2	8.9	9.9	9.3	8.3	8.8	10.6	8.4	9.4	10.2	8.2	9.0
3	10.3	8.0	9.0	8.6	8.2	8.5	10.5	8.3	9.3	10.5	8.3	9.3
4	9.9	8.0	8.9	---	---	---	10.6	8.5	9.5	10.5	8.4	9.4
5	9.6	7.6	8.7	---	---	---	---	---	---	10.9	8.4	9.6
6	---	---	---	9.8	8.3	9.0	---	---	---	11.1	8.6	9.7
7	---	---	---	10.1	8.3	9.2	---	---	---	10.8	8.5	9.5
8	---	---	---	9.0	8.3	8.7	---	---	---	10.6	8.1	9.3
9	---	---	---	9.8	8.3	9.0	---	---	---	10.9	8.7	9.7
10	---	---	---	9.6	8.5	9.2	---	---	---	11.3	9.2	10.2
11	---	---	---	9.2	8.1	8.7	---	---	---	11.8	9.3	10.5
12	---	---	---	9.4	8.1	8.7	---	---	---	11.9	9.3	10.5
13	---	---	---	9.9	8.1	9.0	---	---	---	11.8	9.1	10.3
14	---	---	---	10.4	8.3	9.3	9.6	8.2	8.9	11.9	8.9	10.2
15	---	---	---	10.4	8.4	9.4	10.1	8.3	9.2	11.1	8.7	9.8
16	---	---	---	11.9	8.0	9.7	10.1	8.4	9.2	11.0	8.3	9.5
17	9.9	8.9	9.1	11.8	9.7	10.6	9.2	8.4	8.8	9.7	8.1	8.8
18	9.4	8.3	8.9	12.1	9.2	10.6	9.6	8.1	8.7	10.6	8.3	9.3
19	9.8	8.7	9.1	12.1	9.1	10.6	9.9	8.2	9.0	10.8	8.7	9.6
20	9.0	8.5	8.8	12.4	9.3	10.8	10.4	8.8	9.5	10.7	8.6	9.6
21	9.1	8.3	8.6	12.4	9.3	11.0	10.4	8.7	9.6	10.7	8.4	9.5
22	8.6	8.0	8.4	12.1	9.4	10.8	10.3	8.6	9.4	9.4	8.0	8.7
23	9.0	7.8	8.3	11.3	8.7	10.0	10.0	8.4	9.1	10.9	8.5	9.6
24	9.0	8.0	8.5	11.2	8.5	10.0	---	---	---	11.1	9.3	10.1
25	9.6	8.3	8.9	11.0	8.4	9.8	---	---	---	---	---	---
26	9.6	8.3	8.8	11.1	8.4	9.7	9.7	7.8	8.7	---	---	---
27	9.4	7.9	8.6	10.7	8.5	9.7	9.5	7.9	8.6	11.1	9.2	10.1
28	9.7	8.0	8.8	10.4	8.3	9.3	9.6	8.0	8.8	---	---	---
29	---	---	---	10.7	8.1	9.4	10.0	8.0	8.9	9.9	7.8	9.0
30	---	---	---	10.3	7.9	9.0	9.9	7.9	8.9	---	---	---
31	---	---	---	9.6	7.8	8.6	9.9	7.8	8.8	---	---	---
MONTH	---	---	---	12.4	7.8	9.5	---	---	---	11.9	7.7	9.6

DELAWARE RIVER BASIN
01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

Cross section of specific conductance, pH, water temperature, and dissolved oxygen concentration measurements from the Calhoun Street Bridge (distance from left bank looking downstream); and recorded hourly specific conductance, pH, water temperature, and dissolved oxygen concentration measurements from the water-quality monitor at the Morrisville Water Filtration Plant, Morrisville, PA.

August 3, 1998



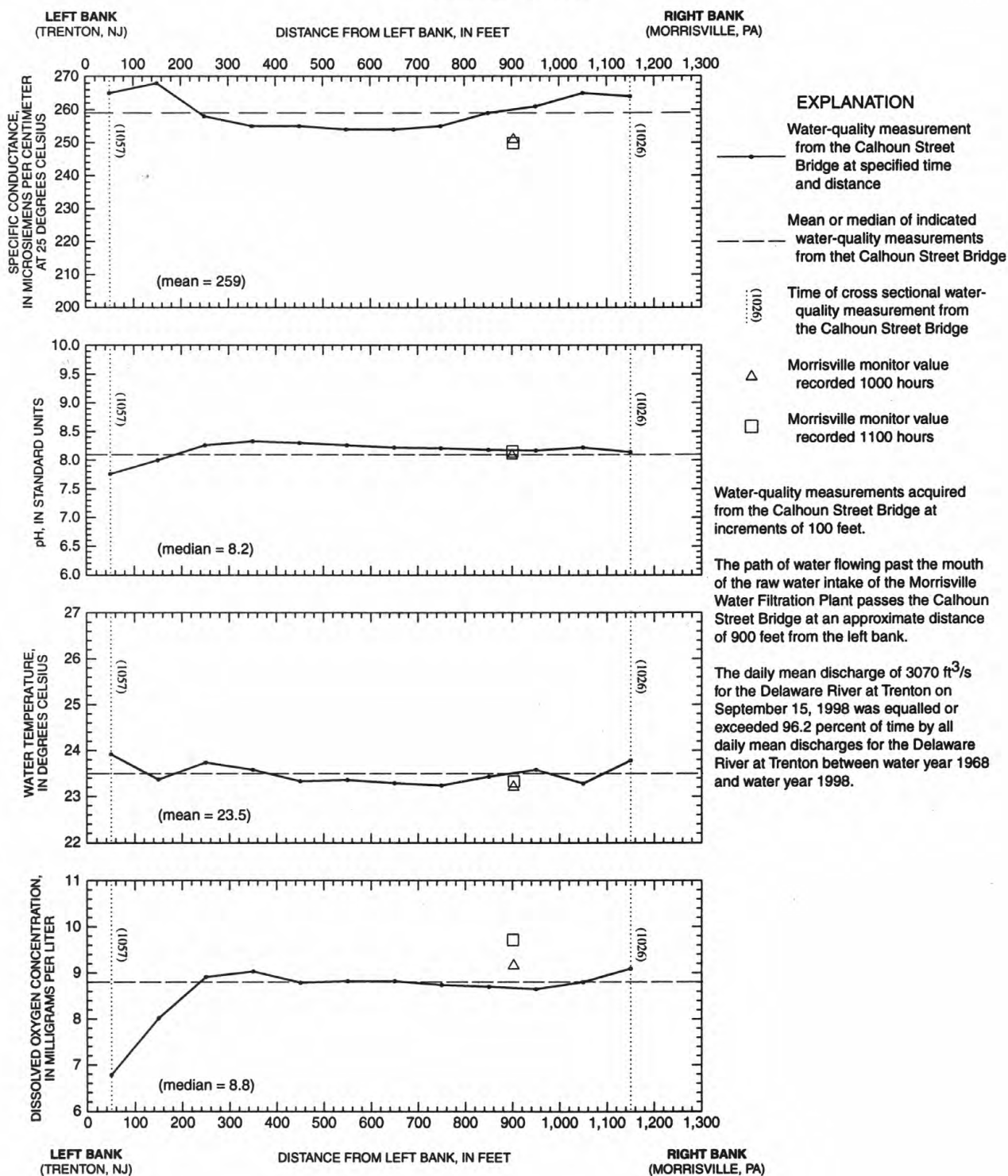
DELAWARE RIVER BASIN

163

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

Cross section of specific conductance, pH, water temperature, and dissolved oxygen concentration measurements from the Calhoun Street Bridge (distance from left bank looking downstream); and recorded hourly specific conductance, pH, water temperature, and dissolved oxygen concentration measurements from the water-quality monitor at the Morrisville Water Filtration Plant, Morrisville, PA.

September 15, 1998



NESHAMINY CREEK BASIN

01464645 NORTH BRANCH NESHAMINY CREEK BELOW LAKE GALENA NEAR NEW BRITAIN, PA

LOCATION.--Lat 40°18'44", long 75°12'25", Bucks County, Hydrologic Unit 02040201, on left bank 0.3 mi downstream from Lake Galena (Peace Valley Reservoir), 1.5 mi west of New Britain, 2.0 mi north of Chalfont on Callowhill Road, and 4.0 mi west of Doylestown.

DRAINAGE AREA.--16.2 mi².

PERIOD OF RECORD.--November 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 280 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Lake Galena (Peace Valley Reservoir). Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of change in contents in Lake Galena provided by Forest Park Water Company.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	25	20	23	60	85	32	23	27	27	29	26
2	26	24	20	23	66	82	28	28	26	27	28	28
3	26	24	21	23	85	82	24	30	26	27	27	26
4	26	24	21	23	83	47	24	28	26	26	27	25
5	26	23	21	23	51	23	24	26	25	26	27	24
6	26	22	21	23	28	22	23	57	25	26	29	23
7	27	23	21	24	29	22	23	97	25	26	28	25
8	27	24	21	27	29	24	23	192	25	27	28	27
9	27	23	20	26	29	36	36	391	25	27	28	28
10	27	21	21	25	29	36	185	354	25	26	29	24
11	27	21	21	25	29	37	113	273	25	27	27	25
12	27	21	21	24	29	36	68	307	27	27	25	26
13	27	21	21	22	26	36	47	146	27	27	27	26
14	27	21	21	22	26	36	36	79	37	28	29	25
15	27	21	21	22	25	35	30	53	55	27	27	25
16	27	21	21	26	25	37	26	37	49	27	26	26
17	23	21	22	24	26	39	24	30	131	27	29	26
18	23	23	21	23	30	39	23	26	83	27	26	26
19	23	23	21	23	32	44	23	25	55	27	24	26
20	23	22	21	23	31	49	24	28	40	27	24	26
21	23	22	21	23	31	69	23	28	32	27	25	27
22	24	23	21	23	31	68	23	27	30	29	25	28
23	23	23	21	34	35	66	23	26	27	31	24	27
24	23	22	21	27	78	61	23	26	26	28	24	26
25	24	22	24	23	94	60	23	26	27	29	25	26
26	24	21	23	32	92	59	25	26	28	29	25	26
27	24	21	23	70	88	56	27	25	28	30	26	26
28	24	21	23	63	86	52	26	24	28	30	26	26
29	24	21	24	62	---	52	24	25	28	27	25	26
30	24	21	26	62	---	45	23	25	27	28	26	26
31	24	---	25	60	---	54	---	25	---	30	26	---
TOTAL	779	665	670	953	1303	1489	1076	2513	1065	854	821	777
MEAN	25.1	22.2	21.6	30.7	46.5	48.0	35.9	81.1	35.5	27.5	26.5	25.9
MAX	27	25	26	70	94	85	185	391	131	31	29	28
MIN	23	21	20	22	25	22	23	23	25	26	24	23
(†)	-4.8	-10.6	-5.5	+22.5	+1.5	-3.7	+9.7	-2.7	-1.6	-1.0	+2.7	-2.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1998, BY WATER YEAR (WY)

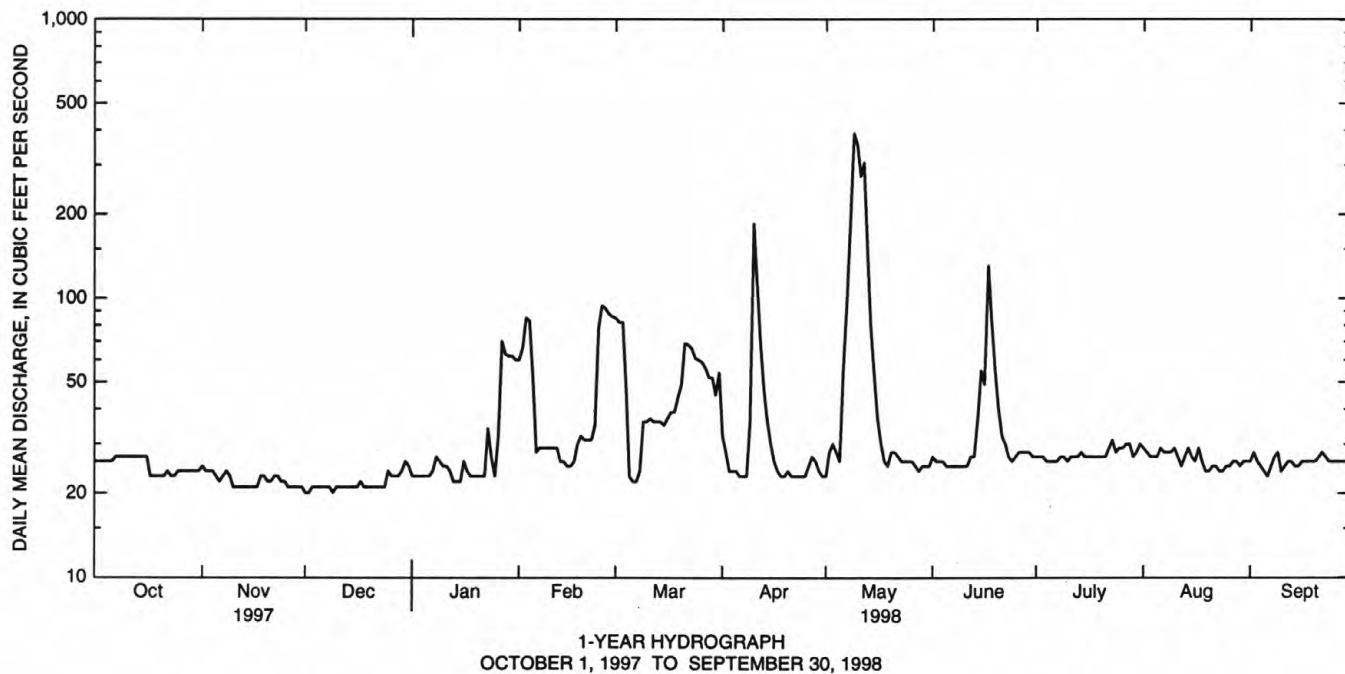
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	23.0	24.8	53.9	37.2	28.1	40.1	32.5	28.3	20.0	18.5	15.3	16.5	
MAX	81.8	86.4	145	80.4	58.8	123	80.0	81.1	44.3	55.3	41.7	48.7	
(WY)	1997	1996	1997	1996	1988	1994	1996	1998	1989	1988	1994	1989	
MIN	3.91	5.85	17.5	6.62	5.36	4.75	4.68	6.55	5.38	4.92	4.97	3.63	
(WY)	1989	1992	1995	1986	1989	1988	1988	1986	1986	1990	1987	1988	

† Change in contents, equivalent in cubic feet per second, in Lake Galena.

NESHAMINY CREEK BASIN

01464645 NORTH BRANCH NESHAMINY CREEK BELOW LAKE GALENA NEAR NEW BRITAIN, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1986 - 1998	
ANNUAL TOTAL	9967		12965			
ANNUAL MEAN	27.3		35.5		28.8	
HIGHEST ANNUAL MEAN					44.3	
LOWEST ANNUAL MEAN					13.1	
HIGHEST DAILY MEAN	90	Jun 3	391	May 9	878	Dec 5 1993
LOWEST DAILY MEAN	20	Dec 1,2,9	20	Dec 1,2,9	3.1	Dec 22 1989
ANNUAL SEVEN-DAY MINIMUM	21	Nov 26	21	Nov 26	3.1	Dec 22 1989
INSTANTANEOUS PEAK FLOW			a460	May 8	a2060	Oct 19 1996
INSTANTANEOUS PEAK STAGE			3.39	May 8	4.77	Oct 19 1996
10 PERCENT EXCEEDS	35		58		64	
50 PERCENT EXCEEDS	25		26		18	
90 PERCENT EXCEEDS	21		22		4.8	

a From rating curve extended above 270 ft³/s on basis of slope-conveyance computation.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

NESHAMINY CREEK BASIN

01464720 NORTH BRANCH NESHAMINY CREEK AT CHALFONT, PA

LOCATION.--Lat 40°17'17", long 75°12'15", Bucks County, Hydrologic Unit 02040201, on right bank 250 ft upstream from Route 202 bridge in Chalfont, and 0.6 mi upstream from mouth.

DRAINAGE AREA.--31.5 mi².

PERIOD OF RECORD.--December 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 250 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges and those greater than 590 ft³/s, which are poor. Diversion for municipal supply by Forest Park Water Company upstream of gage. Flow regulated by Lake Galena (Peace Valley Reservoir) 1.8 mi upstream, drainage area 15.8 mi², normal pool capacity 6,539 ac-ft. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

COOPERATION.--Records of diversion provided by Forest Park Water Company.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	27	8.2	e26	68	109	141	24	59	13	8.1	5.8
2	9.1	39	e7.6	e22	72	103	230	78	25	9.8	8.0	9.9
3	9.2	27	e8.2	e19	95	107	65	59	23	8.8	6.0	8.8
4	11	11	e9.0	e18	93	66	50	42	16	9.8	5.4	7.5
5	10	9.1	9.9	e17	108	30	39	40	16	10	6.1	6.1
6	8.7	7.3	8.8	16	62	27	31	201	15	10	5.9	6.7
7	15	9.7	9.7	51	39	25	28	187	15	9.1	5.9	19
8	20	11	7.9	e80	34	44	26	465	15	18	6.7	18
9	26	13	8.1	e43	32	234	127	712	12	17	6.8	12
10	30	9.8	10	35	30	100	430	570	14	13	8.3	6.8
11	17	8.1	13	28	29	67	160	430	13	10	6.9	6.8
12	9.4	8.7	12	24	54	56	99	502	64	9.8	6.1	7.7
13	8.0	8.2	11	21	32	51	68	206	60	8.6	7.0	8.2
14	7.8	23	9.7	20	28	49	51	124	131	8.3	8.6	6.2
15	8.5	24	9.1	22	25	46	41	86	142	9.1	7.2	6.4
16	11	12	8.7	81	23	44	33	63	76	8.3	6.9	7.5
17	6.8	10	9.5	35	36	45	30	51	190	8.4	34	7.9
18	9.1	10	9.1	32	122	50	26	40	95	8.3	12	7.6
19	8.0	10	9.3	29	88	211	28	33	64	7.9	9.0	7.2
20	6.5	7.2	8.1	26	57	112	46	33	36	8.0	7.0	8.2
21	8.0	7.1	8.0	24	48	211	27	30	25	7.4	6.5	7.2
22	7.6	17	7.1	22	39	146	23	27	20	7.6	6.8	11
23	6.2	11	15	181	76	110	22	24	18	9.3	6.9	8.2
24	7.1	9.7	12	213	268	94	21	23	16	8.3	6.2	7.2
25	11	9.2	63	71	172	86	19	38	15	7.8	6.9	7.5
26	11	8.5	29	54	129	81	36	27	15	7.4	15	7.6
27	20	8.8	22	88	119	77	80	21	14	7.7	14	7.6
28	29	8.5	22	e110	112	70	33	16	13	7.2	8.8	6.8
29	8.2	7.9	35	87	---	66	25	18	11	6.4	7.0	6.7
30	7.8	7.3	95	78	---	54	23	23	16	6.1	6.8	6.7
31	7.2	---	36	73	---	57	---	15	---	8.5	6.3	---
TOTAL	363.9	380.1	531.0	1646	2090	2628	2058	4208	1244	288.9	263.1	250.8
MEAN	11.7	12.7	17.1	53.1	74.6	84.8	68.6	136	41.5	9.32	8.49	8.36
MAX	30	39	95	213	268	234	430	712	190	18	34	19
MIN	6.2	7.1	7.1	16	23	25	19	15	11	6.1	5.4	5.8
(†)	21.1	18.7	18.4	18.4	18.3	18.2	18.6	19.9	20.6	22.5	22.8	21.6
(‡)	-4.8	-10.6	-5.5	+22.5	+1.5	-3.7	+9.7	-2.7	-1.6	-1.0	+2.7	-2.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1998, BY WATER YEAR (WY)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	49.3	39.7	94.0	80.5	41.1	91.9	59.5	35.3	19.9	21.9	23.5	14.3
MAX	208	108	273	209	74.6	222	121	136	41.5	55.8	67.5	26.4
(WY)	1997	1996	1997	1996	1998	1994	1996	1998	1998	1996	1994	1996
MIN	7.20	8.50	16.3	46.8	14.2	33.2	11.8	11.1	5.92	7.89	4.82	5.86
(WY)	1992	1992	1995	1992	1992	1997	1995	1995	1995	1992	1995	1992

† Diversion by Forest Park Water Company, equivalent in cubic feet per second.

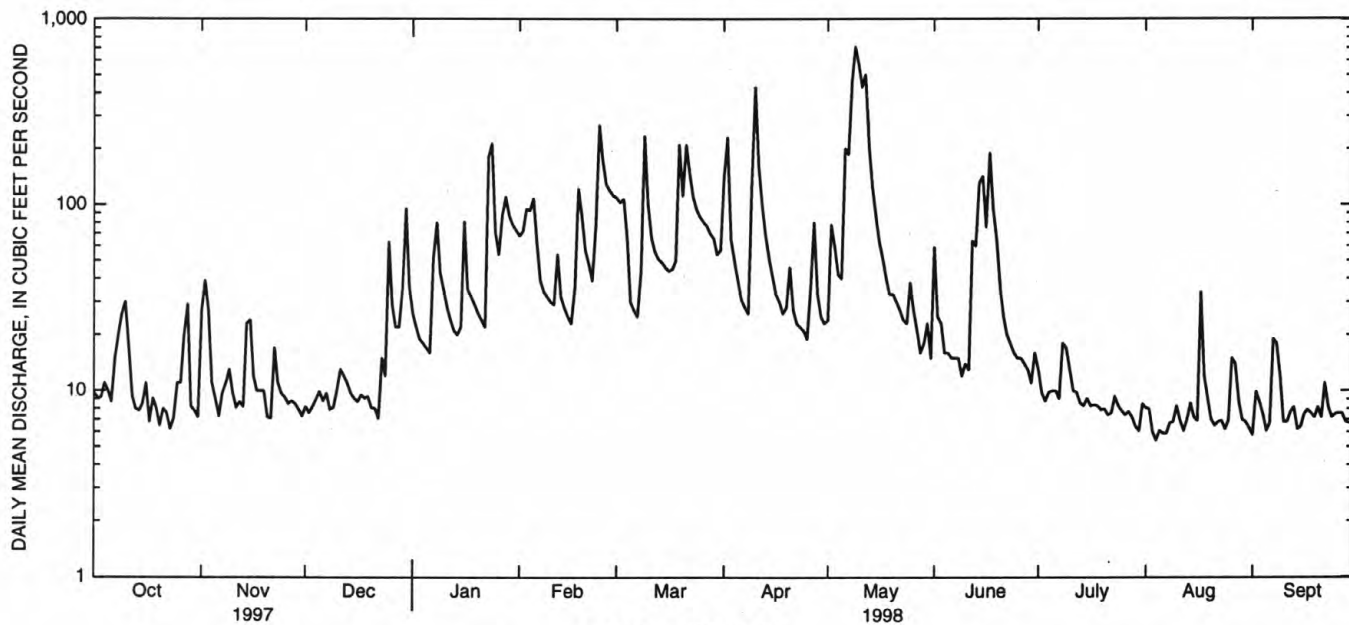
‡ Change in contents, equivalent in cubic feet per second, in Lake Galena.

e Estimated.

NESHAMINY CREEK BASIN

01464720 NORTH BRANCH NESHAMINY CREEK AT CHALFONT, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1991 - 1998	
ANNUAL TOTAL	9680.5		15951.8		48.5	
ANNUAL MEAN	26.5		43.7		18.6	
HIGHEST ANNUAL MEAN					67.4	
LOWEST ANNUAL MEAN					18.6	
HIGHEST DAILY MEAN	343	Jan 25	712	May 9	3300	Oct 19 1996
LOWEST DAILY MEAN	6.2	Oct 23	5.4	Aug 4	2.3	Aug 18 1991
ANNUAL SEVEN-DAY MINIMUM	7.5	Oct 17	6.1	Aug 3	3.0	Aug 12 1991
INSTANTANEOUS PEAK FLOW			a1050	May 8	a13700	Oct 19 1996
INSTANTANEOUS PEAK STAGE			5.64	May 8	10.33	Oct 19 1996
10 PERCENT EXCEEDS	50		101		98	
50 PERCENT EXCEEDS	17		18		18	
90 PERCENT EXCEEDS	8.5		7.1		5.7	

a From rating curve extended above 590 ft³/s.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

NESHAMINY CREEK BASIN

01465500 NESHAMINY CREEK NEAR LANGHORNE, PA

LOCATION.--Lat 40°10'26", long 74°57'26", Bucks County, Hydrologic Unit 02040201, on left bank at bridge on State Highway 213, 0.3 mi downstream from Mill Creek, and 1.7 mi west of Langhorne.

DRAINAGE AREA.--210 mi².

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.--WSP 1332: 1949. WSP 1432: 1936-37. WDR PA-83-1: 1982(P).

GAGE.--Water-stage recorder. Datum of gage is 40.57 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation at low flow by mills above station. Flow regulated by upstream reservoirs on Little Neshaminy Creek, Robin Run, Pine Run, North Branch Neshaminy Creek, and Core Creek (combined flood control capacity, about 9,560 acre-ft). Occasional regulation by Springfield Lake, capacity, 2,000 acre-ft, completed in 1934; no significant regulation except during period May 1934 to January 1944, when the lake was filling, and in September 1949, July 1954, July through October 1957, and September, October 1961. Interceptor sewer installed along left bank during May and June 1966. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 23, 1933 reached a stage of 17.3 ft, from floodmark, discharge, about 30,000 ft³/s, from rating curve extended as explained in footnotes on next page.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,500 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 24	0130	5,130	8.04	Apr. 10	0500	5,520	8.40
Apr. 2	0430	*7,230	*9.75	May 8	2300	5,310	8.21

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	161	75	253	284	408	715	215	467	229	63	25
2	42	427	68	198	265	381	3740	444	265	132	52	26
3	38	196	64	174	264	467	866	444	273	106	37	73
4	38	129	70	162	272	499	501	299	196	94	33	76
5	37	94	81	149	565	331	414	272	154	200	28	41
6	39	77	75	140	733	282	350	770	139	122	28	30
7	37	69	66	188	347	263	311	1280	128	96	26	27
8	33	71	63	771	286	284	289	1670	124	130	26	154
9	48	99	60	470	255	2500	427	3610	120	345	27	111
10	51	122	60	299	234	1060	3270	2720	114	163	30	58
11	64	94	95	229	222	538	950	2520	113	119	88	42
12	61	73	117	193	523	418	581	e2900	553	96	52	32
13	37	65	108	172	354	359	455	1230	688	85	34	30
14	34	87	93	163	264	334	390	783	e1300	77	30	29
15	39	226	82	152	229	313	357	595	e740	70	30	28
16	46	157	73	675	209	283	322	486	e1900	69	31	23
17	64	109	72	402	234	264	320	491	536	75	58	40
18	e43	88	67	285	1520	275	301	394	397	76	327	46
19	e36	74	64	276	874	2330	278	331	274	62	140	33
20	e49	68	63	235	536	1110	535	297	224	56	85	26
21	e35	63	61	207	420	1680	342	273	180	53	52	24
22	40	408	59	183	339	1260	276	247	157	49	44	37
23	38	277	150	1330	398	729	253	224	157	51	42	84
24	37	151	194	3010	2380	550	247	209	166	59	38	50
25	81	112	592	858	1230	461	222	308	144	55	36	35
26	145	97	389	496	628	409	219	334	132	44	30	35
27	244	90	205	387	497	384	568	218	135	38	100	36
28	191	77	204	417	434	352	310	188	123	38	63	33
29	138	71	255	529	---	326	244	171	109	36	42	28
30	104	71	1310	367	---	305	218	209	171	33	34	26
31	92	---	476	318	---	281	---	188	---	53	29	---
TOTAL	2031	3903	5411	13688	14796	19436	18271	24320	10179	2911	1735	1338
MEAN	65.5	130	175	442	528	627	609	785	339	93.9	56.0	44.6
MAX	244	427	1310	3010	2380	2500	3740	3610	1900	345	327	154
MIN	33	63	59	140	209	263	218	171	109	33	26	23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 1998, BY WATER YEAR (WY)

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946
MEAN	131	244	370	416	462	541	441	290	202	188	166	146
MAX	840	1170	1424	1509	1074	1246	1455	862	882	1161	1694	885
(WY)	1997	1973	1997	1979	1939	1936	1983	1989	1989	1938	1955	1971
MIN	13.8	23.2	34.3	47.2	115	105	89.8	54.5	33.7	21.8	15.1	15.4
(WY)	1958	1937	1966	1981	1947	1985	1985	1963	1965	1957	1966	1951

e Estimated.

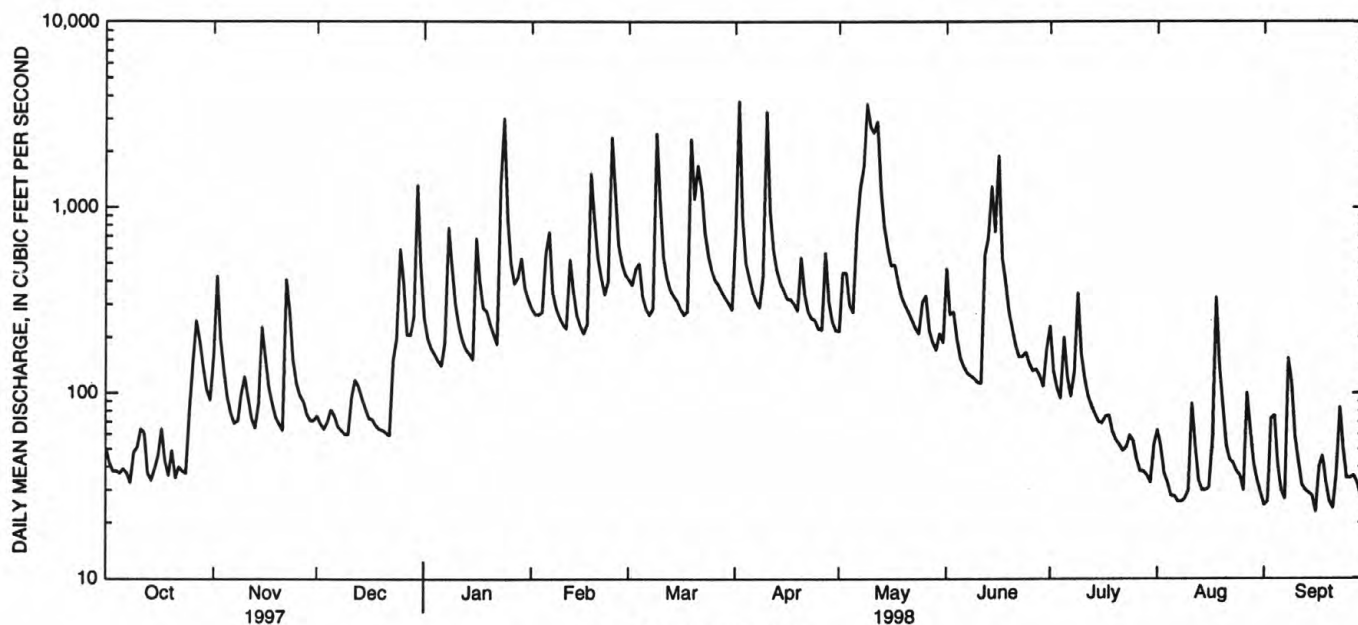
NESHAMINY CREEK BASIN

01465500 NESHAMINY CREEK NEAR LANGHORNE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1935 - 1998	
ANNUAL TOTAL	85011		118019			
ANNUAL MEAN	233		323		299	
HIGHEST ANNUAL MEAN					565	
LOWEST ANNUAL MEAN					121	
HIGHEST DAILY MEAN	2880	Jan 25	3740	Apr 2	27300	Aug 19 1955
LOWEST DAILY MEAN	33	Oct 8	23	Sep 16	2.9	Sep 8 1957
ANNUAL SEVEN-DAY MINIMUM	38	Oct 2	28	Aug 4	8.2	Aug 26 1944
INSTANTANEOUS PEAK FLOW			a7230	Apr 2	a49300	Aug 19 1955
INSTANTANEOUS PEAK STAGE			9.75	Apr 2	b22.84	Aug 19 1955
INSTANTANEOUS LOW FLOW			22	Sep 16, 17	1.9	Sep 8 1957
10 PERCENT EXCEEDS	438		647		580	
50 PERCENT EXCEEDS	150		163		140	
90 PERCENT EXCEEDS	48		36		32	

a From rating curve extended above 4,700 ft³/s on basis of slope-area measurement of peak flow at gage height 22.84 ft.

b From floodmark.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

LOCATION.--Lat 40°03'25", long 74°59'08", Philadelphia County, Hydrologic Unit 02040202, on right bank 600 ft upstream from Interstate Highway 95, 3,000 ft upstream from mouth, and in northeast Philadelphia.

PERIOD OF RECORD.--July 1965 to current year. Records for 1971-74 published in WDR PA-81-1.

GAGE.--Water-stage recorder and concrete low-water control. Datum of gage is 2.68 ft above sea level.

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

<u>Date</u>	<u>Time</u>	<u>Discharge</u> <u>(ft³/s)</u>	<u>Gage height</u> <u>(ft)</u>	<u>Date</u>	<u>Time</u>	<u>Discharge</u> <u>(ft³/s)</u>	<u>Gage height</u> <u>(ft)</u>
Jan. 23	1845	*1,800	*8.00	No other peak greater than base discharge.			

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	120	4.5	7.6	11	19	36	32	84	11	6.4	2.2
2	3.0	32	3.5	6.6	11	16	57	80	12	8.1	3.4	4.7
3	2.9	9.5	3.4	6.3	10	55	16	15	32	7.4	2.8	7.7
4	2.3	4.1	12	5.9	12	19	15	16	11	43	2.5	3.1
5	2.4	3.2	5.8	5.6	68	15	14	29	10	26	2.3	3.1
6	1.9	3.2	3.7	5.3	39	14	14	25	12	6.9	2.5	2.3
7	1.7	8.2	3.3	87	14	13	13	14	14	6.1	2.2	11
8	1.6	6.2	3.2	59	12	79	14	194	14	76	2.2	71
9	1.6	38	3.1	17	11	225	160	238	15	21	2.2	4.6
10	1.5	5.8	17	11	10	30	151	127	15	8.2	4.8	2.8
11	1.4	3.7	19	9.5	16	18	25	125	15	6.3	26	2.4
12	1.4	3.2	13	6.6	79	16	18	116	178	5.8	3.6	2.5
13	1.5	3.2	6.0	6.9	14	15	16	63	58	5.7	2.4	2.5
14	12	54	4.3	5.8	11	15	15	37	91	5.1	2.2	2.4
15	9.2	16	3.8	22	10	14	15	23	25	5.0	2.2	2.2
16	8.6	7.6	3.7	73	9.9	13	14	18	19	4.9	2.3	2.9
17	3.0	4.6	3.7	13	68	13	39	29	32	4.9	46	23
18	5.9	3.8	3.7	12	188	23	16	16	12	5.0	101	3.9
19	4.7	3.7	3.7	8.8	36	357	41	15	11	4.8	28	2.5
20	2.3	3.4	3.7	7.3	19	37	71	14	10	4.4	5.3	2.3
21	1.8	7.9	3.6	6.8	15	155	16	14	10	4.4	3.8	2.3
22	1.4	128	4.2	6.4	13	54	14	13	9.9	4.0	2.8	3.1
23	1.5	9.4	70	460	133	26	19	12	36	3.6	3.5	3.1
24	1.5	5.4	8.4	126	193	20	26	12	14	6.5	3.5	2.8
25	62	4.2	124	39	38	18	14	83	10	3.6	3.2	2.7
26	43	5.2	12	17	20	17	35	16	28	3.3	3.0	3.3
27	70	3.7	14	14	20	17	34	12	17	2.9	96	3.5
28	6.0	3.5	22	52	20	16	13	12	9.3	2.8	5.8	2.9
29	3.2	3.8	102	28	---	15	13	12	8.6	2.8	3.3	2.7
30	2.9	3.7	99	17	---	15	12	31	33	2.5	2.7	2.5
31	2.6	---	14	12	---	14	---	11	---	61	2.4	---
TOTAL	267.7	508.2	597.3	1154.4	1100.9	1373	956	1454	845.8	363.0	380.3	188.0
MEAN	8.64	16.9	19.3	37.2	39.3	44.3	31.9	46.9	28.2	11.7	12.3	6.27
MAX	70	128	124	460	193	357	160	238	178	76	101	71
MIN	1.4	3.2	3.1	5.3	9.9	13	12	11	8.6	2.5	2.2	2.2

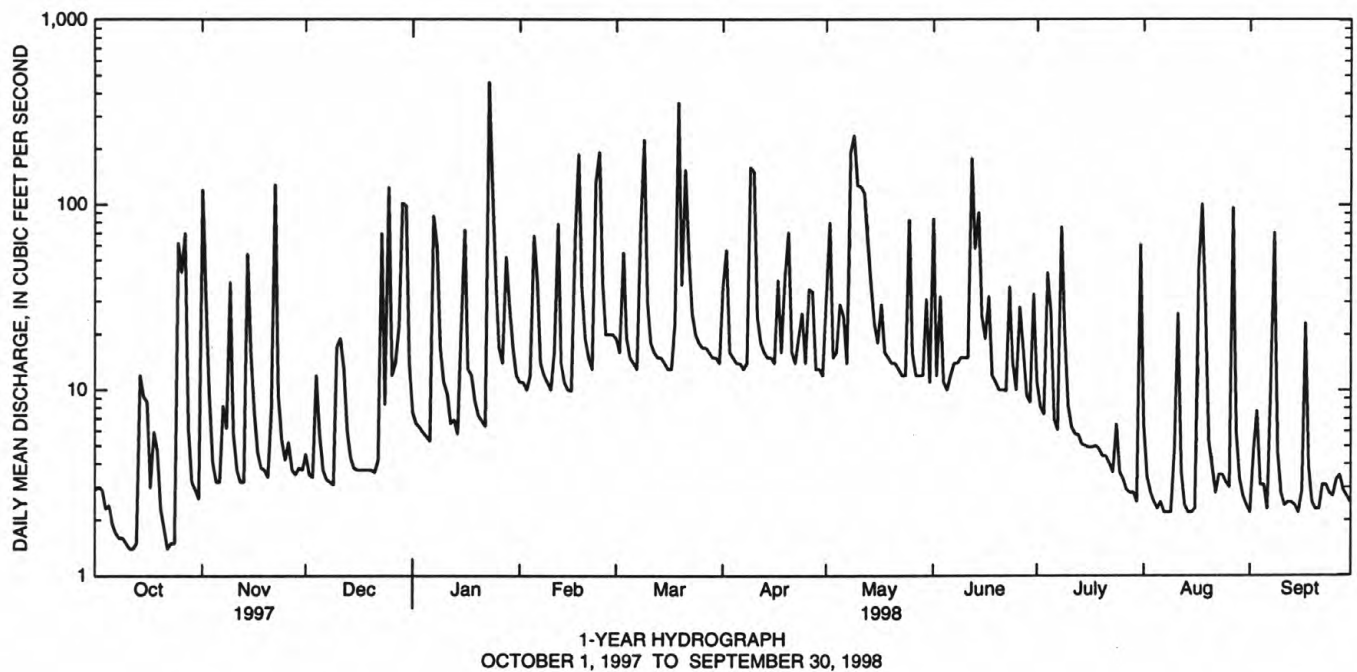
MEAN	21.9	27.5	34.8	36.0	34.6	39.7	37.7	34.3	30.3	39.3	30.9	25.9
MAX	59.9	112	124	136	105	98.0	105	74.2	84.7	112	130	82.4
(WY)	1997	1973	1997	1979	1979	1994	1983	1989	1989	1989	1971	1975
MIN	7.05	5.03	6.73	4.34	10.3	9.17	8.91	10.6	5.94	7.07	4.22	3.93
(WY)	1966	1966	1981	1981	1980	1985	1985	1977	1966	1966	1995	1970

POQUESSING CREEK BASIN

01465798 POQUESSING CREEK AT GRANT AVENUE, PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1965 - 1998	
ANNUAL TOTAL	8567.5		9188.6		32.9	
ANNUAL MEAN	23.5		25.2		52.3	
HIGHEST ANNUAL MEAN					16.3	
LOWEST ANNUAL MEAN					2170	
HIGHEST DAILY MEAN	261	Jan 25	460	Jan 23	1.2	Jul 28 1982
LOWEST DAILY MEAN	1.4	Oct 11,12,22	1.4	Oct 11,12,22	1.4	Sep 5 1995
ANNUAL SEVEN-DAY MINIMUM	1.5	Oct 7	1.5	Oct 7	1.4	Sep 1 1995
INSTANTANEOUS PEAK FLOW			a1800	Jan 23	a9400	Jul 28 1982
INSTANTANEOUS PEAK STAGE			8.00	Jan 23	15.35	Jul 28 1982
10 PERCENT EXCEEDS	55		69		61	
50 PERCENT EXCEEDS	13		11		12	
90 PERCENT EXCEEDS	3.3		2.5		4.5	

a From rating curve extended above 550 ft³/s on basis of slope-area measurement of peak flow.



PENNYPACK CREEK BASIN

01467048 PENNYPACK CREEK AT LOWER RHAWN STREET BRIDGE, PHILADELPHIA, PA

LOCATION.--Lat 40°03'00", long 75°01'59", Philadelphia County, Hydrologic Unit 02040202, on left bank at downstream side of footbridge pier, 400 ft downstream from Lower Rhawn Street bridge, and 0.8 mi upstream from Wooden Bridge Run in Philadelphia.

DRAINAGE AREA.--49.8 mi².

PERIOD OF RECORD.--June 1965 to current year. Records for 1971-74 published in WDR PA-81-1.

REVISED RECORDS: WDR PA-81-1: 1974. WDR PA-89-1: 1988.

GAGE.--Water-stage recorder. Datum of gage is 21.27 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 base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 23	1945	*2,060	*6.71	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	228	24	36	48	67	143	75	220	43	29	e20
2	16	94	23	32	47	62	335	171	55	32	22	e19
3	16	52	22	32	46	150	83	78	90	29	22	e18
4	16	26	36	31	47	79	76	61	48	65	21	e16
5	16	24	29	30	140	64	71	60	45	46	20	e15
6	15	23	23	29	83	59	67	145	43	27	19	e15
7	15	25	23	76	53	56	64	81	40	27	16	e45
8	15	26	22	133	48	138	65	563	40	130	15	e100
9	15	75	22	50	46	612	218	562	39	72	15	e35
10	16	32	34	37	44	125	477	339	39	32	20	e19
11	15	26	57	34	59	87	104	370	37	28	55	15
12	16	24	35	32	169	79	84	327	363	26	22	14
13	16	24	e25	31	56	73	77	155	109	26	e21	15
14	17	80	e23	30	48	72	74	119	538	25	e20	14
15	22	58	22	43	44	68	74	105	88	25	20	14
16	29	31	22	152	43	65	69	95	65	25	19	16
17	22	24	22	48	95	63	105	90	67	24	85	34
18	31	23	22	44	303	79	70	81	49	29	161	20
19	29	23	21	40	97	627	100	76	46	25	87	15
20	19	22	21	36	70	139	155	74	43	24	25	15
21	18	26	21	34	63	365	68	70	41	23	23	14
22	18	241	18	32	56	172	62	64	41	23	22	15
23	18	40	130	701	166	112	61	61	77	23	e21	16
24	18	27	32	403	353	97	61	57	42	48	e21	14
25	109	24	230	120	123	88	54	154	38	23	e20	13
26	54	23	45	73	79	83	74	66	85	22	e19	13
27	151	23	36	62	72	81	120	55	58	19	e300	14
28	31	23	52	115	70	76	56	53	35	18	e45	13
29	24	24	71	77	---	72	52	50	34	18	e22	12
30	21	23	249	58	---	69	51	76	86	19	e19	12
31	18	---	57	52	---	66	---	48	---	88	e20	---
TOTAL	855	1414	1469	2703	2568	4045	3170	4381	2601	1084	1246	610
MEAN	27.6	47.1	47.4	87.2	91.7	130	106	141	86.7	35.0	40.2	20.3
MAX	151	241	249	701	353	627	477	563	538	130	300	100
MIN	15	22	18	29	43	56	51	48	34	18	15	12
CFSM	.55	.95	.95	1.75	1.84	2.62	2.12	2.84	1.74	.70	.81	.41
IN.	.64	1.06	1.10	2.02	1.92	3.02	2.37	3.27	1.94	.81	.93	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1998, 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	1998	
MEAN	60.3	77.4	98.7	101	97.7	121	123	103	84.4	88.0	70.3	68.1																							
MAX	174	300	311	334	252	273	338	194	245	257	163	177																							
(WY)	1997	1973	1997	1979	1979	1994	1983	1978	1989	1975	1967	1971																							
MIN	20.3	17.5	21.1	14.0	35.5	33.5	32.5	42.5	21.4	23.7	15.7	17.4																							
(WY)	1966	1966	1981	1981	1969	1985	1985	1995	1995	1966	1966	1970																							

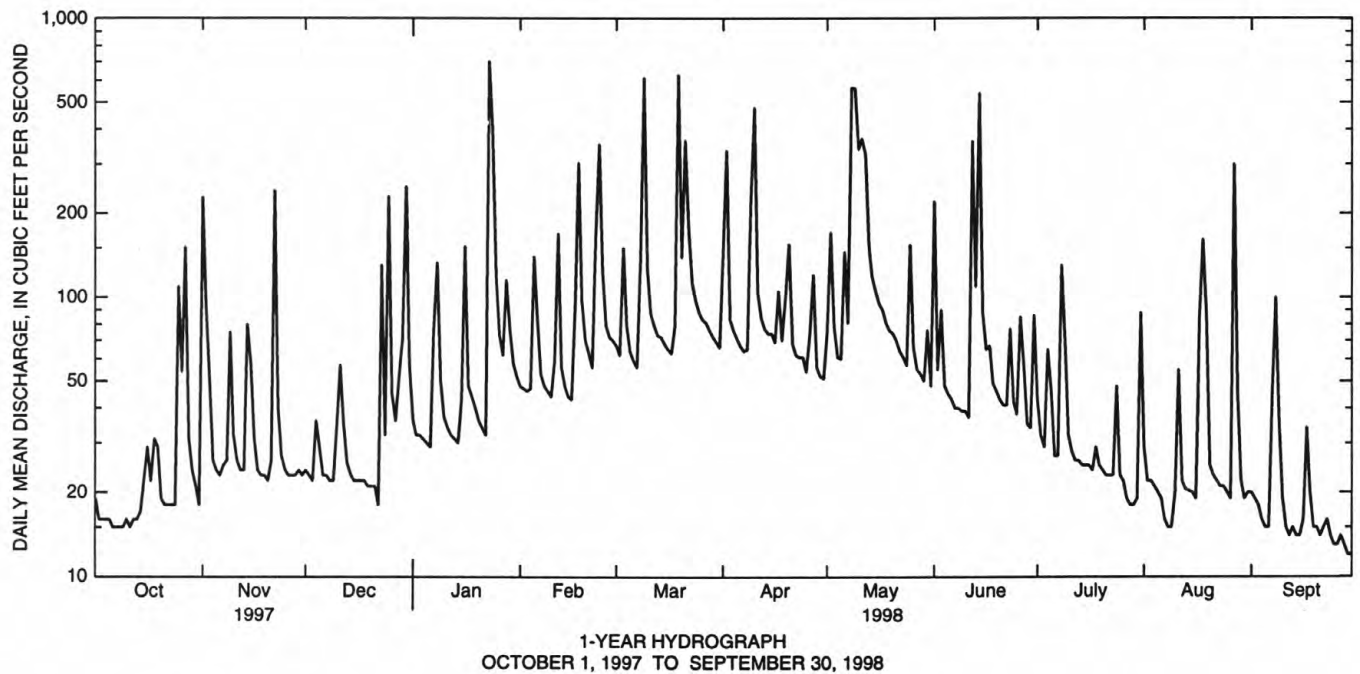
e Estimated.

PENNYPACK CREEK BASIN

01467048 PENNYPACK CREEK AT LOWER RHAWN STREET BRIDGE, PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1965 - 1998	
ANNUAL TOTAL	26906		26146		91.5	
ANNUAL MEAN	73.7		71.6		165	
HIGHEST ANNUAL MEAN					43.2	
LOWEST ANNUAL MEAN					1973	
HIGHEST DAILY MEAN	700	Jan 16	701	Jan 23	3040	Sep 27 1985
LOWEST DAILY MEAN	15	Oct 6-11	12	Sep 29,30	8.4	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	15	Oct 5	13	Sep 24	9.3	Sep 7 1966
INSTANTANEOUS PEAK FLOW			2060	Jan 23	a9770	Jul 28 1982
INSTANTANEOUS PEAK STAGE			6.71	Jan 23	13.15	Jul 28 1982
INSTANTANEOUS LOW FLOW			11	Sep 30	6.0	Oct 11 1966
ANNUAL RUNOFF (CFSM)	1.48		1.44		1.84	
ANNUAL RUNOFF (INCHES)	20.10		19.53		24.97	
10 PERCENT EXCEEDS	149		141		172	
50 PERCENT EXCEEDS	51		44		50	
90 PERCENT EXCEEDS	20		17		21	

a From rating curve extended above 3,900 ft³/s on basis of slope-area measurement of peak flow.



FRANKFORD CREEK BASIN

01467087 FRANKFORD CREEK AT CASTOR AVENUE, PHILADELPHIA, PA

LOCATION.--Lat 40°00'57", long 75°05'50", Philadelphia County, Hydrologic Unit 02040203, on left bank at upstream side of Castor Avenue bridge, and 2.8 mi upstream from mouth in northeast Philadelphia.

DRAINAGE AREA.--30.4 mi².

PERIOD OF RECORD.--July 1982 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 16.56 ft above 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 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)
May 8	1500	*2,940	*6.00	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	165	10	9.5	14	19	71	51	128	11	9.7	7.8
2	6.7	51	8.1	8.5	14	18	e40	60	15	9.8	8.9	6.7
3	6.1	11	8.5	8.5	14	74	e20	17	62	9.4	8.3	8.3
4	5.7	8.5	19	8.5	14	20	20	16	15	65	7.8	7.2
5	6.0	8.6	8.9	7.7	54	17	19	18	15	21	7.8	7.6
6	5.3	8.8	8.4	7.8	19	17	18	107	14	11	7.1	7.3
7	4.5	12	8.4	86	14	16	18	29	13	11	6.7	35
8	5.0	10	8.5	40	14	143	20	440	13	150	6.5	73
9	4.9	55	8.8	11	14	230	232	238	12	19	6.3	8.4
10	4.4	8.6	34	9.4	13	29	89	99	13	12	29	7.1
11	4.5	7.5	19	9.1	52	23	22	120	13	10	26	5.1
12	5.5	7.5	14	8.7	76	21	20	115	311	10	6.6	5.0
13	4.9	7.8	8.8	9.7	15	21	19	37	44	9.5	6.5	5.7
14	5.9	54	8.5	9.4	14	20	19	31	240	9.4	6.4	5.1
15	11	16	8.5	35	14	19	19	30	25	9.5	6.4	5.1
16	13	9.1	8.5	63	13	19	18	27	19	9.5	6.8	5.3
17	7.8	7.1	8.5	12	86	18	59	25	21	9.6	78	11
18	23	7.5	8.5	14	92	30	18	24	15	9.5	120	5.6
19	8.4	7.3	7.8	11	23	390	64	22	13	9.2	22	4.5
20	8.6	6.6	7.7	10	18	33	53	22	13	9.2	8.6	4.7
21	9.0	26	7.5	9.8	17	174	18	21	12	9.3	7.5	4.7
22	8.9	141	9.1	10	15	42	17	21	12	9.2	7.6	5.2
23	9.0	11	96	635	148	30	18	20	68	9.2	8.2	4.8
24	9.1	8.8	13	e90	74	28	17	19	14	9.3	7.5	4.4
25	109	9.3	130	e30	28	26	16	50	13	8.2	7.6	4.2
26	90	10	11	e20	19	25	34	19	e40	8.8	7.8	4.9
27	58	8.4	16	17	19	25	30	18	e20	9.1	203	4.9
28	10	10	19	78	19	24	16	18	e15	8.9	9.2	4.5
29	8.8	11	95	20	---	23	16	18	e15	9.1	8.9	3.6
30	8.9	10	65	16	---	22	16	20	49	8.8	9.1	3.8
31	8.9	---	12	15	---	22	---	16	---	85	8.9	---
TOTAL	477.8	714.4	696.0	1319.6	926	1618	1056	1768	1272	589.5	670.7	270.5
MEAN	15.4	23.8	22.5	42.6	33.1	52.2	35.2	57.0	42.4	19.0	21.6	9.02
MAX	109	165	130	635	148	390	232	440	311	150	203	73
MIN	4.4	6.6	7.5	7.7	13	16	16	16	12	8.2	6.3	3.6
CFSM	.51	.78	.74	1.40	1.09	1.72	1.16	1.88	1.39	.63	.71	.30
IN.	.58	.87	.85	1.61	1.13	1.98	1.29	2.16	1.56	.72	.82	.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1998, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	28.9	37.3	40.3	35.5	34.6	50.3	51.2	50.9	40.5	55.4	37.9	39.9					
MAX	86.5	81.7	145	61.8	80.4	91.4	143	98.4	111	116	61.8	88.5					
(WY)	1997	1987	1997	1996	1988	1994	1983	1989	1989	1989	1990	1996					
MIN	8.20	17.7	15.5	10.6	17.4	11.7	14.4	20.8	11.3	19.0	5.66	9.02					
(WY)	1993	1985	1989	1985	1992	1985	1985	1986	1995	1998	1995	1998					

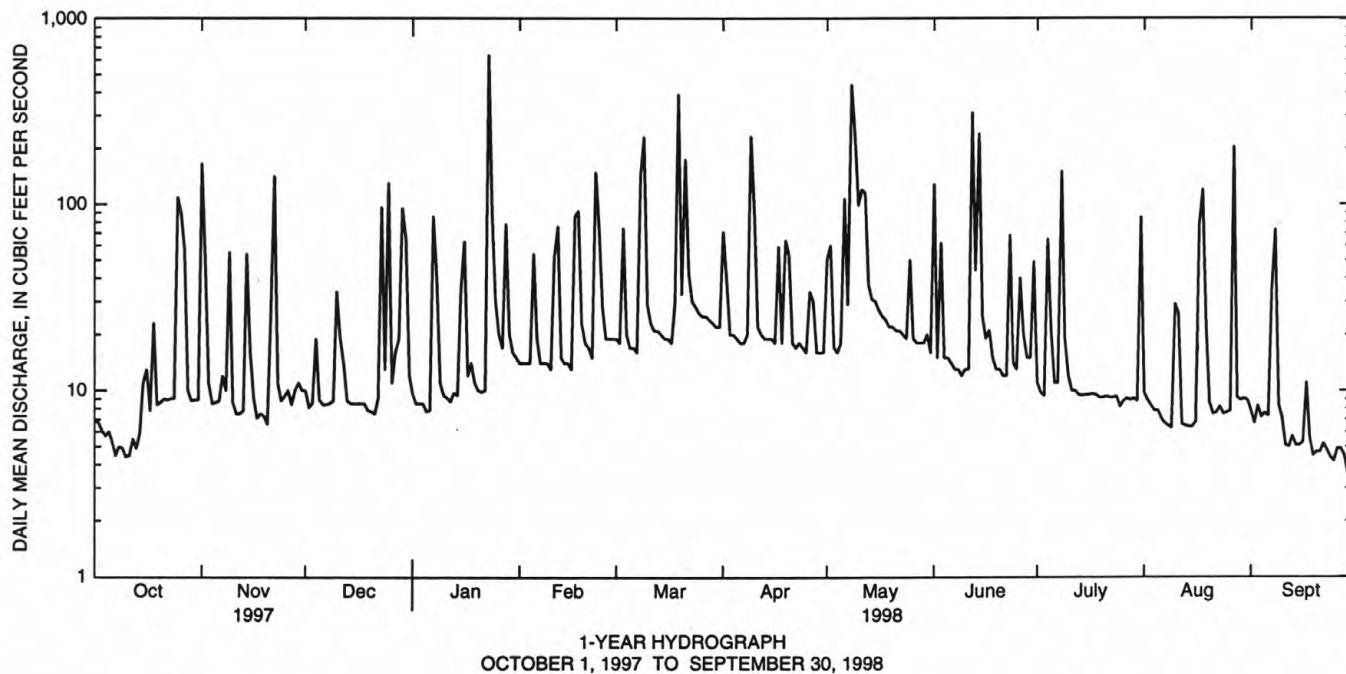
e Estimated.

FRANKFORD CREEK BASIN

01467087 FRANKFORD CREEK AT CASTOR AVENUE, PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1982 - 1998	
ANNUAL TOTAL	13753.6		11378.5		41.9	
ANNUAL MEAN	37.7		31.2		61.7	
HIGHEST ANNUAL MEAN					22.2	
LOWEST ANNUAL MEAN					1570	
HIGHEST DAILY MEAN	586	May 25	635	Jan 23	2.1	Sep 27 1985
LOWEST DAILY MEAN	4.4	Oct 10	3.6	Sep 29	2.7	Sep 16 1995
ANNUAL SEVEN-DAY MINIMUM	4.8	Oct 7	4.3	Sep 24		Jan 11 1988
INSTANTANEOUS PEAK FLOW			2940	May 8	a10300	Jul 31 1985
INSTANTANEOUS PEAK STAGE			6.00	May 8	11.82	Jul 31 1985
INSTANTANEOUS LOW FLOW			3.3	Sep 25,28-30	.60	Aug 31 1994
ANNUAL RUNOFF (CFSM)	1.24		1.03		1.38	
ANNUAL RUNOFF (INCHES)	16.83		13.92		18.74	
10 PERCENT EXCEEDS	89		74		80	
50 PERCENT EXCEEDS	21		14		16	
90 PERCENT EXCEEDS	8.5		6.6		7.5	

a From rating curve extended above 8,000 ft³/s on basis of slope-area measurements of peak flow.



DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA

LOCATION.--Lat 39°57'14", long 75°08'16", Philadelphia County, Hydrologic Unit 02040202, on right bank at river end of pier 12, 150 ft upstream from Ben Franklin bridge, and at Philadelphia.

DRAINAGE AREA.--7,993 mi².

PERIOD OF RECORD.--August 1949 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1963 to current year.

pH: October 1967 to current year.

WATER TEMPERATURE: November 1960 to current year.

DISSOLVED OXYGEN: October 1961 to current year.

INSTRUMENTATION.--Water-quality monitor interfaced with a data collection platform.

REMARKS.--Prior to July 1988, located on edge of pier 11 about 300 ft downstream of pier 12. Further information on this station is given in U.S. Geological Survey Water-Supply Paper 1809-0. Data collection discontinued during the winter months. Other interruptions in the record were due to malfunctions of the pump or recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,450 microsiemens, Nov. 20, 1964; minimum, 65 microsiemens, Sept. 15, 1979.

pH: Maximum, 8.7, Oct. 14, 1979; minimum, 4.7, Dec. 29, 1978.

WATER TEMPERATURE: Maximum, 31.0°C, July 13-15, 1966; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 14.1 mg/L, Dec. 14, 1962; minimum, 0.0 mg/L, on many days.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	271	233	252	---	---	---	264	239	250	---	---	---
2	276	238	257	---	---	---	253	239	245	---	---	---
3	278	236	253	---	---	---	252	238	244	---	---	---
4	277	236	257	---	---	---	254	239	247	---	---	---
5	275	240	256	322	280	297	253	240	246	---	---	---
6	272	239	254	---	---	---	251	232	242	---	---	---
7	273	235	254	---	---	---	248	223	235	---	---	---
8	286	243	261	---	---	---	244	220	232	---	---	---
9	291	251	266	316	283	299	252	219	235	---	---	---
10	288	255	269	311	276	292	---	---	---	---	---	---
11	292	252	268	308	276	290	---	---	---	---	---	---
12	298	257	276	310	273	289	---	---	---	---	---	---
13	303	259	279	---	---	---	---	---	---	---	---	---
14	309	263	284	---	---	---	---	---	---	---	---	---
15	312	264	285	312	266	290	---	---	---	---	---	---
16	319	266	290	305	260	280	---	---	---	---	---	---
17	327	273	298	289	257	270	---	---	---	---	---	---
18	333	276	302	294	258	273	---	---	---	---	---	---
19	347	277	307	297	258	276	---	---	---	---	---	---
20	337	285	309	293	263	276	---	---	---	---	---	---
21	340	282	306	293	258	274	---	---	---	---	---	---
22	333	282	303	290	259	272	---	---	---	---	---	---
23	333	281	300	286	253	268	---	---	---	---	---	---
24	333	283	303	280	248	265	---	---	---	---	---	---
25	331	279	302	274	246	257	---	---	---	---	---	---
26	334	276	303	278	239	255	---	---	---	---	---	---
27	333	283	303	265	234	245	---	---	---	---	---	---
28	322	269	287	272	235	251	---	---	---	---	---	---
29	319	271	293	269	238	253	---	---	---	---	---	---
30	321	281	299	270	238	253	---	---	---	---	---	---
31	336	280	303	---	---	---	---	---	---	---	---	---
MONTH	347	233	283	322	234	273	264	219	242	---	---	---

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	165	154	160	163	148	152
2	---	---	---	---	---	---	164	147	156	163	153	158
3	---	---	---	---	---	---	---	---	---	164	157	160
4	---	---	---	---	---	---	152	142	147	164	156	160
5	---	---	---	---	---	---	152	145	148	169	158	165
6	---	---	---	---	---	---	156	147	152	178	166	171
7	---	---	---	---	---	---	159	150	154	175	170	172
8	---	---	---	---	---	---	157	149	154	183	168	174
9	---	---	---	---	---	---	160	149	155	177	147	162
10	---	---	---	---	---	---	159	149	153	153	145	149
11	---	---	---	---	---	---	159	148	154	149	140	145
12	---	---	---	---	---	---	158	145	151	150	141	145
13	---	---	---	---	---	---	153	144	149	143	122	133
14	---	---	---	---	---	---	149	139	145	125	117	121
15	---	---	---	---	---	---	146	137	141	125	118	121
16	---	---	---	---	---	---	148	135	142	129	120	124
17	---	---	---	---	---	---	149	137	144	135	123	128
18	---	---	---	---	---	---	158	147	152	141	130	135
19	---	---	---	---	---	---	165	153	157	145	135	140
20	---	---	---	---	---	---	168	160	164	153	137	146
21	---	---	---	---	---	---	173	162	167	153	144	148
22	---	---	---	---	---	---	170	164	167	159	150	154
23	---	---	---	---	---	---	175	166	170	166	156	161
24	---	---	---	---	---	---	172	147	163	171	162	166
25	---	---	---	---	---	---	165	137	148	177	167	171
26	---	---	---	---	---	---	152	133	142	180	172	176
27	---	---	---	165	157	161	146	136	141	183	176	179
28	---	---	---	164	156	161	143	137	141	187	180	184
29	---	---	---	163	156	160	148	139	143	192	184	187
30	---	---	---	164	158	161	154	144	149	195	188	191
31	---	---	---	165	157	162	---	---	---	195	192	194
MONTH	---	---	---	165	156	161	175	133	152	195	117	157
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	199	194	197	165	158	161	212	189	197	---	---	---
2	207	195	201	168	161	165	213	190	199	---	---	---
3	213	202	208	175	165	169	218	193	202	316	282	298
4	217	208	213	184	169	176	219	196	206	316	282	298
5	220	212	217	191	173	184	222	200	209	319	285	300
6	223	217	220	191	181	187	222	204	213	319	285	301
7	225	220	223	193	181	187	227	206	215	322	287	304
8	227	222	225	194	169	185	228	211	219	326	290	308
9	231	221	227	195	159	178	228	200	217	321	289	306
10	232	220	227	191	156	173	209	171	197	326	291	307
11	235	219	229	188	154	168	240	197	220	323	293	307
12	239	211	227	177	151	162	244	226	235	327	279	303
13	232	203	218	172	154	161	254	230	241	319	284	299
14	223	187	203	168	157	162	257	233	244	335	292	324
15	204	185	193	168	162	165	260	236	246	335	299	321
16	213	195	206	172	168	170	261	240	248	335	297	314
17	209	171	193	176	170	173	263	242	251	338	295	315
18	180	144	161	179	169	174	266	246	254	340	297	317
19	158	133	143	183	167	174	268	243	254	347	300	321
20	144	124	132	183	167	175	274	247	258	352	300	323
21	135	121	126	185	167	176	274	248	260	350	302	324
22	132	123	127	190	167	178	272	249	260	349	304	325
23	131	125	129	192	169	180	280	254	265	348	299	321
24	135	128	132	196	168	182	280	256	266	349	302	324
25	139	131	136	198	169	183	282	255	270	350	301	324
26	144	134	139	200	171	185	---	---	---	348	298	323
27	149	139	143	201	173	188	---	---	---	349	300	323
28	151	142	148	201	180	190	---	---	---	346	302	321
29	155	146	151	200	181	192	---	---	---	351	298	322
30	161	152	157	206	184	194	---	---	---	360	305	328
31	---	---	---	208	187	196	---	---	---	---	---	---
MONTH	239	121	182	208	151	177	282	171	234	360	279	314

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	7.3	7.2	7.3	---	---	---	7.4	7.3	7.3	---	---	---
2	7.3	7.3	7.3	---	---	---	7.3	7.3	7.3	---	---	---
3	7.4	7.3	7.3	---	---	---	7.4	7.3	7.3	---	---	---
4	7.3	7.3	7.3	---	---	---	7.4	7.3	7.3	---	---	---
5	7.3	7.2	7.2	7.5	7.4	7.4	7.4	7.3	7.3	---	---	---
6	7.2	7.1	7.2	---	---	---	7.4	7.3	7.3	---	---	---
7	7.2	7.1	7.2	---	---	---	7.4	7.3	7.4	---	---	---
8	7.2	7.1	7.2	---	---	---	7.4	7.3	7.4	---	---	---
9	7.2	7.1	7.2	7.5	7.4	7.5	7.4	7.3	7.4	---	---	---
10	7.2	7.1	7.1	7.5	7.4	7.4	---	---	---	---	---	---
11	7.2	7.1	7.2	7.5	7.4	7.4	---	---	---	---	---	---
12	7.2	7.1	7.2	7.5	7.4	7.4	---	---	---	---	---	---
13	7.2	7.1	7.2	---	---	---	---	---	---	---	---	---
14	7.2	7.1	7.2	---	---	---	---	---	---	---	---	---
15	7.2	7.1	7.2	7.3	7.3	7.3	---	---	---	---	---	---
16	7.2	7.1	7.1	7.3	7.3	7.3	---	---	---	---	---	---
17	7.2	7.1	7.1	7.3	7.3	7.3	---	---	---	---	---	---
18	7.2	7.1	7.1	7.3	7.3	7.3	---	---	---	---	---	---
19	7.2	7.1	7.1	7.4	7.3	7.3	---	---	---	---	---	---
20	7.2	7.1	7.1	7.4	7.3	7.4	---	---	---	---	---	---
21	7.2	7.1	7.1	7.4	7.3	7.4	---	---	---	---	---	---
22	7.2	7.1	7.1	7.4	7.3	7.3	---	---	---	---	---	---
23	7.2	7.1	7.2	7.4	7.3	7.3	---	---	---	---	---	---
24	7.2	7.1	7.2	7.4	7.3	7.3	---	---	---	---	---	---
25	7.2	7.1	7.2	7.4	7.3	7.3	---	---	---	---	---	---
26	7.2	7.1	7.2	7.4	7.3	7.4	---	---	---	---	---	---
27	7.2	7.1	7.1	7.4	7.3	7.4	---	---	---	---	---	---
28	7.2	7.1	7.1	7.4	7.4	7.4	---	---	---	---	---	---
29	7.2	7.0	7.1	7.4	7.4	7.4	---	---	---	---	---	---
30	7.2	6.9	7.1	7.4	7.3	7.4	---	---	---	---	---	---
31	7.3	7.0	7.1	---	---	---	---	---	---	---	---	---
MONTH	7.4	6.9	7.2	7.5	7.3	7.4	7.4	7.3	7.3	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	7.4	7.3	7.3	7.0	6.9	7.0
2	---	---	---	---	---	---	7.3	7.2	7.2	7.0	6.9	7.0
3	---	---	---	---	---	---	---	---	---	7.0	7.0	7.0
4	---	---	---	---	---	---	7.2	7.2	7.2	7.1	7.0	7.0
5	---	---	---	---	---	---	7.2	7.1	7.2	7.1	7.0	7.0
6	---	---	---	---	---	---	7.2	7.1	7.2	7.0	7.0	7.0
7	---	---	---	---	---	---	7.2	7.1	7.1	7.1	7.0	7.0
8	---	---	---	---	---	---	7.2	7.1	7.1	7.1	7.0	7.0
9	---	---	---	---	---	---	7.2	7.1	7.2	7.0	6.9	7.0
10	---	---	---	---	---	---	7.3	7.1	7.2	7.0	6.9	7.0
11	---	---	---	---	---	---	7.3	7.2	7.2	7.0	6.9	7.0
12	---	---	---	---	---	---	7.3	7.2	7.2	7.1	6.9	7.0
13	---	---	---	---	---	---	7.3	7.1	7.1	7.1	7.0	7.0
14	---	---	---	---	---	---	7.1	7.1	7.1	7.0	6.9	6.9
15	---	---	---	---	---	---	7.1	7.1	7.1	6.9	6.9	6.9
16	---	---	---	---	---	---	7.1	7.0	7.1	6.9	6.8	6.9
17	---	---	---	---	---	---	7.1	7.0	7.1	6.9	6.8	6.9
18	---	---	---	---	---	---	7.1	7.1	7.1	6.9	6.8	6.9
19	---	---	---	---	---	---	7.1	7.1	7.1	6.9	6.8	6.9
20	---	---	---	---	---	---	7.1	7.1	7.1	7.0	6.8	6.9
21	---	---	---	---	---	---	7.1	7.0	7.1	7.0	6.9	7.0
22	---	---	---	---	---	---	7.2	7.0	7.1	7.1	7.0	7.0
23	---	---	---	---	---	---	7.2	7.1	7.1	7.1	7.0	7.1
24	---	---	---	---	---	---	7.1	7.1	7.1	7.1	7.0	7.1
25	---	---	---	---	---	---	7.1	7.0	7.1	7.1	7.0	7.1
26	---	---	---	---	---	---	7.1	7.0	7.0	7.1	7.0	7.0
27	---	---	---	7.5	7.3	7.4	7.1	7.0	7.0	7.1	7.0	7.0
28	---	---	---	7.4	7.3	7.4	7.1	7.0	7.0	7.1	7.0	7.0
29	---	---	---	7.5	7.4	7.4	7.1	7.0	7.0	7.1	7.0	7.0
30	---	---	---	7.4	7.2	7.3	7.1	6.9	7.0	7.1	7.0	7.0
31	---	---	---	7.4	7.3	7.3	---	---	---	7.1	7.0	7.0
MONTH	---	---	---	7.5	7.2	7.4	7.4	6.9	7.1	7.1	6.8	7.0

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.1	7.0	7.1	6.9	6.8	6.9	6.7	6.7	6.7	---	---	---
2	7.1	6.8	7.1	7.0	6.9	6.9	6.7	6.6	6.7	---	---	---
3	7.2	7.0	7.1	7.0	6.9	7.0	6.7	6.6	6.7	7.0	6.9	6.9
4	7.2	7.1	7.1	7.1	6.9	7.0	6.7	6.6	6.7	7.0	6.9	6.9
5	7.2	7.1	7.2	7.1	6.9	7.0	6.7	6.6	6.7	7.0	6.9	6.9
6	7.2	7.1	7.2	7.1	7.0	7.0	6.7	6.6	6.7	7.0	6.9	6.9
7	7.3	7.1	7.2	7.1	7.0	7.0	6.7	6.6	6.7	6.9	6.9	6.9
8	7.3	7.2	7.2	7.1	6.9	7.0	6.7	6.6	6.7	6.9	6.9	6.9
9	7.2	7.2	7.2	7.0	6.8	6.9	6.7	6.7	6.7	6.9	6.9	6.9
10	7.2	7.1	7.2	6.9	6.8	6.8	6.7	6.7	6.7	7.0	6.9	6.9
11	7.3	7.1	7.2	6.9	6.8	6.8	6.8	6.7	6.7	7.0	6.9	6.9
12	7.2	7.1	7.2	6.8	6.7	6.7	6.8	6.7	6.8	7.0	6.9	6.9
13	7.1	7.1	7.1	6.8	6.7	6.7	6.8	6.7	6.8	7.0	6.9	6.9
14	7.1	7.0	7.0	6.8	6.7	6.8	6.8	6.7	6.8	7.0	6.9	7.0
15	7.1	7.0	7.0	6.9	6.7	6.8	6.8	6.7	6.8	7.1	6.9	7.0
16	7.1	6.9	7.0	6.9	6.8	6.8	6.8	6.7	6.8	7.1	7.0	7.0
17	7.1	7.0	7.0	6.9	6.8	6.9	6.8	6.7	6.7	7.1	7.0	7.0
18	7.0	6.9	7.0	7.0	6.9	6.9	6.8	6.7	6.7	7.0	6.9	7.0
19	7.0	6.9	6.9	7.0	6.9	6.9	6.8	6.7	6.7	7.0	6.9	6.9
20	7.0	6.8	6.9	7.0	6.8	6.9	6.8	6.7	6.8	6.9	6.9	6.9
21	6.9	6.8	6.9	7.0	6.9	6.9	6.8	6.8	6.8	6.9	6.8	6.9
22	6.9	6.8	6.9	7.0	6.9	6.9	6.9	6.8	6.8	6.9	6.8	6.9
23	6.8	6.8	6.8	6.9	6.8	6.9	6.9	6.8	6.8	6.9	6.9	6.9
24	6.8	6.8	6.8	6.9	6.8	6.9	6.9	6.8	6.8	6.9	6.9	6.9
25	6.8	6.8	6.8	6.9	6.8	6.9	6.9	6.8	6.9	6.9	6.9	6.9
26	6.8	6.8	6.8	6.9	6.8	6.8	---	---	---	6.9	6.8	6.9
27	6.9	6.8	6.8	6.8	6.8	6.8	---	---	---	6.9	6.8	6.9
28	6.9	6.8	6.8	6.8	6.8	6.8	---	---	---	6.9	6.9	6.9
29	6.9	6.8	6.9	6.8	6.7	6.8	---	---	---	7.0	6.9	6.9
30	6.9	6.8	6.8	6.8	6.7	6.7	---	---	---	6.9	6.8	6.9
31	---	---	---	6.8	6.7	6.7	---	---	---	---	---	---
MONTH	7.3	6.8	7.0	7.1	6.7	6.9	6.9	6.6	6.7	7.1	6.8	6.9

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.0	19.5	20.0	---	---	---	7.5	6.5	7.0	---	---	---
2	19.5	19.0	19.5	---	---	---	6.5	6.0	6.5	---	---	---
3	19.5	19.0	19.0	---	---	---	6.5	6.0	6.5	---	---	---
4	19.5	19.0	19.0	---	---	---	6.5	6.0	6.5	---	---	---
5	19.5	19.0	19.5	14.0	13.5	13.5	6.5	6.0	6.5	---	---	---
6	19.5	19.5	19.5	13.5	13.0	13.5	6.0	5.5	6.0	---	---	---
7	20.0	19.5	19.5	13.5	13.0	13.0	5.5	5.5	5.5	---	---	---
8	20.0	19.5	20.0	13.0	12.5	13.0	5.5	5.5	5.5	---	---	---
9	20.0	20.0	20.0	13.0	12.5	12.5	5.5	5.0	5.5	---	---	---
10	20.5	20.0	20.0	12.5	12.0	12.5	---	---	---	---	---	---
11	20.0	20.0	20.0	12.5	12.0	12.0	---	---	---	---	---	---
12	20.0	20.0	20.0	12.0	11.5	11.5	---	---	---	---	---	---
13	20.0	20.0	20.0	---	---	---	---	---	---	---	---	---
14	20.0	20.0	20.0	---	---	---	---	---	---	---	---	---
15	20.0	19.5	19.5	10.5	10.0	10.5	---	---	---	---	---	---
16	19.5	19.0	19.5	10.5	9.5	10.0	---	---	---	---	---	---
17	19.0	19.0	19.0	9.5	9.0	9.5	---	---	---	---	---	---
18	19.0	18.5	18.5	9.0	8.5	9.0	---	---	---	---	---	---
19	18.5	18.0	18.5	9.0	8.5	9.0	---	---	---	---	---	---
20	18.0	17.5	18.0	9.0	8.5	8.5	---	---	---	---	---	---
21	17.5	17.5	17.5	9.0	8.5	8.5	---	---	---	---	---	---
22	17.5	17.0	17.0	9.0	8.5	8.5	---	---	---	---	---	---
23	17.0	16.0	16.5	9.0	8.5	8.5	---	---	---	---	---	---
24	16.0	16.0	16.0	8.5	8.0	8.5	---	---	---	---	---	---
25	16.0	15.5	16.0	8.0	7.5	7.5	---	---	---	---	---	---
26	16.0	15.5	15.5	8.0	7.0	7.5	---	---	---	---	---	---
27	15.5	15.0	15.5	7.5	6.5	7.0	---	---	---	---	---	---
28	15.0	14.5	15.0	7.5	6.5	7.0	---	---	---	---	---	---
29	14.5	14.5	14.5	7.5	6.5	7.0	---	---	---	---	---	---
30	14.5	14.0	14.5	7.5	6.5	7.0	---	---	---	---	---	---
31	14.5	14.0	14.0	---	---	---	---	---	---	---	---	---
MONTH	20.5	14.0	18.1	14.0	6.5	9.9	7.5	5.0	6.2	---	---	---

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	14.0	12.0	13.0	14.5	14.0	14.0
2	---	---	---	---	---	---	15.0	13.0	14.5	14.5	14.0	14.5
3	---	---	---	---	---	---	---	---	---	15.0	14.5	14.5
4	---	---	---	---	---	---	15.5	15.0	15.0	15.5	15.0	15.0
5	---	---	---	---	---	---	15.0	14.5	14.5	16.0	15.0	15.5
6	---	---	---	---	---	---	14.5	14.0	14.0	16.0	15.5	16.0
7	---	---	---	---	---	---	14.0	13.0	13.5	17.0	16.0	16.5
8	---	---	---	---	---	---	14.0	13.0	13.5	17.0	16.5	16.5
9	---	---	---	---	---	---	13.5	12.0	13.0	16.5	16.0	16.5
10	---	---	---	---	---	---	12.5	11.0	12.0	16.0	15.5	16.0
11	---	---	---	---	---	---	11.5	11.0	11.0	16.0	15.0	15.5
12	---	---	---	---	---	---	11.0	10.5	11.0	15.0	14.0	14.5
13	---	---	---	---	---	---	11.0	10.5	10.5	14.5	14.0	14.0
14	---	---	---	---	---	---	11.0	10.5	11.0	14.5	14.0	14.0
15	---	---	---	---	---	---	12.0	11.0	11.5	15.5	14.0	15.0
16	---	---	---	---	---	---	12.5	11.5	12.0	16.5	15.0	15.5
17	---	---	---	---	---	---	13.5	12.5	13.0	17.0	16.0	16.5
18	---	---	---	---	---	---	14.0	13.0	13.5	18.0	17.0	17.5
19	---	---	---	---	---	---	14.0	13.5	14.0	19.0	17.5	18.0
20	---	---	---	---	---	---	14.0	13.5	14.0	20.0	18.5	19.0
21	---	---	---	---	---	---	14.5	14.0	14.0	20.5	19.5	20.0
22	---	---	---	---	---	---	14.5	14.5	14.5	20.5	19.5	20.0
23	---	---	---	---	---	---	14.5	14.0	14.0	21.0	20.0	20.5
24	---	---	---	---	---	---	14.5	13.5	14.0	21.0	20.0	20.5
25	---	---	---	---	---	---	14.0	13.0	13.5	21.0	20.5	20.5
26	---	---	---	---	---	---	14.0	13.0	13.5	21.5	20.5	21.0
27	---	---	---	7.5	6.5	7.0	13.5	13.0	13.5	21.5	21.0	21.5
28	---	---	---	8.5	7.0	8.0	13.5	13.0	13.5	22.0	21.0	21.5
29	---	---	---	10.0	8.0	9.0	14.0	13.5	13.5	22.0	21.5	21.5
30	---	---	---	11.5	9.0	10.5	14.0	14.0	14.0	22.5	22.0	22.0
31	---	---	---	13.0	10.5	12.0	---	---	---	23.0	22.0	22.5
MONTH	---	---	---	13.0	6.5	9.3	15.5	10.5	13.3	23.0	14.0	17.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	23.0	22.5	23.0	24.5	24.5	24.5	27.0	26.5	26.5	---	---	---
2	23.0	22.5	23.0	25.0	24.5	24.5	27.0	26.5	26.5	---	---	---
3	23.0	22.5	23.0	25.5	24.5	25.0	27.0	26.5	26.5	26.5	26.5	26.5
4	23.0	22.5	22.5	25.5	25.0	25.0	27.0	26.5	27.0	26.5	26.5	26.5
5	22.5	22.0	22.5	25.5	25.0	25.5	27.5	27.0	27.0	26.5	26.0	26.5
6	22.5	22.0	22.5	25.5	25.0	25.0	27.5	27.0	27.0	26.5	26.0	26.0
7	22.5	22.0	22.0	25.5	25.0	25.0	27.5	27.0	27.0	26.0	26.0	26.0
8	22.0	21.5	22.0	25.0	24.5	25.0	27.5	27.0	27.0	26.0	25.5	26.0
9	22.0	21.5	21.5	24.5	24.0	24.5	27.5	27.0	27.0	25.5	24.5	25.0
10	21.5	21.5	21.5	25.0	24.0	24.5	27.5	27.0	27.5	24.5	24.0	24.5
11	21.5	21.0	21.5	24.5	24.0	24.5	27.5	27.0	27.5	24.0	24.0	24.0
12	21.5	21.0	21.0	24.5	24.0	24.0	27.5	27.0	27.5	24.0	24.0	24.0
13	21.5	21.0	21.0	24.5	24.0	24.5	27.5	27.0	27.0	24.5	24.0	24.0
14	21.0	20.5	21.0	24.5	24.0	24.5	27.0	27.0	27.0	24.5	24.0	24.5
15	21.0	20.5	20.5	25.0	24.5	24.5	27.0	26.5	27.0	25.0	24.5	24.5
16	21.0	20.5	20.5	25.0	24.5	25.0	27.0	26.5	27.0	25.0	24.5	24.5
17	20.5	20.0	20.5	25.5	25.0	25.0	27.0	27.0	27.0	25.0	24.5	24.5
18	20.5	20.0	20.0	25.5	25.0	25.5	27.0	27.0	27.0	24.5	24.5	24.5
19	21.0	20.0	20.5	26.0	25.0	25.5	27.0	26.5	26.5	24.5	24.5	24.5
20	21.5	21.0	21.0	26.0	25.5	26.0	26.5	26.0	26.5	24.5	24.5	24.5
21	22.5	21.5	22.0	26.0	26.0	26.0	26.5	26.0	26.0	24.5	24.5	24.5
22	22.5	22.0	22.5	26.5	26.0	26.5	26.5	26.0	26.0	24.5	24.5	24.5
23	23.0	22.0	22.5	26.5	26.5	26.5	26.5	26.0	26.5	24.5	24.0	24.0
24	23.5	22.5	23.0	26.5	26.5	26.5	27.0	26.5	26.5	24.0	23.5	23.5
25	24.0	23.0	23.5	26.5	26.5	26.5	27.0	26.5	27.0	23.5	23.0	23.5
26	24.0	23.5	24.0	27.0	26.5	26.5	---	---	---	23.5	23.0	23.0
27	24.5	24.0	24.0	27.0	26.5	26.5	---	---	---	23.5	23.0	23.5
28	24.5	24.0	24.5	27.0	26.5	26.5	---	---	---	23.5	23.0	23.5
29	24.5	24.5	24.5	27.0	26.5	27.0	---	---	---	23.5	23.0	23.0
30	24.5	24.5	24.5	27.0	27.0	27.0	---	---	---	23.0	23.0	23.0
31	---	---	---	27.0	26.5	27.0	---	---	---	---	---	---
MONTH	24.5	20.0	22.2	27.0	24.0	25.5	27.5	26.0	26.8	26.5	23.0	24.5

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	10.9	9.8	10.3	---	---	---
2	---	---	---	---	---	---	11.0	10.3	10.7	---	---	---
3	---	---	---	---	---	---	11.1	10.6	10.9	---	---	---
4	---	---	---	---	---	---	11.1	10.6	10.9	---	---	---
5	---	---	---	8.8	8.0	8.4	11.2	10.6	10.9	---	---	---
6	---	---	---	---	---	---	11.4	10.8	11.1	---	---	---
7	---	---	---	---	---	---	11.6	11.1	11.4	---	---	---
8	---	---	---	---	---	---	11.8	11.3	11.5	---	---	---
9	7.0	6.4	6.7	9.1	8.5	8.9	11.8	11.2	11.4	---	---	---
10	7.0	6.4	6.7	9.2	8.5	8.9	---	---	---	---	---	---
11	7.2	6.5	6.9	9.2	8.6	8.9	---	---	---	---	---	---
12	7.2	6.5	6.8	9.3	8.6	9.0	---	---	---	---	---	---
13	7.1	6.5	6.8	---	---	---	---	---	---	---	---	---
14	7.0	6.5	6.7	---	---	---	---	---	---	---	---	---
15	6.9	6.4	6.6	9.6	8.9	9.2	---	---	---	---	---	---
16	7.1	6.4	6.7	9.8	8.9	9.4	---	---	---	---	---	---
17	7.1	6.6	6.8	10.0	9.4	9.7	---	---	---	---	---	---
18	7.1	6.6	6.8	10.0	9.4	9.7	---	---	---	---	---	---
19	7.1	6.7	6.9	10.0	9.1	9.5	---	---	---	---	---	---
20	7.2	6.7	6.9	9.4	8.8	9.1	---	---	---	---	---	---
21	7.3	6.9	7.1	9.3	8.7	9.0	---	---	---	---	---	---
22	7.5	7.0	7.3	9.2	8.7	8.9	---	---	---	---	---	---
23	7.8	7.2	7.5	9.2	8.6	8.9	---	---	---	---	---	---
24	8.1	7.4	7.7	9.5	8.7	9.1	---	---	---	---	---	---
25	8.2	7.5	7.8	9.7	9.1	9.4	---	---	---	---	---	---
26	8.3	7.5	7.8	10.0	9.1	9.6	---	---	---	---	---	---
27	8.0	7.4	7.7	10.4	9.3	9.9	---	---	---	---	---	---
28	8.5	7.5	8.0	10.4	9.5	9.9	---	---	---	---	---	---
29	8.6	7.8	8.2	10.6	9.6	10.1	---	---	---	---	---	---
30	8.6	7.9	8.2	10.7	9.8	10.2	---	---	---	---	---	---
31	8.8	7.8	8.3	---	---	---	---	---	---	---	---	---
MONTH	8.8	6.4	7.3	10.7	8.0	9.3	11.8	9.8	11.0	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	10.9	10.0	10.4	9.4	8.9	9.2
2	---	---	---	---	---	---	10.2	9.5	9.8	9.1	8.7	8.9
3	---	---	---	---	---	---	---	---	---	9.0	8.7	8.9
4	---	---	---	---	---	---	9.6	9.2	9.4	8.9	8.4	8.8
5	---	---	---	---	---	---	9.2	8.9	9.1	8.7	8.4	8.6
6	---	---	---	---	---	---	9.4	8.9	9.0	8.6	8.1	8.3
7	---	---	---	---	---	---	9.7	8.9	9.3	8.3	7.9	8.1
8	---	---	---	---	---	---	9.9	9.1	9.5	8.1	7.7	7.9
9	---	---	---	---	---	---	9.9	9.3	9.6	8.1	7.6	7.9
10	---	---	---	---	---	---	10.5	9.5	9.9	8.3	7.7	8.0
11	---	---	---	---	---	---	10.6	10.2	10.5	8.3	8.0	8.1
12	---	---	---	---	---	---	10.7	10.4	10.5	8.9	8.1	8.5
13	---	---	---	---	---	---	10.9	10.4	10.6	9.0	8.7	8.9
14	---	---	---	---	---	---	10.8	10.3	10.5	9.0	8.7	8.9
15	---	---	---	---	---	---	10.6	10.3	10.4	8.9	8.7	8.8
16	---	---	---	---	---	---	10.5	9.8	10.1	8.8	8.5	8.7
17	---	---	---	---	---	---	10.1	9.6	9.9	8.6	8.2	8.4
18	---	---	---	---	---	---	9.7	9.4	9.6	8.5	8.0	8.3
19	---	---	---	---	---	---	9.4	9.1	9.3	8.2	7.9	8.0
20	---	---	---	---	---	---	9.2	9.0	9.1	8.0	7.8	7.9
21	---	---	---	---	---	---	9.1	8.9	9.0	7.8	7.6	7.7
22	---	---	---	---	---	---	9.3	9.0	9.1	7.9	7.6	7.7
23	---	---	---	---	---	---	9.4	9.0	9.2	7.8	7.5	7.7
24	---	---	---	---	---	---	9.5	9.0	9.2	7.8	7.5	7.6
25	---	---	---	---	---	---	9.6	9.2	9.4	7.6	7.4	7.5
26	---	---	---	---	---	---	9.6	9.3	9.5	7.4	7.1	7.2
27	---	---	---	12.2	11.9	12.1	9.5	9.3	9.4	7.2	6.8	7.0
28	---	---	---	12.1	11.8	11.9	9.4	9.1	9.3	7.1	6.7	6.9
29	---	---	---	11.9	11.5	11.7	9.4	9.0	9.3	7.0	6.5	6.7
30	---	---	---	11.7	11.2	11.4	9.3	9.0	9.2	7.0	6.3	6.7
31	---	---	---	11.4	10.6	10.9	---	---	---	7.1	6.4	6.8
MONTH	---	---	---	12.2	10.6	11.6	10.9	8.9	9.6	9.4	6.3	8.0

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	7.0	6.5	6.8	5.6	4.9	5.3	5.6	4.8	5.2	---	---	---
2	7.3	6.5	6.9	5.7	4.9	5.3	5.7	4.7	5.2	---	---	---
3	7.3	6.8	7.0	5.7	4.9	5.4	5.8	4.8	5.2	5.8	5.1	5.4
4	7.5	6.7	7.1	5.4	5.0	5.2	5.9	4.6	5.2	5.9	5.1	5.4
5	7.5	7.0	7.2	5.6	4.6	5.0	5.7	5.0	5.4	5.8	5.0	5.4
6	7.4	6.9	7.1	6.0	5.1	5.6	5.5	4.7	5.1	6.1	5.0	5.5
7	7.5	7.0	7.3	5.9	5.4	5.6	5.6	5.0	5.2	6.1	5.3	5.7
8	7.4	7.0	7.2	5.9	5.4	5.7	5.5	4.6	5.1	6.0	5.3	5.5
9	7.5	7.0	7.3	5.7	5.1	5.4	6.3	5.0	5.7	6.1	5.4	5.8
10	7.4	6.9	7.1	5.6	5.0	5.3	6.2	5.4	5.6	6.2	5.7	6.0
11	7.3	6.8	7.0	5.9	5.2	5.5	5.6	4.8	5.1	6.4	5.8	6.1
12	7.2	6.3	6.6	6.2	5.4	5.9	5.4	4.7	5.0	6.5	5.8	6.2
13	6.5	5.8	6.1	6.3	5.7	6.1	5.5	4.7	5.1	6.9	6.0	6.4
14	6.6	5.6	6.1	6.6	5.9	6.3	5.4	4.7	5.0	6.9	5.8	6.4
15	6.8	5.9	6.4	6.9	6.1	6.5	5.4	4.6	5.0	6.9	6.1	6.5
16	7.3	6.3	6.9	7.1	6.3	6.7	5.4	4.5	4.9	6.8	6.2	6.5
17	7.8	7.1	7.5	7.2	6.5	6.9	5.0	4.2	4.6	6.5	5.8	6.2
18	8.0	7.5	7.8	7.5	6.6	7.1	4.5	3.8	4.2	6.3	5.6	5.9
19	8.0	7.7	7.9	8.0	7.0	7.4	4.6	3.8	4.1	6.1	5.4	5.7
20	8.0	7.7	7.8	8.1	7.3	7.6	4.8	3.8	4.2	5.8	5.2	5.5
21	7.9	7.7	7.8	8.2	7.4	7.7	4.9	4.1	4.4	5.8	5.1	5.4
22	7.8	7.4	7.7	7.9	7.3	7.6	5.0	3.8	4.4	5.6	5.0	5.2
23	7.4	7.0	7.2	7.5	6.8	7.2	5.0	4.3	4.5	5.6	5.0	5.3
24	7.1	6.6	6.8	7.2	6.5	6.9	5.4	4.0	4.6	5.7	5.1	5.4
25	6.7	6.2	6.4	7.2	6.4	6.7	6.0	4.6	5.2	5.8	5.1	5.4
26	6.6	5.9	6.2	7.2	6.4	6.7	---	---	---	5.6	4.9	5.3
27	6.1	5.4	5.7	6.9	6.2	6.5	---	---	---	5.8	4.8	5.3
28	6.1	5.4	5.8	6.7	6.1	6.4	---	---	---	5.6	4.8	5.3
29	6.2	5.4	5.7	6.6	5.9	6.2	---	---	---	6.0	5.2	5.6
30	5.9	5.1	5.4	6.4	5.7	6.0	---	---	---	6.1	5.3	5.6
31	---	---	---	6.0	5.0	5.5	---	---	---	---	---	---
MONTH	8.0	5.1	6.9	8.2	4.6	6.2	6.3	3.8	4.9	6.9	4.8	5.7

SCHUYLKILL RIVER BASIN

01468500 SCHUYLKILL RIVER AT LANDINGVILLE, PA

LOCATION.--Lat 40°37'45", long 76°07'30", Schuylkill County, Hydrologic Unit 02040203, on left bank 10 ft upstream from highway bridge on SR 2011 at Landingville, 0.1 mi upstream from Mahannon Creek, and 5.0 mi downstream from West Branch Schuylkill River.

DRAINAGE AREA.--133 mi².

PERIOD OF RECORD.--August 1947 to April 1953, October 1963 to September 1965, August 1973 to current year.

REVISED RECORDS.--WDR PA-75-1: 1973(P), 1974(P).

GAGE.--Water-stage recorder. Datum of gage is 470.64 ft above sea level. Prior to Aug. 27, 1947, nonrecording gage 10 ft downstream at same datum.

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 June 1972 reached a stage of 17.36 ft, discharge, about 14,000 ft³/s.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 24	0530	1,610	6.54	May 12	0330	*1,740	*6.76
Mar. 9	2200	1,520	6.39	June 24	0130	1,490	6.33

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	136	239	191	309	636	381	354	208	234	89	76
2	87	191	182	175	294	560	366	397	219	200	88	152
3	85	155	180	177	280	563	306	363	208	187	88	114
4	85	122	181	191	306	502	296	403	184	179	85	88
5	86	106	176	199	739	451	287	437	175	178	83	76
6	84	102	171	204	625	415	276	397	169	170	81	75
7	80	107	168	250	556	386	266	411	164	164	80	107
8	79	149	160	912	488	398	260	520	159	317	80	145
9	73	179	148	1190	433	995	376	668	155	219	82	94
10	75	154	155	968	387	1090	739	850	152	187	150	84
11	76	127	164	738	374	847	557	1130	150	173	128	83
12	80	118	159	597	577	696	492	1550	289	164	89	75
13	81	121	156	514	438	601	442	1180	677	157	84	76
14	80	160	147	440	417	546	409	897	472	153	122	78
15	86	157	142	417	386	484	414	743	324	150	97	76
16	80	152	136	589	361	433	362	638	282	145	88	73
17	77	137	135	476	394	394	338	567	278	145	146	74
18	78	129	134	483	670	402	310	500	254	145	192	72
19	77	124	121	435	632	425	493	449	223	132	147	70
20	78	118	117	399	582	374	716	408	212	126	106	68
21	76	115	115	360	540	781	592	369	204	126	93	69
22	74	181	113	336	480	680	541	337	197	118	92	85
23	75	167	137	481	509	596	504	312	220	115	142	72
24	76	145	130	581	1390	537	456	295	685	108	96	65
25	132	139	257	538	1110	478	414	307	332	104	91	82
26	102	142	217	466	880	443	473	274	320	103	99	71
27	156	127	206	422	751	416	499	253	277	101	87	67
28	100	129	200	422	674	387	403	236	245	96	83	67
29	90	132	190	385	---	363	375	238	228	93	79	62
30	87	167	222	361	---	337	363	246	234	92	76	63
31	85	---	189	334	---	317	---	216	---	102	76	---
TOTAL	2666	4188	5147	14231	15582	16533	12706	15945	7896	4683	3119	2459
MEAN	86.0	140	166	459	557	533	424	514	263	151	101	82.0
MAX	156	191	257	1190	1390	1090	739	1550	685	317	192	152
MIN	73	102	113	175	280	317	260	216	150	92	76	62
CFSM	.65	1.05	1.25	3.45	4.18	4.01	3.18	3.87	1.98	1.14	.76	.62
IN.	.75	1.17	1.44	3.98	4.36	4.62	3.55	4.46	2.21	1.31	.87	.69

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

MEAN	179	272	352	341	331	443	441	366	232	173	132	151
MAX	760	569	918	887	620	929	1079	811	562	471	248	475
(WY)	1977	1952	1997	1979	1981	1977	1993	1989	1982	1984	1994	1975
MIN	28.5	52.5	62.4	41.2	124	164	157	127	77.1	54.2	57.2	55.6
(WY)	1964	1965	1981	1981	1980	1985	1985	1965	1965	1965	1949	1964

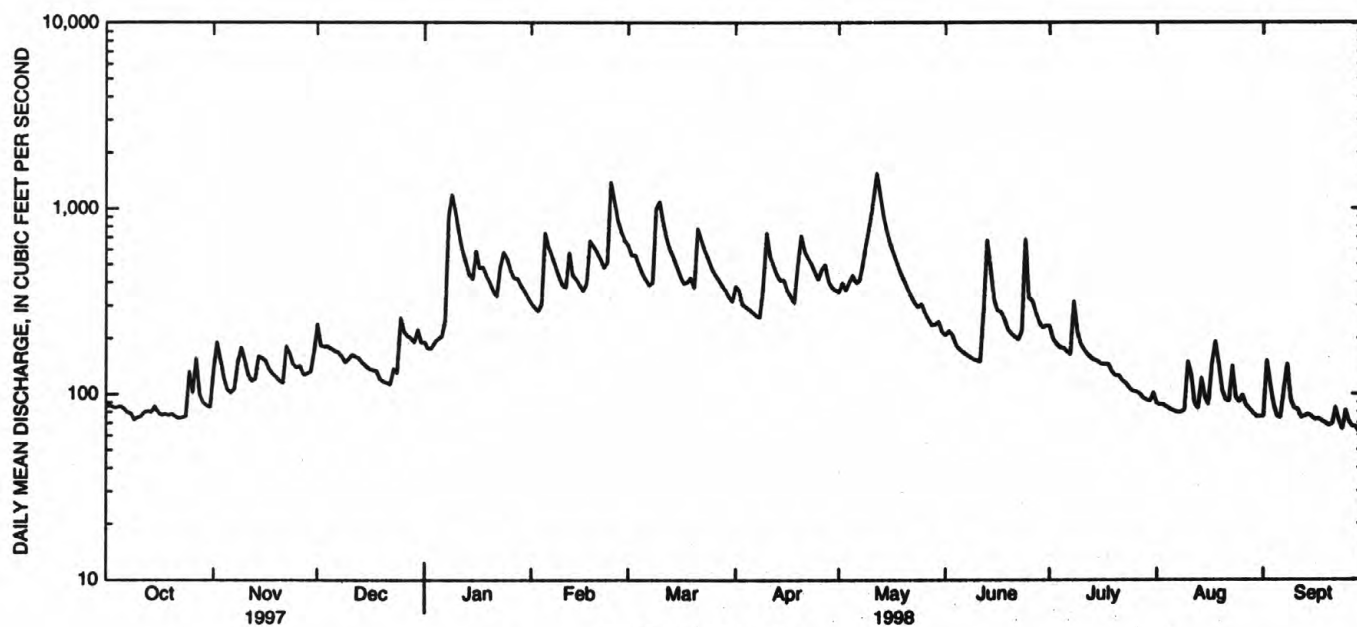
SCHUYLKILL RIVER BASIN

01468500 SCHUYLKILL RIVER AT LANDINGVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	70067		105155		282	
ANNUAL MEAN	192		288		441	
HIGHEST ANNUAL MEAN					122	
LOWEST ANNUAL MEAN					1952	
HIGHEST DAILY MEAN	800	Jul 24	1550	May 12	4660	Apr 16 1983
LOWEST DAILY MEAN	73	Oct 9	62	Sep 29	21	Nov 4 1963
ANNUAL SEVEN-DAY MINIMUM	76	Oct 18	68	Sep 24	23	Oct 25 1963
INSTANTANEOUS PEAK FLOW			1740	May 12	ab8570	Nov 25 1950
INSTANTANEOUS PEAK STAGE			6.76	May 12	13.60	Apr 16 1983
INSTANTANEOUS LOW FLOW			57	Sep 29	19	Oct 30 1963
ANNUAL RUNOFF (CFSM)	1.44		2.17		2.12	
ANNUAL RUNOFF (INCHES)	19.60		29.41		28.78	
10 PERCENT EXCEEDS	325		590		565	
50 PERCENT EXCEEDS	169		191		197	
90 PERCENT EXCEEDS	86		80		78	

a From rating curve extended above 5,000 ft³/s.

b Gage height, 13.29 ft.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01469500 LITTLE SCHUYLKILL RIVER AT TAMAQUA, PA

LOCATION.--Lat 40°48'25", long 75°58'20", Schuylkill County, Hydrologic Unit 02040203, on left bank along State Highway 309, 0.6 mi upstream from Tamaqua, and 0.8 mi upstream from Panther Creek.

DRAINAGE AREA.--42.9 mi².

PERIOD OF RECORD.--October 1919 to current year. June 1916 to September 1919, gage heights and discharge measurements only, in reports of Water Supply Commission of Pennsylvania.

REVISED RECORDS.--WSP 756: Drainage area. WSP 971: 1942. WSP 1302: 1922, 1926-30. WSP 1432: 1920-21, 1933.

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 817.48 ft above sea level. Prior to June 21, 1929, nonrecording gage at site 3,600 ft downstream at datum 28.64 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Still Creek Reservoir (station 01469200) 6.5 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

COOPERATION.--Records of diversion and change in contents of Still Creek Reservoir provided by the Borough of Tamaqua.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	22	67	e50	92	246	104	110	48	56	16	9.1
2	17	42	54	50	87	212	111	112	40	42	14	25
3	15	35	50	50	83	206	93	105	38	36	13	30
4	15	27	50	56	88	187	84	104	34	34	13	19
5	15	23	51	58	280	163	77	107	32	34	13	16
6	15	21	48	58	259	145	96	100	30	31	12	14
7	14	22	46	69	219	130	108	88	28	29	11	17
8	13	23	42	363	186	131	106	112	32	39	11	30
9	14	29	40	519	160	299	135	131	29	39	11	21
10	13	29	41	377	139	426	224	191	28	33	17	17
11	12	27	41	283	127	331	179	277	28	28	19	15
12	11	26	39	221	207	260	167	393	62	26	15	14
13	11	24	36	182	172	214	157	333	96	24	13	13
14	12	28	34	150	162	186	164	263	102	23	16	13
15	14	29	33	132	151	163	164	211	82	22	15	12
16	13	28	31	193	136	140	96	176	62	23	14	11
17	12	27	30	158	140	122	83	150	52	22	16	14
18	11	25	29	149	230	121	75	127	51	22	21	14
19	10	24	29	134	241	131	122	112	42	21	22	12
20	10	24	29	125	223	116	210	102	37	20	16	11
21	9.8	24	29	113	204	215	215	90	36	20	14	11
22	9.3	39	27	104	180	209	197	79	34	20	13	14
23	9.1	40	30	122	174	192	172	72	41	19	39	14
24	8.6	36	32	156	388	175	152	66	107	18	22	11
25	19	33	61	147	342	156	130	64	61	17	17	11
26	17	34	66	130	297	143	147	59	53	17	20	13
27	25	36	62	120	261	130	170	54	51	16	16	11
28	20	35	62	119	242	120	129	50	45	16	14	11
29	16	35	59	109	---	111	118	50	42	16	13	9.1
30	14	40	68	106	---	103	113	61	49	16	12	8.6
31	13	---	60	101	---	97	---	48	---	17	9.9	---
TOTAL	425.8	887	1376	4704	5470	5580	4098	3997	1472	796	487.9	440.8
MEAN	13.7	29.6	44.4	152	195	180	137	129	49.1	25.7	15.7	14.7
MAX	25	42	68	519	388	426	224	393	107	56	39	30
MIN	8.6	21	27	50	83	97	75	48	28	16	9.9	8.6
(†)	3.4	3.2	3.3	3.4	3.4	3.4	3.4	3.8	4.4	3.9	3.7	3.7

† Diversion from Still Creek Reservoir, equivalent in cubic feet per second.

e Estimated.

SCHUYLKILL RIVER BASIN

01469500 LITTLE SCHUYLKILL RIVER AT TAMAQUA, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	50.3	83.4	105	90.8	95.7	141	143	108	65.4	51.2	39.6	43.5
MAX	317	242	321	338	242	365	475	315	430	394	226	259
(WY)	1977	1952	1997	1996	1951	1936	1993	1989	1972	1947	1933	1933
MIN	5.82	7.81	12.2	8.57	26.6	42.5	46.6	21.1	14.6	8.87	6.25	6.46
(WY)	1964	1942	1981	1981	1934	1985	1985	1941	1941	1965	1944	1964

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1933 - 1998

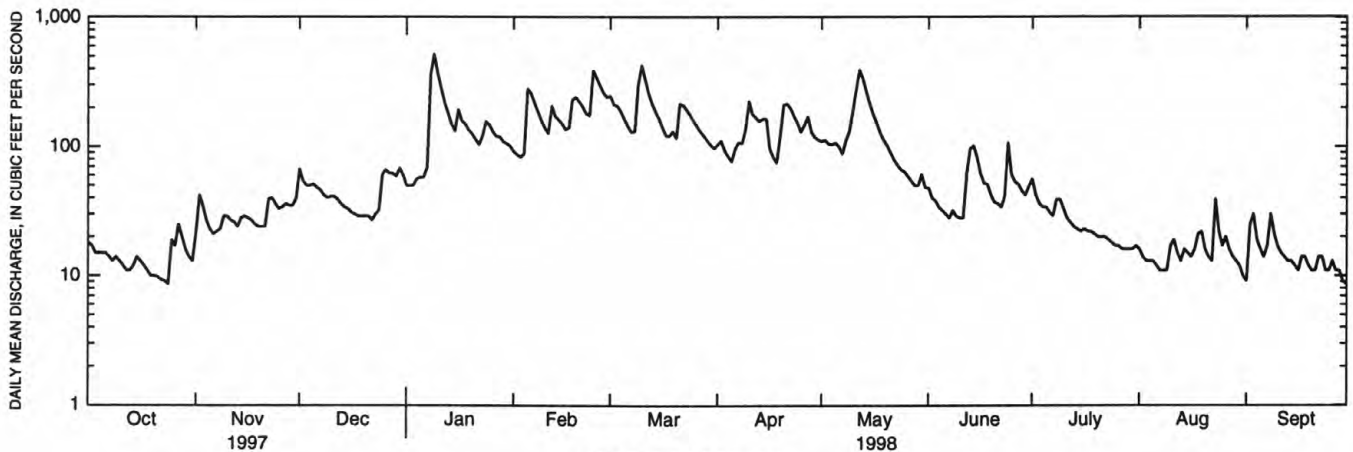
ANNUAL TOTAL	20479.8			29734.5			84.7			155		
ANNUAL MEAN	56.1			81.5			155			1952		
HIGHEST ANNUAL MEAN							33.8			1965		
LOWEST ANNUAL MEAN							2790			Aug 24 1933		
HIGHEST DAILY MEAN	226			Apr 4			519			Jan 9		
LOWEST DAILY MEAN	8.6			Oct 24			8.6			Oct 24, Sep 30		
ANNUAL SEVEN-DAY MINIMUM	9.7			Oct 18			9.7			Oct 18		
INSTANTANEOUS PEAK FLOW							573			Jan 8		
INSTANTANEOUS PEAK STAGE							4.02			Jan 8		
INSTANTANEOUS LOW FLOW										11.10		
10 PERCENT EXCEEDS	121						200			178		
50 PERCENT EXCEEDS	43						42			51		
90 PERCENT EXCEEDS	15						13			14		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1932, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	73.0	96.5	101	78.7	103	188	143	112	74.4	57.0	33.7	37.7
MAX	227	308	241	266	344	410	227	208	209	185	81.5	152
(WY)	1928	1927	1928	1924	1925	1920	1928	1924	1922	1928	1927	1924
MIN	6.67	6.74	7.99	13.3	25.7	88.5	72.6	32.8	27.3	14.5	10.3	6.66
(WY)	1931	1931	1931	1931	1931	1931	1926	1926	1921	1923	1923	1932

SUMMARY STATISTICS WATER YEARS 1920 - 1932

ANNUAL TOTAL												
ANNUAL MEAN	91.5											
HIGHEST ANNUAL MEAN	145						1928					
LOWEST ANNUAL MEAN	42.3						1931					
HIGHEST DAILY MEAN	3600						Sep 30 1924					
LOWEST DAILY MEAN	3.0						Dec 23 1930					
ANNUAL SEVEN DAY MINIMUM	3.8						Dec 14 1930					
INSTANTANEOUS PEAK FLOW	5000						Sep 30 1924					
INSTANTANEOUS LOW FLOW	1.8						Dec 18 1931					
ANNUAL RUNOFF (CFSM)	2.13											
ANNUAL RUNOFF (INCHES)	28.97											
10 PERCENT EXCEEDS	201											
50 PERCENT EXCEEDS	54											
90 PERCENT EXCEEDS	12											

a From rating curve extended above 3,200 ft³/s on basis of contracted-opening measurement of peak flow.1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERNE, PA

LOCATION.--Lat 40°31'21", long 75°59'55", Berks County, Hydrologic Unit 02040203, on right bank 50 ft upstream from bridge on Township Route 558 at Berne, 0.5 mi upstream from Mill Creek, and 6.5 mi downstream from Little Schuylkill River.

DRAINAGE AREA.--355 mi².

PERIOD OF RECORD.--August 1947 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 310.65 ft above sea level.

REMARKS.--No estimated daily discharges. Records fair. Some regulation at low flow by mine pumpage and by Still Creek Reservoir (station 01469200) about 25 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 8	2130	4,470	8.04	May 12	0730	*4,720	*8.17

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203	217	619	480	933	1730	884	882	516	601	183	156
2	187	498	486	576	870	1480	1030	973	434	481	165	234
3	185	466	448	435	826	1460	811	977	475	424	161	323
4	178	337	448	478	807	1360	756	996	391	385	152	209
5	174	285	439	504	2270	1200	721	1100	363	370	144	178
6	171	255	415	508	2300	1090	683	1040	341	338	141	160
7	161	250	395	552	1900	1000	683	1000	323	315	137	161
8	158	290	374	2510	1590	993	657	1270	324	594	137	338
9	150	385	337	3940	1360	2290	765	2120	312	593	137	227
10	150	393	338	2900	1190	3460	2410	2620	294	434	242	197
11	152	331	373	2170	1080	2630	1830	3320	289	366	380	176
12	153	303	358	1720	1730	2090	1520	4370	650	330	191	175
13	158	285	356	1440	1440	1730	1310	3450	1570	304	158	152
14	158	332	337	1210	1330	1520	1130	2570	1640	281	189	146
15	169	401	321	1070	1220	1330	1120	2030	1050	275	215	141
16	181	373	298	1640	1120	1160	905	1660	833	274	173	132
17	167	346	292	1440	1080	1030	825	1400	786	262	235	130
18	167	314	284	1390	1790	1020	746	1200	677	275	420	137
19	164	299	279	1270	1790	1220	929	1050	578	250	523	137
20	151	287	267	1150	1660	1080	1890	949	520	237	265	143
21	140	273	262	1040	1540	2310	1600	852	483	226	215	141
22	137	364	253	951	1350	2380	1470	755	451	223	194	140
23	133	421	303	1350	1270	1930	1310	688	506	210	476	175
24	132	369	329	2150	3750	1650	1180	639	2730	209	294	131
25	225	334	658	1880	3410	1420	1040	660	1290	196	234	123
26	215	327	740	1560	2590	1280	1040	611	943	196	249	160
27	305	332	660	1350	2110	1160	1380	546	824	190	216	133
28	266	305	611	1280	1830	1060	1010	503	640	177	186	142
29	210	310	548	1190	---	974	934	485	560	179	168	127
30	194	316	643	1100	---	885	898	576	538	176	172	122
31	182	---	560	1020	---	823	---	483	---	186	167	---
TOTAL	5476	9998	13031	42254	46136	46745	33467	41775	21331	9557	6919	5046
MEAN	177	333	420	1363	1648	1508	1116	1348	711	308	223	168
MAX	305	498	740	3940	3750	3460	2410	4370	2730	601	523	338
MIN	132	217	253	435	807	823	657	483	289	176	137	122
CFSM	.50	.94	1.18	3.84	4.64	4.25	3.14	3.80	2.00	.87	.63	.47
IN.	.57	1.05	1.37	4.43	4.83	4.90	3.51	4.38	2.24	1.00	.73	.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1998, BY WATER YEAR (WY)

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
MEAN	422	712	944	828	901	1184	1144	889	569	381	338	348
MAX	1896	1631	2932	2547	1735	2525	3319	2689	3410	1240	1594	1381
(WY)	1977	1971	1997	1979	1981	1994	1993	1989	1972	1984	1955	1987
MIN	75.7	120	125	88.4	290	462	424	325	148	113	119	94.6
(WY)	1964	1965	1981	1981	1980	1985	1985	1965	1965	1965	1957	1964

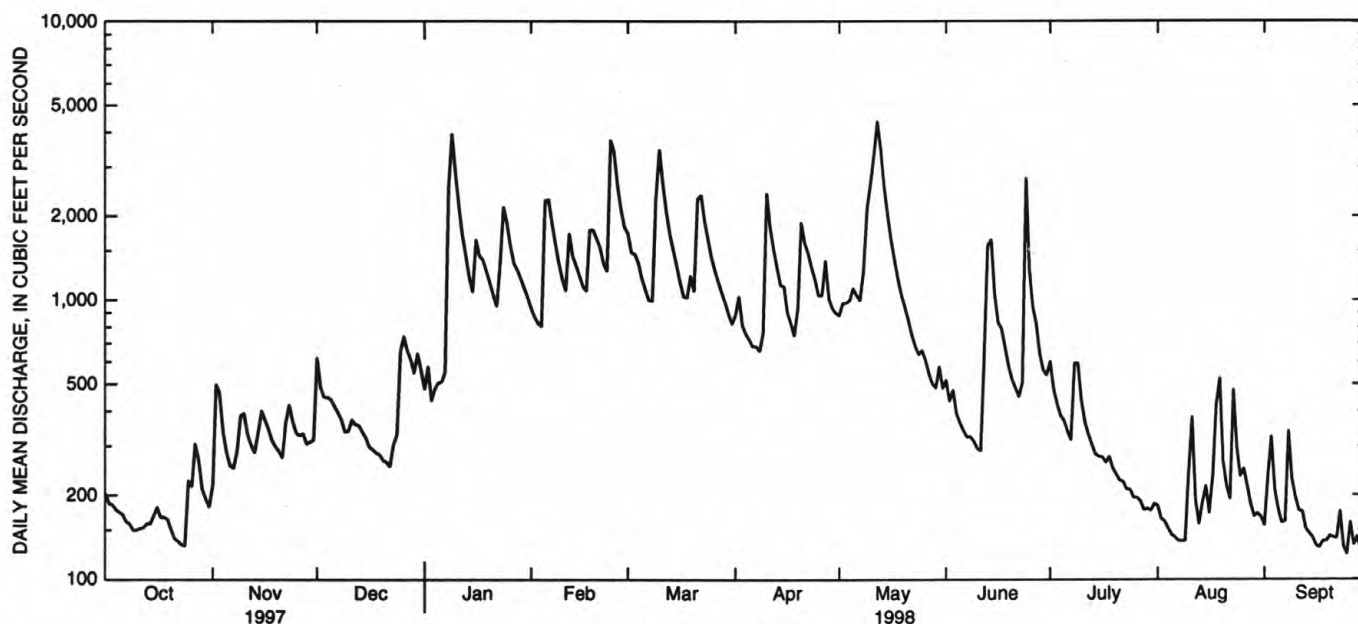
SCHUYLKILL RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERNE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1947 - 1998	
ANNUAL TOTAL	191909		281735		721	
ANNUAL MEAN	526		772		1182	
HIGHEST ANNUAL MEAN					1952	
LOWEST ANNUAL MEAN					1965	
HIGHEST DAILY MEAN	2330	Mar 15	4370	May 12	26000	Jun 23 1972
LOWEST DAILY MEAN	132	Oct 24	122	Sep 30	40	Sep 2 1949
ANNUAL SEVEN-DAY MINIMUM	146	Oct 18	134	Sep 24	65	Oct 19 1963
INSTANTANEOUS PEAK FLOW			4720	May 12	a42800	Jun 22 1972
INSTANTANEOUS PEAK STAGE			8.17	May 12	b19.90	Jun 22 1972
INSTANTANEOUS LOW FLOW			108	Sep 25	31	Sep 2 1949
ANNUAL RUNOFF (CFSM)	1.48		2.17		2.03	
ANNUAL RUNOFF (INCHES)	20.11		29.52		27.59	
10 PERCENT EXCEEDS	952		1730		1490	
50 PERCENT EXCEEDS	439		480		450	
90 PERCENT EXCEEDS	182		159		162	

a From rating curve extended above 20,800 ft³/s.

b From floodmark in gage shelter.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA

LOCATION.--Lat 40°24'48", long 76°10'19", Berks County, Hydrologic Unit, 02040203, on left bank 30 ft downstream from Mill Road bridge at Kricks Mill, 0.4 mi upstream from Mill Creek, and 3.5 mi west of Bernville.

DRAINAGE AREA.--66.5 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR PA-96-1: 1975-83(P), 1988(P), 1990(P), 1993-94(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 311.26 ft above sea level (Pennsylvania Department of Transportation datum).

REMARKS.--Records good. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1972 reached a stage of about 9.5 ft, from information by local resident, discharge about 6,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 950 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 21	1100	*726	*4.49	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	41	51	54	97	166	184	139	119	105	74	64
2	36	44	43	e50	90	155	168	157	109	97	71	83
3	36	37	39	53	96	181	144	138	103	95	70	73
4	35	33	39	43	95	174	145	137	98	93	67	67
5	35	38	e40	44	185	154	142	129	88	91	65	63
6	35	38	e39	49	151	145	136	129	94	89	67	61
7	35	42	e37	51	138	138	124	139	96	84	65	67
8	35	62	e36	141	129	155	120	163	94	175	63	63
9	35	56	e35	132	122	315	151	200	90	134	52	59
10	32	54	38	100	116	303	254	226	90	111	197	61
11	28	49	44	88	113	231	165	249	91	93	144	59
12	28	45	40	80	167	208	160	345	169	93	78	59
13	32	43	39	76	131	193	150	265	164	94	76	57
14	32	54	35	71	123	186	137	230	145	94	77	55
15	34	62	36	70	127	174	135	208	114	96	66	57
16	33	53	35	151	122	165	132	193	100	97	66	57
17	32	48	35	113	115	157	130	181	102	92	128	55
18	36	46	34	115	161	162	127	170	91	89	124	55
19	34	44	35	106	147	237	149	163	87	86	110	53
20	33	43	35	97	138	189	214	156	84	86	92	54
21	34	42	35	91	134	437	151	150	81	79	85	56
22	33	52	28	86	137	312	143	142	78	80	81	55
23	32	46	37	163	145	262	135	139	78	86	79	54
24	33	42	41	189	266	231	131	134	231	88	69	52
25	45	42	81	150	208	211	128	134	118	77	73	53
26	42	41	66	133	182	195	146	131	160	77	76	54
27	56	38	60	121	170	186	214	126	128	76	72	53
28	41	38	58	135	162	176	155	123	114	75	70	51
29	39	39	56	139	---	161	146	117	110	76	69	50
30	37	40	65	125	---	149	141	119	110	74	67	51
31	36	---	60	115	---	151	---	114	---	81	65	---
TOTAL	1100	1352	1352	3131	3967	6259	4557	5146	3336	2863	2558	1751
MEAN	35.5	45.1	43.6	101	142	202	152	166	111	92.4	82.5	58.4
MAX	56	62	81	189	266	437	254	345	231	175	197	83
MIN	28	33	28	43	90	138	120	114	78	74	52	50
CFSM	.53	.68	.66	1.52	2.13	3.04	2.28	2.50	1.67	1.39	1.24	.88
IN.	.62	.76	.76	1.75	2.22	3.50	2.55	2.88	1.87	1.60	1.43	.98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	82.6	100	120	133	133	169	151	117	99.9	88.9	68.7	67.2													
MAX	250	181	288	385	264	468	367	277	208	216	129	181													
(WY)	1977	1997	1997	1979	1979	1994	1993	1989	1982	1984	1976	1975													
MIN	35.5	38.7	41.4	33.6	48.6	67.5	58.8	60.7	50.2	37.7	35.2	29.7													
(WY)	1998	1982	1982	1981	1992	1981	1985	1985	1985	1991	1981	1991													

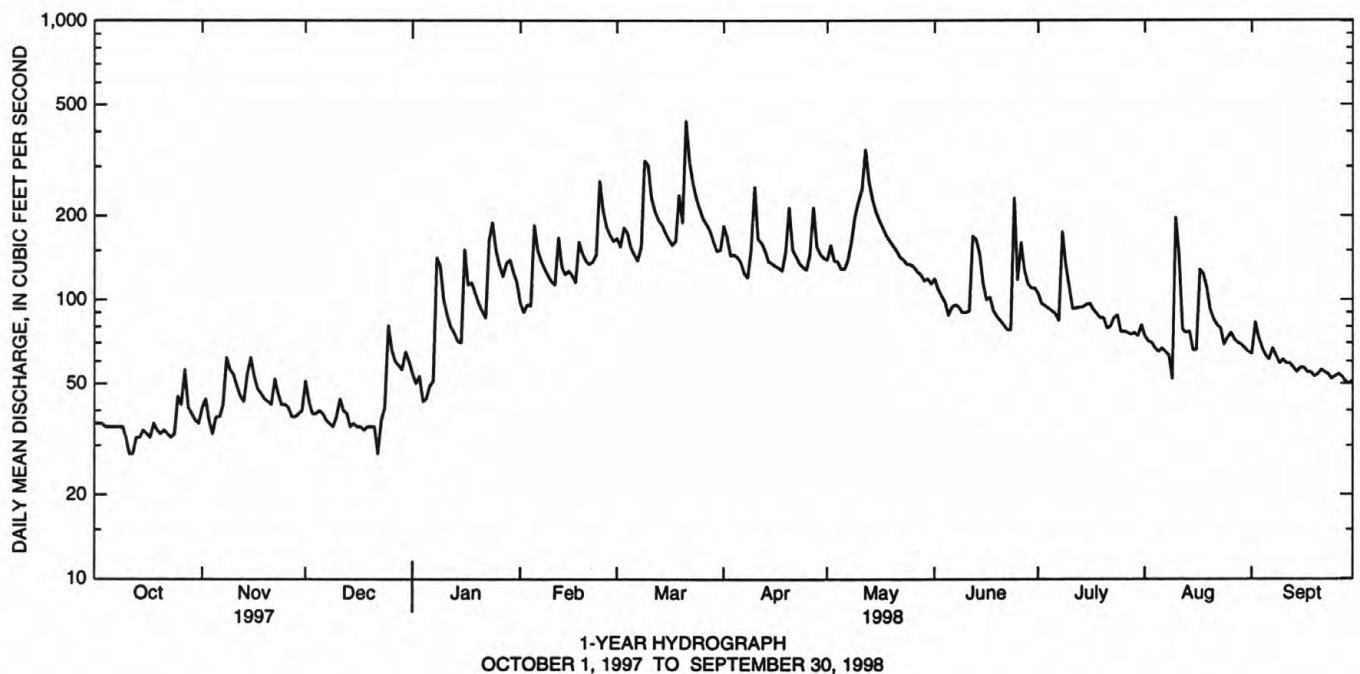
e Estimated.

SCHUYLKILL RIVER BASIN

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1975 - 1998	
ANNUAL TOTAL	30145		37372		110	
ANNUAL MEAN	82.6		102		164	
HIGHEST ANNUAL MEAN					55.7	
LOWEST ANNUAL MEAN					1994	
HIGHEST DAILY MEAN	422	Jan 28	437	Mar 21	2140	Jan 26 1978
LOWEST DAILY MEAN	28	Oct 11,12a	28	Oct 11,12a	23	Aug 26 1981
ANNUAL SEVEN-DAY MINIMUM	31	Oct 10	31	Oct 10	27	Sep 12 1991
INSTANTANEOUS PEAK FLOW			726	Mar 21	b7140	Jan 24 1979
INSTANTANEOUS PEAK STAGE			4.49	Mar 21	10.16	Jan 24 1979
ANNUAL RUNOFF (CFSM)	1.24		1.54		1.65	
ANNUAL RUNOFF (INCHES)	16.86		20.91		22.40	
10 PERCENT EXCEEDS	149		178		185	
50 PERCENT EXCEEDS	64		90		86	
90 PERCENT EXCEEDS	36		36		44	

a Also Dec. 22.

b From rating curve extended above 740 ft³/s on basis of contracted-opening measurement at 3,900 ft³/s, gage height 8.01 ft.

SCHUYLKILL RIVER BASIN

01470779 TULPEHOCKEN CREEK NEAR BERNVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1978 to current year.

INSTRUMENTATION.--Temperature recorder since October 1977. Temperature probe interfaced with a data collection platform since 1986 water year.

REMARKS.--Interruptions in the record were due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 27.0°C, July 21, 1985, July 22, 1987; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 22.0°C, several days; minimum, 0.0°C, Jan. 1, 2.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.5	13.5	15.0	11.5	9.0	10.5	7.5	5.0	6.5	.5	.0	.0
2	13.5	11.5	12.5	12.5	11.0	12.0	5.0	3.0	4.0	1.5	.0	.5
3	14.0	11.5	12.5	11.5	9.5	10.5	4.5	2.5	3.5	4.5	1.5	3.5
4	16.5	13.0	14.5	10.5	8.5	9.5	6.0	3.5	5.0	7.0	4.5	6.0
5	18.0	15.0	16.5	9.5	7.0	8.5	---	---	---	7.0	5.5	6.0
6	19.0	16.0	17.0	9.0	6.5	7.5	---	---	---	8.5	6.5	7.5
7	19.0	16.5	17.5	9.0	8.0	8.5	---	---	---	10.5	8.5	9.5
8	19.5	17.5	18.0	9.0	8.5	9.0	---	---	---	13.5	10.5	12.0
9	19.0	17.0	18.0	10.0	9.0	9.5	---	---	---	13.5	10.5	12.5
10	20.0	17.0	18.5	9.5	8.0	9.0	---	---	---	10.5	6.5	8.0
11	18.0	15.5	17.0	9.0	7.5	8.5	4.0	3.5	4.0	6.5	5.0	6.0
12	16.0	13.0	14.5	8.5	6.0	7.5	5.0	4.0	4.5	5.5	4.0	4.5
13	14.5	12.5	13.5	6.0	5.0	5.5	5.0	4.0	4.5	6.0	5.0	5.5
14	16.0	13.5	15.0	5.0	4.5	5.0	4.5	2.5	4.0	5.0	2.5	3.5
15	15.5	14.0	15.0	5.5	4.5	5.0	3.5	2.0	2.5	3.0	2.5	2.5
16	14.0	12.5	13.5	6.0	4.5	5.0	4.0	2.0	2.5	5.0	3.0	4.5
17	13.0	11.0	12.0	5.0	3.0	4.0	4.5	2.5	3.0	6.0	5.0	5.5
18	13.0	11.5	12.0	4.5	2.0	3.0	4.0	2.0	3.0	6.0	5.5	6.0
19	12.5	10.5	11.5	4.5	2.0	3.0	4.0	2.0	3.0	6.0	5.5	5.5
20	12.0	9.5	10.5	5.0	2.5	4.0	4.5	3.0	3.5	5.5	4.5	5.5
21	11.5	9.5	10.5	6.0	3.5	5.0	4.0	2.5	3.5	4.5	3.5	4.0
22	10.5	8.5	9.5	7.5	5.5	7.0	2.5	2.0	2.0	5.0	4.0	4.5
23	10.0	8.0	8.5	7.5	6.5	7.0	3.5	2.0	2.5	5.0	3.5	4.0
24	9.5	7.0	8.5	6.5	4.0	5.5	5.0	3.5	4.0	6.5	4.5	5.5
25	10.5	9.0	10.0	4.0	3.0	3.5	6.5	4.5	5.5	6.0	5.0	5.5
26	10.0	8.5	9.0	5.0	3.0	4.0	6.5	5.5	6.5	5.5	4.0	5.0
27	10.5	8.5	9.5	7.0	5.0	5.5	5.5	4.0	4.5	5.5	4.5	5.0
28	10.0	8.0	9.5	6.0	5.0	5.5	4.0	2.5	3.5	5.5	4.5	5.0
29	9.5	7.0	8.0	7.5	5.5	6.5	3.0	2.5	2.5	7.0	4.0	5.0
30	10.0	7.0	8.0	7.5	6.5	7.0	3.5	2.5	3.0	7.0	6.5	6.5
31	10.5	7.5	9.0	---	---	---	3.0	.5	2.0	6.5	5.5	6.0
MONTH	20.0	7.0	12.7	12.5	2.0	6.7	7.5	.5	3.7	13.5	.0	5.5

SCHUYLKILL RIVER BASIN

01470853 FURNACE CREEK AT ROBESONIA, PA

LOCATION.--Lat 40°20'24", long 76°08'37", Berks County, Hydrologic Unit 02040202, on left bank 500 ft upstream from Furnace Street in Robesonia.

DRAINAGE AREA.--4.18 mi².

PERIOD OF RECORD.--October 1982 to current year.

REVISED RECORDS.--WDR PA-87-1: 1986 (P).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 520 ft above sea level, from topographic map. Prior to Mar. 27, 1986, 760 ft downstream at different datum.

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

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 24	0215	*230	*2.72	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.6	3.5	e2.4	5.4	8.2	12	12	8.1	7.0	3.7	2.1
2	1.2	2.8	2.7	2.4	5.2	7.6	11	16	6.2	5.5	3.2	2.7
3	1.2	2.2	2.3	2.3	5.2	10	9.7	12	6.1	5.1	3.1	3.0
4	1.1	1.8	2.3	2.6	5.1	9.7	9.3	12	5.6	4.8	3.0	2.4
5	1.0	1.7	2.4	2.3	11	8.8	8.9	12	5.4	4.6	2.8	2.3
6	.99	1.6	2.5	2.3	8.4	8.1	8.6	11	5.3	4.3	2.7	2.1
7	1.2	2.2	2.6	2.5	6.9	7.8	8.2	10	5.0	4.3	2.7	4.5
8	1.1	4.2	2.6	16	6.4	9.5	8.1	15	5.0	18	2.7	3.6
9	.93	3.7	2.6	8.6	5.9	27	21	18	4.8	9.0	2.6	2.5
10	.95	2.9	2.8	5.7	5.7	23	22	22	4.8	6.8	5.6	2.3
11	1.0	2.4	3.3	4.7	5.9	16	14	27	5.0	5.7	4.7	2.1
12	.96	2.1	3.2	4.2	15	14	13	32	18	5.2	3.3	2.1
13	1.2	2.1	3.2	4.0	8.2	12	12	22	19	4.9	3.0	1.9
14	1.2	3.1	2.9	3.6	7.4	12	11	18	11	4.8	3.7	2.1
15	1.4	3.4	2.8	3.7	6.7	11	10	16	7.5	4.7	3.3	2.1
16	1.5	3.1	2.6	9.0	6.3	9.8	9.9	15	6.7	4.8	3.0	2.1
17	1.4	2.7	2.6	5.7	6.5	9.2	11	13	6.1	4.6	7.7	1.9
18	1.8	2.4	2.6	5.5	9.8	10	10	12	5.3	4.3	8.4	2.1
19	1.6	2.4	2.6	4.9	8.3	18	16	11	4.8	4.0	4.9	2.0
20	1.4	2.4	2.6	4.5	7.5	12	19	10	4.4	3.9	3.3	2.1
21	1.3	2.1	2.6	4.0	6.9	36	14	9.7	4.2	4.4	3.0	2.1
22	1.2	3.5	2.6	3.8	6.5	20	12	9.1	4.0	4.9	3.0	2.4
23	1.3	3.0	3.5	12	8.5	16	11	8.7	7.2	4.6	2.8	2.0
24	1.3	2.6	4.0	11	18	15	11	8.4	39	4.5	2.8	1.8
25	2.9	2.2	7.3	7.6	12	13	10	8.7	7.9	3.8	2.7	2.0
26	2.1	2.1	3.6	6.3	9.8	12	18	8.0	15	4.2	3.3	2.3
27	3.1	2.2	2.8	5.8	9.0	12	19	7.3	9.8	3.8	2.7	2.1
28	1.7	1.8	2.8	6.3	8.5	11	13	6.9	6.9	3.6	2.5	1.8
29	1.4	2.1	2.4	6.7	---	11	12	6.6	6.5	3.4	2.4	1.8
30	1.2	2.4	3.1	6.9	---	9.9	11	6.7	7.2	3.4	2.4	1.8
31	1.2	---	2.7	6.0	---	9.5	---	6.3	---	5.2	2.4	---
TOTAL	43.03	75.8	92.1	173.3	226.0	409.1	375.7	402.4	251.8	162.1	107.4	68.1
MEAN	1.39	2.53	2.97	5.59	8.07	13.2	12.5	13.0	8.39	5.23	3.46	2.27
MAX	3.1	4.2	7.3	16	18	36	22	32	39	18	8.4	4.5
MIN	.93	1.6	2.3	2.3	5.1	7.6	8.1	6.3	4.0	3.4	2.4	1.8
CFSM	.33	.60	.71	1.34	1.93	3.16	3.00	3.11	2.01	1.25	.83	.54
IN.	.38	.67	.82	1.54	2.01	3.64	3.34	3.58	2.24	1.44	.96	.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	3.18	5.91	8.22	7.13	8.76	12.0	12.3	10.0	5.75	4.56	3.09	2.66				
MAX	7.31	10.4	22.0	14.3	15.2	26.7	31.8	24.7	14.8	11.7	8.98	5.07				
(WY)	1997	1987	1997	1996	1996	1994	1993	1989	1989	1984	1986	1994				
MIN	.94	2.25	2.42	2.34	3.06	5.18	3.32	4.29	2.10	1.36	.85	.63				
(WY)	1989	1983	1983	1983	1992	1985	1985	1997	1985	1983	1983	1983				

e Estimated.

SCHUYLKILL RIVER BASIN

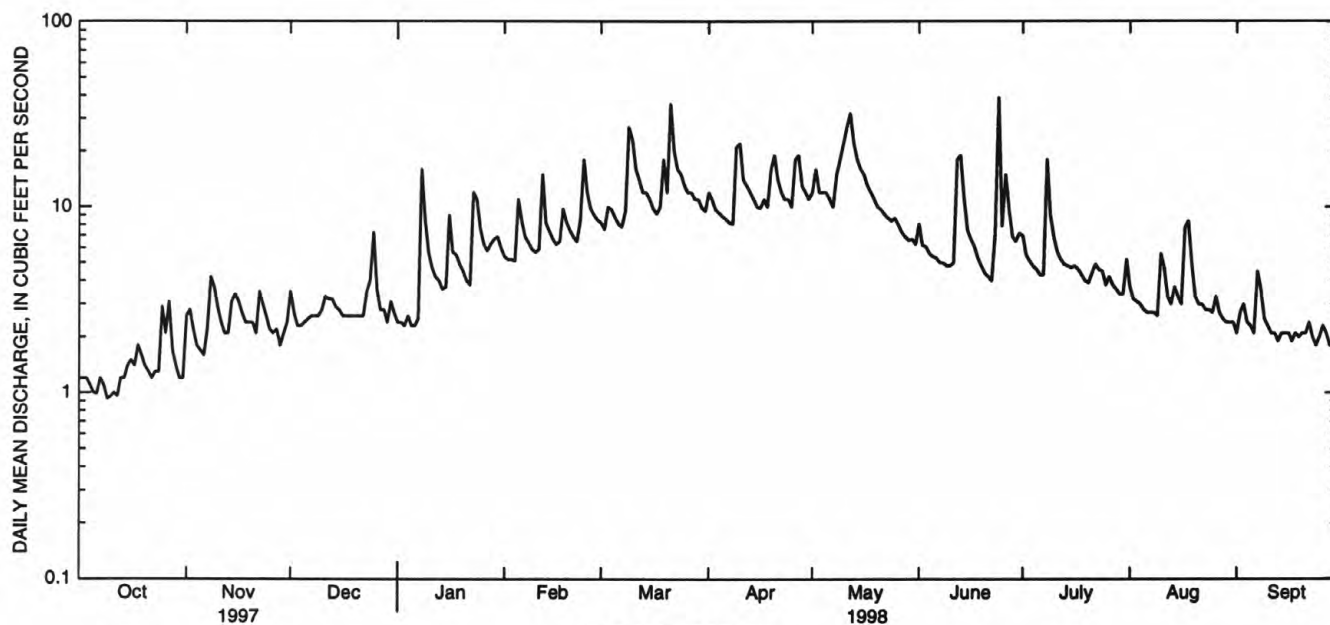
01470853 FURNACE CREEK AT ROBESONIA, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	1741.83		2386.83			
ANNUAL MEAN	4.77		6.54		6.96	
HIGHEST ANNUAL MEAN					10.5	
LOWEST ANNUAL MEAN					3.82	
HIGHEST DAILY MEAN	29	Mar 14	39	Jun 24	139	Dec 5 1993
LOWEST DAILY MEAN	.93	Oct 9	.93	Oct 9	.11	Sep 11 1983
ANNUAL SEVEN-DAY MINIMUM	1.0	Oct 6	1.0	Oct 6	.19	Sep 16 1985
INSTANTANEOUS PEAK FLOW			230	Jun 24	ab537	Nov 28 1993
INSTANTANEOUS PEAK STAGE			2.72	Jun 24	c4.72	Jan 19 1996
ANNUAL RUNOFF (CFSM)	1.14		1.56		1.67	
ANNUAL RUNOFF (INCHES)	15.50		21.24		22.63	
10 PERCENT EXCEEDS	9.5		13		14	
50 PERCENT EXCEEDS	3.3		4.7		4.8	
90 PERCENT EXCEEDS	1.3		1.9		1.4	

a From rating curve extended above 308 ft³/s on basis of slope-area measurement of peak flow at gage height 3.11 ft.

b Gage height, 3.79 ft.

c From peak indicator; ice jam.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA

LOCATION.--Lat 40°22'14", long 76°01'32", Berks County, Hydrologic Unit 02040203, on right bank 1.0 mi upstream from Rebers Bridge and Plum Creek, 1.0 mi east of Blue Marsh, 3.0 mi north of Sinking Spring, and 5.5 mi northeast of Reading.

DRAINAGE AREA.--175 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1965 to current year.

REVISED RECORDS.--WDR PA-72-1: 1969-71 (M).

GAGE.--Water-stage recorder. Datum of gage is 230.06 ft above sea level (Western Berks Water Authority datum). Prior to Nov. 25, 1974, water-stage recorder at site 0.3 mi downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since April 1979 by Blue Marsh Lake (station 01470870) 0.8 mi upstream. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	67	89	114	399	442	315	348	311	376	129	95
2	61	66	145	115	263	441	319	382	291	251	129	150
3	241	85	126	116	150	442	286	378	276	216	120	123
4	368	99	93	116	210	443	263	436	248	216	111	57
5	363	99	101	130	632	443	265	408	169	216	111	57
6	361	99	98	141	612	386	265	359	156	216	161	57
7	263	98	98	141	348	343	265	345	157	235	192	60
8	149	99	87	171	349	345	265	392	184	370	172	58
9	94	99	78	611	406	749	267	438	179	482	172	54
10	150	167	89	930	381	1490	420	768	161	348	125	209
11	201	206	97	920	311	1300	553	1150	173	210	214	365
12	200	129	97	469	604	924	549	1740	460	210	189	362
13	199	80	97	115	521	624	425	1590	572	196	163	359
14	263	96	97	91	347	465	253	890	570	186	157	249
15	267	109	97	91	347	465	187	561	501	174	150	155
16	125	109	86	204	346	464	188	561	389	180	150	155
17	56	109	78	355	317	387	202	560	382	172	152	155
18	56	109	78	355	476	336	216	498	291	164	206	155
19	56	96	82	355	532	655	216	376	204	164	247	155
20	56	85	86	653	298	645	575	342	204	164	244	155
21	56	85	86	591	300	498	871	344	204	151	207	105
22	83	85	86	324	300	784	713	301	197	140	183	56
23	113	85	94	317	e450	985	434	270	189	141	183	109
24	86	99	99	357	e1100	977	354	270	994	140	458	106
25	55	98	100	645	1080	968	311	270	1050	140	846	54
26	54	89	99	887	628	817	314	283	409	140	561	54
27	54	89	99	830	439	555	603	229	708	140	123	54
28	61	90	100	574	440	460	634	182	964	134	102	99
29	66	89	289	422	---	457	397	210	699	129	104	110
30	66	90	435	413	---	372	355	230	476	129	105	63
31	66	---	258	400	---	314	---	230	---	129	84	---
TOTAL	4351	3005	3644	11953	12586	18976	11280	15341	11768	6259	6250	3995
MEAN	140	100	118	386	450	612	376	495	392	202	202	133
MAX	368	206	435	930	1100	1490	871	1740	1050	482	846	365
MIN	54	66	78	91	150	314	187	182	156	129	84	54

e Estimated.

SCHUYLKILL RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	202	246	355	353	359	457	341	315	238	187	128	138
MAX	612	484	986	1151	596	1365	1016	1058	606	543	283	379
(WY)	1980	1997	1997	1979	1979	1994	1993	1989	1982	1984	1994	1987
MIN	51.4	62.4	77.2	91.7	131	135	49.8	147	69.9	79.3	55.4	54.0
(WY)	1996	1981	1981	1981	1980	1981	1985	1985	1979	1985	1981	1983

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1979 - 1998	
ANNUAL TOTAL	70762		109408			
ANNUAL MEAN	194		300			
HIGHEST ANNUAL MEAN					276	1994
LOWEST ANNUAL MEAN					435	1981
HIGHEST DAILY MEAN	1080	Mar 16	1740	May 12	3950	Apr 18 1983
LOWEST DAILY MEAN	43	Jul 9	54	Oct 26, 27a	25	Oct 7 1995
ANNUAL SEVEN-DAY MINIMUM	58	Jul 31	60	Oct 25	26	Oct 6 1995
INSTANTANEOUS PEAK FLOW			2000	Mar 10	b4060	Dec 6 1993
INSTANTANEOUS PEAK STAGE			5.96	Mar 10	7.73	Dec 6 1993
10 PERCENT EXCEEDS	373		617		544	
50 PERCENT EXCEEDS	136		210		177	
90 PERCENT EXCEEDS	59		85		67	

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1978, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	180	236	333	333	373	423	363	261	285	233	175	150
MAX	701	464	827	761	790	832	706	423	1244	523	350	536
(WY)	1977	1976	1978	1978	1971	1978	1970	1973	1972	1969	1969	1975
MIN	56.2	58.3	69.9	100	146	163	144	89.2	60.4	45.0	31.9	43.4
(WY)	1967	1966	1966	1966	1969	1969	1966	1965	1965	1966	1966	1966

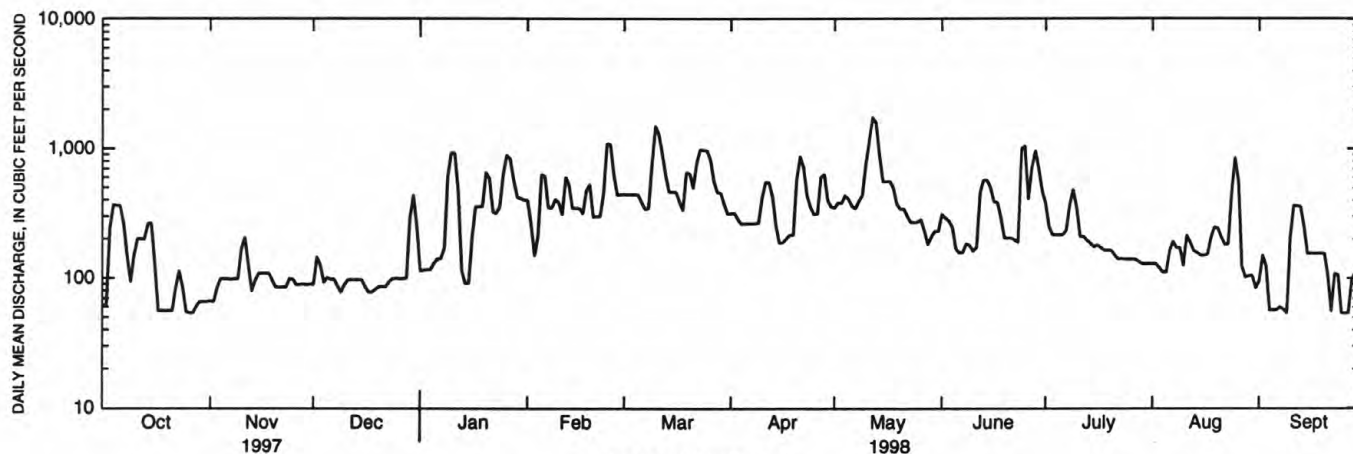
SUMMARY STATISTICS WATER YEARS 1965 - 1978

ANNUAL MEAN	283	
HIGHEST ANNUAL MEAN	416	1978
LOWEST ANNUAL MEAN	122	1966
HIGHEST DAILY MEAN	11000	Jun 23 1972
LOWEST DAILY MEAN	23	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	25	Sep 7 1966
INSTANTANEOUS PEAK FLOW	b16100	Jun 22 1972
INSTANTANEOUS PEAK STAGE	c18.70	Jun 22 1972
ANNUAL RUNOFF (CFSM)	1.62	
ANNUAL RUNOFF (INCHES)	22.00	
10 PERCENT EXCEEDS	551	
50 PERCENT EXCEEDS	178	
90 PERCENT EXCEEDS	69	

a Also Sept. 9, 25-27.

b From rating curve extended above 3,000 ft³/s on basis of runoff comparison with downstream station.

c From floodmark.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1969 to current year.

SUSPENDED-SEDIMENT DISCHARGE.--May 1973 to May 1976.

INSTRUMENTATION.--Temperature recorder since October 1968. Temperature probe interfaced with a data collection platform since 1986 water year.

REMARKS.--Temperature records collected at streamgage. Interruptions in the record were due to malfunctions of the equipment. Water-quality samples and suspended sediment samples collected at Rebers Bridge 1.0 mi downstream.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 34.0°C, Oct. 2, 1968; minimum, 0.0°C, on several days during December 1970, January and March 1971, and February 1979.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,400 mg/L, June 22, 1973; minimum daily mean, 2 mg/L on many days.

SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 8,570 tons, Jan. 27, 1976; minimum daily, 0.45 tons, July 13.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 24.0°C, Sept. 6; minimum, 2.0°C, Jan. 2.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	19.5	18.0	19.0	12.5	12.0	12.5	6.5	6.0	6.0	2.5	2.5	2.5
2	20.0	18.0	18.5	12.5	11.5	12.0	6.0	5.5	6.0	2.5	2.0	2.5
3	19.0	18.0	18.5	12.5	11.5	12.0	6.0	5.5	6.0	3.0	2.5	2.5
4	19.0	19.0	19.0	12.5	12.0	12.0	6.0	6.0	6.0	3.0	2.5	3.0
5	19.0	18.5	18.5	12.5	11.5	12.0	6.0	5.5	6.0	3.0	3.0	3.0
6	19.0	18.5	18.5	12.0	11.5	12.0	5.5	5.0	5.5	3.5	3.0	3.0
7	18.5	18.0	18.5	11.5	11.5	11.5	5.5	5.0	5.0	3.5	3.0	3.5
8	19.0	17.5	18.0	11.5	11.5	11.5	5.0	4.5	5.0	4.0	3.5	4.0
9	19.0	17.5	18.0	11.5	11.0	11.5	5.0	4.5	4.5	5.0	4.0	4.5
10	19.0	18.0	18.5	11.5	11.0	11.0	5.0	4.5	4.5	5.0	5.0	5.0
11	19.0	18.0	18.5	11.0	11.0	11.0	5.0	4.5	4.5	5.0	4.5	5.0
12	18.5	18.0	18.5	11.0	10.0	10.5	5.0	4.5	4.5	5.5	5.0	5.0
13	19.0	18.0	18.5	10.5	10.0	10.0	5.0	4.5	4.5	5.5	5.0	5.5
14	19.0	18.5	18.5	10.0	9.5	9.5	4.5	4.0	4.5	5.5	5.0	5.0
15	18.5	18.5	18.5	9.5	9.5	9.5	4.5	4.0	4.0	5.0	4.5	5.0
16	19.0	17.5	18.0	9.5	8.5	9.0	4.5	4.0	4.0	5.0	4.5	4.5
17	18.5	17.0	17.5	9.0	8.0	8.5	4.5	4.0	4.0	4.5	4.5	4.5
18	18.5	17.0	17.5	8.5	8.0	8.0	4.5	3.5	4.0	4.5	4.5	4.5
19	17.5	16.5	17.0	8.5	7.5	8.0	4.5	4.0	4.0	4.5	4.5	4.5
20	18.0	16.5	17.0	8.5	7.5	8.0	4.5	4.0	4.0	4.5	4.5	4.5
21	17.5	16.0	16.5	8.5	7.5	7.5	4.0	3.5	4.0	4.5	4.0	4.0
22	17.0	15.5	16.0	8.0	7.0	7.5	4.0	3.5	3.5	4.5	4.0	4.0
23	16.0	15.5	15.5	7.5	6.5	7.0	4.0	3.5	4.0	4.0	4.0	4.0
24	16.0	15.0	15.5	7.5	6.5	7.0	4.0	3.5	4.0	4.0	4.0	4.0
25	15.0	14.0	15.0	7.0	6.5	6.5	4.0	4.0	4.0	4.0	3.5	4.0
26	14.0	13.0	13.5	7.0	6.5	6.5	4.5	4.0	4.0	4.0	3.5	3.5
27	14.0	12.5	13.5	6.5	6.5	6.5	4.0	3.5	4.0	4.0	3.5	3.5
28	13.5	12.5	13.0	6.5	6.5	6.5	4.0	3.5	3.5	4.0	3.5	3.5
29	13.5	12.5	13.0	7.0	6.5	6.5	4.0	3.5	4.0	3.5	3.5	3.5
30	14.0	12.5	13.0	6.5	6.5	6.5	4.0	3.5	3.5	3.5	3.5	3.5
31	13.5	12.5	12.5	---	---	---	3.5	2.5	3.0	4.0	3.5	3.5
MONTH	20.0	12.5	16.8	12.5	6.5	9.3	6.5	2.5	4.5	5.5	2.0	4.0

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.5	3.5	3.5	7.0	6.0	6.5	13.0	9.0	10.5	14.0	13.0	13.5
2	4.0	3.5	3.5	7.5	6.5	7.0	13.0	9.5	11.5	14.5	13.5	14.0
3	4.0	3.5	4.0	7.5	7.0	7.0	12.5	11.5	12.0	15.0	14.0	14.5
4	4.0	3.5	3.5	7.5	7.0	7.0	12.0	10.0	11.0	14.5	13.5	14.0
5	3.5	3.5	3.5	7.0	7.0	7.0	12.0	10.5	11.0	14.0	13.5	14.0
6	4.0	3.5	3.5	7.5	6.5	7.0	12.0	11.0	11.5	15.0	13.5	14.5
7	4.0	3.5	3.5	8.0	7.0	7.5	12.0	11.0	11.5	15.5	14.5	15.0
8	4.0	3.5	4.0	7.5	6.5	7.0	12.0	11.0	11.5	15.0	14.0	14.5
9	4.0	4.0	4.0	7.5	7.0	7.0	11.0	10.0	10.5	15.0	14.0	14.5
10	4.5	4.0	4.0	7.5	7.0	7.5	11.0	10.0	10.5	15.0	14.5	14.5
11	4.5	4.0	4.0	7.0	6.5	7.0	11.5	11.0	11.0	15.0	14.5	14.5
12	4.5	4.5	4.5	6.5	6.0	6.0	11.5	11.0	11.0	15.0	14.5	14.5
13	4.5	4.5	4.5	6.0	5.5	6.0	12.0	11.0	11.5	15.0	14.5	14.5
14	4.5	4.0	4.5	6.0	5.5	6.0	12.5	11.5	12.0	15.0	14.5	14.5
15	4.5	4.0	4.5	6.0	5.5	5.5	13.0	11.5	12.0	15.0	14.5	15.0
16	4.5	4.0	4.0	6.5	5.5	6.0	13.0	12.0	12.0	15.5	14.5	15.0
17	4.5	4.0	4.5	6.0	5.5	5.5	14.0	11.5	12.5	16.0	14.5	15.5
18	4.5	4.5	4.5	6.0	6.0	6.0	13.5	12.5	13.0	17.0	15.5	16.0
19	5.0	4.5	4.5	6.0	5.5	5.5	13.5	11.5	12.5	18.0	16.0	17.0
20	5.0	4.5	5.0	5.5	5.5	5.5	13.0	12.0	12.5	18.0	16.5	17.5
21	5.0	5.0	5.0	5.5	5.5	5.5	13.5	12.5	12.5	18.5	17.0	17.5
22	5.5	5.0	5.0	5.5	5.5	5.5	13.0	12.5	12.5	19.0	17.0	18.0
23	---	---	---	5.5	5.5	5.5	13.5	12.0	12.5	18.0	17.0	17.5
24	---	---	---	6.0	5.5	6.0	14.0	12.5	13.5	18.0	17.0	17.5
25	5.5	5.0	5.0	6.5	6.0	6.0	14.5	13.5	14.0	18.0	17.0	17.5
26	6.0	5.0	5.5	7.0	6.5	6.5	14.0	13.0	13.5	18.5	17.0	17.5
27	6.5	5.5	5.5	8.0	6.5	7.5	14.0	13.0	13.5	18.0	17.0	17.5
28	7.0	6.0	6.5	9.0	7.5	8.0	14.0	13.0	13.5	18.5	17.0	18.0
29	---	---	---	9.5	7.5	8.5	14.0	13.0	13.5	19.0	17.0	18.0
30	---	---	---	11.5	9.0	10.0	14.0	13.5	13.5	19.0	17.5	18.5
31	---	---	---	12.0	9.0	10.5	---	---	---	20.5	17.5	19.0
MONTH	7.0	3.5	4.4	12.0	5.5	6.7	14.5	9.0	12.1	20.5	13.0	15.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	20.5	17.0	19.0	22.5	20.0	21.5	21.5	20.0	20.5	23.0	21.0	21.5
2	20.0	17.5	18.5	21.5	20.0	21.0	21.5	20.0	20.5	23.0	21.5	22.0
3	20.0	17.5	19.5	21.0	20.0	20.5	21.5	20.0	20.5	23.5	21.5	22.0
4	19.5	18.5	19.0	21.0	20.0	20.5	21.5	19.5	20.0	23.5	21.0	22.0
5	19.0	18.0	19.0	21.5	20.0	20.5	21.5	20.0	20.5	23.5	21.0	21.5
6	19.5	18.0	18.5	21.0	20.0	20.5	21.0	20.0	20.5	24.0	21.0	22.0
7	19.5	18.0	18.5	20.5	20.0	20.5	21.5	20.5	21.0	23.0	21.5	22.0
8	18.5	18.0	18.5	20.5	20.0	20.5	21.5	20.5	21.0	23.0	21.0	21.5
9	19.0	17.5	18.5	21.0	20.0	20.5	21.5	20.5	21.0	22.5	21.0	21.5
10	18.5	17.5	18.0	21.0	19.5	20.0	21.5	20.0	20.5	23.0	21.0	22.0
11	18.0	17.5	18.0	20.5	19.0	20.0	22.0	20.0	21.0	23.0	22.5	22.5
12	18.0	16.5	17.5	20.5	19.5	20.0	22.0	21.0	21.5	23.0	22.5	22.5
13	17.5	17.0	17.0	20.5	19.5	20.0	21.5	21.0	21.0	22.5	22.0	22.5
14	18.0	17.0	17.5	20.5	19.5	20.0	21.5	21.0	21.0	22.5	21.5	22.0
15	17.5	17.0	17.5	20.0	19.5	20.0	22.0	21.0	21.5	22.0	21.5	21.5
16	19.5	17.5	18.0	20.5	19.5	20.0	22.0	21.0	21.5	22.5	21.5	22.0
17	19.0	18.0	18.5	20.5	19.5	20.0	22.0	21.0	21.5	22.0	21.5	22.0
18	19.5	18.5	19.0	21.0	19.5	20.0	---	---	---	22.5	21.5	22.0
19	20.0	19.0	19.5	21.0	20.0	20.0	---	---	---	22.5	21.5	22.0
20	20.5	19.0	19.5	21.0	20.0	20.5	---	---	---	---	---	---
21	20.5	19.5	20.0	21.5	20.0	20.5	---	---	---	---	---	---
22	20.0	19.5	19.5	21.5	20.0	20.5	---	---	---	22.0	21.0	21.5
23	20.5	19.5	20.0	21.0	20.0	20.5	---	---	---	22.5	20.5	21.5
24	20.5	19.0	19.5	21.5	20.0	20.5	---	---	---	22.5	21.0	21.5
25	20.0	19.0	19.5	21.5	20.0	20.5	---	---	---	22.0	20.5	21.0
26	22.5	19.5	21.0	21.5	20.0	20.5	23.5	22.0	22.5	22.5	20.5	21.0
27	22.0	19.5	20.5	---	---	---	23.0	21.5	22.0	22.5	20.5	21.0
28	20.5	19.5	20.0	---	---	---	23.0	21.5	22.0	22.0	20.0	20.5
29	20.5	20.0	20.0	---	---	---	22.5	21.5	22.0	21.5	20.0	20.5
30	21.5	20.0	20.5	21.5	20.0	20.5	23.0	21.5	22.0	21.0	20.0	20.5
31	---	---	---	21.0	20.0	20.5	23.0	21.5	22.0	---	---	---
MONTH	22.5	16.5	19.0	22.5	19.0	20.4	23.5	19.5	21.2	24.0	20.0	21.6
YEAR	24.0	2.0	12.8									

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA

LOCATION.--Lat 40°22'08", long 75°58'46", Berks County, Hydrologic Unit 02040203, on right bank 15 ft upstream from covered bridge on Township Route 921, 1.0 mi downstream from Cacoosing Creek, 2.5 mi upstream from mouth, and 3.5 mi northwest of town square in Reading.

DRAINAGE AREA.--211 mi².

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

REVISED RECORDS.--WSP 1382: 1951-53, 1954 (M). WSP 2102: 1965 (M). WDR PA-72-1: 1971 (M).

GAGE.--Water-stage recorder. Datum of gage is 216.60 ft above sea level.

REMARKS.--Records fair. Flow regulated since April 1979 by Blue Marsh Lake (station 01470870) 3.9 mi upstream. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	87	110	139	465	515	e410	437	362	439	140	96
2	69	94	154	137	339	510	e420	510	344	298	140	151
3	236	106	158	137	209	555	e380	471	314	245	135	141
4	387	e125	109	137	255	533	347	526	294	241	128	66
5	e387	e115	115	147	697	524	342	503	212	241	127	65
6	e387	115	112	162	727	467	342	437	193	241	161	65
7	e285	117	112	163	419	417	337	423	193	254	202	78
8	172	134	104	278	417	432	337	498	210	450	184	79
9	110	129	91	686	463	958	423	586	209	529	186	73
10	161	184	104	1030	447	1790	657	963	190	412	159	198
11	224	225	118	996	370	1500	730	1380	197	240	221	384
12	224	159	116	570	713	1100	703	2040	538	233	209	378
13	224	98	115	167	634	e750	566	1840	736	225	176	376
14	279	117	114	130	423	e540	368	1100	680	213	177	282
15	286	137	114	e130	416	e540	280	716	585	201	166	168
16	149	130	103	e200	407	e540	268	700	453	201	163	168
17	64	128	91	424	386	469	289	689	430	196	191	168
18	69	126	91	434	528	414	294	613	347	186	261	168
19	66	113	94	424	636	791	337	469	240	186	275	168
20	65	97	100	694	370	785	775	422	237	186	265	168
21	64	97	99	676	369	801	1030	419	237	173	234	130
22	84	104	98	383	364	994	872	372	230	159	204	69
23	120	101	110	456	516	1180	558	335	221	161	204	109
24	100	108	116	513	1120	1140	465	332	952	160	428	128
25	73	116	147	750	1210	1110	404	338	1120	159	805	66
26	67	111	133	1000	749	958	451	343	583	159	604	66
27	78	110	130	928	525	677	761	290	773	159	134	65
28	71	110	128	697	521	553	778	228	1040	149	108	100
29	77	110	300	510	---	545	516	247	760	140	110	131
30	77	110	484	495	---	461	449	272	527	140	110	74
31	77	---	315	470	---	e390	---	271	---	146	95	---
TOTAL	4802	3613	4285	14063	14695	22939	14889	18770	13407	7122	6702	4378
MEAN	155	120	138	454	525	740	496	605	447	230	216	146
MAX	387	225	484	1030	1210	1790	1030	2040	1120	529	805	384
MIN	64	87	91	130	209	390	268	228	190	140	95	65

e Estimated.

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	236	302	422	370	406	525	419	386	292	221	158	158
MAX	651	589	1220	1069	663	1604	1191	1226	673	661	331	456
(WY)	1997	1997	1997	1996	1986	1994	1983	1989	1982	1984	1994	1987
MIN	78.3	83.6	93.8	99.8	149	153	64.2	179	122	115	63.1	63.0
(WY)	1996	1981	1981	1981	1980	1981	1985	1981	1986	1985	1981	1983

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1980 - 1998

ANNUAL TOTAL	83751	129665	
ANNUAL MEAN	229	355	
HIGHEST ANNUAL MEAN			324
LOWEST ANNUAL MEAN			531
HIGHEST DAILY MEAN	1230	Mar 16	146
LOWEST DAILY MEAN	63	Sep 4	1981
ANNUAL SEVEN-DAY MINIMUM	69	Sep 22	3950
INSTANTANEOUS PEAK FLOW			27
INSTANTANEOUS PEAK STAGE			35
10 PERCENT EXCEEDS	429	749	4060
50 PERCENT EXCEEDS	158	241	5.81
90 PERCENT EXCEEDS	72	98	86

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1979, BY WATER YEAR (WY) (PRIOR TO REGULATION)

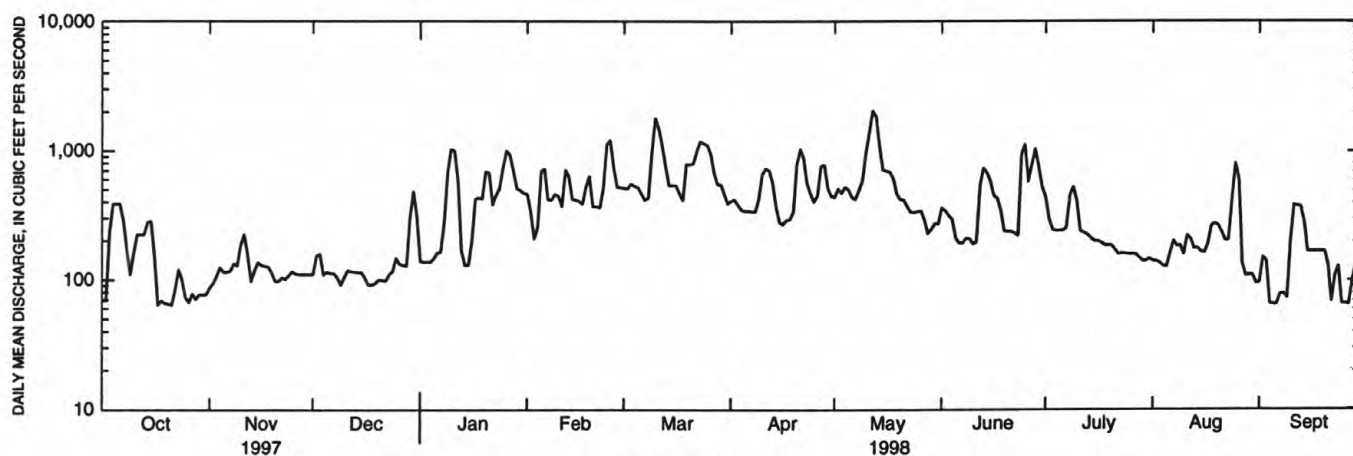
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	178	259	360	405	444	522	451	318	263	210	178	192
MAX	689	490	829	1193	917	914	806	712	1434	645	481	588
(WY)	1977	1973	1978	1979	1971	1978	1970	1953	1972	1969	1955	1975
MIN	55.8	67.5	84.4	124	178	202	170	116	72.8	57.5	41.9	54.8
(WY)	1964	1966	1966	1966	1969	1969	1966	1965	1965	1966	1966	1957

SUMMARY STATISTICS WATER YEARS 1951 - 1979

ANNUAL MEAN	314
HIGHEST ANNUAL MEAN	491
LOWEST ANNUAL MEAN	144
HIGHEST DAILY MEAN	12000
LOWEST DAILY MEAN	33
ANNUAL SEVEN-DAY MINIMUM	35
INSTANTANEOUS PEAK FLOW	a17000
INSTANTANEOUS PEAK STAGE	b15.65
INSTANTANEOUS LOW FLOW	23
ANNUAL RUNOFF (CFSM)	1.49
ANNUAL RUNOFF (INCHES)	20.23
10 PERCENT EXCEEDS	613
50 PERCENT EXCEEDS	211
90 PERCENT EXCEEDS	86

a From rating curve extended above 3,600 ft³/s on basis of contracted-opening measurement of peak flow.

b From floodmark in gage shelter.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01471510 SCHUYLKILL RIVER AT READING, PA

LOCATION.--Lat 40°20'05", long 75°56'12", Berks County, Hydrologic Unit 02040203, on left bank 200 ft downstream from bridge on Penn Street at Reading, and 1.0 mi downstream from Tulpehocken Creek.

DRAINAGE AREA.--880 mi².

PERIOD OF RECORD.--May 1914 to September 1915, October 1919 to September 1930, and July 1977 to current year.
Prior to October 1914 monthly discharge only, published in WSP 1302. Diversion by Schuylkill Navigation Canal included during the navigation seasons of 1914-15.

REVISED RECORD.--WDR PA-78-1: 1977.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 185.50 ft above sea level (Pennsylvania Railroad datum). May 7, 1914, to Sept. 30, 1930, and July 6, 1979, to Dec. 5, 1980, nonrecording gage.
June 30, 1977, to July 5, 1979, water-stage recorder at site 1,500 ft downstream on right bank at same datum.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Still Creek Reservoir (station 01469200) since February 1933, Blue Marsh Lake (station 01470870) since April 1979, and to some extent by Lake Ontelaunee. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23, 1972, reached a stage of about 31.3 ft at site 1,500 ft downstream, from floodmarks, discharge, about 90,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	457	519	894	868	2140	3330	2180	2100	1500	1680	467	408
2	417	760	871	964	1930	2980	2550	2350	1440	1460	449	504
3	527	772	818	1140	1700	3030	2080	2380	1530	1210	443	611
4	697	652	822	878	1690	2880	1890	2380	1070	923	434	469
5	688	577	997	987	3520	2590	1820	2420	1010	883	429	412
6	687	536	709	1240	4320	2370	1750	2320	1140	839	458	391
7	614	556	680	1250	3530	2190	1730	2220	816	826	494	454
8	480	632	648	3000	3050	2240	1710	2530	799	1530	465	478
9	408	721	596	7030	2720	4180	2030	4090	801	1950	463	488
10	438	804	633	5900	2450	8270	4830	5200	743	1430	550	513
11	509	797	714	4560	2230	6370	4520	6970	753	889	930	680
12	498	680	848	3480	3520	4830	3740	8950	1770	825	618	664
13	518	568	649	2570	3300	3790	3130	7620	3530	774	508	653
14	585	707	628	2170	2790	3220	2630	5490	4840	723	525	569
15	630	829	603	1970	2550	2880	2430	4190	3200	693	545	451
16	493	755	571	2880	2360	2590	2170	3560	2490	806	512	444
17	379	720	555	3020	2290	2320	2050	3120	2220	940	593	438
18	413	672	547	2960	3290	2240	1930	2730	1870	654	1050	429
19	386	634	547	2760	3720	3200	2040	2340	1540	638	1020	426
20	382	600	543	2780	3250	3110	4670	2110	1440	619	742	440
21	370	592	544	2620	3040	5080	4330	1930	1390	590	624	441
22	375	670	544	2160	2740	5960	3750	1820	1330	567	553	391
23	411	788	619	2720	2810	5130	3070	1700	1350	568	894	423
24	397	708	812	4850	5870	4410	2710	1560	4740	549	1160	447
25	444	669	1290	4560	6510	3890	2390	1440	3480	535	1590	379
26	539	648	1410	4060	4970	3450	2450	1500	2730	520	1420	392
27	558	653	1470	3500	4000	2960	3370	1510	2630	511	758	395
28	554	622	1390	3170	3520	2640	2800	1240	2280	491	481	402
29	467	624	1430	2750	---	2470	2300	970	1850	467	451	442
30	436	644	1770	2500	---	2240	2160	1230	1560	460	441	375
31	426	---	1460	2310	---	2050	---	1130	---	494	423	---
TOTAL	15183	20109	26612	87607	89810	108890	81210	91100	57842	26044	20490	14009
MEAN	490	670	858	2826	3208	3513	2707	2939	1928	840	661	467
MAX	697	829	1770	7030	6510	8270	4830	8950	4840	1950	1590	680
MIN	370	519	543	868	1690	2050	1710	970	743	460	423	375

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1998, BY WATER YEAR (WY)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MEAN	1056	1555	2138	1986	1998	2680	2512	2102	1368	976	720	728
MAX	3390	2791	5763	5682	3358	6484	6472	5493	3411	2907	1531	2705
(WY)	1980	1997	1997	1979	1984	1994	1983	1989	1982	1984	1994	1987
MIN	322	360	278	265	681	824	606	943	486	395	321	273
(WY)	1981	1981	1981	1981	1980	1985	1985	1995	1991	1991	1993	1983

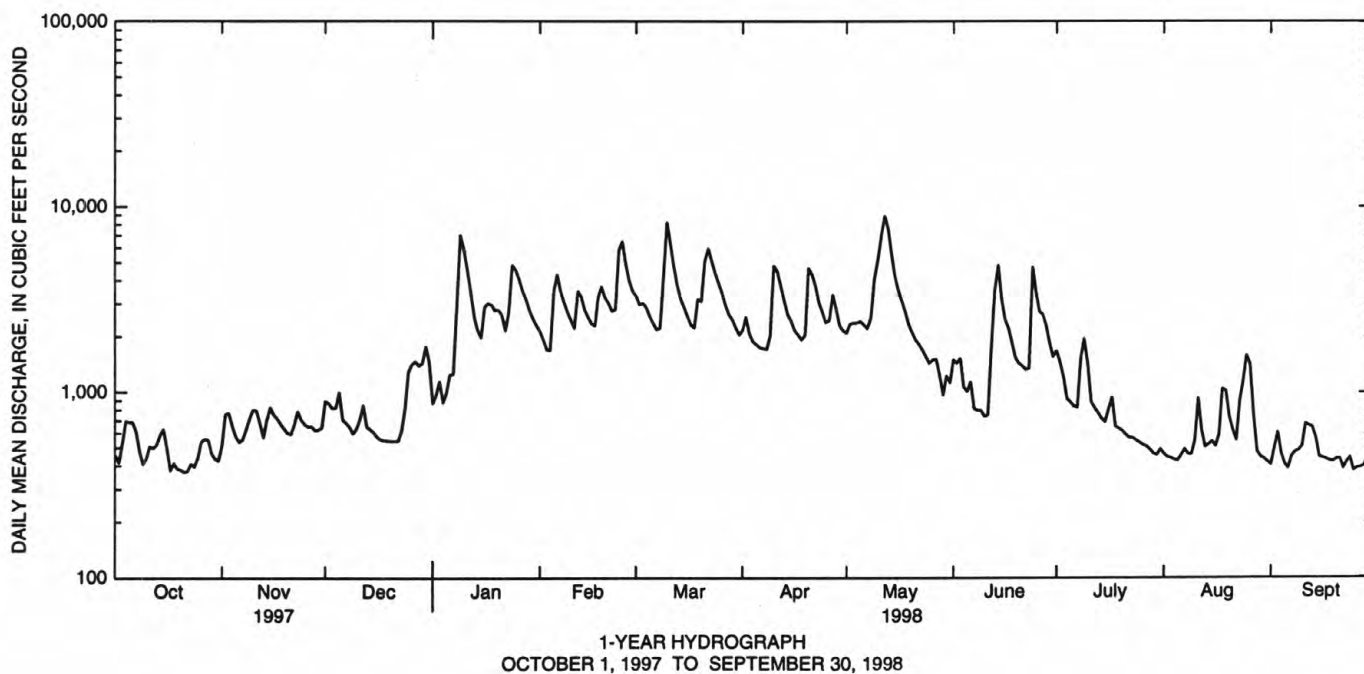
SCHUYLKILL RIVER BASIN

01471510 SCHUYLKILL RIVER AT READING, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1977 - 1998	
ANNUAL TOTAL	427263		638906		1653	
ANNUAL MEAN	1171		1750		2559	
HIGHEST ANNUAL MEAN					805	
LOWEST ANNUAL MEAN					1985	
HIGHEST DAILY MEAN	5850	Mar 15	8950	May 12	24700	Jan 25 1979
LOWEST DAILY MEAN	370	Oct 21	370	Oct 21	180	Oct 1 1980
ANNUAL SEVEN-DAY MINIMUM	388	Oct 17	388	Oct 17	224	Dec 24 1980
INSTANTANEOUS PEAK FLOW			9590	May 12	a37500	Jan 25 1979
INSTANTANEOUS PEAK STAGE			8.16	May 12	b17.36	Jan 25 1979
10 PERCENT EXCEEDS	2210		3730		3370	
50 PERCENT EXCEEDS	848		1140		1090	
90 PERCENT EXCEEDS	450		446		410	

a From rating curve extended above 31,000 ft³/s.

b At site 1,500 ft downstream.



SCHUYLKILL RIVER BASIN

01471875 MANATAWNY CREEK NEAR SPANGSVILLE, PA

LOCATION.--Lat 40°20'22", long 75°44'33", Berks County, Hydrologic Unit 02040203, on left bank 200 ft north of powerline across stream, 1.2 mi south of Spangsville, and 1.3 mi north of SR 562 and Earlville.

DRAINAGE AREA.--56.9 mi².

PERIOD OF RECORD.--October 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 265 ft above sea level, from topographic map.

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

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 21	0945	1,370	5.96	Apr. 10	0315	*1,410	*6.02

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	63	42	e25	59	102	200	96	117	84	30	20
2	21	90	33	29	54	88	209	141	71	55	26	22
3	21	55	29	30	52	118	112	130	247	47	24	37
4	21	36	31	34	49	108	99	117	78	44	24	22
5	21	31	32	30	171	84	91	117	66	44	23	20
6	e20	29	29	28	117	75	85	109	60	39	23	20
7	e19	34	28	31	76	70	79	96	54	37	22	33
8	e19	53	27	387	66	101	76	157	53	121	22	50
9	e18	75	26	175	59	476	173	250	51	93	21	27
10	e17	64	29	86	54	362	630	354	49	58	24	24
11	e17	40	54	62	53	151	175	379	53	44	54	23
12	e19	33	41	50	272	124	140	414	239	39	27	23
13	e20	30	37	46	104	112	125	219	459	36	23	22
14	22	66	32	39	81	108	117	178	287	35	39	21
15	27	87	29	41	67	98	114	153	155	34	30	21
16	32	54	28	193	61	90	106	136	128	36	25	22
17	24	38	27	83	72	84	117	130	100	36	50	25
18	41	33	26	100	195	103	126	114	85	34	59	25
19	28	31	26	79	147	329	127	104	75	31	45	23
20	24	30	26	63	103	147	293	96	81	30	26	23
21	23	29	25	52	89	560	131	89	76	30	24	23
22	23	66	24	47	77	232	111	82	65	29	23	32
23	23	51	44	287	133	169	104	79	82	29	64	26
24	23	37	42	236	353	142	98	75	82	32	29	23
25	56	32	144	116	169	125	89	143	64	28	24	24
26	36	31	72	90	118	117	144	96	86	26	35	31
27	97	29	45	77	104	111	282	77	88	27	26	26
28	37	28	41	96	98	103	121	69	59	26	23	23
29	28	27	34	97	---	97	105	64	55	26	21	22
30	25	28	107	85	---	91	99	80	70	26	21	23
31	24	---	54	68	---	86	---	65	---	41	21	---
TOTAL	848	1330	1264	2862	3053	4763	4478	4409	3235	1297	928	756
MEAN	27.4	44.3	40.8	92.3	109	154	149	142	108	41.8	29.9	25.2
MAX	97	90	144	387	353	560	630	414	459	121	64	50
MIN	17	27	24	25	49	70	76	64	49	26	21	20
CFSM	.48	.78	.72	1.62	1.92	2.70	2.62	2.50	1.90	.74	.53	.44
IN.	.55	.87	.83	1.87	2.00	3.11	2.93	2.88	2.11	.85	.61	.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1998, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998
MEAN	67.4	89.4	133	131	114
MAX	139	154	326	201	141
(WY)	1997	1997	1997	1996	1996
MIN	27.4	44.3	40.8	92.3	75.5
(WY)	1998	1998	1998	1998	1995

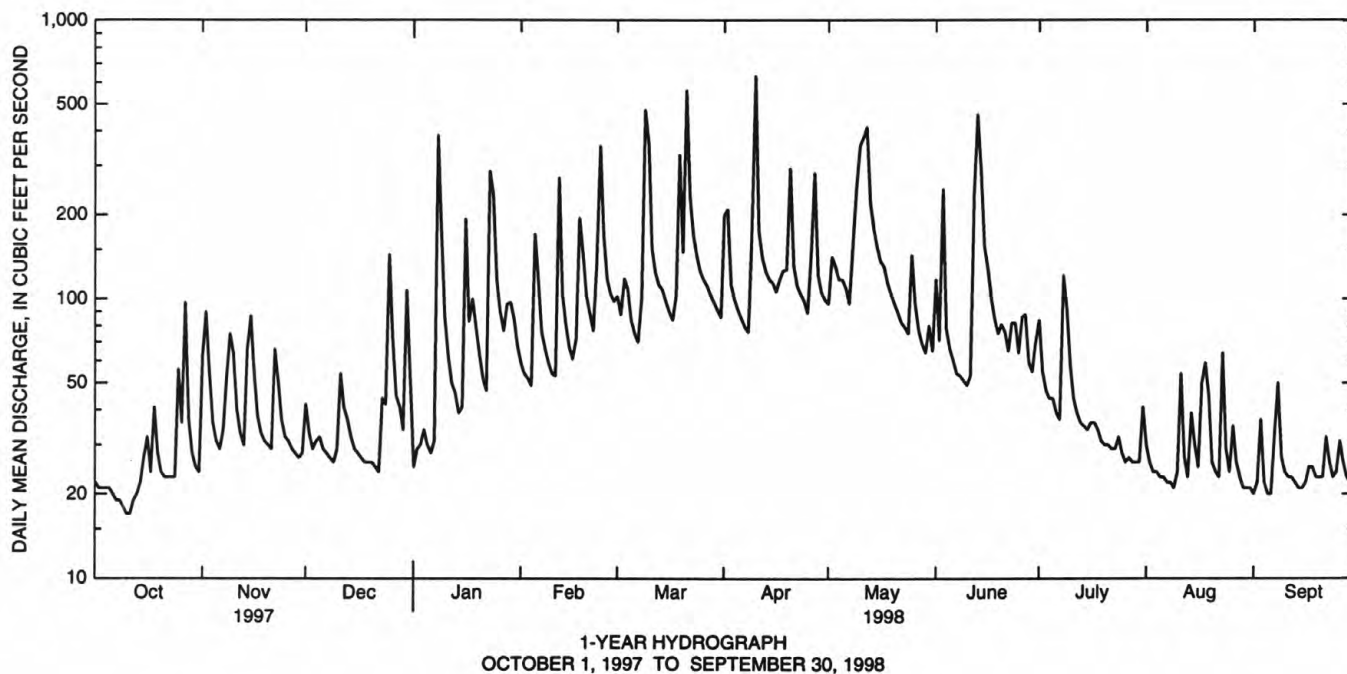
e Estimated.

SCHUYLKILL RIVER BASIN

01471875 MANATAWNY CREEK NEAR SPANGSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1994 - 1998	
ANNUAL TOTAL	26154		29223			
ANNUAL MEAN	71.7		80.1		97.7	
HIGHEST ANNUAL MEAN					125	
LOWEST ANNUAL MEAN					65.5	
HIGHEST DAILY MEAN	614	Jan 25	630	Apr 10	1620	Oct 19 1996
LOWEST DAILY MEAN	e17	Oct 10,11	e17	Oct 10,11	11	Sep 4 1995
ANNUAL SEVEN-DAY MINIMUM	a18	Oct 6	a18	Oct 6	11	Sep 2 1995
INSTANTANEOUS PEAK FLOW			b1410	Apr 10	b3380	Oct 19 1996
INSTANTANEOUS PEAK STAGE			6.02	Apr 10	8.11	Oct 19 1996
INSTANTANEOUS LOW FLOW			17	Oct 10	9.8	Sep 6 1995
ANNUAL RUNOFF (CFSM)	1.26		1.41		1.72	
ANNUAL RUNOFF (INCHES)	17.10		19.11		23.33	
10 PERCENT EXCEEDS	135		152		180	
50 PERCENT EXCEEDS	51		54		63	
90 PERCENT EXCEEDS	21		23		25	

- a Computed using estimated daily discharges.
b From rating curve extended above 1,200 ft³/s.
e Estimated.



SCHUYLKILL RIVER BASIN

01471980 MANATAMNY CREEK NEAR POTTSTOWN, PA

LOCATION.--Lat 40°16'22", long 75°40'49", Berks County, Hydrologic Unit 02040203, on left bank 180 ft upstream from bridge on Manatamny Street, 0.7 mi downstream from Ironstone Creek, 2.4 mi northwest of Pottstown, 3.1 mi upstream from mouth, and 4.7 mi southwest of Boyertown.

DRAINAGE AREA.--85.5 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 150.00 ft above sea level (levels by U.S. Army Corps of Engineers).

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1972 reached a stage of 17.1 ft from floodmarks, discharge, about 9,600 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 21	1200	*1,490	*4.87	(No peaks above base discharge.)			
Apr. 10	0515	*1,490	*4.87				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	68	60	e50	102	180	221	144	160	103	52	35
2	31	133	53	e55	96	143	341	187	97	78	42	38
3	30	79	46	58	93	193	179	180	264	70	40	55
4	30	53	49	61	94	195	158	171	104	67	39	43
5	30	46	51	55	303	164	141	157	90	65	38	38
6	29	41	46	52	225	126	129	167	83	61	37	36
7	28	45	43	69	150	116	122	136	78	60	36	41
8	28	68	42	511	118	160	120	204	77	146	36	68
9	27	99	41	297	105	725	226	399	75	132	35	46
10	26	88	47	147	98	575	854	545	74	81	48	40
11	26	60	73	96	100	254	271	597	75	66	72	38
12	27	50	63	80	470	197	198	704	316	61	47	37
13	27	46	57	74	193	181	178	366	578	59	40	36
14	28	93	52	67	142	176	177	276	447	57	45	35
15	32	123	47	85	119	156	175	227	202	56	54	36
16	40	78	47	277	107	138	158	194	182	58	42	37
17	32	61	44	161	129	129	153	182	139	58	58	41
18	46	53	44	168	302	164	175	172	116	54	78	42
19	45	49	41	145	234	500	175	151	101	50	71	40
20	33	47	41	99	184	255	387	138	118	48	46	39
21	30	46	40	82	149	853	185	126	113	48	42	43
22	30	99	e40	74	125	408	175	117	91	47	40	53
23	29	82	59	442	176	289	155	112	102	47	66	42
24	29	61	65	466	559	228	144	105	110	49	53	37
25	62	52	179	207	307	194	127	169	89	46	42	37
26	64	49	108	176	195	180	216	136	128	44	50	43
27	117	47	72	132	176	178	446	106	138	44	48	41
28	57	46	69	178	162	174	186	98	86	44	39	36
29	41	46	63	189	---	156	172	102	79	43	38	31
30	37	46	161	169	---	143	149	110	89	42	37	32
31	35	---	103	119	---	133	---	94	---	61	37	---
TOTAL	1159	1954	1946	4841	5213	7663	6493	6572	4401	1945	1448	1216
MEAN	37.4	65.1	62.8	156	186	247	216	212	147	62.7	46.7	40.5
MAX	117	133	179	511	559	853	854	704	578	146	78	68
MIN	26	41	40	50	93	116	120	94	74	42	35	31
CFSM	.44	.76	.73	1.83	2.18	2.89	2.53	2.48	1.72	.73	.55	.47
IN.	.50	.85	.85	2.11	2.27	3.33	2.83	2.86	1.91	.85	.63	.53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY)

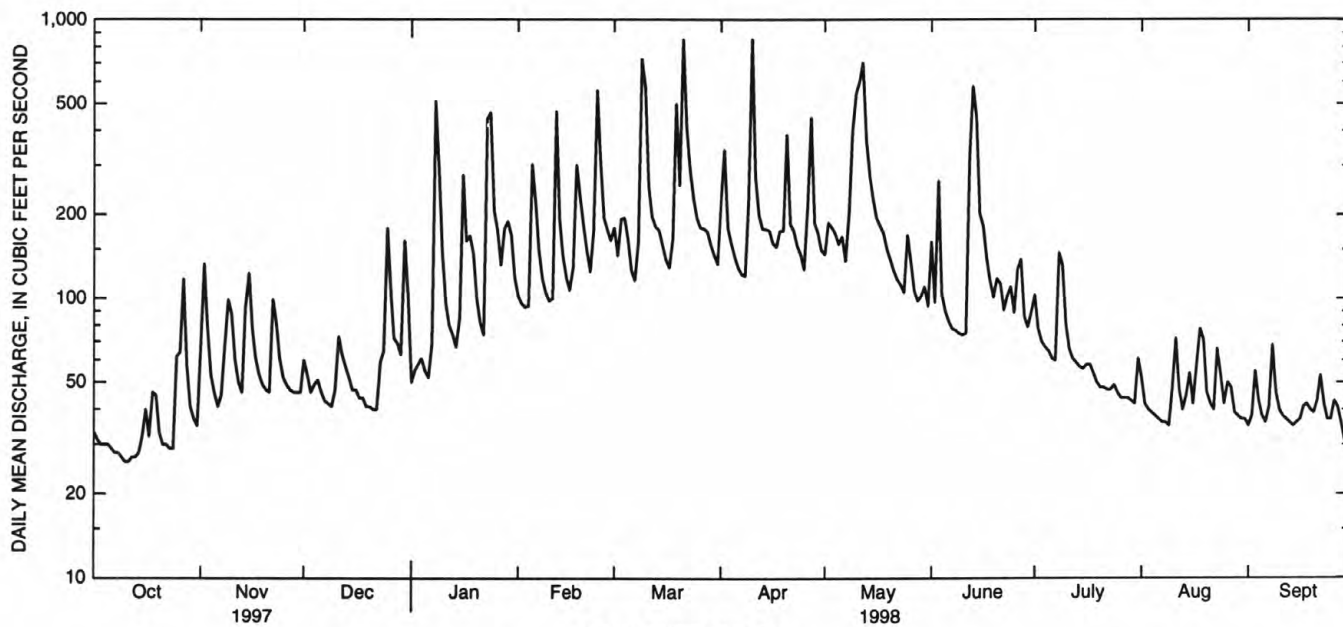
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	83.7	115	156	176	180	209	200	160	105	89.2	61.5	68.5													
MAX	245	231	511	499	356	470	450	390	266	312	138	191													
(WY)	1977	1977	1977	1979	1984	1994	1993	1989	1982	1984	1990	1987													
MIN	34.2	37.9	36.7	28.0	69.0	69.6	53.6	67.4	43.1	36.4	21.6	27.1													
(WY)	1973	1982	1981	1981	1980	1981	1985	1987	1987	1981	1981	1983													

e Estimated.

SCHUYLKILL RIVER BASIN

01471980 MANATAWNY CREEK NEAR POTTSTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1974 - 1998	
ANNUAL TOTAL	38368		44851		133	
ANNUAL MEAN	105		123		63.4	1981
HIGHEST ANNUAL MEAN					230	1984
LOWEST ANNUAL MEAN					63.4	1981
HIGHEST DAILY MEAN	1050	Jan 25	854	Apr 10	3010	Jul 7 1984
LOWEST DAILY MEAN	26	Sep 5,8,9	26	Oct 10,11	14	Sep 14 1981
ANNUAL SEVEN-DAY MINIMUM	27	Sep 4	27	Oct 7	17	Aug 24 1981
INSTANTANEOUS PEAK FLOW			1490	Mar 21, Apr 10	a7550	Sep 9 1987
INSTANTANEOUS PEAK STAGE			4.87	Mar 21, Apr 10	11.46	Sep 9 1987
INSTANTANEOUS LOW FLOW			25	Oct 10-12	13	Aug 26 1981
ANNUAL RUNOFF (CFSM)	1.23		1.44		1.56	
ANNUAL RUNOFF (INCHES)	16.69		19.51		21.17	
10 PERCENT EXCEEDS	190		226		248	
50 PERCENT EXCEEDS	71		79		86	
90 PERCENT EXCEEDS	32		37		34	

a From rating curve extended above 2,200 ft³/s.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01472000 SCHUYLKILL RIVER AT POTTSTOWN, PA

LOCATION.--Lat 40°14'30", long 75°39'07", Montgomery County, Hydrologic Unit 02040203, on right bank 75 ft upstream from bridge on Hanover Street in Pottstown, and 0.3 mi downstream from Manatawny Creek.

DRAINAGE AREA.--1,147 mi².

PERIOD OF RECORD.--October 1927 to current year.

GAGE.--Water-stage recorder. Datum of gage is 117.86 ft above sea level. October 1927 to Nov. 22, 1928, nonrecording gage, and Nov. 23, 1928, to Dec. 26, 1972, recording gage at site 100 ft downstream at same datum. Dec. 27, 1972, to May 10, 1974, nonrecording gage 1.0 mi downstream at datum 2.83 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Blue Marsh Lake (station 01470870) since April 1979, by Still Creek Reservoir (station 01469200) since February 1933, and by Lake Ontelaunee. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to October 1926, 21.0 ft, Feb. 28, 1902, from floodmarks, discharge, about 53,900 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	581	707	891	1200	2490	3800	2650	2440	1860	1940	686	520
2	517	1110	1090	1070	2310	3450	3460	2840	1840	1770	629	571
3	492	1090	1020	1350	1980	3720	2640	2920	2050	1510	592	869
4	798	925	915	1180	1920	3620	2320	2760	1490	1190	576	727
5	817	787	1150	1080	3630	3090	2210	2830	1230	1110	560	566
6	811	714	934	1350	5160	2840	2110	2760	1390	1070	540	510
7	793	724	830	1470	4070	2580	2050	2570	1220	1020	619	576
8	631	936	800	3330	3500	2700	2030	2840	1060	1760	598	746
9	506	1100	764	7380	3080	5260	2530	4940	1100	2400	586	715
10	471	1050	747	6580	2820	9520	6350	6260	1020	1890	727	585
11	555	1020	945	4990	2510	7620	5500	8440	1020	1180	1190	819
12	580	929	1050	4040	4530	5820	4430	10900	2210	1060	988	845
13	591	755	848	2820	4090	4560	3780	9490	4710	1010	738	828
14	606	939	799	2360	3260	3830	3190	6980	7050	945	739	811
15	777	1230	765	2110	2960	3440	2870	5220	4270	917	756	601
16	705	1010	746	3450	2710	3080	2680	4400	3260	899	730	565
17	499	920	701	3460	2640	2800	2420	3850	2710	1150	816	578
18	593	863	690	3390	3830	2670	2460	3420	2380	921	1170	553
19	510	812	680	3110	4520	4410	2310	2950	1930	837	1400	549
20	458	767	675	2880	3790	4040	5010	2650	1790	798	1080	545
21	432	743	658	2970	3520	6770	4960	2470	1720	777	900	560
22	420	976	648	2390	3180	7310	4310	2290	1610	746	776	583
23	443	990	763	3640	3140	6230	3530	2110	1610	748	861	459
24	474	909	828	5860	6430	5260	3130	2030	4000	784	1200	546
25	642	854	1670	5140	7760	4610	2740	1860	4390	697	1610	473
26	645	797	1660	4610	5900	4120	2740	1870	3240	682	1910	460
27	955	785	1630	3930	4630	3610	4580	1920	3220	672	1090	472
28	760	776	1680	3800	4060	3170	3480	1720	2580	664	733	439
29	634	754	1510	3380	---	2950	2750	1420	2240	636	609	501
30	561	769	2250	2970	---	2730	2530	1610	1830	623	575	461
31	533	---	2020	2700	---	2460	---	1480	---	773	559	---
TOTAL	18790	26741	32357	99990	104420	132070	97750	112240	72030	33179	26543	18033
MEAN	606	891	1044	3225	3729	4260	3258	3621	2401	1070	856	601
MAX	955	1230	2250	7380	7760	9520	6350	10900	7050	2400	1910	869
MIN	420	707	648	1070	1920	2460	2030	1420	1020	623	540	433

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1998, BY WATER YEAR (WY)

MEAN	1128	1693	2197	2204	2464	3187	2949	2298	1565	1260	1038	1044
MAX	3870	3897	7359	7383	5117	8948	7820	7220	7634	3940	5290	3732
(WY)	1977	1951	1997	1979	1971	1936	1983	1989	1972	1984	1933	1987
MIN	258	309	419	316	540	1101	875	729	462	302	301	256
(WY)	1931	1931	1931	1981	1934	1981	1985	1965	1965	1966	1966	1932

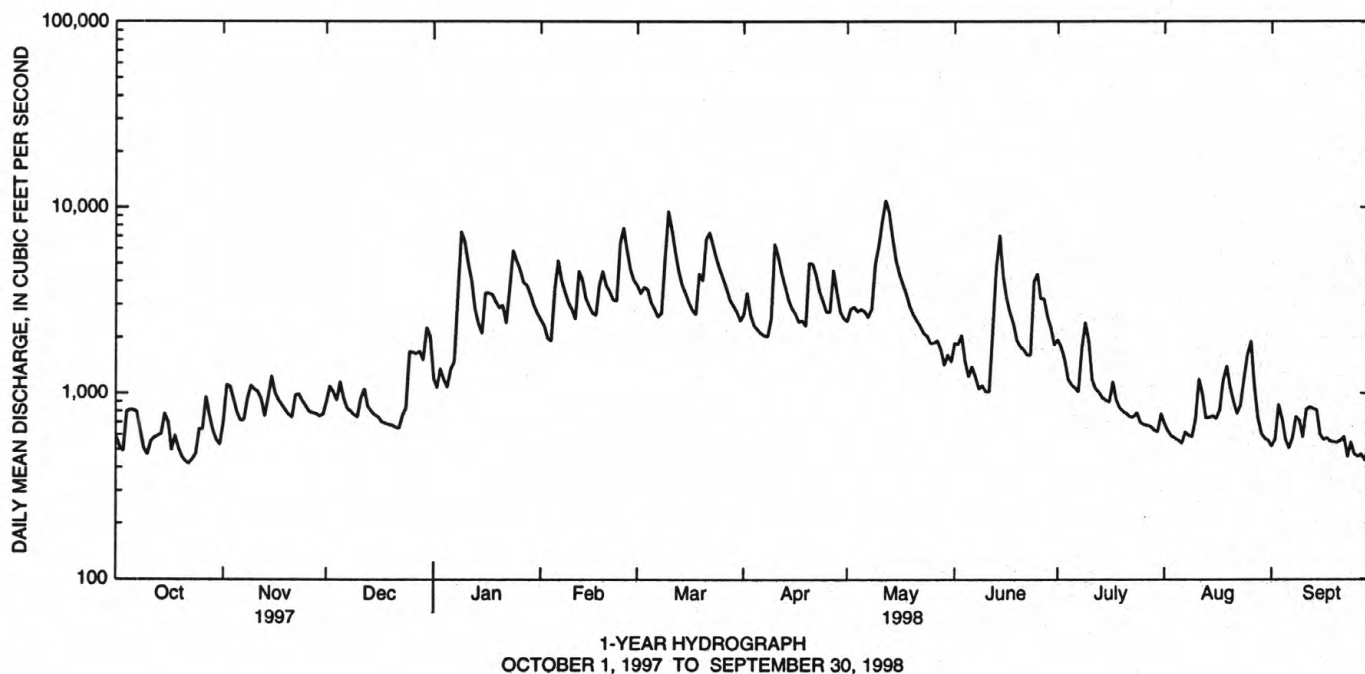
SCHUYLKILL RIVER BASIN

01472000 SCHUYLKILL RIVER AT POTTSTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1928 - 1998	
ANNUAL TOTAL	550235		774143		1916	
ANNUAL MEAN	1507		2121		3211	
HIGHEST ANNUAL MEAN					843	
LOWEST ANNUAL MEAN					1965	
HIGHEST DAILY MEAN	7110	Mar 15	10900	May 12	71200	Jun 23 1972
LOWEST DAILY MEAN	420	Oct 22	420	Oct 22	175	Sep 19 1932
ANNUAL SEVEN-DAY MINIMUM	476	Oct 18	476	Oct 18	210	Sep 19 1932
INSTANTANEOUS PEAK FLOW			11200	May 12	a95900	Jun 23 1972
INSTANTANEOUS PEAK STAGE			8.08	May 12	b29.97	Jun 23 1972
10 PERCENT EXCEEDS	2760		4520		3870	
50 PERCENT EXCEEDS	1150		1420		1300	
90 PERCENT EXCEEDS	563		576		477	

a From rating curve extended above 50,400 ft³/s.

b From floodmark.



SCHUYLKILL RIVER BASIN

01472104 SCHUYLKILL RIVER AT VINCENT DAM AT LINFIELD, PA

LOCATION.--Lat 40°12'22", long 75°33'57", Montgomery County, Hydrologic Unit 02040203, on left bank 100 ft upstream from Vincent Dam, and 0.3 mi south of Linfield.

DRAINAGE AREA.--1,189 mi².

PERIOD OF RECORD.--Water years 1986 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1986 to September 1990.

WATER TEMPERATURE: September 1989 to current year.

DISSOLVED OXYGEN: January 1986 to September 1990; March 1997 to current year.

INSTRUMENTATION.--Water-quality monitor January 1986 to September 1990, March 1997 to current year. In situ water temperature probe since October 1990. Probes interfaced with a data collection platform.

REMARKS.--Dissolved oxygen collection discontinued October through March. Other interruptions in the record were due to malfunctions of the pump or instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 752 microsiemens, Sept. 15, 1989; minimum, 118 microsiemens, Sept. 15, 1987.

WATER TEMPERATURE: Maximum, 31.5°C, July 20, 21, 22, 1991, Aug. 4, 1995, July 17, 1997; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 19.6 mg/L, Mar. 24, 1988; minimum, 0.8 mg/L, July 26, 1986.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum 29.0°C, July 21, 24, 29; minimum, 0.5°C, Jan. 1, 2.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.5	16.5	17.5	13.0	11.0	12.0	7.0	5.5	6.5	1.5	.5	1.0
2	17.0	14.5	16.0	13.5	12.0	13.0	5.5	4.0	5.0	2.5	.5	1.5
3	17.5	14.5	16.0	13.0	11.0	12.0	5.5	3.5	4.5	4.0	2.0	3.0
4	19.0	16.0	17.5	11.5	10.0	11.0	6.5	4.5	5.5	5.0	3.5	4.0
5	20.5	17.5	19.0	11.0	9.0	10.0	6.5	5.0	6.0	5.5	4.5	5.0
6	21.5	18.5	20.0	10.0	8.5	9.5	5.0	3.5	4.5	6.5	5.0	5.5
7	21.5	19.0	20.5	10.0	9.5	10.0	4.0	3.0	3.5	8.0	6.5	7.5
8	21.5	19.5	20.5	10.0	10.0	10.0	5.0	3.5	4.0	11.0	8.0	9.5
9	22.0	19.5	20.5	10.5	10.0	10.0	4.0	3.5	4.0	11.0	9.0	10.5
10	23.0	20.0	21.5	10.0	9.5	9.5	4.0	4.0	4.0	9.0	7.5	8.0
11	21.5	19.0	20.0	10.5	9.0	9.5	4.5	4.0	4.0	7.5	6.0	6.5
12	19.5	17.0	18.5	9.5	8.0	9.0	5.0	4.5	4.5	6.0	5.5	5.5
13	18.5	16.0	17.5	8.0	7.0	7.5	5.0	4.0	4.5	6.0	5.5	5.5
14	19.5	18.0	18.5	7.0	6.0	6.5	4.5	3.5	4.0	5.5	4.0	4.5
15	19.0	16.5	17.5	6.5	6.0	6.5	4.0	2.5	3.0	4.0	3.5	3.5
16	17.5	15.5	16.5	6.5	5.5	6.0	4.0	2.0	3.0	4.0	3.5	4.0
17	16.5	14.5	15.5	6.5	5.0	5.5	4.5	2.5	3.5	5.0	4.0	4.5
18	16.5	14.5	15.5	5.5	4.0	4.5	4.0	2.5	3.0	5.0	4.5	5.0
19	15.5	13.5	14.5	5.5	3.5	4.5	3.5	2.5	3.0	5.0	5.0	5.0
20	14.5	12.0	13.0	6.0	3.5	4.5	4.0	2.5	3.0	5.0	4.0	4.5
21	14.0	12.0	13.0	6.0	4.5	5.0	4.0	2.5	3.0	4.5	3.5	4.0
22	13.0	11.5	12.0	7.0	6.0	6.5	2.5	1.5	2.0	4.5	3.5	4.0
23	11.5	9.5	10.5	7.5	7.0	7.0	3.5	2.0	2.5	4.0	3.0	4.0
24	11.5	9.0	10.5	7.0	5.0	6.0	4.0	2.5	3.5	4.5	4.0	4.5
25	11.5	11.0	11.0	5.0	3.5	4.5	5.5	4.0	4.5	5.0	4.0	4.5
26	11.5	10.5	11.0	5.5	4.5	5.0	5.5	5.0	5.0	4.5	3.0	4.0
27	12.5	10.5	11.5	7.0	5.5	6.0	5.0	4.0	4.5	4.0	3.5	4.0
28	11.5	10.0	10.5	6.0	5.5	6.0	4.5	3.5	4.0	4.5	3.5	4.0
29	11.0	8.5	10.0	7.5	6.0	6.5	3.5	2.5	3.0	4.5	3.5	4.0
30	11.0	8.5	10.0	7.0	6.5	7.0	3.5	3.0	3.5	4.5	4.0	4.5
31	11.5	9.0	10.5	---	---	---	3.0	1.5	2.5	5.5	4.5	4.5
MONTH	23.0	8.5	15.4	13.5	3.5	7.7	7.0	1.5	3.9	11.0	.5	4.8

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	5.0	4.0	4.5	9.0	8.0	8.5	17.0	15.5	16.5	16.0	15.5	15.5
2	5.0	4.0	4.5	9.5	8.0	9.0	16.5	15.5	16.0	15.5	15.0	15.5
3	5.5	4.5	5.0	9.5	8.0	8.5	15.5	14.0	14.5	16.5	15.0	15.5
4	5.0	4.5	5.0	8.0	7.0	7.5	14.5	11.0	13.0	16.5	16.0	16.0
5	4.5	4.5	4.5	7.5	6.5	7.0	12.0	10.5	11.0	16.5	16.0	16.0
6	5.5	4.0	5.0	8.0	6.0	7.0	13.0	10.5	11.5	16.0	16.0	16.0
7	5.5	4.5	5.0	8.5	7.5	8.0	14.0	11.0	12.5	17.5	16.0	16.5
8	5.0	4.0	4.5	8.5	7.5	8.0	14.0	12.5	13.0	17.0	15.5	16.5
9	5.0	4.0	4.5	9.0	7.0	8.0	13.0	10.0	12.0	15.5	15.0	15.0
10	5.5	4.0	5.0	9.0	7.0	8.5	11.0	9.5	10.0	15.0	15.0	15.0
11	5.5	4.5	5.0	7.0	5.5	6.5	12.0	10.0	11.0	15.0	14.0	14.5
12	7.0	5.5	6.5	5.5	4.5	5.0	13.0	10.5	11.5	14.0	13.5	13.5
13	6.5	5.5	6.0	5.0	3.5	4.5	13.5	11.0	12.5	15.0	13.0	14.0
14	6.0	5.0	5.5	5.0	4.5	4.5	14.0	12.5	13.0	15.5	13.5	14.5
15	5.0	4.0	4.5	6.0	4.5	5.0	15.0	13.5	14.5	17.0	14.5	16.0
16	4.0	3.5	3.5	7.0	5.0	6.0	15.5	14.0	15.0	19.0	16.5	17.5
17	4.5	4.0	4.5	7.0	5.5	6.5	16.0	15.0	15.5	20.0	18.0	19.0
18	6.0	4.5	5.5	7.0	6.0	6.5	16.0	14.5	15.5	20.0	18.5	19.5
19	6.5	6.0	6.0	6.5	6.0	6.0	15.5	13.0	14.5	20.5	19.0	20.0
20	7.0	6.0	6.5	7.0	6.5	7.0	13.5	12.5	13.0	22.0	19.5	20.5
21	7.5	6.5	7.0	7.0	5.5	6.0	14.5	12.0	13.5	22.0	20.5	21.0
22	8.0	6.5	7.0	6.0	5.5	6.0	14.5	13.0	14.0	20.5	19.0	20.0
23	7.5	6.5	6.5	6.5	5.0	6.0	14.0	13.5	13.5	20.0	18.0	19.0
24	6.5	5.5	6.0	7.0	5.5	6.0	15.0	13.0	14.0	21.0	17.5	19.0
25	6.5	5.0	6.0	8.0	5.5	7.0	16.0	14.0	15.0	20.5	18.5	19.5
26	7.0	6.0	6.5	9.5	7.0	8.0	15.5	12.5	14.5	21.5	18.0	19.5
27	8.0	6.0	7.0	12.0	9.0	10.5	13.5	11.0	12.5	21.5	19.0	20.5
28	8.0	7.5	8.0	14.0	11.5	12.5	14.0	12.0	13.0	23.0	19.5	21.0
29	---	---	---	15.5	13.5	14.5	15.0	13.0	14.0	24.0	20.5	22.5
30	---	---	---	16.0	14.0	15.0	16.0	15.0	15.0	25.0	22.0	23.5
31	---	---	---	18.0	15.5	16.5	---	---	---	25.5	23.0	24.5
MONTH	8.0	3.5	5.5	18.0	3.5	7.9	17.0	9.5	13.5	25.5	13.0	18.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	25.0	23.5	24.0	23.5	21.5	22.5	26.5	23.0	25.0	27.0	24.0	25.5
2	23.5	21.0	22.0	24.5	21.5	23.0	27.0	23.0	25.0	26.0	23.5	24.5
3	22.0	20.5	21.5	25.5	22.0	24.0	27.0	23.5	25.5	25.0	22.5	24.0
4	---	---	---	25.0	23.0	24.0	27.5	24.0	26.0	25.5	23.0	24.0
5	---	---	---	25.5	23.0	24.0	28.0	24.5	26.5	25.5	22.5	24.0
6	21.0	18.0	19.5	25.5	23.0	24.5	28.0	24.5	26.5	26.0	22.0	24.0
7	20.0	18.5	19.5	24.5	23.0	24.0	27.5	24.5	26.0	25.0	23.5	24.5
8	19.5	17.5	18.5	24.0	20.5	22.5	28.5	25.0	27.0	24.5	22.5	23.5
9	21.5	17.5	19.5	22.0	19.5	20.5	28.5	26.0	27.0	22.5	20.0	21.0
10	21.0	19.0	20.0	24.5	21.5	22.5	28.0	26.0	27.0	22.0	19.0	20.5
11	20.0	18.5	19.0	24.5	21.5	23.0	27.0	24.5	26.0	22.0	19.0	20.5
12	18.5	18.0	18.0	24.5	22.0	23.5	26.5	24.5	25.5	23.5	20.0	22.0
13	18.5	17.5	18.0	25.5	22.5	24.0	26.5	24.5	25.5	25.0	22.0	23.5
14	19.0	18.0	18.5	26.0	23.5	25.0	25.5	24.0	25.0	25.5	23.0	24.5
15	18.5	18.0	18.5	26.0	24.0	25.0	26.0	23.5	24.5	25.5	23.5	24.5
16	20.5	18.0	19.0	27.0	23.5	25.0	26.5	24.0	25.5	27.0	24.0	25.5
17	21.5	19.5	20.5	27.5	25.0	26.0	26.0	25.0	25.0	26.0	23.5	24.5
18	22.0	20.5	21.0	28.5	25.0	26.5	25.5	24.0	25.0	24.5	22.0	23.0
19	24.0	21.0	22.5	28.0	25.0	26.5	24.5	22.5	23.5	24.5	22.0	23.0
20	25.0	22.0	23.5	28.5	25.5	27.0	24.0	21.0	22.5	24.0	22.0	23.0
21	25.5	22.5	24.5	29.0	25.5	27.0	25.0	21.5	23.0	24.5	22.5	23.0
22	25.5	23.5	24.0	---	---	---	27.0	23.0	25.0	24.0	22.5	23.5
23	24.0	22.0	23.0	---	---	---	27.5	25.0	26.0	22.5	20.0	21.0
24	24.0	23.0	23.5	29.0	25.5	27.0	27.0	25.0	26.0	20.5	17.5	19.0
25	23.0	21.0	22.5	28.5	25.0	26.5	26.5	25.0	25.5	19.5	18.5	19.0
26	23.5	22.5	23.0	27.5	24.5	26.0	26.5	24.5	25.5	22.0	18.5	20.0
27	23.5	22.5	23.0	27.5	24.0	26.0	26.5	25.0	25.5	24.0	20.5	22.0
28	23.5	22.0	22.5	28.0	24.5	26.0	27.5	25.0	26.0	24.0	22.0	23.0
29	22.5	21.5	22.0	29.0	25.5	27.0	27.0	24.5	26.0	22.0	19.5	21.0
30	24.5	21.5	22.5	28.5	26.0	27.5	28.0	24.5	26.0	21.0	19.0	20.0
31	---	---	---	27.0	25.0	26.0	28.0	25.5	26.5	---	---	---
MONTH	25.5	17.5	21.2	29.0	19.5	24.9	28.5	21.0	25.5	27.0	17.5	22.7
YEAR	29.0	.5	14.2									

SCHUYLKILL RIVER BASIN

01472104 SCHUYLKILL RIVER AT VINCENT DAM AT LINFIELD, PA--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR MARCH 1997 TO SEPTEMBER 1997

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	8.7	7.7	8.0	9.6	8.5	9.0
2	---	---	---	---	---	---	9.5	8.0	8.6	9.1	8.3	8.6
3	---	---	---	---	---	---	10.7	9.0	9.7	9.3	8.5	8.8
4	---	---	---	---	---	---	9.9	9.1	9.5	9.1	8.4	8.7
5	---	---	---	---	---	---	10.7	9.3	10.0	9.0	8.3	8.6
6	---	---	---	---	---	---	11.1	9.5	10.2	8.8	8.3	8.5
7	---	---	---	---	---	---	11.1	9.4	10.2	9.4	8.5	8.9
8	---	---	---	---	---	---	10.6	9.1	10.0	9.1	8.2	8.4
9	---	---	---	---	---	---	10.1	8.9	9.3	8.7	8.3	8.5
10	---	---	---	---	---	---	9.6	9.3	9.4	8.9	8.6	8.8
11	---	---	---	---	---	---	9.9	9.5	9.7	---	---	---
12	---	---	---	---	---	---	10.4	9.5	9.9	---	---	---
13	---	---	---	---	---	---	10.7	9.5	10.0	---	---	---
14	---	---	---	---	---	---	10.6	9.3	9.8	---	---	---
15	---	---	---	---	---	---	10.5	9.0	9.7	9.6	9.3	9.5
16	---	---	---	---	---	---	10.4	9.0	9.7	9.4	9.0	9.3
17	---	---	---	---	---	---	10.1	8.7	9.4	9.3	8.8	9.0
18	---	---	---	---	---	---	10.2	8.8	9.5	9.2	8.7	8.9
19	---	---	---	---	---	---	9.9	8.7	9.1	9.0	8.4	8.7
20	---	---	---	---	---	---	9.4	8.8	9.1	8.9	8.1	8.5
21	---	---	---	---	---	---	10.0	9.3	9.6	8.9	7.9	8.4
22	---	---	---	---	---	---	10.1	9.3	9.6	9.6	8.2	8.8
23	---	---	---	---	---	---	9.7	9.0	9.4	10.0	8.6	9.3
24	---	---	---	---	---	---	10.0	9.0	9.5	10.2	8.8	9.4
25	---	---	---	---	---	---	10.0	8.7	9.3	9.6	8.3	9.0
26	---	---	---	---	---	---	9.5	8.6	8.9	9.8	8.0	8.9
27	---	---	---	11.6	10.8	11.1	---	---	---	9.8	8.2	9.0
28	---	---	---	11.0	10.0	10.5	---	---	---	9.9	8.0	8.9
29	---	---	---	10.6	9.3	9.9	---	---	---	9.9	7.7	8.7
30	---	---	---	10.2	8.7	9.4	9.9	8.7	9.3	9.3	6.6	7.9
31	---	---	---	9.8	8.2	8.9	---	---	---	9.3	6.5	7.8
MONTH	---	---	---	11.6	8.2	10.0	11.1	7.7	9.5	10.2	6.5	8.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	8.0	6.2	7.1	7.5	7.0	7.2	8.6	6.2	7.2	8.7	5.8	7.2
2	8.5	6.4	7.4	8.2	7.2	7.6	8.7	6.4	7.4	8.6	5.8	7.2
3	---	---	---	8.7	7.2	7.8	8.8	6.4	7.5	8.7	6.1	7.3
4	---	---	---	8.4	7.0	7.7	8.9	6.4	7.6	8.8	6.3	7.5
5	---	---	---	8.9	6.6	7.6	9.0	6.3	7.6	9.1	6.4	7.7
6	---	---	---	9.4	7.1	8.2	9.1	6.1	7.6	9.1	6.6	7.8
7	---	---	---	9.6	7.2	8.4	9.0	6.2	7.6	8.4	6.3	7.4
8	---	---	---	8.7	7.1	7.5	9.2	6.2	7.6	8.9	6.1	7.3
9	10.0	8.1	9.0	8.2	6.9	7.4	9.0	6.1	7.5	9.2	6.2	7.7
10	9.9	7.7	8.7	8.6	7.0	7.7	8.6	6.0	7.2	9.9	7.1	8.4
11	8.9	7.5	8.1	9.3	7.0	8.0	7.5	5.7	6.4	9.8	7.4	8.6
12	8.0	7.6	7.7	9.3	6.9	8.1	8.1	5.6	6.7	10.0	7.1	8.4
13	---	---	---	9.6	6.8	8.2	8.3	6.1	7.1	10.1	6.7	8.3
14	---	---	---	9.8	6.8	8.3	8.2	6.0	7.0	10.1	6.3	8.1
15	---	---	---	9.5	6.5	8.1	8.7	6.1	7.3	9.9	6.1	7.9
16	8.4	8.0	8.2	9.6	6.4	7.8	8.8	6.2	7.4	9.9	5.8	7.8
17	8.3	7.8	8.1	9.1	6.1	7.6	8.0	6.0	6.8	8.8	5.4	7.1
18	8.1	7.7	7.9	9.3	6.2	7.7	8.0	6.0	6.8	9.8	5.9	7.7
19	8.2	7.3	7.7	9.1	5.5	7.3	8.0	6.4	7.0	10.4	6.1	8.1
20	8.1	7.1	7.6	8.9	5.4	7.1	8.8	6.8	7.7	10.4	6.2	8.2
21	8.3	7.1	7.6	---	---	---	9.1	7.1	8.0	10.2	6.2	8.1
22	7.7	7.0	7.2	---	---	---	8.7	6.6	7.6	8.7	6.1	7.5
23	8.0	7.0	7.3	---	---	---	8.6	6.0	7.2	10.5	6.3	8.3
24	7.4	6.7	7.0	10.1	5.6	7.6	8.3	6.2	7.2	11.1	7.4	9.3
25	7.5	6.7	7.3	9.5	6.3	8.1	7.4	6.4	6.7	10.2	7.5	8.9
26	7.4	6.8	7.1	8.7	5.8	7.3	6.9	6.3	6.5	11.5	7.4	9.2
27	7.0	6.2	6.7	8.7	6.0	7.3	7.7	5.8	6.6	11.1	7.1	9.2
28	7.6	6.8	7.2	8.3	5.8	7.1	7.7	6.0	6.8	10.9	6.5	8.8
29	7.6	7.2	7.4	8.3	5.7	6.9	8.1	5.9	6.9	10.9	6.8	9.0
30	7.6	7.1	7.3	8.1	5.5	6.7	8.1	5.9	7.0	10.6	7.2	8.7
31	---	---	---	7.7	5.7	6.6	8.3	5.6	6.9	---	---	---
MONTH	10.0	6.2	7.6	10.1	5.4	7.6	9.2	5.6	7.2	11.5	5.4	8.1

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA

LOCATION.--Lat 40°09'05", long 75°36'06", Chester County, Hydrologic Unit 02040203, on right bank 70 ft downstream from two-span county bridge on French Creek Road, 4.5 mi northwest of Phoenixville, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--59.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 160 ft above sea level, from topographic map. Prior to Nov. 7, 1968, nonrecording gage at site 70 ft upstream at same datum.

REMARKS.--Records good. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 23	2000	916	7.04	Apr. 1	2315	*1,700	*a8.09
Mar. 9	1645	803	6.85	Apr. 9	2215	916	7.04
Mar. 21	0730	1,030	7.22				

a Gage height, 8.63 ft from outside gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	38	30	e40	73	109	334	98	97	55	38	19
2	16	97	30	e38	68	98	672	145	73	44	29	19
3	15	59	27	41	66	181	194	153	76	40	26	28
4	15	32	28	42	64	182	161	138	66	40	25	24
5	16	26	29	40	183	117	145	120	62	43	23	21
6	15	23	28	37	158	101	134	163	60	38	23	20
7	14	25	26	50	94	94	126	118	56	37	21	23
8	14	65	25	206	79	130	121	170	55	131	21	43
9	19	110	24	159	71	569	287	410	53	125	21	28
10	15	74	25	90	67	299	552	501	52	61	25	23
11	14	41	36	64	66	160	216	432	55	46	61	20
12	15	33	34	52	302	133	170	491	241	41	31	19
13	15	29	29	48	124	120	153	287	250	38	27	18
14	16	51	27	45	92	117	145	207	206	37	25	17
15	15	81	25	47	78	109	142	178	103	34	26	17
16	18	47	24	198	71	100	133	159	89	35	24	18
17	17	37	24	96	84	95	131	150	78	34	84	18
18	23	32	24	99	218	110	122	136	66	34	49	18
19	27	30	24	86	152	385	137	124	59	31	35	18
20	20	28	24	67	111	190	247	111	55	30	28	17
21	18	29	e24	57	97	600	142	102	51	30	26	17
22	17	83	e24	51	84	302	123	94	49	29	24	18
23	17	61	35	336	118	198	117	90	54	29	24	18
24	17	41	36	344	417	163	113	87	59	31	24	17
25	36	34	112	142	241	145	105	86	53	28	21	16
26	33	31	70	105	138	137	115	86	58	27	31	17
27	64	29	47	87	116	131	188	80	66	26	28	17
28	33	27	48	131	106	124	118	75	49	25	24	17
29	23	27	44	140	---	117	104	74	45	25	22	15
30	20	28	129	108	---	109	99	90	51	24	21	15
31	19	---	74	85	---	106	---	74	---	61	20	---
TOTAL	633	1348	1186	3131	3538	5531	5546	5229	2387	1309	907	595
MEAN	20.4	44.9	38.3	101	126	178	185	169	79.6	42.2	29.3	19.8
MAX	64	110	129	344	417	600	672	501	250	131	84	43
MIN	14	23	24	37	64	94	99	74	45	24	20	15
CFSM	.35	.76	.65	1.71	2.14	3.02	3.13	2.85	1.35	.71	.50	.34
IN.	.40	.85	.75	1.97	2.23	3.48	3.49	3.29	1.50	.82	.57	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1998, BY WATER YEAR (WY)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
MEAN	49.6	73.2	102	111	126	145	140	108	79.3	62.9	40.4	43.8
MAX	180	166	328	394	266	350	306	250	353	258	110	125
(WY)	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
MIN	17.9	24.6	19.2	13.7	39.7	40.5	35.6	31.9	22.7	21.9	15.2	14.1
(WY)	1987	1982	1981	1981	1969	1981	1985	1969	1969	1985	1981	1980

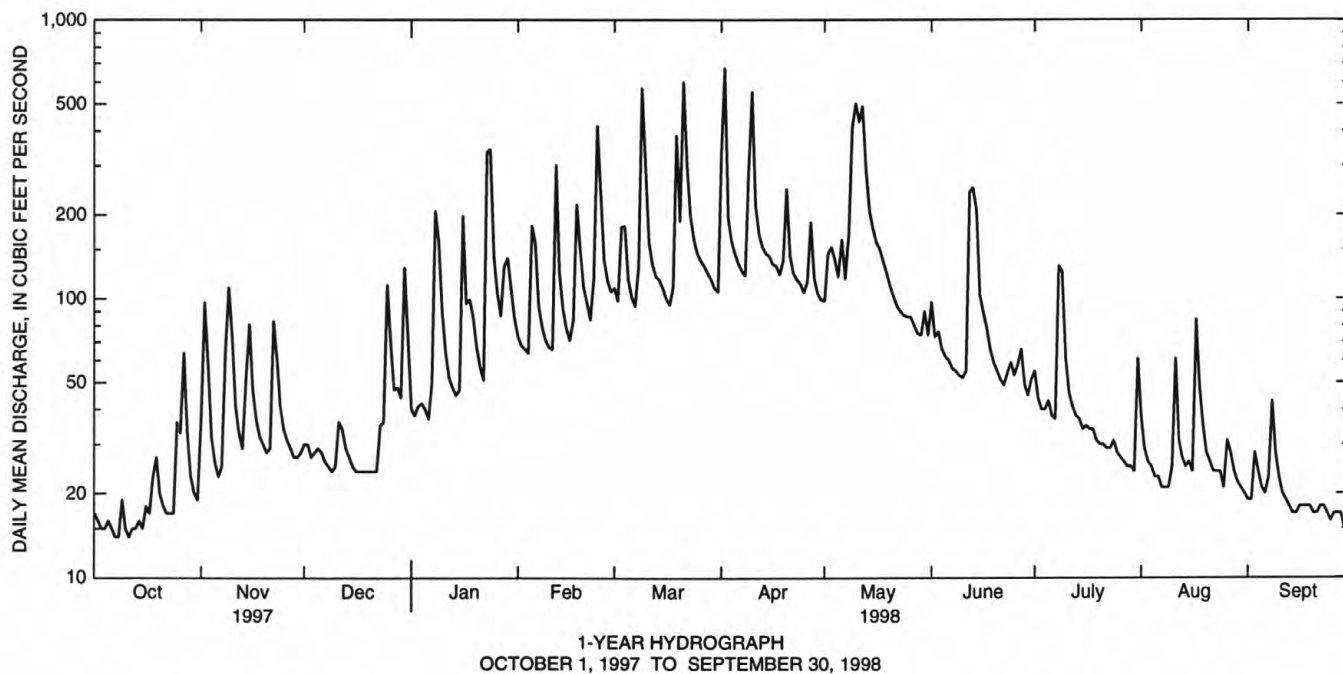
e Estimated.

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1969 - 1998	
ANNUAL TOTAL	25534		31340		90.0	
ANNUAL MEAN	70.0		85.9		155	
HIGHEST ANNUAL MEAN					36.2	
LOWEST ANNUAL MEAN					1981	
HIGHEST DAILY MEAN	700	Jan 25	672	Apr 2	4530	Jun 22 1972
LOWEST DAILY MEAN	14	Oct 7,8,11	14	Oct 7,8,11	8.9	Aug 25 1981
ANNUAL SEVEN-DAY MINIMUM	15	Oct 2	15	Oct 2	9.1	Aug 23 1981
INSTANTANEOUS PEAK FLOW			1700	Apr 1	b11200	Jun 22 1972
INSTANTANEOUS PEAK STAGE			a8.09	Apr 1	13.66	Jun 22 1972
INSTANTANEOUS LOW FLOW			14	Oct 8	8.9	Aug 25 1981
ANNUAL RUNOFF (CFSM)	1.18		1.45		1.52	
ANNUAL RUNOFF (INCHES)	16.07		19.73		20.68	
10 PERCENT EXCEEDS	133		173		173	
50 PERCENT EXCEEDS	47		53		57	
90 PERCENT EXCEEDS	17		18		21	

a Gage height, 8.63 ft from outside gage.

b From rating curve extended above 2,500 ft³/s, on basis of slope-area measurement of peak flow.

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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 (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)
OCT 1997 02...	1315	1028	80020	15	166	7.3	11.5

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	ANC WATER UNFLTRD 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)
OCT 1997 02...	11.4	43	11	.012	1.12	<.015	<.010

SCHUYLKILL RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA--Continued

BIOLOGICAL DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	OCT 02, 1997
TIME	1315
TOTAL COUNT	1700

	COUNT	PERCENT
ARTHROPODA) (ARTHROPODS		
..ARACHNIDA		
...ACARINA	11	<1
..INSECTA		
...COLEOPTERA		
...ELMIDAE		
....OPTIOSERVUS	6	<1
....STENELMIS	1	<1
...PSEPHENIDAE		
....PSEPHENUS	1	<1
..DIPTERA		
...CHIRONOMIDAE	140	8
...SIMULIIDAE		
....SIMULIUM	21	1
...TIPULIDAE		
....ANTOCHA	21	1
..EPHEMEROPTERA		
...BAETIDAE		
....BAETIS	47	3
....PSEUDOCLOEON	13	<1
...EPHEMERELLIDAE		
....EPHEMERELLA	12	<1
...HEPTAGENIIDAE		
....EPEORUS	20	1
....STENONEMA	100	6
...SIPHONURIDAE		
....ISONYCHIA	410	24
..LEPIDOPTERA		
...PYRALIDIDAE		
....PARARGYACTIS	1	<1
..MEGALOPTERA		
...CORYDALIDAE		
....CORYDALUS	1	<1
..ODONATA		
...COENAGRIONIDAE		
....ARGIA	1	<1
..PLECOPTERA		
...PERLIDAE		
....(NEO) PHASGANOPHORA	2	<1
....ACRONEURIA	5	<1
....PARAGNETINA	45	3
..TRICHOPTERA		
...BRACHYCENTRIDAE		
...MICRASEMA	87	5
...GLOSSOSOMATIDAE		
....GLOSSOSOMA	47	3
....PROTOPTILA	26	2
...HELICOPSYCHIDAE		
....HELICOPSYCHE	6	<1
...HYDROPSYCHIDAE		
....CHEUMATOPSYCHE	59	3
....HYDROPSYCHE	130	8
....SYMPHITOPSYCHE	160	9
...HYDROPTILIDAE		
....LEUCOTRICHIA	170	10
...LEPIDOSTOMATIDAE		
....LEPIDOSTOMA	5	<1
...LEPTOCERIDAE		
....OECETIS	1	<1
...LIMNephilidae		
....APATANIA	16	<1
...PHILOPOTAMIDAE		
....CHIMARRA	85	5
...POLYCENTROPIDAE		
....NEURECLIPSIS	1	<1
...PSYCHOMYIIDAE		
....PSYCHOMYIA	14	<1
MOLLUSCA) (MOLLUSCS		
..BIVALVIA		
...NUCULOIDEA		
...SPHAERIIDAE	1	<1
..GASTROPODA		
...BASOMMATOPHORA		
...ANCYLIDAE		
....FERRISSIA	16	<1
...MESOGASTROPODA		
...HYDROBIIDAE		
....AMNICOLA	1	<1

SCHUYLKILL RIVER BASIN

01472198 PERKIOMEN CREEK AT EAST GREENVILLE, PA

LOCATION.--Lat 40°23'38", long 75°30'57", Montgomery County, Hydrologic Unit 02040203, on right bank 100 ft upstream from bridge on Church Road, 0.9 mi upstream from Molasses Creek, and 1.0 mi southwest of East Greenville.

DRAINAGE AREA.--38.0 mi².

PERIOD OF RECORD.--October 1981 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 288.50 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, and those greater than 1,400 ft³/s, which are poor. Daily discharges for flow events greater than 1,400 ft³/s for water years 1982-97 were revised and are available in the District Office. Statistical summary reflects revised daily discharges for water years 1982-97. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 9	2400	*1,020	*3.68	No other peak greater than base discharge.			

REVISIONS.--The peak discharges and annual maximum (*) reported for water years 1982-97 have been revised as shown in the following table. They supercede previously published figures.

Water Year	Date	Discharge (ft ³ /s)	Gage height (ft)	Water Year	Date	Discharge (ft ³ /s)	Gage height (ft)
1982	02-03-82	*2,400	*4.76	1992	08-11-92	*1,020	*3.68
	01-04-82	1,740	4.27	1993	11-23-92	*3,050	*5.22
	05-31-82	1,400	4.00		04-01-93	1,460	4.05
	06-17-82	1,220	3.85		04-26-93	1,050	3.71
1983	04-10-83	*1,900	*4.39		08-17-93	2,880	5.10
	03-21-83	1,130	3.78		09-28-93	1,690	4.23
	04-16-83	1,460	4.05	1994	07-28-94	*3,230	*5.34
1984	06-25-84	*6,740	*7.26		10-13-93	1,120	3.77
	12-13-83	2,330	4.71		11-28-93	1,720	4.25
	12-28-83	2,330	4.71		12-05-93	2,510	4.84
	04-05-84	1,520	4.10		01-28-94	2,220	4.63
	05-04-84	1,470	4.06		03-23-94	1,120	3.77
	05-29-84	2,960	5.16		06-29-94	1,190	3.83
	07-07-84	4,600	6.19	1995	03-08-95	*2,630	*4.93
1985	09-27-85	*3,720	*5.66	1996	01-19-96	*4,040	*5.87
	02-12-85	1,130	3.78		10-21-95	Unknown	Unknown
	07-31-85	1,270	3.89		01-27-96	1,900	4.39
1986	11-17-85	*1,140	*3.79		04-02-96	Unknown	Unknown
1987	09-08-87	*4,810	*6.30		04-16-96	Unknown	Unknown
1988	01-20-88	*1,000	*3.67	1997	10-19-96	*4,040	*5.87
1989	05-06-89	*1,520	*4.10		11-26-96	1,190	3.83
	11-20-88	1,030	3.69		12-01-96	1,030	3.69
	09-20-89	1,250	3.88		12-02-96	2,140	4.57
1990	05-29-90	*3,860	*5.75		12-06-96	1,020	3.68
	01-30-90	1,630	4.18		12-14-96	1,680	4.22
	08-07-90	1,200	3.84		01-25-97	1,770	4.29
1991	11-10-90	*1,050	*3.71		03-14-97	1,130	3.78

SCHUYLKILL RIVER BASIN

01472198 PERKIOMEN CREEK AT EAST GREENVILLE, PA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	28	29	e20	52	86	124	63	68	39	20	15
2	12	51	21	e25	48	70	135	79	56	29	17	21
3	13	37	19	33	46	76	81	70	94	26	16	32
4	13	23	21	34	46	68	72	69	48	26	16	17
5	13	19	21	28	146	60	66	66	43	26	15	16
6	13	17	19	27	96	55	62	90	41	24	14	15
7	12	20	18	46	69	53	59	72	39	23	14	20
8	12	22	17	363	59	82	57	217	42	46	14	26
9	12	29	17	151	53	414	162	350	38	40	14	17
10	12	29	19	85	50	239	414	411	37	29	27	15
11	12	22	30	63	50	119	130	369	37	25	45	15
12	12	19	25	51	339	94	103	487	154	23	18	15
13	12	18	24	49	106	81	88	215	255	22	16	14
14	12	50	22	41	79	79	81	160	120	21	23	14
15	14	54	19	48	65	71	78	131	90	21	20	14
16	16	37	18	162	59	65	72	114	73	22	17	14
17	13	e30	18	77	64	61	74	101	58	22	40	15
18	21	e25	17	79	95	73	73	91	54	20	40	15
19	16	e20	17	66	94	236	81	81	46	19	40	14
20	14	e20	17	56	73	116	161	76	43	18	19	14
21	13	19	17	48	65	360	83	71	39	18	17	14
22	12	43	16	45	58	174	71	65	37	18	17	21
23	12	32	29	282	91	124	68	62	48	18	99	14
24	12	25	25	206	264	103	66	59	46	18	29	13
25	30	22	104	112	140	89	60	76	37	17	20	14
26	22	21	55	84	97	83	100	62	37	17	46	16
27	54	20	41	69	81	78	153	54	39	16	23	14
28	22	18	39	81	78	74	79	50	32	16	19	13
29	17	19	36	75	---	69	67	49	31	16	17	13
30	15	19	106	68	---	66	64	51	36	16	17	13
31	15	---	53	58	---	62	---	46	---	32	16	---
TOTAL	491	808	929	2632	2563	3480	2984	3957	1818	723	765	483
MEAN	15.8	26.9	30.0	84.9	91.5	112	99.5	128	60.6	23.3	24.7	16.1
MAX	54	54	106	363	339	414	414	487	255	46	99	32
MIN	12	17	16	20	46	53	57	46	31	16	14	13
CFSM	.42	.71	.79	2.23	2.41	2.95	2.62	3.36	1.59	.61	.65	.42
IN.	.48	.79	.91	2.58	2.51	3.41	2.92	3.87	1.78	.71	.75	.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1998, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	36.6	54.7	72.7	72.8	76.7	99.9	100	74.2	48.4	40.3	29.1	31.5					
MAX	117	100	246	223	138	273	213	160	121	154	53.1	81.4					
(WY)	1997	1993	1997	1996	1984	1994	1983	1989	1982	1984	1994	1987					
MIN	13.6	16.7	18.1	26.4	33.6	34.5	24.9	35.0	19.9	22.9	11.3	13.4					
(WY)	1982	1982	1990	1985	1992	1985	1985	1995	1995	1983	1995	1986					

e Estimated.

SCHUYLKILL RIVER BASIN

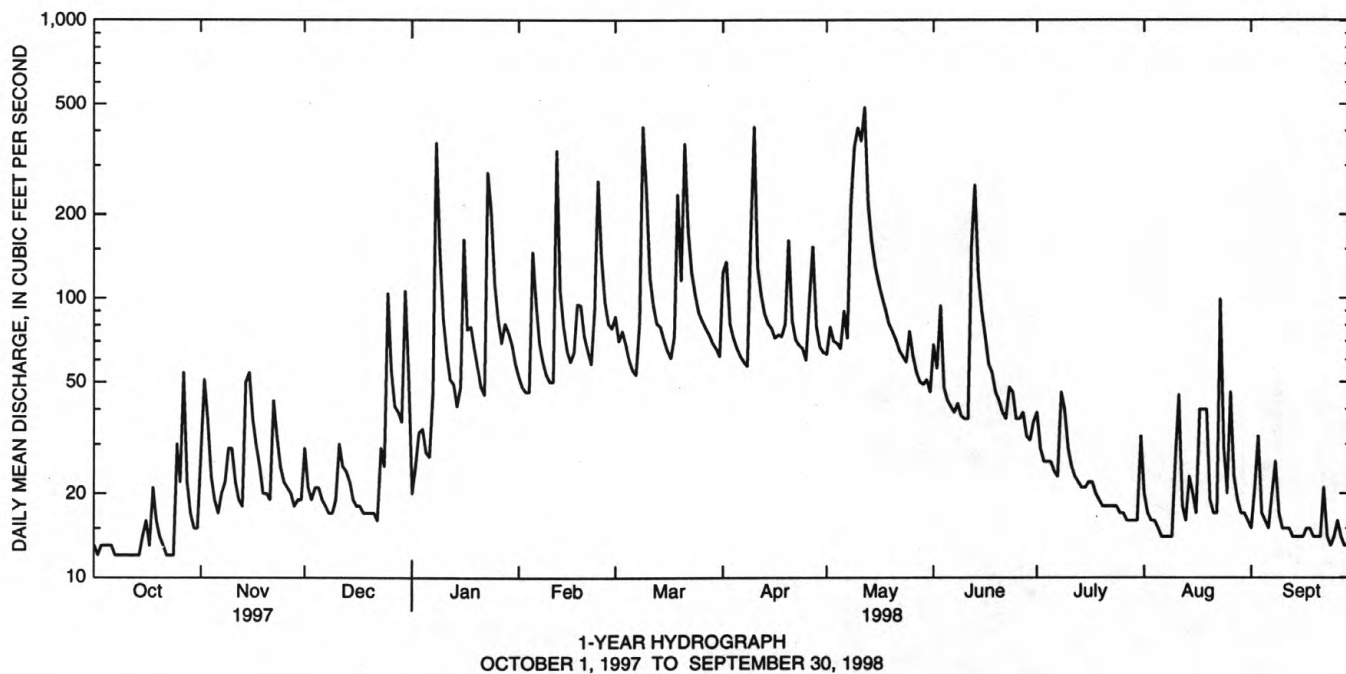
01472198 PERKIOMEN CREEK AT EAST GREENVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1982 - 1998	
ANNUAL TOTAL	18265		21633		61.3	
ANNUAL MEAN	50.0		59.3		101	
HIGHEST ANNUAL MEAN					34.5	
LOWEST ANNUAL MEAN					1984	
HIGHEST DAILY MEAN	630	Jan 25	487	May 12	e2800	Jan 19 1996
LOWEST DAILY MEAN	11	Sep 4-6	12	Oct 2a	4.2	Aug 21 1985
ANNUAL SEVEN-DAY MINIMUM	12	Oct 7	12	Oct 7	4.4	Aug 18 1985
INSTANTANEOUS PEAK FLOW			b1020	Apr 9	b6740	Jun 25 1984
INSTANTANEOUS PEAK STAGE			3.68	Apr 9	7.26	Jun 25 1984
INSTANTANEOUS LOW FLOW			11	Dec 22	3.8	Sep 5 1985
ANNUAL RUNOFF (CFSM)	1.32		1.56		1.61	
ANNUAL RUNOFF (INCHES)	17.88		21.18		21.93	
10 PERCENT EXCEEDS	96		113		116	
50 PERCENT EXCEEDS	33		39		37	
90 PERCENT EXCEEDS	13		14		16	

a Also Oct. 7-14, 22-24.

b From rating curve extended above 720 ft³/s.

e Estimated.



SCHUYLKILL RIVER BASIN

01472199 WEST BRANCH PERKIOMEN CREEK AT HILLEGASS, PA

LOCATION.--Lat 40°22'26", long 75°31'22", Montgomery County, Hydrologic Unit 02040203, on left bank 0.3 mi downstream from bridge on private road off Heffner Road, and 0.5 mi north of Hillegass.

DRAINAGE AREA.--23.0 mi².

PERIOD OF RECORD.--October 1981 to current year. Prior to October 1992, published as "Northwest Branch".

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 290.00 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges and those above 560 ft³/s, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 10	0015	*569	*3.89	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	14	17	e20	30	48	79	41	58	26	11	8.2
2	e7.3	37	13	21	27	39	95	57	35	18	9.0	11
3	e7.3	25	12	21	26	47	50	48	93	15	8.6	17
4	e7.2	13	13	23	26	43	43	46	33	15	8.6	9.7
5	e7.2	11	13	19	94	35	38	45	27	14	8.3	8.8
6	e7.1	10	12	17	64	31	34	54	25	13	7.9	8.4
7	e6.8	11	11	34	41	29	32	40	23	13	7.8	13
8	6.7	13	10	221	34	55	32	123	25	33	7.9	16
9	6.6	21	10	97	31	261	106	199	23	27	7.8	9.9
10	6.5	21	11	54	28	141	250	248	22	18	14	8.7
11	6.2	14	19	38	30	72	78	236	22	15	21	8.3
12	6.2	12	16	31	195	57	62	255	103	13	10	8.1
13	6.4	11	16	28	65	50	53	117	191	13	8.8	7.8
14	7.1	29	14	e30	48	47	48	89	93	12	13	7.8
15	7.7	32	12	e50	37	42	49	75	63	12	12	7.9
16	9.5	22	12	106	33	38	43	65	52	13	9.5	7.9
17	7.2	e20	11	50	38	34	44	58	39	13	18	8.1
18	10	e16	11	54	81	44	47	51	33	12	22	8.0
19	9.0	13	11	45	72	156	50	45	28	11	23	7.5
20	7.4	12	11	36	51	74	113	42	26	10	11	7.5
21	7.0	12	e10	30	44	245	54	38	24	10	9.7	7.7
22	5.6	29	e9.0	27	37	108	45	33	22	10	9.3	8.3
23	6.3	22	18	187	46	78	41	32	29	10	31	8.0
24	7.0	17	18	133	123	64	40	31	31	10	13	7.2
25	15	14	76	70	78	56	35	53	23	9.4	10	7.7
26	12	13	35	51	53	51	74	38	25	9.1	17	8.1
27	31	12	25	42	45	48	115	31	26	9.1	11	7.8
28	13	12	23	49	42	44	55	28	20	9.0	9.6	7.4
29	9.3	12	24	47	---	41	46	27	18	8.8	9.0	6.9
30	8.4	12	70	43	---	38	41	28	22	8.7	8.5	6.9
31	8.1	---	34	34	---	35	---	25	---	15	8.5	---
TOTAL	269.6	512	597.0	1708	1519	2151	1892	2298	1254	425.1	375.8	265.6
MEAN	8.70	17.1	19.3	55.1	54.3	69.4	63.1	74.1	41.8	13.7	12.1	8.85
MAX	31	37	76	221	195	261	250	255	191	33	31	17
MIN	5.6	10	9.0	17	26	29	32	25	18	8.7	7.8	6.9
CFSM	.38	.74	.84	2.40	2.36	3.02	2.74	3.22	1.82	.60	.53	.38
IN.	.44	.83	.97	2.76	2.46	3.48	3.06	3.72	2.03	.69	.61	.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1998, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	21.4	35.0	49.3	46.8	48.9	63.9	63.4	48.2	30.9	23.6	16.0	17.7					
MAX	66.9	60.6	165	140	93.8	171	146	114	83.7	99.0	35.3	42.7					
(WY)	1997	1993	1984	1996	1984	1994	1983	1989	1982	1984	1994	1985					
MIN	7.85	8.61	10.3	15.7	22.4	23.4	16.4	22.9	12.1	10.0	5.80	5.47					
(WY)	1983	1982	1990	1985	1992	1985	1985	1995	1995	1986	1995	1983					

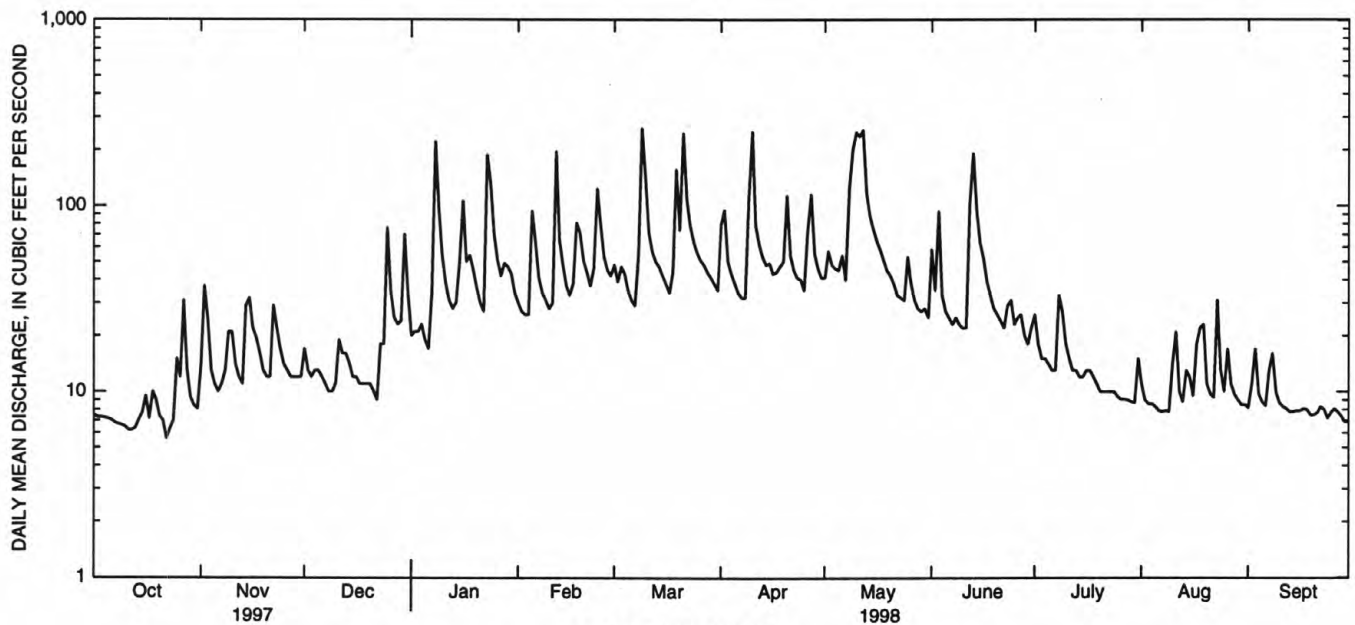
e Estimated.

SCHUYLKILL RIVER BASIN

01472199 WEST BRANCH PERKIOMEN CREEK AT HILLEGASS, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1982 - 1998	
ANNUAL TOTAL	11010.6		13267.1			
ANNUAL MEAN	30.2		36.3		38.7	
HIGHEST ANNUAL MEAN					69.5	
LOWEST ANNUAL MEAN					21.1	
HIGHEST DAILY MEAN	413	Jan 25	261	Mar 9	1760	Jan 19 1996
LOWEST DAILY MEAN	5.6	Oct 22	5.6	Oct 22	3.8	Sep 6 1995
ANNUAL SEVEN-DAY MINIMUM	a6.5	Oct 7	a6.5	Oct 7	3.9	Sep 2 1995
INSTANTANEOUS PEAK FLOW			b569	Apr 10	b4610	Jan 19 1996
INSTANTANEOUS PEAK STAGE			3.89	Apr 10	6.34	Jan 19 1996
INSTANTANEOUS LOW FLOW			4.8	Oct 22	3.4	Aug 27 1995
ANNUAL RUNOFF (CFSM)	1.31		1.58		1.68	
ANNUAL RUNOFF (INCHES)	17.81		21.46		22.86	
10 PERCENT EXCEEDS	55		74		75	
50 PERCENT EXCEEDS	19		23		24	
90 PERCENT EXCEEDS	7.2		7.9		8.1	

a Computed using estimated daily discharges.

b From rating curve extended above 560 ft³/s.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01472620 EAST BRANCH PERKIOMEN CREEK NEAR DUBLIN, PA

LOCATION.--Lat 40°24'14", long 75°14'05", Bucks County, Hydrologic Unit 02040203, on right bank 40 ft downstream from bridge on Bucks Road, 4.5 mi northeast of Perkasio, and 5.0 mi southeast of Quakertown.

DRAINAGE AREA.--4.05 mi².

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

GAGE.--Water-stage recorder, crest-stage gage and concrete control. Datum of gage is 334.12 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Diversion since August 1989 from Delaware River at Point Pleasant to Bradshaw Reservoir (Geddes Creek Basin). Pumpage from reservoir enters the stream about 0.5 mi upstream of gage. See station 01472618, Distributary from Bradshaw Reservoir, for pumpage data. Peak flows are unregulated. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 1	2300	474	4.14	May 12	0045	368	3.66
Apr. 9	2245	393	3.78	June 14	1815	374	3.69
May 8	1630	*504	*4.26				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	66	35	19	17	19	55	28	26	47	58	60
2	58	68	35	19	16	18	46	37	33	62	62	54
3	58	59	35	18	16	20	21	34	33	62	67	53
4	58	39	36	18	16	19	19	32	34	63	67	63
5	58	53	36	17	54	18	18	31	34	64	64	64
6	59	56	36	17	23	17	18	67	34	64	64	64
7	60	55	36	31	19	17	17	43	34	64	64	45
8	60	55	35	55	17	30	17	110	34	66	64	40
9	60	55	35	28	17	83	82	93	34	68	64	61
10	60	55	34	19	16	28	63	90	34	53	64	62
11	60	55	28	18	16	21	23	73	34	65	64	62
12	60	55	28	18	44	19	19	81	45	66	64	62
13	60	55	28	18	20	16	18	37	47	66	61	62
14	60	53	28	17	18	17	18	32	78	66	60	61
15	61	38	26	21	16	17	18	31	48	66	60	60
16	62	35	27	56	16	17	17	31	39	66	60	60
17	62	35	27	24	21	16	17	30	47	66	62	62
18	62	34	27	24	47	17	17	30	42	66	64	62
19	62	34	27	22	37	69	18	30	41	68	64	62
20	62	34	27	20	22	27	26	29	58	68	64	62
21	62	36	27	19	20	55	19	32	65	68	63	62
22	62	45	27	19	18	31	18	32	65	68	62	62
23	61	39	32	93	42	23	17	32	64	68	65	62
24	60	38	31	42	83	20	17	31	64	68	61	62
25	47	37	56	30	31	19	17	32	64	68	62	62
26	60	37	33	22	21	18	33	36	64	68	42	62
27	62	36	31	20	19	18	30	51	64	68	61	62
28	62	36	32	27	18	18	20	53	64	68	62	62
29	56	36	46	22	---	17	18	60	64	68	62	62
30	62	36	53	19	---	17	23	21	57	68	62	62
31	62	---	21	17	---	15	---	34	---	61	62	---
TOTAL	1856	1365	1015	809	720	756	759	1383	1444	2017	1925	1801
MEAN	59.9	45.5	32.7	26.1	25.7	24.4	25.3	44.6	48.1	65.1	62.1	60.0
MAX	62	68	56	93	83	83	82	110	78	68	67	64
MIN	47	34	21	17	16	15	17	21	26	47	42	40

01472620 EAST BRANCH PERKIOMEN CREEK NEAR DUBLIN, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	52.5	37.5	27.3	22.9	18.6	29.2	25.0	43.1	52.3	56.3	58.9	56.7
MAX	59.9	59.7	46.5	40.5	25.7	43.2	31.6	59.5	60.5	65.1	62.1	60.0
(WY)	1998	1992	1992	1996	1998	1993	1997	1997	1994	1998	1998	1998
MIN	23.8	12.8	14.5	17.8	12.3	17.2	16.4	32.2	34.8	44.5	54.2	52.5
(WY)	1990	1991	1995	1993	1991	1991	1992	1996	1992	1990	1995	1995

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1990 - 1998

ANNUAL TOTAL	16212	15850	
ANNUAL MEAN	44.4	43.4	
HIGHEST ANNUAL MEAN			40.2
LOWEST ANNUAL MEAN			44.3
HIGHEST DAILY MEAN	83	Mar 14	110
LOWEST DAILY MEAN	14	Jan 9, 14, 15a	15
ANNUAL SEVEN-DAY MINIMUM	15	Jan 9	17
INSTANTANEOUS PEAK FLOW			504
INSTANTANEOUS PEAK STAGE			4.26
10 PERCENT EXCEEDS	62		66
50 PERCENT EXCEEDS	53		41
90 PERCENT EXCEEDS	17		18

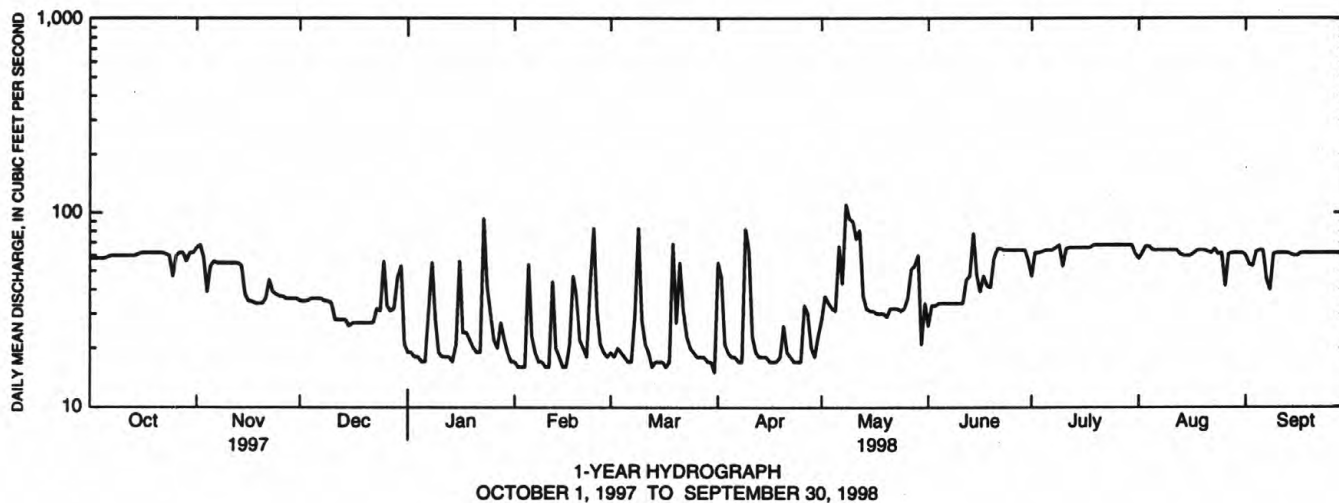
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1989, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.19	10.1	8.67	5.60	11.8	8.00	7.61	9.15	3.18	5.25	2.89	6.55
MAX	2.56	14.7	20.9	9.16	19.1	15.7	17.2	21.0	12.5	20.9	15.6	25.7
(WY)	1986	1986	1984	1986	1984	1984	1984	1984	1989	1984	1989	1989
MIN	.14	1.92	1.96	2.61	4.26	2.21	.91	.41	.090	.13	.025	.027
(WY)	1987	1985	1989	1985	1987	1985	1985	1986	1987	1985	1987	1986

SUMMARY STATISTICS WATER YEARS 1984 - 1989

ANNUAL MEAN	6.63	
HIGHEST ANNUAL MEAN	11.7	1984
LOWEST ANNUAL MEAN	3.60	1985
HIGHEST DAILY MEAN	418	Sep 20 1989
LOWEST DAILY MEAN	.00	Jul 20 1985
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 14 1985
INSTANTANEOUS PEAK FLOW	b2270	Jul 7 1984
INSTANTANEOUS PEAK STAGE	8.41	Jul 7 1984
ANNUAL RUNOFF (CFSM)	1.50	
ANNUAL RUNOFF (INCHES)	20.42	
10 PERCENT EXCEEDS	13	
50 PERCENT EXCEEDS	1.2	
90 PERCENT EXCEEDS	.06	

a Also Mar. 21, Apr. 11.

b From rating curve extended above 500 ft³/s on basis of slope-area measurement at peak flow.

SCHUYLKILL RIVER BASIN

01472810 EAST BRANCH PERKIOMEN CREEK NEAR SCHWENKSVILLE, PA

LOCATION.--Lat 40°15'31", long 75°25'45", Montgomery County, Hydrologic Unit 02040203, on left bank 600 ft upstream from Bergey's Mill bridge, and 2.0 mi east of Schwenksville.

DRAINAGE AREA.--58.7 mi².

PERIOD OF RECORD.--January 1991 to current year.

REVISED RECORD.--WDR PA-96-1: 1993-95(P).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 150 ft above sea level, from topographic map.

REMARKS.--Records fair. Diversion since August 1989 from Delaware River at Point Pleasant to Bradshaw Reservoir (Geddes Creek Basin). Pumpage from reservoir enters stream about 19 mi upstream of gage. See station 01472618, Distributary from Bradshaw Reservoir, for pumpage data. Peak flows are unregulated. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 2	0330	3,180	7.41	May 8	2100	*3,190	*7.42
Apr. 10	0200	2,920	7.19				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	109	61	e80	71	105	204	73	124	58	53	71
2	66	141	55	e65	64	91	1080	115	62	58	51	74
3	73	104	52	67	61	110	193	151	74	56	56	86
4	67	71	59	62	57	114	123	95	51	59	59	76
5	68	67	61	56	293	87	93	93	46	61	58	73
6	66	73	53	52	183	77	77	618	44	57	56	72
7	67	79	51	152	105	71	67	318	42	58	56	78
8	69	78	50	580	85	102	62	1020	42	85	56	64
9	69	86	49	313	72	1000	346	966	44	84	56	67
10	70	86	55	150	63	370	1190	790	43	65	62	76
11	70	80	57	100	58	170	229	657	38	55	68	76
12	71	77	53	81	384	118	132	775	172	62	59	74
13	72	75	55	73	126	95	95	250	193	62	58	74
14	72	111	51	61	92	87	83	147	189	61	56	74
15	76	131	46	58	73	79	79	108	265	62	56	74
16	75	83	44	455	61	68	68	87	104	62	55	75
17	69	70	45	179	66	62	61	74	225	62	164	83
18	80	61	43	158	328	69	52	66	104	60	112	76
19	73	58	41	135	317	605	59	59	67	59	91	75
20	72	55	41	102	175	253	155	53	74	59	74	76
21	72	56	41	82	152	648	76	49	68	59	72	77
22	72	177	43	73	115	373	66	49	62	59	72	83
23	72	113	74	611	141	196	59	44	67	59	85	76
24	72	84	78	697	752	132	54	42	66	59	71	75
25	98	71	321	274	383	102	48	71	62	58	73	77
26	79	68	142	167	187	90	69	56	73	57	102	78
27	119	65	104	121	136	83	391	58	79	57	78	77
28	82	62	110	177	114	75	109	61	61	58	77	76
29	74	61	127	170	---	67	80	67	58	57	74	75
30	69	59	620	116	---	60	69	67	74	57	73	76
31	74	---	174	87	---	56	---	44	---	71	73	---
TOTAL	2299	2511	2856	5554	4714	5615	5469	7123	2673	1896	2206	2264
MEAN	74.2	83.7	92.1	179	168	181	182	230	89.1	61.2	71.2	75.5
MAX	119	177	620	697	752	1000	1190	1020	265	85	164	86
MIN	66	55	41	52	57	56	48	42	38	55	51	64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1998, BY WATER YEAR (WY)

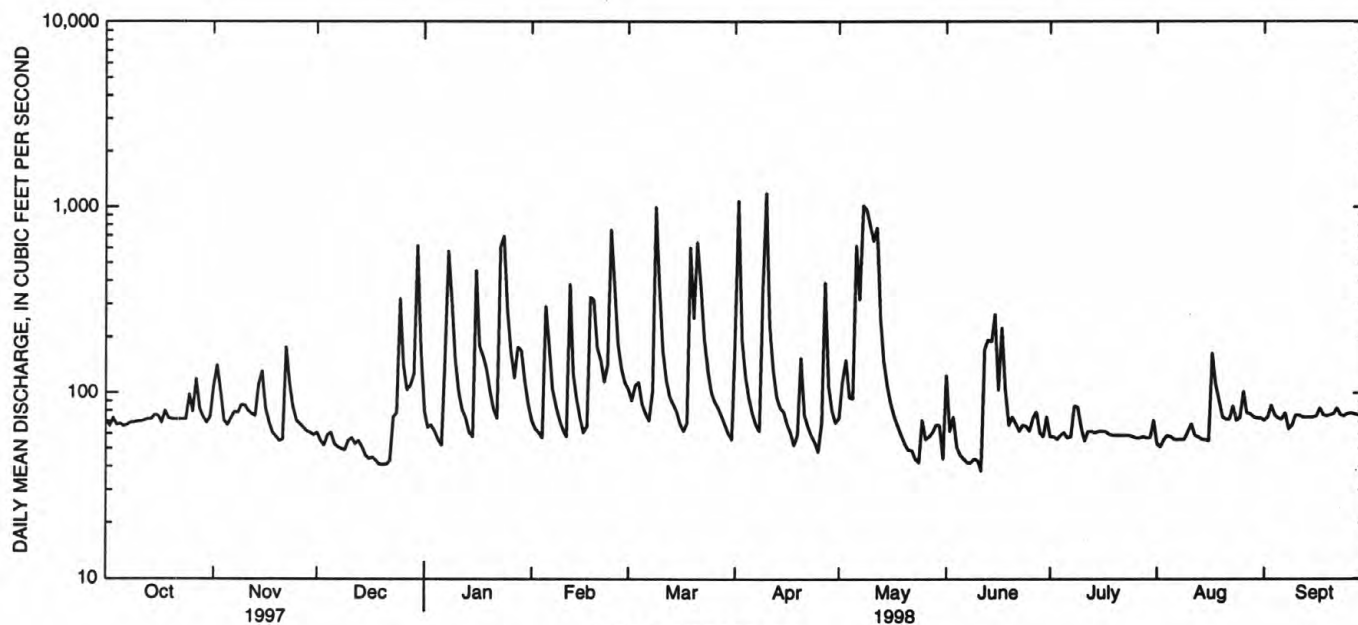
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	126	133	184	174	103	208	136	102	78.5	82.4	92.0	87.7
MAX	287	201	405	456	168	388	230	230	102	107	159	133
(WY)	1997	1994	1997	1996	1998	1994	1993	1998	1997	1996	1994	1993
MIN	74.2	83.7	52.1	70.7	60.2	119	43.2	68.1	57.8	61.2	52.5	67.2
(WY)	1998	1998	1996	1992	1992	1992	1992	1992	1993	1998	1997	1995

e Estimated.

SCHUYLKILL RIVER BASIN

01472810 EAST BRANCH PERKIOMEN CREEK NEAR SCHWENKSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1991 - 1998	
ANNUAL TOTAL	36647		45180		128	
ANNUAL MEAN	100		124		80.6	
HIGHEST ANNUAL MEAN					154	
LOWEST ANNUAL MEAN					1992	
HIGHEST DAILY MEAN	1660	Jan 25	1190	Apr 10	6020	Jan 19 1996
LOWEST DAILY MEAN	31	Aug 16, 19	38	Jun 11	28	Feb 13 1992
ANNUAL SEVEN-DAY MINIMUM	34	Aug 13	43	Dec 16	30	Feb 7 1992
INSTANTANEOUS PEAK FLOW			a3190	May 8	a12600	Oct 19 1996
INSTANTANEOUS PEAK STAGE			7.42	May 8	13.21	Oct 19 1996
10 PERCENT EXCEEDS	157		199		193	
50 PERCENT EXCEEDS	71		73		72	
90 PERCENT EXCEEDS	48		55		47	

a From rating curve extended above 3,000 ft³/s.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01473000 PERKIOMEN CREEK AT GRATERFORD, PA

LOCATION.--Lat 40°13'46", long 75°27'07", Montgomery County, Hydrologic Unit 02040203, on left bank 1,650 ft upstream from highway bridge at Graterford, 0.5 mi upstream from Lodel Creek, and 2.5 mi north of Collegeville.

DRAINAGE AREA.--279 mi².

PERIOD OF RECORD.--June 1914 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1950, published as "at Graters Ford."

REVISED RECORDS.--WSP 756: Drainage area. WSP 1171: 1935(M). WSP 1302: 1915-16, 1927-29. WSP 1382: 1932-33, 1935, 1937, 1942, 1947, 1948(M), 1949(P), 1950(M), 1951-52(P), WDR PA-91-1: 1989-90 (adjusted means and monthly runoff).

GAGE.--Water-stage recorder. Datum of gage is 112.66 ft above sea level. June 1914, to Sept. 6, 1921, nonrecording gage at site 1,650 ft downstream at datum 3.29 ft lower. Sept. 7, 1921, to Sept. 13, 1927, nonrecording gage at present site and datum.

REMARKS.--Records good. Some regulation since Dec. 21, 1956 by Green Lane Reservoir (station 01472200) 10.5 mi upstream. Diversion from the Delaware River at Point Pleasant to Bradshaw Reservoir (Geddes Creek Basin) has been pumped from the reservoir to the East Branch Perkiomen Creek since August 1989. See station 01472618, Distributary from Bradshaw Reservoir, for pumpage data. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	167	162	329	341	476	658	334	454	186	124	116
2	130	331	159	290	302	413	2940	451	253	159	107	116
3	130	272	143	247	282	506	743	510	431	148	112	143
4	130	181	150	250	269	536	495	399	265	139	114	133
5	129	152	155	232	1400	394	405	393	196	161	113	119
6	127	150	148	214	1090	337	341	1540	173	141	110	116
7	127	156	142	350	538	304	306	1090	157	133	113	120
8	127	167	137	2870	411	458	291	2580	152	203	113	131
9	127	203	130	1830	343	4740	1030	4030	149	304	112	125
10	126	220	132	776	305	2390	4830	3550	144	194	120	126
11	124	186	175	474	282	933	1220	3140	141	149	178	120
12	124	162	177	369	2970	594	676	3770	746	140	131	116
13	124	158	159	320	1030	470	512	1530	1660	131	123	114
14	125	225	148	292	560	432	436	914	1320	129	116	114
15	135	413	138	259	413	390	422	645	830	127	120	114
16	138	248	129	2050	344	337	376	522	505	127	109	114
17	135	199	e136	818	341	305	343	443	524	126	256	125
18	151	179	133	733	1180	339	346	389	331	125	210	118
19	150	167	129	616	1200	2710	339	335	244	121	169	114
20	136	159	126	467	680	1360	1230	301	226	117	136	114
21	131	155	126	372	542	3480	551	270	221	116	124	114
22	128	404	121	314	418	1860	400	241	196	116	119	126
23	121	344	185	2390	468	1020	344	208	210	117	170	121
24	121	239	239	3290	2780	661	320	207	232	117	157	116
25	168	197	1060	1220	1730	520	285	314	213	114	129	117
26	171	183	510	713	744	448	337	322	196	114	171	118
27	276	171	315	528	532	413	2130	239	233	113	163	115
28	193	159	317	689	450	377	614	219	178	110	134	113
29	152	155	306	750	---	348	420	208	e159	111	124	111
30	137	155	1920	531	---	313	357	266	169	112	121	114
31	133	---	597	421	---	295	---	182	---	135	119	---
TOTAL	4349	6257	8604	25004	21945	28159	23697	29542	10908	4335	4217	3573
MEAN	140	209	278	807	784	908	790	953	364	140	136	119
MAX	276	413	1920	3290	2970	4740	4830	4030	1660	304	256	143
MIN	121	150	121	214	269	295	285	182	141	110	107	111

e Estimated.

SCHUYLKILL RIVER BASIN

01473000 PERKIOMEN CREEK AT GRATERFORD, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	212	375	531	567	603	764	642	425	264	205	152	215
MAX	1059	1182	1869	2071	1241	2100	1759	1298	1330	1286	493	1163
(WY)	1997	1973	1997	1979	1971	1994	1983	1989	1972	1984	1971	1971
MIN	28.1	43.8	63.3	75.6	156	186	128	84.0	52.9	41.7	37.4	24.8
(WY)	1958	1958	1966	1981	1980	1985	1985	1965	1965	1965	1957	1957

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1957 - 1998

ANNUAL TOTAL	128976	170590	
ANNUAL MEAN	353	467	
HIGHEST ANNUAL MEAN			412
LOWEST ANNUAL MEAN			767
HIGHEST DAILY MEAN	5990	Jan 25	4830
LOWEST DAILY MEAN	108	Sep 7	107
ANNUAL SEVEN-DAY MINIMUM	116	Sep 4	112
INSTANTANEOUS PEAK FLOW			8710
INSTANTANEOUS PEAK STAGE			8.32
10 PERCENT EXCEEDS	609		1040
50 PERCENT EXCEEDS	212		214
90 PERCENT EXCEEDS	125		117

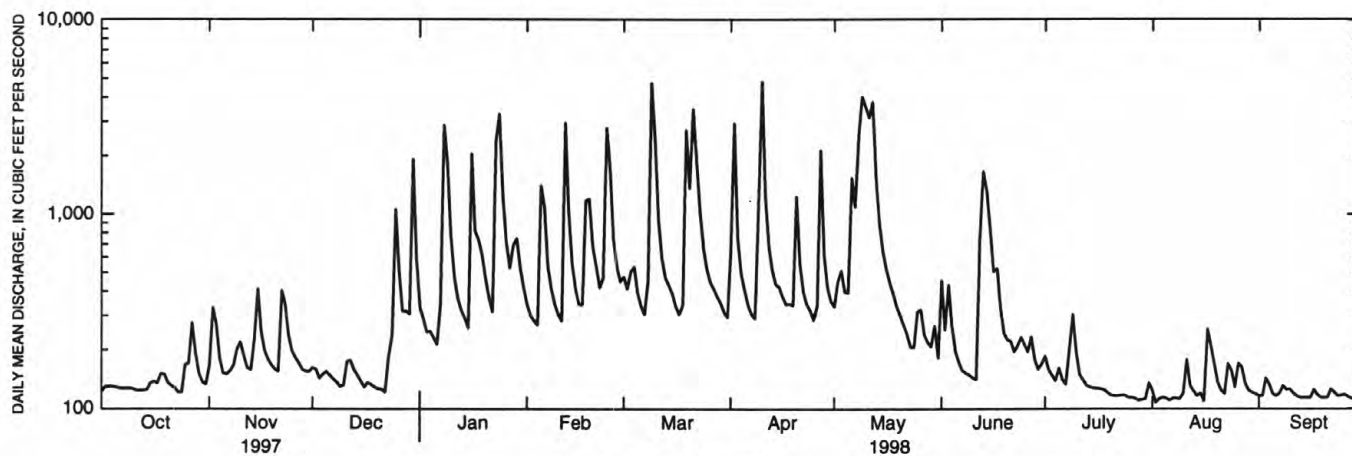
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1956, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	192	345	445	504	641	771	513	346	213	274	261	177
MAX	856	1119	1077	1336	1458	2193	1335	1395	976	1190	1378	869
(WY)	1956	1933	1928	1915	1918	1936	1952	1948	1946	1919	1955	1934
MIN	21.2	38.0	69.8	66.5	80.2	247	167	71.7	32.7	32.4	21.0	23.8
(WY)	1942	1932	1923	1925	1934	1915	1946	1941	1921	1954	1930	1932

SUMMARY STATISTICS WATER YEARS 1915 - 1956

ANNUAL MEAN	389	
HIGHEST ANNUAL MEAN	689	1956
LOWEST ANNUAL MEAN	188	1931
HIGHEST DAILY MEAN	18600	Jul 9 1935
LOWEST DAILY MEAN	3.8	Jun 25 1921
ANNUAL SEVEN-DAY MINIMUM	5.2	Jun 22 1921
INSTANTANEOUS PEAK FLOW	a39900	Jul 9 1935
INSTANTANEOUS PEAK STAGE	18.26	Jul 9 1935
INSTANTANEOUS LOW FLOW	4.7	Oct 4 1941
ANNUAL RUNOFF (CFSM)	1.40	
ANNUAL RUNOFF (INCHES)	18.96	
10 PERCENT EXCEEDS	800	
50 PERCENT EXCEEDS	166	
90 PERCENT EXCEEDS	42	

a From rating curve extended above 14,000 ft³/s on basis of slope-area measurement at 32,000 ft³/s, gage height 16.23 ft.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01473169 VALLEY CREEK AT PENNSYLVANIA TURNPIKE BRIDGE NEAR VALLEY FORGE, PA

LOCATION.--Lat 40°04'45", long 75°27'40", Chester County, Hydrologic Unit 02040202, on right bank 100 ft upstream from Pennsylvania turnpike bridge, 0.9 mi downstream from Little Valley Creek, 2.2 mi upstream from mouth, and 1.0 mi south of Valley Forge.

DRAINAGE AREA.--20.8 mi².

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 108.62 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 1	1915	*1,110	*7.48	Apr. 9	1930	880	6.96

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	49	19	20	24	31	235	34	36	25	17	13
2	14	29	18	20	24	30	91	49	28	23	16	23
3	14	20	18	19	24	57	49	36	34	22	16	26
4	14	17	20	18	25	37	46	32	28	23	15	14
5	13	16	19	18	58	32	43	31	27	22	15	13
6	13	15	17	18	31	30	41	53	26	22	15	13
7	16	17	16	28	27	30	39	34	26	21	15	16
8	13	37	18	41	25	53	39	65	25	63	15	28
9	13	37	16	25	25	148	174	102	25	31	15	14
10	14	20	21	21	24	51	90	64	25	24	19	14
11	14	17	21	20	25	41	50	78	25	22	21	13
12	14	16	17	16	46	38	45	90	81	21	15	13
13	14	16	17	22	27	36	43	56	40	20	15	13
14	14	37	16	20	25	35	42	48	38	20	15	13
15	25	23	16	25	24	33	40	45	28	20	15	13
16	16	18	16	47	24	32	39	42	31	20	14	13
17	14	17	16	25	44	31	40	41	33	21	21	14
18	20	16	16	26	50	35	37	39	28	19	39	14
19	15	16	16	22	36	106	48	38	25	18	21	13
20	14	16	16	21	30	45	57	38	24	18	15	13
21	14	17	15	20	28	155	39	35	24	18	15	13
22	14	52	15	20	27	62	38	34	23	19	14	14
23	14	22	30	128	52	48	37	33	31	18	14	13
24	14	20	18	62	77	44	35	32	25	18	14	13
25	33	19	49	39	46	41	34	32	24	16	14	13
26	31	19	20	29	35	40	40	31	50	17	13	13
27	33	18	21	27	33	39	40	31	29	17	28	13
28	17	19	22	50	32	37	34	30	25	17	14	13
29	16	19	33	31	---	36	33	31	24	16	14	12
30	15	19	58	27	---	35	32	34	36	16	13	13
31	15	---	23	26	---	34	---	29	---	24	14	---
TOTAL	515	673	653	931	948	1502	1650	1367	924	671	516	436
MEAN	16.6	22.4	21.1	30.0	33.9	48.5	55.0	44.1	30.8	21.6	16.6	14.5
MAX	33	52	58	128	77	155	235	102	81	63	39	28
MIN	13	15	15	16	24	30	32	29	23	16	13	12
CFSM	.80	1.08	1.01	1.44	1.63	2.33	2.64	2.12	1.48	1.04	.80	.70
IN.	.92	1.20	1.17	1.67	1.70	2.69	2.95	2.44	1.65	1.20	.92	.78

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1998, BY WATER YEAR (WY)

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	23.7	28.9	33.6	35.3	33.9	43.8	45.8	38.7	29.2	28.8	24.0	25.3				
MAX	61.8	48.8	103	95.8	53.5	85.9	98.8	77.5	49.9	53.1	36.6	52.9				
(WY)	1997	1987	1997	1996	1984	1994	1983	1984	1984	1996	1996	1996				
MIN	15.0	19.5	18.3	16.8	19.1	17.9	18.1	19.5	15.1	15.9	11.1	14.5				
(WY)	1987	1991	1996	1985	1992	1985	1985	1995	1995	1992	1995	1998				

SCHUYLKILL RIVER BASIN

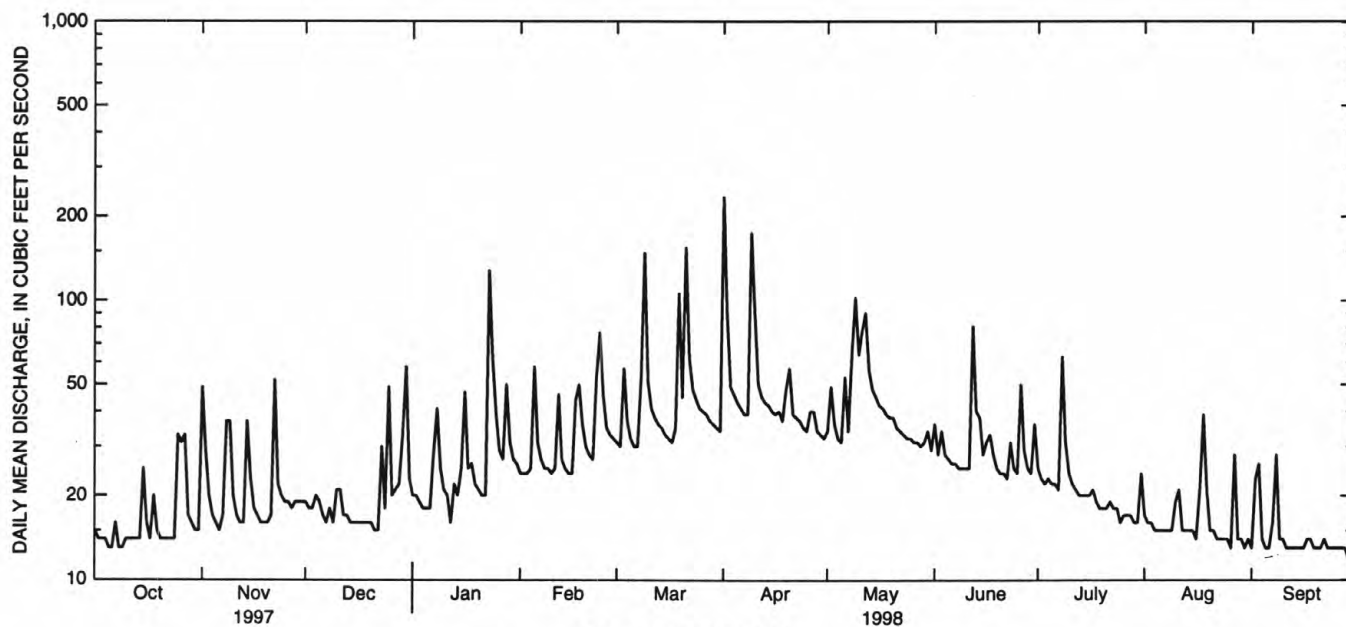
01473169 VALLEY CREEK AT PENNSYLVANIA TURNPIKE BRIDGE NEAR VALLEY FORGE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1983 - 1998	
ANNUAL TOTAL	11452		10786			
ANNUAL MEAN	31.4		29.6		32.6	
HIGHEST ANNUAL MEAN					47.7	
LOWEST ANNUAL MEAN					20.3	
HIGHEST DAILY MEAN	275	Jan 25	235	Apr 1	800	Jan 19 1996
LOWEST DAILY MEAN	13	Oct 5,6,8,9	12	Sep 29	8.6	Nov 26 1993
ANNUAL SEVEN-DAY MINIMUM	14	Oct 3	13	Sep 23	8.8	Sep 1 1995
INSTANTANEOUS PEAK FLOW			1110	Apr 1	b2200	Oct 19 1996
INSTANTANEOUS PEAK STAGE			7.48	Apr 1	c10.54	Oct 19 1996
INSTANTANEOUS LOW FLOW			a12	Aug 23	7.8	Sep 1 1995
ANNUAL RUNOFF (CFSM)	1.51		1.42		1.57	
ANNUAL RUNOFF (INCHES)	20.48		19.29		21.27	
10 PERCENT EXCEEDS	48		48		53	
50 PERCENT EXCEEDS	26		24		24	
90 PERCENT EXCEEDS	15		14		15	

a Many days.

b From rating curve extended above 1,630 ft³/s.

c From outside highwater mark.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

SCHUYLKILL RIVER BASIN

01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA

LOCATION.--Lat 40°00'54", long 75°12'24", Philadelphia County, Hydrologic Unit 02040203, on left bank 100 ft upstream from dam at Ridge Avenue, 750 ft upstream from mouth, and 1,000 ft northwest of Gustine Lake in Philadelphia.

DRAINAGE AREA.--64.0 mi².

PERIOD OF RECORD.--June 1897 to September 1903, January 1905 to July 1906, October 1965 to current year. Prior to October 1965, records furnished by Department of Public Works, City of Philadelphia. Records for 1971-74 published in WDR PA-81-1. Prior to October 1965, published as "near Philadelphia".

REVISED RECORDS.--WSP 1302: 1905: WDR PA-89-1: 1988.

GAGE.--Water-stage recorder, crest-stage gage and concrete control. Datum of gage is 26.41 ft above sea level. Prior to October 1965, water-stage recorder at about same site and datum.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 23	2330	2,070	4.84	May 8	2130	2,270	5.02
Apr. 2	0230	*2,780	*5.44				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	146	41	54	65	85	250	76	183	52	41	20
2	26	110	e41	49	63	88	947	127	67	41	34	22
3	25	58	e41	45	62	215	143	89	94	37	32	27
4	26	43	e43	46	61	125	115	74	61	73	32	25
5	25	42	e41	45	162	89	104	71	56	52	31	23
6	23	34	36	43	127	81	94	343	e55	38	30	22
7	25	36	37	64	73	77	86	136	e54	37	29	22
8	28	48	34	169	66	134	85	835	e53	118	31	108
9	25	83	29	89	64	726	237	812	e52	83	30	37
10	23	51	46	61	61	180	805	542	51	42	31	29
11	24	39	70	53	64	111	162	544	50	38	47	25
12	23	33	57	50	185	99	121	545	373	37	34	24
13	23	31	41	48	74	91	106	261	117	35	32	24
14	24	85	42	46	64	89	99	181	416	34	30	23
15	26	94	39	51	60	84	99	152	90	34	31	21
16	41	49	32	171	58	77	91	135	73	35	29	23
17	30	42	35	72	91	72	106	121	78	35	87	31
18	48	41	34	64	445	84	91	110	63	36	119	27
19	44	35	34	59	174	772	106	100	59	32	111	23
20	28	33	37	54	104	193	203	94	55	30	43	23
21	24	35	34	51	88	597	94	88	54	29	35	23
22	25	224	33	46	76	268	81	81	51	31	31	24
23	24	57	110	656	153	153	80	78	69	31	29	28
24	20	44	53	666	528	124	77	76	54	41	28	22
25	74	47	239	159	196	109	74	100	51	33	23	22
26	60	46	69	99	110	103	86	83	187	29	25	23
27	110	47	53	81	94	98	142	70	76	31	59	24
28	43	47	62	127	87	96	77	66	46	34	36	22
29	37	40	76	109	---	93	68	62	42	34	28	18
30	33	39	340	78	---	87	67	77	91	35	26	18
31	32	---	80	71	---	83	---	63	---	59	24	---
TOTAL	1046	1759	1959	3476	3455	5283	4896	6192	2821	1306	1228	803
MEAN	33.7	58.6	63.2	112	123	170	163	200	94.0	42.1	39.6	26.8
MAX	110	224	340	666	528	772	947	835	416	118	119	108
MIN	20	31	29	43	58	72	67	62	42	29	23	18
CFSM	.53	.92	.99	1.75	1.93	2.66	2.55	3.12	1.47	.66	.62	.42
IN.	.61	1.02	1.14	2.02	2.01	3.07	2.85	3.60	1.64	.76	.71	.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1998, BY WATER YEAR (WY)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	69.5	89.0	117	121	123	151	142	118	88.4	82.7	73.7	75.1																					
MAX	216	265	398	378	266	370	410	229	244	230	171	245																					
(WY)	1997	1973	1997	1979	1979	1994	1983	1984	1989	1975	1973	1971																					
MIN	23.1	17.7	22.7	24.3	37.0	40.7	41.3	50.8	32.0	24.3	19.8	23.0																					
(WY)	1966	1966	1966	1981	1969	1985	1985	1986	1986	1966	1966	1968																					

e Estimated.

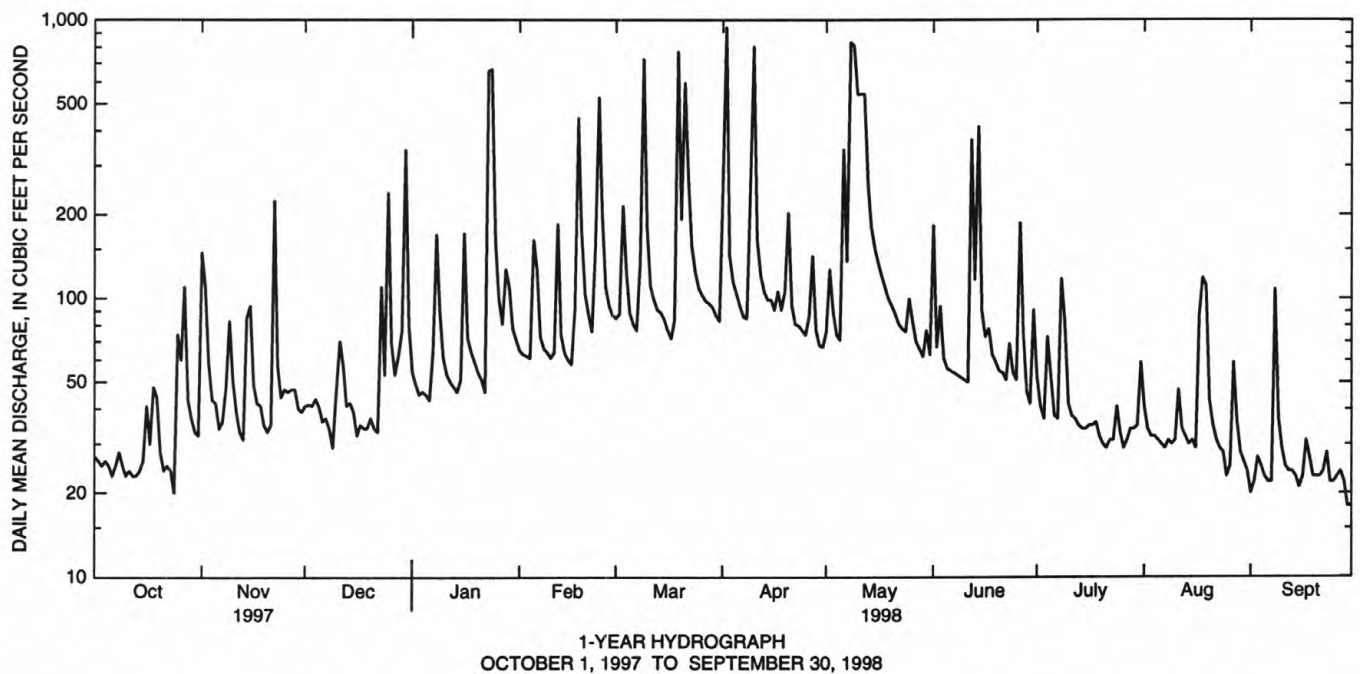
SCHUYLKILL RIVER BASIN

01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1998	
ANNUAL TOTAL	30354		34224		104	
ANNUAL MEAN	83.2		93.8		169	
HIGHEST ANNUAL MEAN					50.6	
LOWEST ANNUAL MEAN					1966	
HIGHEST DAILY MEAN	966	Jan 25	947	Apr 2	3320	Sep 27 1985
LOWEST DAILY MEAN	20	Oct 24	18	Sep 29, 30	8.8	Aug 30 1995
ANNUAL SEVEN-DAY MINIMUM	24	Oct 9	21	Sep 24	12	Aug 27 1966
INSTANTANEOUS PEAK FLOW			a2780	Apr 2	a6870	Jun 29 1973
INSTANTANEOUS PEAK STAGE			5.44	Apr 2	7.92	Jun 29 1973
INSTANTANEOUS LOW FLOW			15	Sep 30	2.0	Jul 18 1905b
ANNUAL RUNOFF (CFSM)	1.30		1.47		1.62	
ANNUAL RUNOFF (INCHES)	17.64		19.89		22.07	
10 PERCENT EXCEEDS	133		165		179	
50 PERCENT EXCEEDS	60		56		60	
90 PERCENT EXCEEDS	30		25		28	

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

b Also July 19. Minimum observed is outside computed statistical period.



SCHUYLKILL RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA. PA

LOCATION.--Lat 39°58'04", long 75°11'20", Philadelphia County, Hydrologic Unit 02040203, on right bank 150 ft upstream from Fairmont Dam, 1,500 ft upstream from bridge on Spring Garden Street in Philadelphia, and 8.7 mi upstream from mouth.

DRAINAGE AREA.--1.893 mi².

PERIOD OF RECORD.--October 1931 to current year. Records for January 1898 to December 1912, published in WSP 35, 48, 65, 82, 97, 125, 166, 202, 214, 261, 301, and 381 have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1936(M). WSP 1432: 1945. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 5.74 ft above sea level. Prior to Nov. 25, 1956, water-stage recorder at site on right bank just upstream from Fairmont Dam at same datum. Nov. 26, 1956, to Oct. 6, 1966, water-stage recorder at site on left bank 40 ft upstream from Fairmont Dam at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Still Creek Reservoir (station 01469200) since February 1933, Blue Marsh Lake (station 01470870) since April 1979, Green Lane Reservoir (station 01472200) since December 1956 and to some extent by Lake Ontelaunee. Records of discharge do not include diversion above station by city of Philadelphia for municipal water supply. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 4, 1869 reached a stage of 17.0 ft, discharge, about 135,000 ft³/s. Flood of Mar. 1, 1902 reached a stage of 14.8 ft, discharge, about 98,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18,000 ft³/s and maximum (*):

<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)
Jan. 24	0315	*19,700	*8.81	Apr. 10	0815	18,300	8.64
Apr. 2	0545	18,200	8.63	May 12	1315	18,900	8.71

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	881	1280	1150	2410	3360	4690	4290	3250	2790	2550	1180	764
2	782	1880	1260	1700	3070	4410	12600	3600	2770	2430	944	740
3	720	1770	1320	1650	2800	4600	5130	4100	2870	2080	886	927
4	737	1450	1300	1790	2560	5360	3890	3710	2750	1920	814	1080
5	972	1190	1220	1580	4020	4180	3390	3750	2020	1690	781	948
6	998	1070	1420	1520	7430	3690	3130	5230	1830	1580	769	795
7	953	1030	1170	1950	5630	3360	2940	5370	1890	1420	724	746
8	927	1230	1140	4410	4600	3400	2850	6370	1650	1950	858	1380
9	794	1700	1060	9540	4000	11300	3540	12000	1540	3640	804	974
10	665	1740	1070	8450	3600	13100	14700	12300	1510	2870	840	891
11	650	1440	1220	6360	3260	10400	8800	13300	1450	2250	1320	745
12	749	1330	1290	5100	7220	7830	6460	17000	2970	1690	1510	970
13	797	1200	1360	3890	6440	6040	5310	13600	5630	1540	1160	970
14	775	1360	1150	3100	4610	5070	4500	9940	9770	1400	930	971
15	921	1980	1120	2740	3890	4470	4010	7510	6480	1310	965	914
16	1030	1730	1040	5750	3510	4000	3760	6060	4690	1300	968	723
17	870	1430	1000	5230	3420	3600	3470	5220	4070	1280	1260	699
18	863	1290	960	4520	5710	3410	3320	4680	3380	1500	2400	674
19	901	1220	939	4420	6580	8590	3190	4160	2810	1200	1990	676
20	793	1150	913	3800	5520	7590	5650	3750	2370	1170	1630	661
21	701	1070	915	3650	4730	11800	6510	3430	2260	1090	1260	668
22	661	1970	938	3230	4200	11500	5430	3210	2170	1050	1100	708
23	632	1950	1240	5500	4010	8940	4690	2990	2150	1010	995	694
24	641	1560	1290	14000	9160	7250	4070	2790	2370	1100	1300	567
25	1010	1330	2640	7980	11500	6150	3650	2700	5480	1040	1480	612
26	1160	1270	3150	6420	8250	5400	3370	2870	4540	984	1980	611
27	1670	1110	2310	5310	6260	4750	6820	2580	4510	1010	2130	587
28	1390	1140	2310	5040	5200	4210	5130	2490	3380	967	1290	605
29	1050	1100	2300	5510	---	3850	3960	2200	3040	944	986	536
30	914	1100	5340	4230	---	3570	3420	2200	2860	893	850	562
31	810	---	3720	3740	---	3230	---	2170	---	1080	848	---
TOTAL	27417	42070	49255	144520	144540	189740	151980	174530	98000	47938	36952	23398
MEAN	884	1402	1589	4662	5162	6121	5066	5630	3267	1546	1192	780
MAX	1670	1980	5340	14000	11500	13100	14700	17000	9770	3640	2400	1380
MIN	632	1030	913	1520	2560	3230	2850	2170	1450	893	724	536

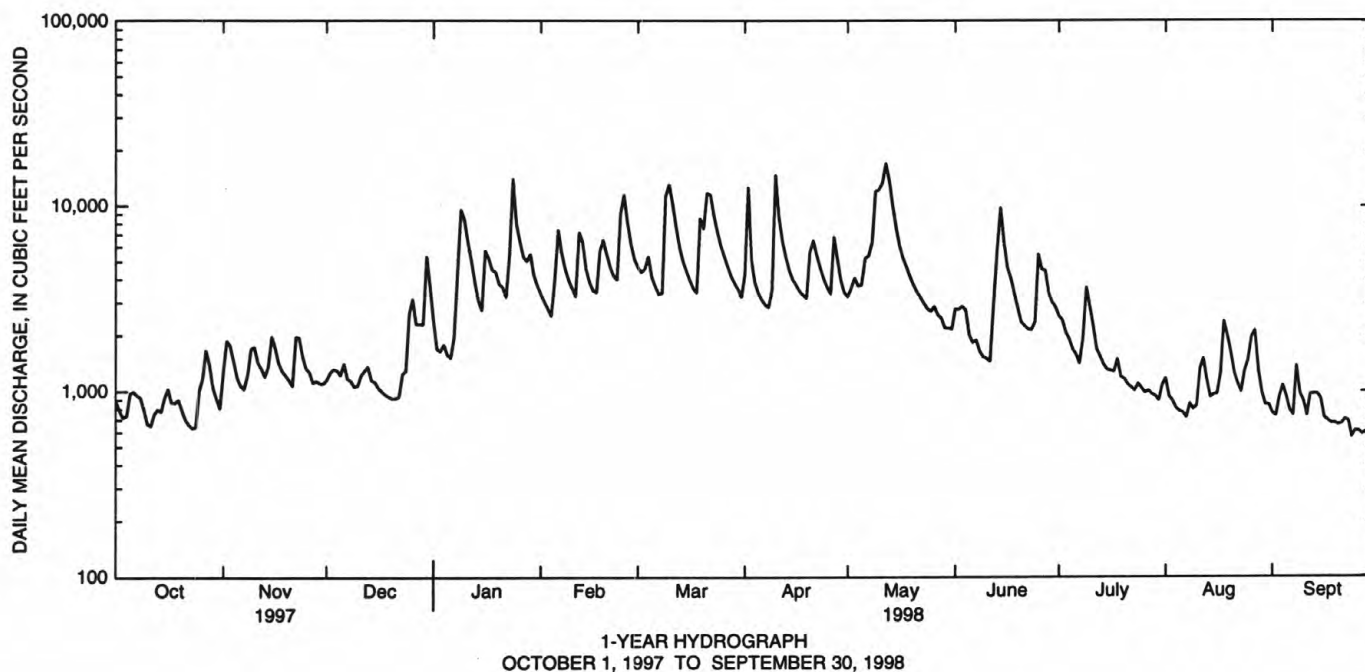
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1998, BY WATER YEAR (WY)

MEAN	1390	2352	3206	3377	3647	4865	4288	3145	2118	1645	1384	1382
MAX	5624	6272	11150	11400	8136	13320	11620	9943	11640	6434	7980	4863
(WY)	1997	1973	1997	1979	1939	1936	1983	1989	1972	1984	1933	1960
MIN	89.4	223	444	340	647	1552	1237	693	261	116	140	117
(WY)	1942	1932	1981	1981	1934	1981	1985	1965	1965	1966	1966	1932

SCHUYLKILL RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1932 - 1998	
ANNUAL TOTAL	829457		1130340		2729	
ANNUAL MEAN	2272		3097		1014	
HIGHEST ANNUAL MEAN					4791	
LOWEST ANNUAL MEAN					1014	
HIGHEST DAILY MEAN	16000	Jan 25	17000	May 12	93400	Jun 23 1972
LOWEST DAILY MEAN	627	Jul 19	536	Sep 29	.60	Sep 2 1966
ANNUAL SEVEN-DAY MINIMUM	680	Jul 15	583	Sep 24	24	Sep 28 1941
INSTANTANEOUS PEAK FLOW			19700	Jan 24	a103000	Jun 23 1972
INSTANTANEOUS PEAK STAGE			8.81	Jan 24	14.65	Jun 23 1972
INSTANTANEOUS LOW FLOW			382	Sep 30	.00	Sep 2 1966
10 PERCENT EXCEEDS	4170		6430		5890	
50 PERCENT EXCEEDS	1630		2080		1670	
90 PERCENT EXCEEDS	796		796		429	

a From rating curve extended above 92,000 ft³/s.

SCHUYLKILL RIVER BASIN

LAKES AND RESERVOIRS IN SCHUYLKILL RIVER BASIN

01469200 STILL CREEK RESERVOIR.--Lat 40°51'25", long 75°59'30", Schuylkill County, Hydrologic Unit 02040106, at dam on Still Creek, 1.0 mi upstream from mouth, and 2.3 mi north of Hometown. DRAINAGE AREA, 7.19 mi². PERIOD OF RECORD, January 1933 to current year. GAGE, nonrecording gage. Datum of gage is sea level (levels by Panther Valley Water Co.).

REMARKS.--Reservoir formed by earthfill dam with ungated concrete spillway at elevation 1,182.00 ft. Storage began February 1933. Capacity at elevation 1,182.00 ft is 8,290 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation by valves on pipe through dam.

COOPERATION.--Records provided by the borough of Tamaqua.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,570 acre-ft, Oct. 15, 1955, elevation, 1,182.92 ft, but may have been greater during 1950 or 1951 water years; minimum contents (after first filling), 588 acre-ft, Dec. 8, 1944, elevation, 1,136.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 8,340 acre-ft, Apr. 30, elevation, 1,182.2 ft; minimum contents, 7,820 acre-ft, Sept. 30, elevation, 1,180.3 ft.

01470870 BLUE MARSH LAKE.--Lat 40°22'45", long 76°01'59", Berks County, Hydrologic Unit 02040203, at dam on Tulpehocken Creek, 0.8 mi upstream from gaging station on Tulpehocken Creek (station 01470960), 1.0 mi northeast of Blue Marsh, 1.9 mi upstream from Rebers Bridge, and 5.1 mi southeast of Bernville. DRAINAGE AREA, 175 mi². PERIOD OF RECORD, April 1979 to current year. GAGE, water-stage recorder (U.S. Army Corps of Engineers datum).

REMARKS.--Lake formed by earthfill dam with ungated concrete spillway at elevation 307.00 ft. Storage began April 23, 1979. Capacity at elevation 307.00 ft is 50,000 acre-ft. Dead storage is 3,000 acre-ft. Lake is used for flood control, water supply, and recreation. Figures herein represent total contents. Satellite telemetry at station.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,480 acre-ft, Apr. 17, 1983, elevation, 301.65 ft; minimum contents (after first filling), 13,150 acre-ft, Mar. 18, 1994, elevation, 279.88 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,880 acre-ft, June 27, elevation, 291.68 ft; minimum contents, 16,580 acre-ft, Jan. 12, elevation, 283.90.

01472200 GREEN LANE RESERVOIR.--Lat 40°20'30", long 75°28'45", Montgomery County, Hydrologic Unit 02040203, at dam on Perkiomen Creek, 0.4 mi west of Green Lane, and 2.1 mi upstream from Unami Creek. DRAINAGE AREA, 70.9 mi². PERIOD OF RECORD, December 1956 to current year. GAGE, water-stage recorder. Datum of gage is sea level (levels by Philadelphia Suburban Water Co.).

REMARKS.--Reservoir formed by concrete, gravity-type dam with ungated spillway at elevation 286.00 ft. Storage began December 21, 1956. Capacity at elevation 286.00 ft is 13,430 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation by valves on pipe through dam.

COOPERATION.--Records provided by Philadelphia Suburban Water Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 17,030 acre-ft, June 23, 1972, elevation, 290.05 ft; minimum contents (after first filling), 1,270 acre-ft, Aug. 25, 1957, elevation, 251.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,160 acre-ft, May 12, elevation, 286.83 ft; minimum contents, 11,140 acre-ft, Sept. 30, elevation, 283.15 ft.

01472618 DISTRIBUTARY FROM BRADSHAW RESERVOIR.--Lat 40°24'50", long 75°13'13", Bucks County, Hydrologic Unit 02040203, about 0.5 mi upstream from station 01472620, East Branch Perkiomen Creek near Dublin, Pa.

REMARKS.--Water from the Delaware River near Point Pleasant is diverted to Bradshaw Reservoir located in Geddes Run Basin on Tohickon Creek, a tributary to the Delaware River, for consumptive use by the Philadelphia Electric Company. Figures in this table represent the equivalent monthly mean streamflow, in cubic feet per second, diverted from Bradshaw Reservoir to the East Branch Perkiomen Creek.

COOPERATION.--Records provided by Philadelphia Electric Company.

SCHUYLKILL RIVER BASIN

LAKES AND RESERVOIRS IN SCHUYLKILL RIVER BASIN--Continued

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)	Elevation (feet)	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01469200 Still Creek Reservoir</u>				<u>01470870 Blue Marsh Lake</u>		
Sept. 30.....	1,181.5	8,150	--	289.60	22,440	--
Oct. 31.....	1,180.8	7,960	- 3.1	285.19	17,810	- 75.3
Nov. 30.....	1,180.7	7,930	- 0.5	285.26	17,870	+ 1.0
Dec. 31.....	1,180.7	7,930	0	285.01	17,630	- 3.9
CAL YR 1997	--	--	- 0.7	--	--	0
Jan. 31.....	1,182.2	8,340	+ 6.7	285.02	17,640	+ 0.2
Feb. 28.....	1,182.2	8,340	0	285.14	17,760	+ 2.2
Mar. 31.....	1,182.2	8,340	0	286.19	18,790	+ 16.8
Apr. 31.....	1,182.2	8,340	0	290.01	22,910	+ 69.2
May 31.....	1,182.2	8,340	0	290.19	23,110	+ 3.3
June 30.....	1,182.1	8,320	- 0.3	290.29	23,230	+ 2.0
July 31.....	1,182.0	8,290	- 0.5	290.04	22,940	- 4.7
Aug. 31.....	1,180.9	7,990	- 4.9	287.73	20,390	- 41.5
Sept. 30.....	1,180.3	7,820	- 2.9	285.47	18,080	- 38.8
WTR YR 1998.....	--	--	- 0.5	--	--	- 6.0
<u>01472200 Green Lane Reservoir</u>						
Sept. 30.....	285.22	12,740	--			
Oct. 31.....	284.48	12,130	- 9.9			
Nov. 30.....	284.22	11,920	- 3.5			
Dec. 31.....	285.88	13,320	+22.8			
CAL YR 1997.....	--	--	- 0.3			
Jan. 31.....	286.07	13,490	+ 2.8			
Feb. 28.....	286.11	13,530	+ 0.7			
Mar. 31.....	286.05	13,480	- 0.8			
Apr. 30.....	286.07	13,490	+ 0.2			
May 31.....	286.00	13,430	- 1.0			
June 30.....	285.95	13,390	- 0.7			
July 31.....	285.26	12,770	-10.1			
Aug. 31.....	284.78	12,370	- 6.5			
Sept. 30.....	283.15	11,140	-20.7			
WTR YR 1998.....	--	--	- 2.2			
Date	Monthly Mean Discharge (equivalent in ft ³ /s)					
<u>01472618 Distributary from Bradshaw Reservoir</u>						
Oct 1997.....	60.6					
Nov.....	45.4					
Dec.....	28.8					
Jan 1998.....	10.7					
Feb.....	10.8					
Mar.....	11.2					
Apr.....	12.2					
May.....	28.8					
June.....	45.0					
July.....	63.1					
Aug.....	61.4					
Sept.....	60.3					

DELAWARE RIVER BASIN

01474703 DELAWARE RIVER AT FORT MIFFLIN AT PHILADELPHIA, PA

LOCATION.--Lat 39°52'45", long 75°12'11", Philadelphia County, Hydrologic Unit 02040202, on right bank at outer end of L-shaped pier at Fort Mifflin, 0.4 mi downstream from mouth of Schuylkill River, and at Philadelphia.

DRAINAGE AREA.--10,000 mi², approximately.

PERIOD OF RECORD.--Water years 1970-76, 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1970 to December 1971, February 1981 to current year.

WATER TEMPERATURE: June 1972 to June 1976, February 1981 to current year.

INSTRUMENTATION.--Water-quality monitor July 1970 to June 1976. Since 1986, probes (in situ system) interfaced with a data collection platform.

REMARKS.--Data collection discontinued during winter months. Other interruptions in the record were due to malfunctions of the recording or monitoring instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,230 microsiemens, Oct. 27, 1981; minimum, 90 microsiemens, Apr. 11, 17, 19, 29, 1983, Apr. 29, 1984.

WATER TEMPERATURE: Maximum, 31.0°C, Aug. 4-6, 13, 1975; minimum, 0.5°C, Feb. 5, 1981.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	405	341	365	585	431	459	409	320	343	---	---	---
2	402	346	366	539	395	469	375	319	334	---	---	---
3	408	348	366	488	408	449	372	304	325	---	---	---
4	389	360	375	472	402	436	366	304	321	---	---	---
5	400	354	375	448	383	415	369	307	319	---	---	---
6	392	356	375	436	384	409	394	294	329	---	---	---
7	397	342	382	450	386	419	432	313	341	---	---	---
8	407	352	383	519	396	441	400	297	332	---	---	---
9	409	366	386	453	376	425	348	297	314	---	---	---
10	431	386	406	464	374	420	---	---	---	---	---	---
11	441	347	398	431	384	404	---	---	---	---	---	---
12	438	370	407	423	357	395	---	---	---	---	---	---
13	458	388	411	415	367	389	---	---	---	---	---	---
14	480	396	424	462	366	400	---	---	---	---	---	---
15	482	406	434	454	367	407	---	---	---	---	---	---
16	475	408	440	468	340	405	---	---	---	---	---	---
17	526	417	456	408	347	374	---	---	---	---	---	---
18	599	427	475	389	344	367	---	---	---	---	---	---
19	658	432	490	382	351	369	---	---	---	---	---	---
20	573	448	492	380	347	367	---	---	---	---	---	---
21	603	456	498	377	347	361	---	---	---	---	---	---
22	547	453	484	403	342	371	---	---	---	---	---	---
23	541	440	474	391	345	362	---	---	---	---	---	---
24	546	424	470	415	311	365	---	---	---	---	---	---
25	519	440	476	369	330	348	---	---	---	---	---	---
26	555	449	484	356	321	343	---	---	---	---	---	---
27	561	459	495	399	310	342	---	---	---	---	---	---
28	519	418	463	348	302	329	---	---	---	---	---	---
29	475	410	444	375	314	335	---	---	---	---	---	---
30	464	417	435	357	311	332	---	---	---	---	---	---
31	494	415	445	---	---	---	---	---	---	---	---	---
MONTH	658	341	431	585	302	390	432	294	329	---	---	---

DELAWARE RIVER BASIN

01474703 DELAWARE RIVER AT FORT MIFFLIN AT PHILADELPHIA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	274	209	235	261	187	211
2	---	---	---	---	---	---	315	205	241	280	189	224
3	---	---	---	---	---	---	215	189	201	294	186	233
4	---	---	---	---	---	---	218	183	200	296	197	237
5	---	---	---	---	---	---	257	192	213	312	208	247
6	---	---	---	---	---	---	293	190	227	303	213	249
7	---	---	---	---	---	---	270	200	222	307	209	259
8	---	---	---	---	---	---	244	201	216	300	223	257
9	---	---	---	---	---	---	267	203	221	270	184	242
10	---	---	---	---	---	---	330	191	261	226	172	202
11	---	---	---	---	---	---	223	178	202	223	163	203
12	---	---	---	---	---	---	256	188	212	220	160	198
13	---	---	---	---	---	---	274	201	240	209	164	191
14	---	---	---	---	---	---	272	210	234	225	169	204
15	---	---	---	---	---	---	264	201	228	231	164	197
16	---	---	---	---	---	---	---	---	---	237	156	192
17	---	---	---	---	---	---	259	179	207	240	156	194
18	---	---	---	---	---	---	254	179	203	234	161	190
19	---	---	---	---	---	---	261	180	210	241	167	193
20	---	---	---	---	---	---	272	184	221	246	172	198
21	---	---	---	---	---	---	305	204	248	248	182	206
22	---	---	---	---	---	---	303	202	242	245	184	206
23	---	---	---	---	---	---	270	201	234	259	189	213
24	---	---	---	---	---	---	295	207	246	261	194	216
25	---	---	---	250	191	230	284	209	241	275	200	226
26	---	---	---	264	204	237	281	202	228	302	200	238
27	---	---	---	274	216	247	300	187	236	333	213	251
28	---	---	---	278	209	237	309	203	249	338	217	257
29	---	---	---	276	205	235	259	196	217	319	219	251
30	---	---	---	279	207	231	250	166	203	332	223	259
31	---	---	---	274	206	229	---	---	---	327	224	257
MONTH	---	---	---	279	191	235	330	166	225	338	156	223

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	310	235	263	281	204	227	321	246	264	382	342	353
2	333	241	272	294	206	229	333	252	271	376	328	352
3	341	238	272	299	199	229	302	251	267	406	339	365
4	319	248	270	308	207	236	297	254	266	395	350	365
5	313	245	268	339	205	241	277	250	262	394	358	368
6	320	249	270	335	198	234	289	255	265	377	352	362
7	352	251	276	287	208	234	299	258	268	389	348	361
8	349	254	286	337	206	237	303	261	272	398	347	366
9	342	260	283	362	209	266	317	261	274	383	358	369
10	316	262	280	363	223	272	314	265	276	395	359	371
11	301	263	276	330	230	256	374	272	292	394	363	375
12	341	266	283	305	223	243	380	279	305	409	352	378
13	387	274	312	279	207	227	396	281	311	401	367	384
14	388	256	311	271	203	216	355	283	306	426	379	395
15	278	224	255	273	204	222	369	288	309	425	365	398
16	256	223	239	265	195	215	381	286	315	425	378	403
17	303	228	252	274	194	218	390	291	319	439	380	405
18	301	225	254	279	202	221	549	306	380	446	386	412
19	278	194	233	278	204	227	528	318	380	466	390	421
20	280	182	219	266	205	222	456	323	352	476	395	425
21	267	179	206	255	210	223	436	319	346	469	401	426
22	269	173	203	279	208	233	389	321	339	470	402	434
23	271	180	204	264	214	229	367	321	334	472	416	435
24	268	174	205	269	222	235	380	323	339	482	414	444
25	327	183	235	274	224	238	357	320	336	488	424	447
26	342	197	249	278	228	241	392	315	344	488	428	447
27	331	197	238	267	228	237	438	333	360	493	430	448
28	290	199	227	272	230	244	404	327	354	478	427	444
29	298	199	234	278	233	248	379	334	349	490	423	450
30	284	205	232	324	237	259	390	332	352	515	424	461
31	---	---	---	331	244	264	378	338	351	---	---	---
MONTH	388	173	254	363	194	236	549	246	315	515	328	402

DELAWARE RIVER BASIN

01474703 DELAWARE RIVER AT FORT MIFFLIN AT PHILADELPHIA, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	20.0	19.5	20.0	14.5	14.0	14.5	8.0	7.0	7.5	---	---	---
2	19.5	19.0	19.5	14.5	14.0	14.5	7.5	6.5	7.0	---	---	---
3	19.5	19.0	19.0	14.5	14.0	14.0	7.0	6.5	6.5	---	---	---
4	19.5	19.0	19.0	14.0	13.5	14.0	7.0	6.5	6.5	---	---	---
5	20.0	19.0	19.5	14.0	13.5	13.5	7.0	6.5	6.5	---	---	---
6	20.0	19.5	19.5	13.5	13.0	13.5	6.5	6.0	6.0	---	---	---
7	20.0	19.5	20.0	13.5	13.0	13.0	6.0	5.5	6.0	---	---	---
8	20.5	19.5	20.0	13.0	12.5	13.0	6.0	5.5	6.0	---	---	---
9	20.5	19.5	20.0	13.0	12.5	12.5	6.0	5.5	5.5	---	---	---
10	20.5	20.0	20.5	12.5	12.0	12.5	---	---	---	---	---	---
11	20.5	20.0	20.0	12.5	11.5	12.0	---	---	---	---	---	---
12	20.5	20.0	20.0	12.0	11.5	12.0	---	---	---	---	---	---
13	20.0	19.5	20.0	11.5	11.0	11.5	---	---	---	---	---	---
14	20.0	20.0	20.0	11.5	10.5	11.0	---	---	---	---	---	---
15	20.0	19.5	19.5	11.0	10.0	10.5	---	---	---	---	---	---
16	19.5	19.0	19.5	10.5	9.5	10.0	---	---	---	---	---	---
17	19.0	18.5	19.0	10.0	9.0	9.5	---	---	---	---	---	---
18	19.0	18.5	19.0	9.5	8.5	9.0	---	---	---	---	---	---
19	18.5	18.0	18.5	9.5	8.5	9.0	---	---	---	---	---	---
20	18.0	18.0	18.0	9.0	8.5	9.0	---	---	---	---	---	---
21	18.0	17.5	17.5	9.0	8.5	9.0	---	---	---	---	---	---
22	17.5	16.5	17.0	9.0	8.5	8.5	---	---	---	---	---	---
23	17.0	16.0	16.5	9.0	8.5	8.5	---	---	---	---	---	---
24	16.5	16.0	16.0	8.5	7.5	8.0	---	---	---	---	---	---
25	16.0	15.5	16.0	8.0	7.5	8.0	---	---	---	---	---	---
26	15.5	15.0	15.5	8.0	7.5	7.5	---	---	---	---	---	---
27	15.5	15.0	15.5	8.0	7.0	7.5	---	---	---	---	---	---
28	15.0	14.5	15.0	8.0	7.5	7.5	---	---	---	---	---	---
29	14.5	14.0	14.5	8.0	7.0	7.5	---	---	---	---	---	---
30	14.5	14.0	14.0	8.0	7.5	7.5	---	---	---	---	---	---
31	14.5	14.0	14.0	---	---	---	---	---	---	---	---	---
MONTH	20.5	14.0	18.1	14.5	7.0	10.6	8.0	5.5	6.4	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	15.0	11.5	13.0	15.0	14.0	14.5
2	---	---	---	---	---	---	17.5	12.5	15.0	15.5	14.5	15.0
3	---	---	---	---	---	---	16.0	13.5	14.5	16.5	14.5	15.5
4	---	---	---	---	---	---	15.5	14.0	14.5	17.0	15.0	16.0
5	---	---	---	---	---	---	15.0	14.0	14.5	17.5	15.5	16.0
6	---	---	---	---	---	---	14.5	13.5	14.0	17.0	15.5	16.5
7	---	---	---	---	---	---	14.0	13.5	14.0	18.0	16.0	17.0
8	---	---	---	---	---	---	14.0	13.5	14.0	17.0	16.5	17.0
9	---	---	---	---	---	---	14.0	12.5	13.5	16.5	16.0	16.5
10	---	---	---	---	---	---	13.5	10.5	12.5	16.5	15.0	15.5
11	---	---	---	---	---	---	12.0	9.5	11.0	16.0	15.0	15.0
12	---	---	---	---	---	---	12.0	10.0	11.0	15.5	14.0	14.5
13	---	---	---	---	---	---	12.5	11.0	11.5	15.0	13.5	14.0
14	---	---	---	---	---	---	13.0	11.5	12.0	15.5	14.0	14.5
15	---	---	---	---	---	---	13.5	11.5	12.5	16.5	14.5	15.5
16	---	---	---	---	---	---	---	---	---	17.5	15.0	16.0
17	---	---	---	---	---	---	15.0	12.0	13.0	18.0	16.0	17.0
18	---	---	---	---	---	---	15.0	13.0	14.0	19.0	16.5	17.5
19	---	---	---	---	---	---	15.5	13.5	14.0	20.0	17.5	18.5
20	---	---	---	---	---	---	16.0	13.5	14.5	20.5	18.0	19.0
21	---	---	---	---	---	---	15.5	14.0	14.5	21.5	19.0	20.0
22	---	---	---	---	---	---	14.5	14.0	14.5	21.0	19.0	20.0
23	---	---	---	---	---	---	14.5	14.0	14.5	21.5	19.5	20.0
24	---	---	---	---	---	---	15.0	14.5	14.5	21.5	19.5	20.5
25	---	---	---	7.0	6.0	6.5	15.0	14.5	14.5	21.5	20.0	20.5
26	---	---	---	7.5	6.5	7.0	15.0	14.0	14.5	21.5	20.0	21.0
27	---	---	---	9.0	7.0	8.0	15.0	14.0	14.5	21.5	20.5	21.0
28	---	---	---	10.5	7.5	8.5	14.5	13.5	14.0	22.0	21.0	21.5
29	---	---	---	11.0	8.5	10.0	14.0	13.5	13.5	23.0	21.0	21.5
30	---	---	---	13.0	9.0	11.0	14.5	13.5	14.0	23.0	21.5	22.0
31	---	---	---	14.0	10.0	12.0	---	---	---	24.0	22.0	22.5
MONTH	---	---	---	14.0	6.0	9.0	17.5	9.5	13.7	24.0	13.5	17.8

DELAWARE RIVER BASIN

01474703 DELAWARE RIVER AT FORT MIFFLIN AT PHILADELPHIA, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	24.0	22.5	23.0	25.0	24.0	24.5	27.5	26.5	26.5	27.5	26.5	27.0
2	24.5	22.5	23.5	25.5	24.0	24.5	27.5	26.5	27.0	27.0	26.5	26.5
3	24.5	22.5	23.0	26.0	24.5	25.0	28.0	26.5	27.0	27.0	26.5	26.5
4	23.5	22.5	23.0	25.5	24.5	25.0	28.0	26.5	27.0	27.0	26.5	26.5
5	23.0	22.0	22.5	26.0	25.0	25.0	28.0	26.5	27.0	26.5	26.0	26.5
6	22.5	22.0	22.0	25.5	25.0	25.0	27.5	26.5	27.0	26.5	26.0	26.0
7	22.0	21.5	22.0	25.5	25.0	25.0	27.0	26.5	27.0	26.5	26.0	26.0
8	22.0	21.5	21.5	25.0	24.5	25.0	27.5	26.5	27.0	26.0	25.5	26.0
9	22.0	21.0	21.5	25.5	24.5	25.0	27.5	27.0	27.0	25.5	24.5	25.0
10	21.5	21.0	21.5	25.0	24.5	25.0	27.5	27.0	27.0	24.5	24.0	24.5
11	21.5	21.0	21.0	25.0	24.5	24.5	27.5	27.0	27.0	24.5	24.0	24.0
12	21.0	21.0	21.0	25.0	24.0	24.5	28.0	27.0	27.5	25.0	23.5	24.0
13	21.5	20.5	21.0	25.5	24.0	24.5	28.0	27.0	27.0	25.0	24.0	24.5
14	21.5	20.0	20.5	25.0	24.0	24.5	27.5	27.0	27.0	25.0	24.0	24.5
15	21.0	20.0	20.5	25.5	24.5	25.0	27.5	26.5	27.0	24.5	24.0	24.5
16	21.5	20.5	21.0	26.0	24.5	25.0	27.5	27.0	27.0	25.0	24.5	24.5
17	21.5	20.5	21.0	26.5	25.0	25.5	27.5	27.0	27.0	24.5	24.5	24.5
18	22.0	20.5	21.0	26.5	25.5	25.5	27.5	27.0	27.0	24.5	24.5	24.5
19	23.5	21.0	21.5	27.0	25.5	26.0	27.0	26.5	26.5	24.5	24.0	24.5
20	23.0	21.0	22.0	26.5	26.0	26.0	26.5	26.0	26.5	25.0	24.0	24.5
21	24.0	21.5	22.5	27.0	26.0	26.5	26.5	26.0	26.0	25.0	24.5	24.5
22	23.5	22.0	22.5	27.0	26.5	26.5	26.5	26.0	26.0	25.0	24.5	24.5
23	24.0	22.0	22.5	27.0	26.5	27.0	27.0	26.0	26.5	24.5	23.5	24.0
24	24.0	22.5	23.0	27.0	26.5	27.0	27.0	26.0	26.5	24.0	23.0	23.5
25	25.0	23.0	24.0	27.0	26.5	27.0	27.0	26.5	26.5	23.5	23.0	23.0
26	26.0	23.5	24.5	27.5	26.5	27.0	27.0	26.5	26.5	23.5	23.0	23.5
27	26.0	24.0	24.5	27.5	26.5	27.0	27.0	26.5	27.0	24.0	23.0	23.5
28	25.5	24.0	24.5	27.5	26.5	26.5	27.5	26.5	27.0	24.0	23.0	23.5
29	25.0	24.5	24.5	28.0	26.5	27.0	27.5	26.5	27.0	23.5	23.0	23.0
30	25.5	24.5	24.5	27.5	26.5	27.0	27.5	26.5	27.0	23.0	23.0	23.0
31	---	---	---	27.5	26.5	27.0	27.5	26.5	27.0	---	---	---
MONTH	26.0	20.0	22.4	28.0	24.0	25.7	28.0	26.0	26.8	27.5	23.0	24.7

CRUM CREEK BASIN

01475850 CRUM CREEK NEAR NEWTOWN SQUARE, PA

LOCATION.--Lat 39°58'35", long 75°26'13", Delaware County, Hydrologic Unit 02040202, at Castle Rock bridge on State Highway 3, 0.6 mi upstream from Preston Run, 0.8 mi upstream from Springton Reservoir, and 2.0 mi west of Newtown Square.

DRAINAGE AREA.--15.8 mi².

PERIOD OF RECORD.--October 1981 to current year. Occasional low-flow measurements, water years 1932, 1949, 1970-1977, and annual maximum 1977-1981.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 207.75 ft above sea level.

REMARKS.--Records fair. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 23	1845	*526	*5.34				

(No peaks above base discharge.)

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	39	13	17	19	24	57	20	20	12	6.3	3.7
2	5.0	24	11	15	18	22	62	25	15	9.8	4.9	6.8
3	5.0	15	11	15	18	57	29	23	16	9.3	4.7	17
4	5.2	10	14	15	19	37	28	20	15	13	4.4	5.5
5	4.5	8.9	13	14	57	26	26	19	14	11	3.9	4.3
6	4.4	8.6	11	13	31	23	25	32	14	9.2	3.7	3.9
7	4.2	9.7	10	e20	22	22	24	22	13	8.6	3.6	4.1
8	3.9	28	10	54	20	39	24	59	13	29	3.7	11
9	4.1	30	10	31	19	143	104	109	13	18	3.4	4.6
10	4.1	16	13	19	18	44	86	76	13	12	4.4	3.9
11	4.1	12	20	16	18	31	35	68	13	9.7	11	3.7
12	4.0	10	13	15	36	27	29	88	54	8.9	5.8	3.6
13	4.3	9.6	11	15	21	26	27	43	25	8.5	4.9	3.3
14	4.8	27	10	13	18	26	26	32	31	8.3	4.8	3.3
15	8.9	25	9.9	16	17	24	26	28	18	8.1	5.1	3.2
16	7.4	14	9.8	51	16	23	25	26	16	8.1	4.6	3.3
17	4.3	12	9.5	22	34	22	27	24	17	7.7	5.6	5.3
18	7.3	10	9.4	23	64	27	24	23	14	7.4	21	3.7
19	5.5	10	9.5	20	36	132	28	22	13	6.9	14	3.3
20	4.4	9.9	9.4	17	25	43	49	21	12	6.8	5.6	3.3
21	4.2	11	8.7	15	22	156	26	20	12	6.6	4.6	3.5
22	4.2	62	8.9	15	20	58	24	19	12	6.9	4.5	4.0
23	4.2	18	27	185	42	40	23	18	15	6.8	4.3	3.8
24	4.8	13	14	93	97	34	23	18	13	6.3	4.3	3.2
25	15	12	62	41	50	31	21	18	12	5.5	3.8	3.2
26	11	11	20	28	29	30	22	18	17	5.4	3.6	3.8
27	25	11	17	25	25	30	24	17	15	5.4	16	3.6
28	7.8	11	19	46	24	28	20	17	11	4.9	5.7	3.1
29	6.0	12	25	33	---	27	20	17	11	4.8	4.2	2.7
30	5.6	12	93	25	---	26	19	19	15	4.7	3.9	4.3
31	5.3	---	26	21	---	25	---	16	---	8.7	4.3	---
TOTAL	194.0	501.7	548.1	948	835	1303	983	977	492	278.3	184.6	136.0
MEAN	6.26	16.7	17.7	30.6	29.8	42.0	32.8	31.5	16.4	8.98	5.95	4.53
MAX	25	62	93	185	97	156	104	109	54	29	21	17
MIN	3.9	8.6	8.7	13	16	22	19	16	11	4.7	3.4	2.7
CFSM	.40	1.06	1.12	1.94	1.89	2.66	2.07	1.99	1.04	.57	.38	.29
IN.	.46	1.18	1.29	2.23	1.97	3.07	2.31	2.30	1.16	.66	.43	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1998, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	15.2	21.4	27.0	27.9	28.4	36.5	34.0	26.7	19.3	16.6	12.6	12.2					
MAX	53.4	37.3	92.6	63.0	42.7	95.0	76.8	58.9	43.8	36.2	24.3	24.9					
(WY)	1997	1987	1997	1996	1984	1994	1983	1984	1982	1989	1996	1996					
MIN	6.26	7.98	10.3	7.45	17.1	11.7	9.45	13.7	5.85	6.99	3.93	4.53					
(WY)	1998	1982	1990	1985	1992	1985	1985	1995	1985	1985	1995	1998					

e Estimated.

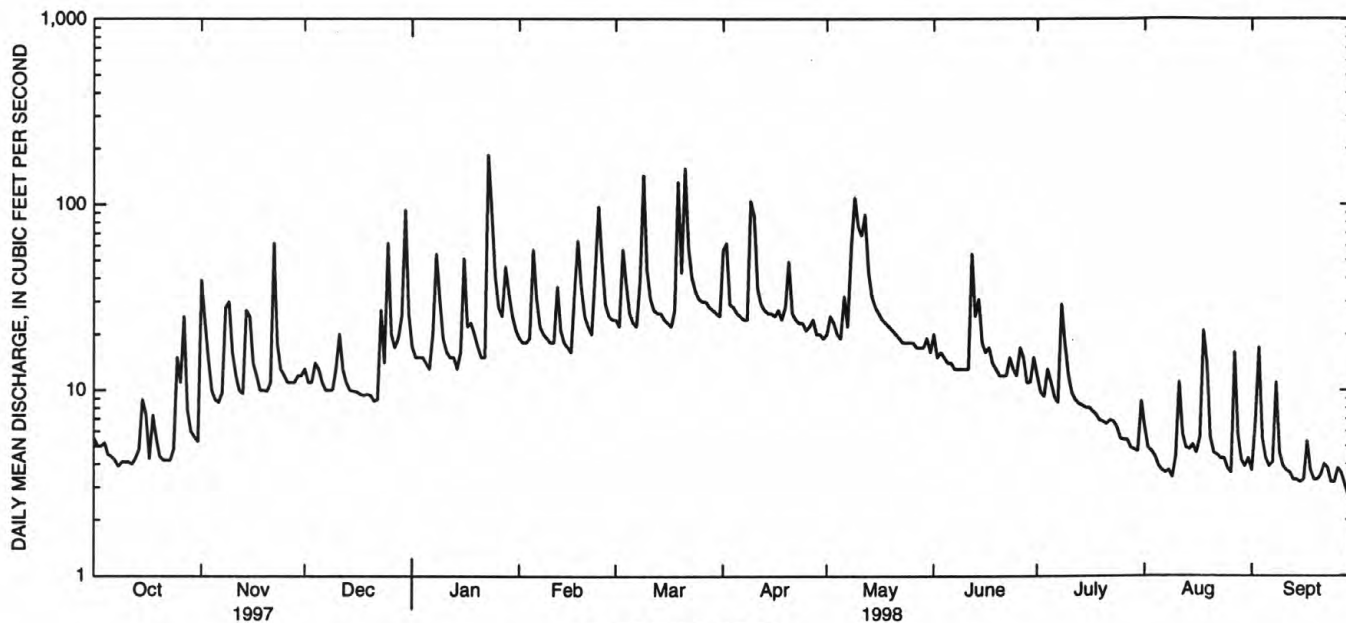
CRUM CREEK BASIN

01475850 CRUM CREEK NEAR NEWTOWN SQUARE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1982 - 1998	
ANNUAL TOTAL	7984.3		7380.7		23.1	
ANNUAL MEAN	21.9		20.2		34.7	
HIGHEST ANNUAL MEAN					12.3	
LOWEST ANNUAL MEAN					704	
HIGHEST DAILY MEAN	172	Jan 24	185	Jan 23		Jan 19 1996
LOWEST DAILY MEAN	3.9	Oct 8	2.7	Sep 29	.64	Aug 8 1991
ANNUAL SEVEN-DAY MINIMUM	4.1	Oct 7	3.3	Sep 23	2.4	Aug 2 1991
INSTANTANEOUS PEAK FLOW			526	Jan 23	a2380	Oct 19 1996
INSTANTANEOUS PEAK STAGE			5.34	Jan 23	b9.62	Oct 19 1996
ANNUAL RUNOFF (CFSM)	1.38		1.28		1.46	
ANNUAL RUNOFF (INCHES)	18.80		17.38		19.87	
10 PERCENT EXCEEDS	37		38		39	
50 PERCENT EXCEEDS	16		15		15	
90 PERCENT EXCEEDS	5.7		4.2		6.2	

a From rating curve extended above 1,300 ft³/s.

b From outside floodmark.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

RIDLEY CREEK BASIN

01476480 RIDLEY CREEK AT MEDIA, PA

LOCATION.--Lat 39°54'58", long 75°24'13", Delaware County, Hydrologic Unit 02040202, on right bank 400 ft downstream from bridge on U.S. Highway 1 (Baltimore Pike) at Media.

DRAINAGE AREA.--30.5 mi².

PERIOD OF RECORD.--October 1986 to September 1995, October 1995 to December 1996 (fragmentary), January 1997 to current year.

REVISED RECORDS.--WDR PA-94-1: 1987, 1991, 1992 adjusted monthly and yearly summaries.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 110 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Diversion during entire period of record by Philadelphia Suburban Water Company (formerly Media Water Company). Satellite telemetry at station.

COOPERATION.--Records of diversion provided by Philadelphia Suburban Water Company.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 23	1945	*798	*5.69	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	53	16	23	30	38	50	36	37	22	13	6.5
2	9.3	45	15	21	28	36	140	44	27	17	9.3	15
3	9.8	27	16	20	28	97	49	37	26	16	7.7	32
4	10	16	20	19	27	77	48	35	24	21	7.2	9.7
5	10	14	19	17	71	46	47	34	24	25	6.6	7.7
6	9.4	13	16	17	53	39	44	55	23	17	6.4	6.6
7	9.7	13	15	21	32	36	40	39	23	15	6.0	6.7
8	9.4	39	14	57	29	54	41	97	22	51	5.9	14
9	8.5	46	14	46	28	287	125	149	22	38	6.0	10
10	8.9	28	18	25	26	100	206	128	21	35	15	7.1
11	9.3	19	28	20	28	57	68	101	22	20	20	6.2
12	9.1	16	20	18	68	49	54	131	133	17	10	5.9
13	11	15	17	18	33	46	50	81	62	15	7.4	7.1
14	12	33	16	17	28	47	49	55	80	15	7.4	5.7
15	14	39	15	20	26	44	49	48	35	14	8.1	5.8
16	e22	22	15	74	25	41	46	44	30	15	6.5	5.9
17	e15	18	14	31	39	39	51	40	29	14	31	17
18	e16	15	14	29	130	47	45	39	26	13	24	9.7
19	e18	14	14	26	64	256	53	37	24	12	39	7.9
20	e15	16	14	22	42	90	91	35	22	12	12	7.8
21	14	18	14	20	36	294	49	34	21	13	8.6	6.6
22	14	92	14	19	32	114	44	31	21	13	8.3	7.6
23	14	32	38	309	54	77	43	32	25	12	8.1	7.2
24	16	22	23	228	169	64	42	32	28	11	7.7	5.8
25	31	18	93	76	102	58	40	31	22	9.5	7.5	5.3
26	26	17	36	46	49	57	41	31	35	9.2	7.6	6.1
27	51	16	28	36	42	54	44	28	37	10	27	5.8
28	19	16	32	78	38	51	37	27	20	8.6	12	5.6
29	12	17	36	65	---	48	34	29	19	8.7	7.7	4.2
30	11	16	138	41	---	46	34	42	24	7.9	6.9	4.2
31	11	---	37	33	---	44	---	30	---	13	6.3	---
TOTAL	454.8	765	819	1492	1357	2433	1754	1612	964	519.9	356.2	252.7
MEAN	14.7	25.5	26.4	48.1	48.5	78.5	58.5	52.0	32.1	16.8	11.5	8.42
MAX	51	92	138	309	169	294	206	149	133	51	39	32
MIN	8.5	13	14	17	25	36	34	27	19	7.9	5.9	4.2
(†)	4.3	4.4	4.5	4.7	4.7	4.5	4.6	4.5	4.3	4.2	3.9	4.0

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

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	20.4	36.0	42.5	53.9	50.1	71.3	55.0	48.4	35.7	35.4	24.4	22.5
MAX	49.3	62.4	84.0	82.7	74.3	164	108	87.8	68.7	89.6	46.3	51.5
(WY)	1987	1987	1987	1990	1988	1994	1993	1989	1989	1989	1989	1989
MIN	9.11	20.1	19.5	28.2	29.0	32.3	28.6	26.0	16.6	16.8	10.2	8.42
(WY)	1987	1995	1989	1992	1992	1988	1995	1995	1995	1998	1995	1998

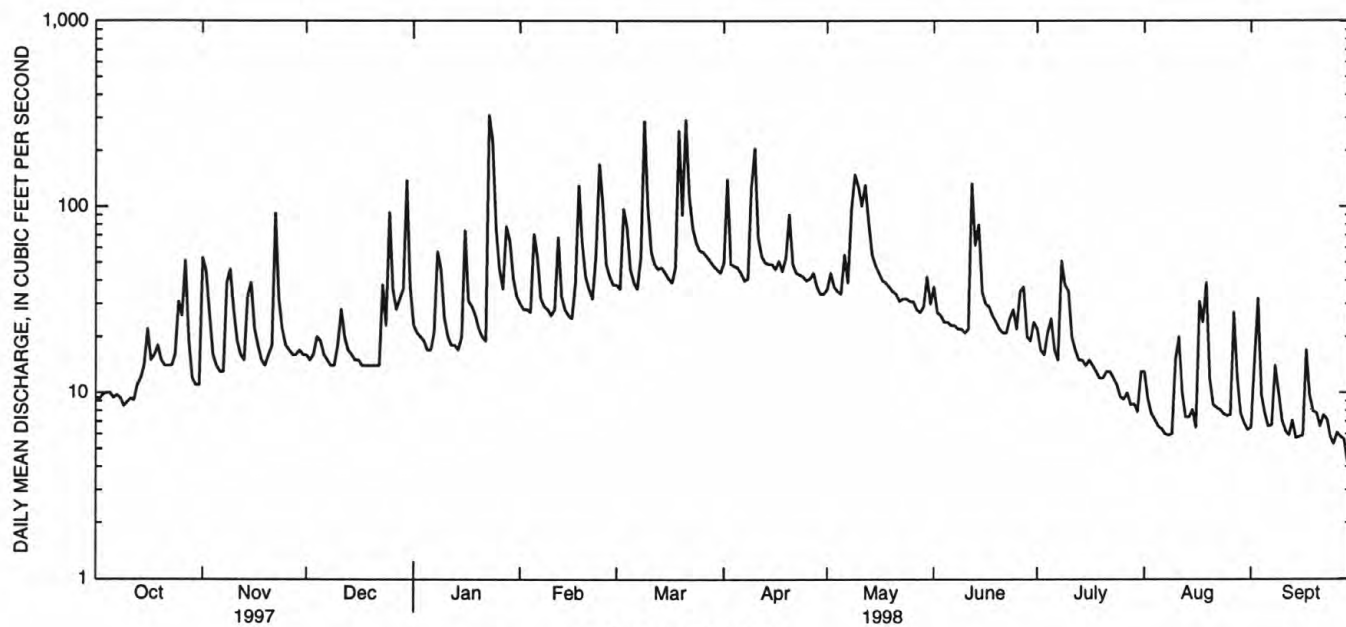
† Diversion for municipal supply, equivalent in cubic feet per second.

e Estimated.

RIDLEY CREEK BASIN

01476480 RIDLEY CREEK AT MEDIA, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	15182.7		12779.6			
ANNUAL MEAN	41.6		35.0		41.5	
HIGHEST ANNUAL MEAN					57.6	
LOWEST ANNUAL MEAN					24.9	
HIGHEST DAILY MEAN	372	Jan 25	309	Jan 23	960	Mar 10 1994
LOWEST DAILY MEAN	7.7	Sep 6	4.2	Sep 29,30	3.1	Sep 11 1995
ANNUAL SEVEN-DAY MINIMUM	8.4	Sep 4	5.3	Sep 24	5.3	Sep 24 1998
INSTANTANEOUS PEAK FLOW			798	Jan 23	a3700	Jan 28 1994
INSTANTANEOUS PEAK STAGE			5.69	Jan 23	9.93	Jan 28 1994
INSTANTANEOUS LOW FLOW					1.2	Sep 10 1995
10 PERCENT EXCEEDS	75		64		73	
50 PERCENT EXCEEDS	33		24		29	
90 PERCENT EXCEEDS	10		7.7		11	

a From rating curve extended above 1,600 ft³/s.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

CHESTER CREEK BASIN

01477000 CHESTER CREEK NEAR CHESTER, PA

LOCATION.--Lat 39°52'08", long 75°24'31", Delaware County, Hydrologic Unit 02040202, on right bank 30 ft downstream from bridge on Dutton Mill Road, and 3.0 mi northwest of Chester.

DRAINAGE AREA.--61.1 mi².

PERIOD OF RECORD.--August 1931 to current year. Monthly discharges only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR PA-72-1: 1971.

GAGE.--Water-stage recorder. Datum of gage is 23.41 ft above Penn Central Railroad datum. Prior to June 27, 1966, water-stage recorder at site 50 ft upstream, and June 28, 1966, to Oct. 4, 1967, nonrecording gage 30 ft upstream and at gage, all at same datum.

REMARKS.--No estimated daily discharges. Records good. Diversion about 2.6 mi upstream into Ridley Creek basin (see station 01476480 Ridley Creek at Media) by Philadelphia Suburban Water Company. Diversion for the year was equivalent to a mean daily discharge of 2.8 ft³/s. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 23	1800	*2,060	*7.56	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	141	46	64	80	102	122	76	97	57	39	24
2	30	102	44	55	77	97	251	95	65	45	31	64
3	29	69	43	54	74	240	125	80	57	42	28	120
4	29	47	52	52	76	159	117	75	55	42	26	39
5	28	42	50	51	153	103	108	74	54	47	27	31
6	28	38	46	52	116	89	96	99	54	40	25	27
7	27	39	45	62	84	85	90	81	53	39	23	26
8	27	83	43	120	76	138	89	214	50	127	24	51
9	28	107	41	98	74	555	188	275	50	88	24	30
10	30	66	47	67	74	196	322	221	50	74	30	26
11	27	48	76	59	77	117	126	204	51	55	63	25
12	26	43	53	56	190	102	104	275	383	46	33	24
13	26	42	45	53	95	95	96	157	138	42	28	22
14	29	85	44	51	80	94	95	108	167	39	27	22
15	34	96	43	55	74	89	93	95	80	37	26	22
16	42	64	42	172	73	85	90	87	71	37	26	21
17	33	52	43	80	103	81	105	81	68	39	95	52
18	50	45	43	71	313	99	90	77	62	36	105	29
19	41	44	41	65	158	502	103	74	57	34	84	26
20	32	43	40	60	112	183	187	73	55	32	35	24
21	31	44	40	57	101	543	100	71	53	32	28	23
22	29	208	39	55	91	244	86	67	51	36	26	31
23	28	76	101	727	146	158	83	65	58	34	26	29
24	29	57	61	444	360	132	82	65	63	34	25	24
25	76	50	234	177	244	118	77	65	56	30	25	23
26	59	49	88	107	129	114	76	64	84	29	24	25
27	127	45	71	88	112	110	87	62	82	28	83	24
28	51	44	83	235	105	105	74	60	54	30	37	21
29	39	45	83	161	---	101	73	65	49	28	29	19
30	36	44	229	103	---	99	73	94	64	27	27	21
31	34	---	84	87	---	106	---	63	---	43	26	---
TOTAL	1166	1958	2040	3638	3447	5041	3408	3262	2331	1349	1155	945
MEAN	37.6	65.3	65.8	117	123	163	114	105	77.7	43.5	37.3	31.5
MAX	127	208	234	727	360	555	322	275	383	127	105	120
MIN	26	38	39	51	73	81	73	60	49	27	23	19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1998, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)															
55.8	234	13.7	1942	78.2	233	18.2	1932	90.8	328	24.3	1932	105	326	23.4	1981	115	326	41.4	1932	140	627	53.1	1981	129	413	41.9	1963	102	224	34.8	1942	77.6	177	28.3	1966	69.5	254	17.4	1932	62.7	217	13.7	1966	64.0	543	10.4	1932

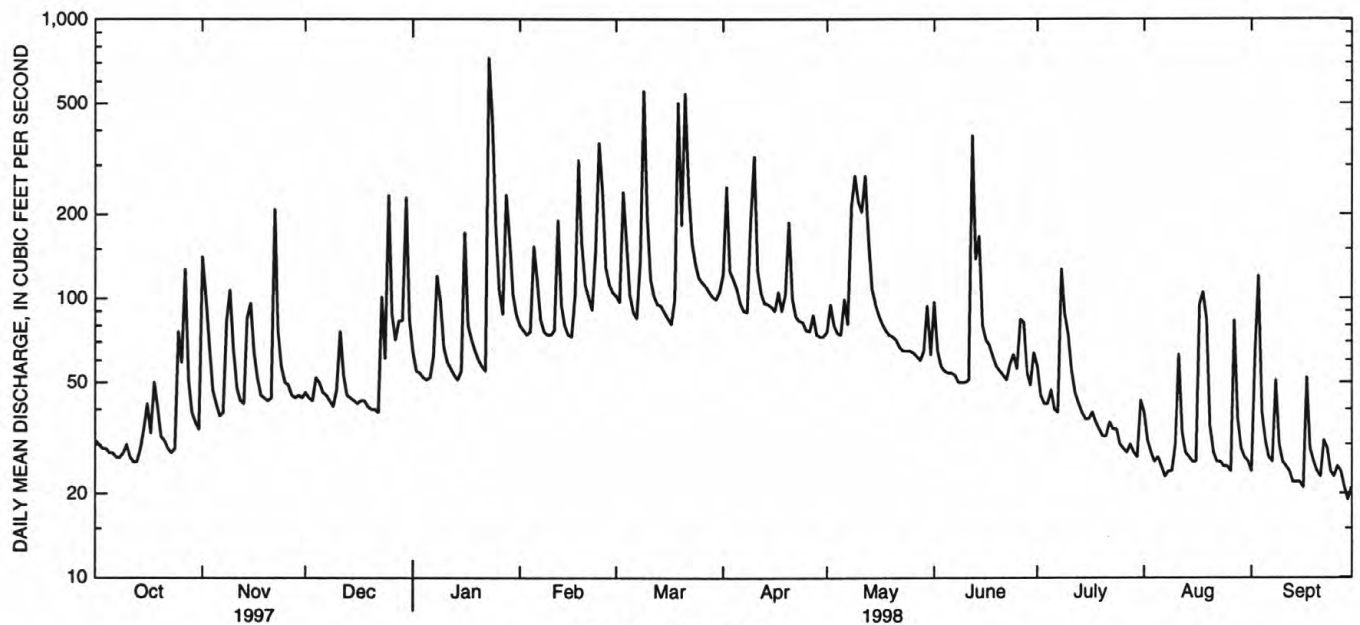
CHESTER CREEK BASIN

01477000 CHESTER CREEK NEAR CHESTER, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1932 - 1998	
ANNUAL TOTAL	32188		29740			
ANNUAL MEAN	88.2		81.5		90.7	
HIGHEST ANNUAL MEAN					168	
LOWEST ANNUAL MEAN					39.3	
HIGHEST DAILY MEAN	666	Jan 25	727	Jan 23	6510	Sep 13 1971
LOWEST DAILY MEAN	25	Jul 21	19	Sep 29	6.5	Sep 25 1941
ANNUAL SEVEN-DAY MINIMUM	27	Oct 7	22	Sep 24	8.3	Sep 9 1932
INSTANTANEOUS PEAK FLOW			2060	Jan 23	a21000	Sep 13 1971
INSTANTANEOUS PEAK STAGE			7.56	Jan 23	b24.59	Sep 13 1971
INSTANTANEOUS LOW FLOW			16	Sep 28-30	.30	Aug 7 1934
10 PERCENT EXCEEDS	157		149		155	
50 PERCENT EXCEEDS	68		61		60	
90 PERCENT EXCEEDS	31		27		27	

a From rating curve extended above 2,400 ft³/s on basis of contracted-opening measurement at 9,400 ft³/s, at gage height 13.57 ft, and slope-area measurement of peak flow.

b From floodmark.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA

LOCATION.--Lat 39°50'33", long 75°21'28", Delaware County, Hydrologic Unit 02040202, in the pumping house of Kimberly-Clark Paper Company at Chester.

DRAINAGE AREA.--10,300 mi², approximately.

PERIOD OF RECORD.--December 1961 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to current year.

pH: January 1968 to current year.

WATER TEMPERATURES: December 1961 to current year.

DISSOLVED OXYGEN: December 1961 to current year.

INSTRUMENTATION.--Water-quality monitor since December 1961. Probes interfaced with a data collection platform since the 1986 water year.

REMARKS.--Data collection discontinued during winter months. Other interruptions in the record were due to malfunctions of the pump or recording instrument. Prior to April 1981 sampling site located at auxiliary tidal-gaging station at the end of Reynolds Aluminum Company pier, 0.5 mi downstream from Chester Creek in Chester (latitude 39°50'12", longitude 75°22'00").

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 5,900 microsiemens, Oct. 7, 1965; minimum, 103 microsiemens, June 2, 1984, Apr. 9, 1987.

pH: Maximum, 8.7, Sept. 13, 14, 1971, Oct. 16, 1979; minimum, 5.5, Dec. 10, 11, 1969.

WATER TEMPERATURE: Maximum, 33.0°C, July 21, 1977; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 16.3 mg/L, Mar. 28, 1993; minimum, 0.0 mg/L, on many days.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	647	499	579	2100	790	1240	---	---	---	---	---	---
2	721	525	606	2090	775	1310	---	---	---	---	---	---
3	743	544	630	1420	768	1080	---	---	---	---	---	---
4	810	535	649	1340	747	1000	---	---	---	---	---	---
5	805	554	663	1210	719	907	---	---	---	---	---	---
6	922	552	698	1280	690	918	---	---	---	---	---	---
7	---	---	---	1900	723	1110	---	---	---	---	---	---
8	---	---	---	1970	891	1350	---	---	---	---	---	---
9	1390	683	936	1560	631	1060	---	---	---	---	---	---
10	1300	704	943	---	---	---	---	---	---	---	---	---
11	1390	678	913	---	---	---	436	364	397	---	---	---
12	1410	738	999	---	---	---	425	358	392	---	---	---
13	1470	758	1050	---	---	---	413	356	387	---	---	---
14	1550	822	1150	2010	647	1040	401	352	376	---	---	---
15	1620	805	1130	1550	668	1030	392	354	372	---	---	---
16	1740	814	1180	1190	584	853	387	356	373	---	---	---
17	1910	832	1290	837	549	701	396	359	377	---	---	---
18	1900	901	1300	968	560	723	405	354	379	---	---	---
19	2210	943	1400	1030	566	750	397	359	378	---	---	---
20	2150	1050	1500	---	---	---	390	357	376	---	---	---
21	2130	1040	1430	934	546	717	393	361	376	---	---	---
22	1510	986	1270	869	454	672	392	354	374	---	---	---
23	1610	908	1230	966	419	664	390	349	373	---	---	---
24	1480	943	1190	901	482	627	423	345	376	---	---	---
25	1580	784	1170	675	460	560	422	325	373	---	---	---
26	1900	935	1280	669	452	549	377	301	343	---	---	---
27	1950	795	1350	---	---	---	351	319	334	---	---	---
28	1410	746	1030	---	---	---	---	---	---	---	---	---
29	1250	766	999	---	---	---	---	---	---	---	---	---
30	1290	747	996	---	---	---	---	---	---	---	---	---
31	1500	783	1080	---	---	---	---	---	---	---	---	---
MONTH	2210	499	1060	2100	419	898	436	301	374	---	---	---

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	222	196	203	---	---	---
2	---	---	---	---	---	---	220	178	199	---	---	---
3	---	---	---	---	---	---	237	190	202	---	---	---
4	---	---	---	---	---	---	252	201	211	---	---	---
5	---	---	---	---	---	---	241	200	212	251	191	204
6	---	---	---	---	---	---	220	195	203	261	198	211
7	---	---	---	---	---	---	223	196	201	270	202	215
8	---	---	---	---	---	---	229	196	204	233	202	211
9	---	---	---	---	---	---	231	199	207	225	202	209
10	---	---	---	---	---	---	216	192	203	220	205	210
11	---	---	---	---	---	---	231	203	216	209	193	201
12	---	---	---	---	---	---	230	194	208	204	187	192
13	---	---	---	---	---	---	217	191	197	199	179	186
14	---	---	---	---	---	---	226	192	200	198	176	181
15	---	---	---	---	---	---	242	196	203	224	166	177
16	---	---	---	---	---	---	245	186	199	212	160	169
17	---	---	---	---	---	---	244	189	196	201	160	167
18	---	---	---	---	---	---	219	189	194	190	158	165
19	---	---	---	---	---	---	240	192	201	194	160	166
20	---	---	---	196	166	173	260	194	207	195	155	165
21	---	---	---	231	163	183	228	193	200	194	156	168
22	---	---	---	204	183	190	234	195	205	242	166	181
23	---	---	---	232	191	200	236	201	209	211	174	183
24	---	---	---	257	193	202	239	206	212	203	178	186
25	---	---	---	263	195	206	266	206	216	210	182	189
26	---	---	---	256	197	208	238	206	215	222	185	193
27	---	---	---	235	196	205	226	205	215	226	189	196
28	---	---	---	225	195	205	226	203	211	226	194	201
29	---	---	---	217	199	205	237	204	212	246	200	207
30	---	---	---	214	197	202	---	---	---	278	202	214
31	---	---	---	212	195	201	---	---	---	277	205	215
MONTH	---	---	---	263	163	198	266	178	206	278	155	191

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	280	207	218	210	186	192	281	249	257	787	446	551
2	243	212	221	208	186	191	290	255	263	791	467	582
3	252	219	228	209	187	192	281	259	263	758	410	558
4	254	225	234	203	187	193	282	261	267	770	454	582
5	254	229	238	205	189	192	289	267	275	867	463	607
6	254	234	242	196	189	191	282	269	277	743	468	596
7	256	237	243	200	193	195	300	276	287	719	486	606
8	261	241	247	227	195	204	312	284	301	817	504	647
9	257	241	247	221	207	211	329	296	311	723	508	612
10	259	245	249	232	207	214	353	300	323	706	505	612
11	266	248	255	239	212	218	377	303	337	965	508	669
12	262	237	251	234	217	222	384	305	341	1110	530	720
13	248	231	244	241	221	226	453	314	364	1270	574	784
14	249	238	244	239	223	226	451	329	385	1340	631	853
15	255	247	252	253	223	227	440	344	388	1330	655	869
16	255	241	250	245	223	226	472	348	394	1220	667	860
17	250	218	232	248	222	226	492	353	410	1180	632	863
18	241	211	218	244	224	227	496	321	395	1350	669	940
19	237	210	215	238	224	229	471	331	395	1450	713	1030
20	237	200	209	235	227	229	601	353	441	1450	728	1030
21	225	188	198	237	227	231	544	363	435	1340	749	1030
22	224	181	189	239	230	233	520	369	443	1350	740	1040
23	195	175	183	248	232	235	606	393	485	1350	722	1020
24	191	173	179	256	233	237	590	400	486	1440	783	1080
25	195	168	173	255	236	239	545	406	476	1300	772	1040
26	239	169	176	258	240	243	601	421	506	1390	748	1020
27	216	174	181	261	241	244	615	431	511	1440	759	1040
28	215	176	183	261	244	247	628	411	510	1330	772	1020
29	209	180	187	270	245	250	722	442	566	1540	776	1050
30	219	186	191	275	245	250	648	440	534	1640	831	1120
31	---	---	---	276	244	253	644	435	530	---	---	---
MONTH	280	168	219	276	186	222	722	249	392	1640	410	834

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	7.4	7.3	7.3	7.5	7.4	7.5	---	---	---	---	---	---
2	7.5	7.3	7.4	7.5	7.4	7.4	---	---	---	---	---	---
3	7.4	7.2	7.3	7.4	7.3	7.4	---	---	---	---	---	---
4	7.2	7.1	7.2	7.3	7.2	7.3	---	---	---	---	---	---
5	7.2	7.1	7.2	7.3	7.2	7.3	---	---	---	---	---	---
6	7.2	7.1	7.2	7.3	7.2	7.3	---	---	---	---	---	---
7	---	---	---	7.5	7.3	7.4	---	---	---	---	---	---
8	---	---	---	7.5	7.4	7.5	---	---	---	---	---	---
9	7.3	7.2	7.3	7.5	7.4	7.4	---	---	---	---	---	---
10	7.3	7.2	7.2	---	---	---	---	---	---	---	---	---
11	7.2	7.1	7.2	---	---	---	7.3	7.3	7.3	---	---	---
12	7.3	7.1	7.2	---	---	---	7.3	7.3	7.3	---	---	---
13	7.2	7.0	7.1	---	---	---	7.3	7.3	7.3	---	---	---
14	---	---	---	7.4	7.3	7.3	7.3	7.3	7.3	---	---	---
15	---	---	---	7.4	7.3	7.3	7.3	7.2	7.3	---	---	---
16	---	---	---	7.3	7.2	7.3	7.3	7.3	7.3	---	---	---
17	---	---	---	7.3	7.3	7.3	7.3	7.2	7.3	---	---	---
18	---	---	---	7.4	7.3	7.3	7.3	7.2	7.3	---	---	---
19	---	---	---	7.3	7.3	7.3	7.3	7.2	7.3	---	---	---
20	---	---	---	---	---	---	7.3	7.2	7.3	---	---	---
21	---	---	---	7.3	7.2	7.3	7.3	7.2	7.3	---	---	---
22	---	---	---	7.3	7.2	7.3	7.3	7.2	7.3	---	---	---
23	---	---	---	7.3	7.2	7.2	7.3	7.3	7.3	---	---	---
24	---	---	---	7.3	7.2	7.2	7.4	7.2	7.3	---	---	---
25	---	---	---	7.3	7.2	7.3	7.4	7.3	7.3	---	---	---
26	---	---	---	7.3	7.2	7.3	7.3	7.2	7.2	---	---	---
27	---	---	---	---	---	---	7.3	7.2	7.2	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	7.7	7.5	7.6	---	---	---	---	---	---	---	---	---
31	7.6	7.5	7.5	---	---	---	---	---	---	---	---	---
MONTH	7.7	7.0	7.3	7.5	7.2	7.3	7.4	7.2	7.3	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	7.0	6.9	6.9	---	---	---
2	---	---	---	---	---	---	6.9	6.9	6.9	---	---	---
3	---	---	---	---	---	---	7.0	6.9	7.0	---	---	---
4	---	---	---	---	---	---	7.0	6.9	7.0	---	---	---
5	---	---	---	---	---	---	7.0	6.9	6.9	7.1	6.9	7.0
6	---	---	---	---	---	---	7.0	6.9	6.9	6.9	6.9	6.9
7	---	---	---	---	---	---	7.0	6.9	6.9	7.1	6.9	6.9
8	---	---	---	---	---	---	7.0	6.9	6.9	6.9	6.9	6.9
9	---	---	---	---	---	---	7.0	6.9	6.9	6.9	6.9	6.9
10	---	---	---	---	---	---	7.0	6.9	6.9	6.9	6.9	6.9
11	---	---	---	---	---	---	7.0	6.9	7.0	7.0	6.9	6.9
12	---	---	---	---	---	---	7.0	6.9	6.9	7.0	6.9	6.9
13	---	---	---	---	---	---	7.0	6.9	6.9	7.0	6.9	6.9
14	---	---	---	---	---	---	7.0	6.9	6.9	6.9	6.9	6.9
15	---	---	---	---	---	---	7.0	6.9	7.0	6.9	6.8	6.8
16	---	---	---	---	---	---	7.0	6.9	7.0	6.8	6.7	6.8
17	---	---	---	---	---	---	7.0	7.0	7.0	6.8	6.7	6.7
18	---	---	---	---	---	---	7.0	6.9	7.0	6.7	6.7	6.7
19	---	---	---	---	---	---	7.1	6.9	7.0	6.7	6.7	6.7
20	---	---	---	7.2	7.0	7.1	7.1	7.0	7.0	6.9	6.7	6.8
21	---	---	---	7.2	7.1	7.2	7.0	7.0	7.0	6.9	6.8	6.8
22	---	---	---	7.2	7.1	7.2	7.0	6.9	7.0	6.9	6.8	6.9
23	---	---	---	7.2	7.1	7.1	7.0	7.0	7.0	7.0	6.8	6.9
24	---	---	---	7.2	7.1	7.1	7.0	7.0	7.0	7.0	6.8	6.9
25	---	---	---	7.1	7.0	7.0	7.1	7.0	7.0	6.9	6.9	6.9
26	---	---	---	7.2	7.0	7.1	7.1	7.0	7.0	6.9	6.8	6.9
27	---	---	---	7.2	7.1	7.2	7.1	7.0	7.1	6.9	6.8	6.9
28	---	---	---	7.2	7.1	7.1	7.1	7.0	7.1	7.0	6.9	6.9
29	---	---	---	7.2	7.1	7.1	7.1	7.0	7.1	7.0	6.9	6.9
30	---	---	---	7.1	7.0	7.0	---	---	---	7.0	6.9	6.9
31	---	---	---	7.1	7.0	7.0	---	---	---	7.0	6.9	7.0
MONTH	---	---	---	7.2	7.0	7.1	7.1	6.9	7.0	7.1	6.7	6.9

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.0	7.0	7.0	7.3	7.1	7.2	6.8	6.7	6.7	7.3	7.2	7.3
2	7.0	6.7	6.9	7.3	7.2	7.2	6.8	6.7	6.8	7.3	7.2	7.3
3	7.0	6.7	6.8	7.3	7.2	7.2	7.0	6.7	6.8	7.2	7.1	7.2
4	7.1	6.8	6.9	7.3	7.1	7.2	6.9	6.8	6.9	7.2	7.1	7.2
5	7.0	6.9	7.0	7.3	7.1	7.2	6.9	6.8	6.8	7.3	7.1	7.2
6	7.0	6.9	6.9	7.3	7.1	7.2	6.9	6.7	6.8	7.3	7.2	7.2
7	7.1	6.9	7.0	7.3	7.2	7.2	6.9	6.7	6.8	7.3	7.1	7.2
8	7.1	7.0	7.0	7.3	7.1	7.2	6.9	6.8	6.9	7.2	7.0	7.1
9	7.2	7.1	7.1	7.1	6.9	7.0	6.9	6.8	6.9	7.2	7.0	7.2
10	7.2	7.0	7.1	7.0	6.9	6.9	6.9	6.8	6.8	7.2	7.1	7.2
11	7.3	7.1	7.2	7.2	6.9	7.0	6.9	6.7	6.8	7.2	7.1	7.2
12	7.2	7.2	7.2	7.2	7.0	7.1	6.8	6.7	6.8	7.2	7.1	7.2
13	7.2	7.1	7.1	7.2	7.0	7.1	6.9	6.7	6.8	7.2	7.1	7.2
14	7.2	7.1	7.1	7.2	7.0	7.1	7.0	6.9	6.9	7.3	7.1	7.2
15	7.2	7.1	7.1	7.1	6.9	7.0	6.9	6.8	6.9	7.3	7.1	7.2
16	7.2	7.1	7.2	7.1	6.9	7.1	6.9	6.8	6.8	7.3	7.1	7.2
17	7.3	7.1	7.2	7.0	6.9	7.0	6.9	6.8	6.8	7.2	7.1	7.1
18	7.2	7.2	7.2	7.1	6.9	6.9	6.9	6.7	6.8	7.3	7.1	7.2
19	7.3	7.2	7.2	7.1	6.9	7.0	6.9	6.7	6.9	7.3	7.1	7.2
20	7.3	7.2	7.3	6.9	6.8	6.9	6.9	6.8	6.9	7.3	7.1	7.2
21	7.4	7.2	7.3	7.0	6.9	7.0	7.0	6.8	6.9	7.2	7.1	7.2
22	7.3	7.2	7.3	7.0	6.9	7.0	6.9	6.8	6.9	7.2	7.1	7.2
23	7.2	7.1	7.2	7.0	6.8	6.9	7.0	6.9	7.0	7.3	7.1	7.2
24	7.2	7.0	7.2	6.8	6.7	6.8	6.9	6.8	6.9	7.4	7.2	7.3
25	7.2	7.1	7.1	6.8	6.7	6.8	7.0	6.9	6.9	7.4	7.2	7.3
26	7.2	7.1	7.1	6.8	6.7	6.8	7.0	7.0	7.0	7.3	7.2	7.3
27	7.2	7.1	7.1	6.9	6.7	6.8	7.1	6.9	7.0	7.3	7.2	7.3
28	7.3	7.2	7.2	6.9	6.8	6.8	7.2	7.1	7.1	7.3	7.1	7.3
29	7.3	7.2	7.2	6.9	6.8	6.8	7.2	7.1	7.2	7.5	7.2	7.4
30	7.3	7.2	7.2	6.9	6.8	6.8	7.2	7.1	7.1	7.5	7.3	7.4
31	---	---	---	6.8	6.7	6.8	7.3	7.1	7.1	---	---	---
MONTH	7.4	6.7	7.1	7.3	6.7	7.0	7.3	6.7	6.9	7.5	7.0	7.2

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	20.5	19.5	20.0	15.0	14.5	15.0	---	---	---	---	---	---
2	20.0	19.0	19.5	15.0	14.5	15.0	---	---	---	---	---	---
3	20.0	19.0	19.5	15.0	14.0	14.5	---	---	---	---	---	---
4	20.5	19.5	20.0	15.0	14.0	14.5	---	---	---	---	---	---
5	20.5	19.5	20.0	14.5	14.0	14.5	---	---	---	---	---	---
6	21.0	20.0	20.5	14.0	13.5	14.0	---	---	---	---	---	---
7	---	---	---	14.0	13.5	13.5	---	---	---	---	---	---
8	---	---	---	13.5	12.5	13.0	---	---	---	---	---	---
9	22.0	20.5	21.5	13.0	12.0	12.5	---	---	---	---	---	---
10	22.0	21.0	21.5	---	---	---	---	---	---	---	---	---
11	21.5	21.0	21.0	---	---	---	7.0	7.0	7.0	---	---	---
12	21.5	20.5	21.0	---	---	---	7.0	6.5	7.0	---	---	---
13	21.5	20.0	21.0	---	---	---	7.0	6.5	7.0	---	---	---
14	21.5	21.0	21.0	11.5	10.5	11.0	8.0	6.0	6.5	---	---	---
15	21.5	20.0	20.5	11.0	10.0	11.0	7.5	6.0	6.5	---	---	---
16	20.5	19.5	20.0	11.0	9.5	10.5	7.0	6.0	6.5	---	---	---
17	20.0	19.0	19.5	10.0	9.5	10.0	7.0	6.5	6.5	---	---	---
18	19.5	18.5	19.5	10.0	9.0	9.5	7.0	6.0	6.5	---	---	---
19	19.0	18.0	18.5	10.0	9.0	9.5	6.5	6.0	6.5	---	---	---
20	18.5	18.0	18.0	---	---	---	7.0	6.0	6.5	---	---	---
21	18.0	17.5	18.0	9.5	8.5	9.5	6.5	6.0	6.0	---	---	---
22	17.5	16.5	17.0	9.5	8.5	9.5	6.0	5.5	6.0	---	---	---
23	16.5	16.0	16.5	9.5	9.0	9.5	6.5	5.5	6.0	---	---	---
24	16.5	15.5	16.0	9.5	9.0	9.0	7.5	6.0	6.5	---	---	---
25	16.0	14.5	16.0	9.0	8.0	8.5	7.5	6.0	6.5	---	---	---
26	16.0	15.0	15.5	9.0	7.5	8.5	6.5	6.5	6.5	---	---	---
27	15.5	14.0	15.5	---	---	---	6.5	5.5	6.0	---	---	---
28	15.5	14.0	15.0	---	---	---	---	---	---	---	---	---
29	15.0	14.0	14.5	---	---	---	---	---	---	---	---	---
30	15.0	14.0	14.5	---	---	---	---	---	---	---	---	---
31	15.0	14.0	15.0	---	---	---	---	---	---	---	---	---
MONTH	22.0	14.0	18.5	15.0	7.5	11.5	8.0	5.5	6.5	---	---	---

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	13.5	11.5	12.5	---	---	---
2	---	---	---	---	---	---	14.0	12.5	13.0	---	---	---
3	---	---	---	---	---	---	14.5	13.0	13.5	---	---	---
4	---	---	---	---	---	---	14.0	13.0	13.5	---	---	---
5	---	---	---	---	---	---	13.5	12.5	13.0	16.5	16.0	16.0
6	---	---	---	---	---	---	14.0	12.5	13.5	16.5	16.0	16.0
7	---	---	---	---	---	---	14.5	13.0	14.0	17.5	16.0	16.5
8	---	---	---	---	---	---	15.0	14.0	14.5	17.0	16.0	16.5
9	---	---	---	---	---	---	14.5	11.5	14.0	16.5	16.0	16.5
10	---	---	---	---	---	---	13.5	11.0	13.0	16.5	16.0	16.0
11	---	---	---	---	---	---	13.5	12.5	13.0	16.5	15.5	16.0
12	---	---	---	---	---	---	13.5	12.5	13.0	16.0	14.5	15.5
13	---	---	---	---	---	---	13.0	12.0	12.5	15.5	14.5	15.0
14	---	---	---	---	---	---	13.5	12.5	13.0	15.5	15.0	15.5
15	---	---	---	---	---	---	14.0	13.0	13.5	16.5	15.0	16.0
16	---	---	---	---	---	---	14.5	13.0	14.0	17.5	16.0	16.5
17	---	---	---	---	---	---	15.0	14.0	14.5	18.0	16.5	17.0
18	---	---	---	---	---	---	15.0	13.5	14.0	19.0	17.0	17.5
19	---	---	---	---	---	---	14.5	14.0	14.0	19.5	17.5	18.5
20	---	---	---	7.0	6.5	6.5	14.5	13.5	14.0	20.5	18.5	19.0
21	---	---	---	7.0	6.0	6.0	15.5	13.5	14.5	20.5	19.0	20.0
22	---	---	---	6.0	5.5	6.0	15.5	14.5	15.0	20.0	19.5	19.5
23	---	---	---	6.5	5.5	6.0	15.0	15.0	15.0	20.0	18.5	19.5
24	---	---	---	7.0	6.0	6.5	15.5	14.5	15.0	20.5	19.0	19.5
25	---	---	---	8.0	6.0	7.0	16.0	15.0	15.5	20.5	19.5	20.0
26	---	---	---	8.5	7.0	7.5	15.5	14.5	15.0	21.0	20.0	20.5
27	---	---	---	10.0	8.0	8.5	15.0	14.5	15.0	21.0	20.5	21.0
28	---	---	---	11.0	8.5	9.5	15.5	14.0	15.0	22.0	20.5	21.5
29	---	---	---	11.5	9.5	10.5	16.0	14.5	15.0	22.5	21.5	22.0
30	---	---	---	12.0	10.0	11.0	---	---	---	23.5	22.0	22.5
31	---	---	---	13.0	10.5	11.5	---	---	---	24.0	22.5	23.5
MONTH	---	---	---	13.0	5.5	8.0	16.0	11.0	14.0	24.0	14.5	18.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	24.0	23.0	23.5	25.5	24.5	25.0	28.0	27.0	27.5	28.0	27.0	27.5
2	23.5	22.5	23.0	26.0	24.5	25.5	28.0	26.5	27.0	27.5	27.0	27.0
3	23.5	22.5	23.0	26.5	25.0	25.5	28.0	26.5	27.0	27.5	26.0	27.0
4	23.0	22.0	22.5	26.0	25.0	25.5	28.5	27.0	27.5	27.5	26.5	27.0
5	23.0	21.5	22.5	26.5	25.0	25.5	28.5	27.0	27.5	27.0	26.5	27.0
6	22.5	21.5	22.0	26.0	25.0	25.5	28.5	27.5	28.0	27.0	26.0	26.5
7	22.0	21.5	22.0	26.5	25.0	25.5	28.5	27.5	28.0	27.0	26.0	26.5
8	22.5	20.5	21.5	26.0	24.0	25.0	28.0	27.5	28.0	26.5	25.5	26.0
9	22.0	21.0	21.5	25.5	24.0	25.0	28.5	27.5	28.0	25.5	24.0	25.0
10	22.0	21.5	21.5	26.0	25.0	25.5	28.5	27.5	28.0	24.5	23.5	24.5
11	22.0	21.0	21.5	25.5	24.5	25.0	28.5	28.0	28.0	24.5	23.5	24.0
12	21.5	20.0	21.0	25.5	24.5	25.0	28.5	27.5	28.0	25.0	23.5	24.0
13	22.0	20.0	21.5	26.0	25.0	25.5	28.5	27.5	28.0	25.5	24.0	24.5
14	22.0	21.0	21.5	26.0	25.0	25.5	28.0	27.5	27.5	26.0	24.5	25.0
15	22.0	21.5	21.5	26.5	25.5	26.0	28.0	27.0	27.5	26.0	24.5	25.5
16	22.5	21.5	22.0	27.0	25.5	26.0	28.0	27.0	27.5	26.5	25.0	25.5
17	23.0	22.0	22.5	27.5	26.0	26.5	28.5	27.5	28.0	26.0	25.0	25.5
18	23.0	22.0	22.5	27.5	26.5	27.0	28.0	27.0	27.5	25.5	25.0	25.5
19	23.0	22.0	22.5	27.5	26.5	27.0	27.5	26.0	27.0	25.5	24.5	25.0
20	23.5	22.5	23.0	28.0	26.5	27.0	27.0	26.0	26.5	25.5	25.0	25.0
21	24.0	22.5	23.5	28.5	27.0	27.5	27.0	26.0	26.5	26.0	25.0	25.5
22	23.5	23.0	23.5	28.5	27.5	28.0	27.5	26.5	27.0	25.5	25.0	25.5
23	23.5	23.0	23.0	28.5	27.5	28.0	27.5	26.5	27.0	25.0	24.0	24.5
24	24.0	23.0	23.5	28.5	27.5	28.0	28.0	27.0	27.5	24.5	23.5	24.0
25	25.0	23.5	24.0	28.0	27.5	28.0	28.5	27.0	28.0	23.5	23.0	23.5
26	25.5	24.0	24.5	28.0	27.0	27.5	28.5	27.5	28.0	24.5	23.0	24.0
27	25.5	24.5	25.0	27.5	27.0	27.5	28.0	27.5	28.0	25.0	23.5	24.0
28	25.5	24.5	25.0	28.0	27.0	27.5	28.0	27.5	27.5	25.0	24.0	24.5
29	25.5	24.5	25.0	28.0	27.0	27.5	28.0	27.0	27.5	24.5	23.5	24.0
30	26.0	25.0	25.5	28.5	27.5	28.0	28.5	27.5	27.5	24.5	23.5	23.5
31	---	---	---	28.0	27.5	27.5	28.5	27.5	28.0	---	---	---
MONTH	26.0	20.0	22.8	28.5	24.0	26.4	28.5	26.0	27.6	28.0	23.0	25.2

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	10.6	10.2	10.4	---	---	---
12	---	---	---	---	---	---	10.5	10.2	10.3	---	---	---
13	---	---	---	---	---	---	10.5	10.1	10.3	---	---	---
14	---	---	---	8.8	8.3	8.5	11.7	10.2	10.4	---	---	---
15	---	---	---	8.9	8.4	8.6	11.3	10.3	10.5	---	---	---
16	---	---	---	8.9	8.5	8.7	10.9	10.4	10.5	---	---	---
17	---	---	---	9.1	8.6	8.9	10.7	10.3	10.4	---	---	---
18	---	---	---	9.2	8.9	9.1	10.9	10.3	10.5	---	---	---
19	---	---	---	9.4	9.0	9.2	11.1	10.6	10.7	---	---	---
20	---	---	---	---	---	---	11.1	10.5	10.7	---	---	---
21	---	---	---	9.4	9.0	9.2	11.0	10.5	10.7	---	---	---
22	---	---	---	9.9	9.1	9.3	11.0	10.6	10.8	---	---	---
23	---	---	---	9.5	8.9	9.0	11.7	10.7	11.0	---	---	---
24	---	---	---	9.3	8.8	9.1	12.1	10.8	11.0	---	---	---
25	---	---	---	9.8	9.1	9.3	11.6	10.8	11.1	---	---	---
26	---	---	---	9.9	9.5	9.6	11.1	10.9	10.9	---	---	---
27	---	---	---	---	---	---	11.2	10.8	10.9	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	9.9	8.3	9.0	12.1	10.1	10.7	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	10.4	9.9	10.2	---	---	---
2	---	---	---	---	---	---	10.5	9.8	10.1	---	---	---
3	---	---	---	---	---	---	10.2	9.8	10.0	---	---	---
4	---	---	---	---	---	---	9.8	9.5	9.7	---	---	---
5	---	---	---	---	---	---	10.1	9.5	9.6	9.3	8.6	9.0
6	---	---	---	---	---	---	9.8	9.5	9.5	9.1	8.4	8.9
7	---	---	---	---	---	---	9.8	9.2	9.4	9.4	8.2	8.9
8	---	---	---	---	---	---	9.4	8.9	9.1	8.9	8.3	8.6
9	---	---	---	---	---	---	10.3	8.9	9.3	8.5	8.0	8.3
10	---	---	---	---	---	---	10.1	9.3	9.4	8.3	8.0	8.2
11	---	---	---	---	---	---	10.0	9.2	9.4	8.4	8.0	8.2
12	---	---	---	---	---	---	10.4	9.4	9.7	8.8	8.2	8.5
13	---	---	---	---	---	---	10.4	9.7	10.0	8.8	8.6	8.7
14	---	---	---	---	---	---	10.4	10.0	10.1	8.8	8.5	8.6
15	---	---	---	---	---	---	10.3	9.7	10.1	8.7	8.4	8.6
16	---	---	---	---	---	---	10.4	9.5	10.1	8.5	8.1	8.3
17	---	---	---	---	---	---	10.1	9.3	9.8	8.2	8.0	8.1
18	---	---	---	---	---	---	9.8	9.4	9.7	8.1	7.8	8.0
19	---	---	---	---	---	---	9.6	9.2	9.4	7.8	7.5	7.7
20	---	---	---	11.3	11.1	11.2	9.8	9.1	9.3	---	---	---
21	---	---	---	11.5	10.9	11.3	9.6	8.9	9.1	---	---	---
22	---	---	---	11.5	11.3	11.4	9.3	8.8	9.0	---	---	---
23	---	---	---	11.5	11.4	11.4	9.0	8.7	8.8	---	---	---
24	---	---	---	11.6	11.3	11.4	9.1	8.6	8.8	---	---	---
25	---	---	---	11.4	11.2	11.4	9.2	8.5	8.8	---	---	---
26	---	---	---	11.5	11.1	11.3	9.2	8.6	8.9	---	---	---
27	---	---	---	11.3	10.2	11.1	10.0	8.7	9.2	---	---	---
28	---	---	---	11.1	10.7	10.9	11.1	9.0	9.4	---	---	---
29	---	---	---	11.0	10.5	10.7	10.0	9.0	9.3	---	---	---
30	---	---	---	10.7	10.3	10.6	---	---	---	---	---	---
31	---	---	---	10.6	10.2	10.4	---	---	---	---	---	---
MONTH	---	---	---	11.6	10.2	11.1	11.1	8.5	9.5	9.4	7.5	8.4

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	7.2	6.3	6.6	5.7	4.7	5.2	8.0	7.0	7.5
2	---	---	---	7.3	6.2	6.6	6.1	5.1	5.5	8.1	7.1	7.7
3	---	---	---	7.4	6.1	6.6	6.3	5.2	5.6	8.1	6.9	7.5
4	---	---	---	7.2	6.1	6.5	---	---	---	---	---	---
5	---	---	---	7.2	6.0	6.6	---	---	---	---	---	---
6	---	---	---	7.6	5.9	6.7	---	---	---	---	---	---
7	---	---	---	7.3	6.3	6.7	---	---	---	---	---	---
8	---	---	---	6.8	6.1	6.4	---	---	---	---	---	---
9	---	---	---	6.8	6.1	6.3	---	---	---	---	---	---
10	---	---	---	6.7	5.7	6.2	---	---	---	---	---	---
11	---	---	---	7.1	5.8	6.4	---	---	---	---	---	---
12	6.6	5.9	6.2	7.3	6.2	6.8	5.9	5.3	5.5	7.0	6.2	6.5
13	6.6	5.6	5.8	7.4	6.4	6.9	6.5	5.4	5.9	7.1	6.2	6.6
14	6.0	5.3	5.5	7.6	6.7	7.0	6.7	5.7	6.1	7.0	6.2	6.5
15	5.9	5.2	5.5	7.4	6.6	6.9	6.7	5.8	6.1	6.7	6.1	6.4
16	6.5	5.5	5.8	7.3	6.4	6.7	6.4	5.6	5.9	6.3	5.7	6.0
17	6.8	5.8	6.2	6.8	6.0	6.4	6.3	5.3	5.8	6.0	5.2	5.8
18	7.4	6.2	6.7	6.7	5.9	6.2	6.5	5.7	6.0	6.1	5.3	5.7
19	7.8	6.5	7.0	6.9	5.8	6.2	6.5	5.2	6.0	5.9	5.3	5.7
20	8.1	6.9	7.4	6.4	5.5	6.0	6.1	4.7	5.7	5.8	5.1	5.5
21	8.3	7.0	7.7	6.1	5.4	5.8	---	---	---	5.7	5.1	5.4
22	7.7	7.0	7.4	6.1	5.5	5.7	---	---	---	5.4	4.7	5.2
23	7.3	6.5	7.0	6.2	5.2	5.7	---	---	---	5.6	4.8	5.2
24	6.9	6.0	6.7	5.9	5.2	5.5	---	---	---	5.8	5.2	5.4
25	6.9	6.2	6.6	5.8	5.1	5.5	---	---	---	5.6	4.7	5.3
26	6.9	5.9	6.4	5.7	5.0	5.3	6.9	6.1	6.5	5.2	4.5	4.9
27	6.8	6.1	6.4	5.8	4.9	5.4	7.0	5.8	6.5	5.5	4.3	4.9
28	7.6	6.3	6.9	6.2	5.3	5.7	7.4	6.4	6.9	5.7	5.1	5.5
29	7.3	6.6	6.9	6.1	5.3	5.7	7.3	6.5	7.0	5.9	5.3	5.6
30	7.0	6.3	6.7	5.7	5.0	5.3	7.3	6.3	6.9	6.0	5.4	5.8
31	---	---	---	5.3	4.6	5.1	7.8	6.7	7.2	---	---	---
MONTH	8.3	5.2	6.6	7.6	4.6	6.2	7.8	4.7	6.1	8.1	4.3	5.9

CHRISTINA RIVER BASIN

01478137 TROUT RUN AT AVONDALE, PA

LOCATION.--Lat 39°49'18", long 75°46'46", Chester County, Hydrologic Unit 02040205, on right bank downstream wingwall of bridge on SR 41, 100 ft south of intersection with T442 in borough of Avondale.

DRAINAGE AREA.--1.34 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1997 to September 1998 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 270 ft above sea level, from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND, JULY 1997 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	.45	.41
2	---	---	---	---	---	---	---	---	---	---	.43	.43
3	---	---	---	---	---	---	---	---	---	---	.41	.42
4	---	---	---	---	---	---	---	---	---	---	.41	.37
5	---	---	---	---	---	---	---	---	---	---	e.80	.37
6	---	---	---	---	---	---	---	---	---	---	e.75	.38
7	---	---	---	---	---	---	---	---	---	---	e.68	.38
8	---	---	---	---	---	---	---	---	---	---	e.68	.39
9	---	---	---	---	---	---	---	---	---	---	e.68	.37
10	---	---	---	---	---	---	---	---	---	.53	e.68	.83
11	---	---	---	---	---	---	---	---	---	.52	e.62	e8.0
12	---	---	---	---	---	---	---	---	---	e.50	e.62	e1.2
13	---	---	---	---	---	---	---	---	---	.48	e.62	e.88
14	---	---	---	---	---	---	---	---	---	.51	e.60	e.68
15	---	---	---	---	---	---	---	---	---	.51	.56	e.60
16	---	---	---	---	---	---	---	---	---	.56	.51	e.50
17	---	---	---	---	---	---	---	---	---	.54	.53	e.50
18	---	---	---	---	---	---	---	---	---	.51	.66	e.45
19	---	---	---	---	---	---	---	---	---	.43	.35	e.45
20	---	---	---	---	---	---	---	---	---	.39	5.0	e.45
21	---	---	---	---	---	---	---	---	---	.45	.96	e.41
22	---	---	---	---	---	---	---	---	---	.83	.55	e.41
23	---	---	---	---	---	---	---	---	---	2.3	.48	.41
24	---	---	---	---	---	---	---	---	---	2.3	.42	.40
25	---	---	---	---	---	---	---	---	---	.97	.44	.42
26	---	---	---	---	---	---	---	---	---	.57	.49	.39
27	---	---	---	---	---	---	---	---	---	.53	.46	.34
28	---	---	---	---	---	---	---	---	---	.84	.65	.51
29	---	---	---	---	---	---	---	---	---	.53	.48	.53
30	---	---	---	---	---	---	---	---	---	.47	.44	.38
31	---	---	---	---	---	---	---	---	---	.44	.45	---
TOTAL	---	---	---	---	---	---	---	---	---	---	21.86	22.26
MEAN	---	---	---	---	---	---	---	---	---	---	.71	.74
MAX	---	---	---	---	---	---	---	---	---	---	5.0	8.0
MIN	---	---	---	---	---	---	---	---	---	---	.35	.34
CFSM	---	---	---	---	---	---	---	---	---	---	.53	.55
IN.	---	---	---	---	---	---	---	---	---	---	.61	.62

e Estimated.

CHRISTINA RIVER BASIN

01478137 TROUT RUN AT AVONDALE, PA--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	4.7	e.68	.89	1.3	1.7	5.1	1.6	2.6	e.65	.50	.32
2	.31	2.1	e.62	.83	1.3	1.6	4.4	1.7	1.1	.61	.48	1.1
3	.31	.79	.64	.82	1.2	8.0	2.1	1.5	1.1	.61	.47	.41
4	.30	.72	.76	.80	1.8	3.2	e1.8	1.8	1.0	.61	.47	.35
5	.29	.66	.69	.80	2.8	2.0	e1.7	1.6	1.0	.61	.50	.33
6	.29	.63	.70	.77	1.5	1.8	1.6	1.4	.95	.68	.49	.33
7	.35	.76	.66	1.2	1.3	1.6	1.5	1.3	.93	.70	.51	.41
8	.37	3.0	.61	1.7	1.2	4.8	1.6	6.8	.96	5.2	.50	.42
9	.30	2.1	.65	1.1	1.1	16	7.1	5.8	.98	.87	.48	.33
10	.34	.78	1.4	.92	1.1	3.9	3.6	3.5	1.0	.68	5.0	.33
11	.31	.68	.82	.84	2.5	2.3	2.1	7.7	1.2	.58	.65	.36
12	.30	.67	.69	.82	7.2	1.9	1.8	11	8.7	.53	.42	.32
13	.32	.61	.61	.76	1.7	1.8	1.7	3.8	4.0	.52	.38	.34
14	.32	2.0	.60	.76	1.4	1.7	1.8	2.2	2.4	.48	.38	.33
15	.77	.84	.59	2.2	1.2	1.6	1.8	1.9	1.5	.54	.35	.32
16	.37	.69	.60	3.2	1.2	1.5	1.7	1.7	1.3	.53	.36	.36
17	.33	.65	.60	1.1	4.9	1.4	1.9	1.6	1.4	.56	4.2	.96
18	.84	.66	.55	1.1	4.3	2.1	1.6	1.5	1.1	.54	.72	.32
19	.40	.64	.57	.96	2.1	13	2.4	1.3	1.0	.54	.46	.31
20	.38	.61	.55	.90	1.7	3.9	2.1	1.3	.99	.57	.41	.29
21	.39	1.8	.54	e.81	1.4	15	1.6	1.2	.90	.67	.42	.31
22	.34	4.1	.59	e.75	1.3	5.4	1.5	1.1	.91	.70	.39	.52
23	.36	.82	1.2	15	7.9	3.2	1.5	1.1	.94	.79	.40	.30
24	.41	e.68	.79	5.7	9.9	2.5	1.5	1.1	.96	.61	.40	.28
25	1.3	e.68	3.9	2.6	3.8	2.2	1.5	1.1	.81	.53	.40	.31
26	2.0	e.68	1.1	1.5	2.1	1.9	1.7	1.1	1.3	.56	.48	.31
27	1.0	e.62	1.3	1.3	1.8	1.8	1.5	1.1	.76	.54	1.6	.30
28	.52	e.62	1.1	8.8	1.7	1.8	1.4	e1.0	.65	.47	.33	.30
29	.46	e.62	1.2	3.0	---	1.7	1.4	1.1	e.95	.50	.32	.31
30	.44	e.62	2.3	1.8	---	1.7	1.4	1.0	e.70	.50	.32	.34
31	.45	---	1.0	1.5	---	1.7	---	.98	---	1.2	.33	---
TOTAL	15.23	35.53	28.61	65.23	72.7	114.7	64.4	72.88	44.09	23.68	23.12	11.52
MEAN	.49	1.18	.92	2.10	2.60	3.70	2.15	2.35	1.47	.76	.75	.38
MAX	2.0	4.7	3.9	15	9.9	16	7.1	11	8.7	5.2	5.0	1.1
MIN	.29	.61	.54	.75	1.1	1.4	1.4	.98	.65	.47	.32	.28
CFSM	.37	.88	.69	1.57	1.94	2.76	1.60	1.75	1.10	.57	.56	.29
IN.	.42	.99	.79	1.81	2.02	3.18	1.79	2.02	1.22	.66	.64	.32

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

	1997	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997	1998
MEAN	.49	1.18	.92	2.10	2.60	3.70	2.15	2.35	1.47	.76	.73	.56
MAX	.49	1.18	.92	2.10	2.60	3.70	2.15	2.35	1.47	.76	.75	.74
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997
MIN	.49	1.18	.92	2.10	2.60	3.70	2.15	2.35	1.47	.76	.71	.38
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1997	1998

e Estimated.

CHRISTINA RIVER BASIN

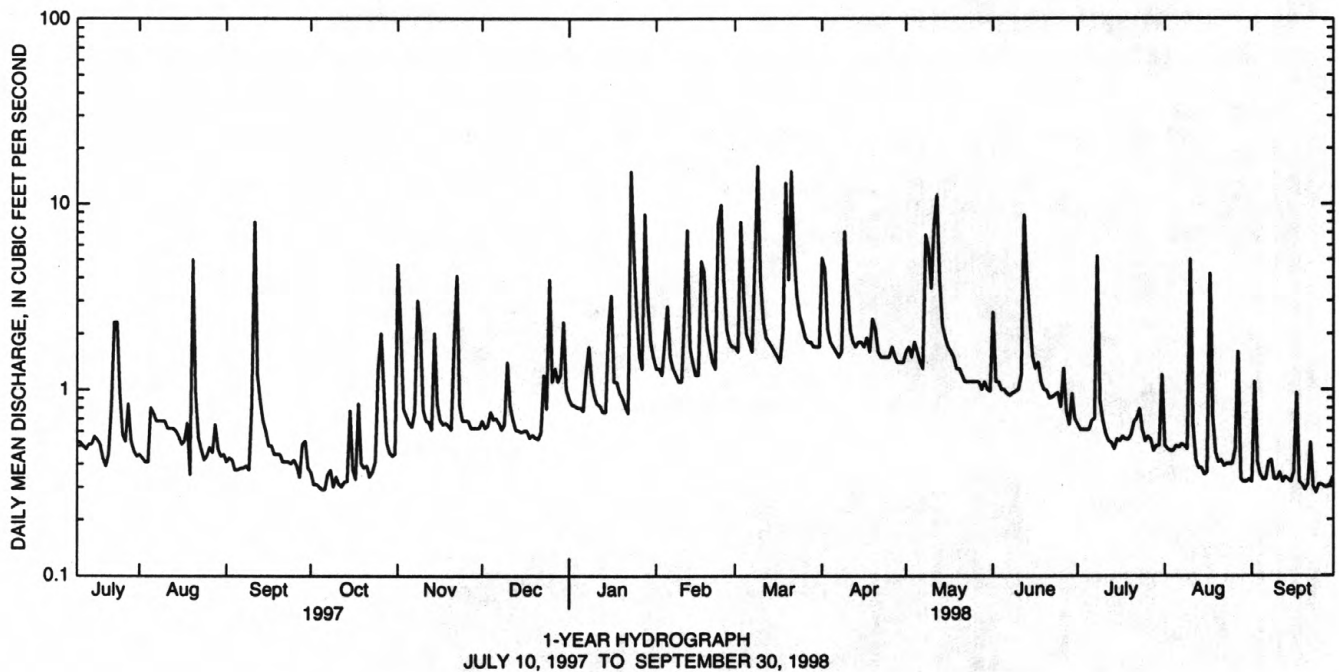
01478137 TROUT RUN AT AVONDALE, PA--Continued

SUMMARY STATISTICS

FOR 1998 WATER YEAR

FOR PERIOD OF DAILY RECORD

ANNUAL TOTAL	571.69				
ANNUAL MEAN	1.57			1.57	
HIGHEST ANNUAL MEAN				1.57	1998
LOWEST ANNUAL MEAN				1.57	1998
HIGHEST DAILY MEAN	16	Mar 9		16	Mar 9 1998
LOWEST DAILY MEAN	.28	Sep 24		.28	Sep 24 1998
ANNUAL SEVEN-DAY MINIMUM	.30	Sep 23		.30	Sep 23 1998
INSTANTANEOUS PEAK FLOW	56	Mar 21		56	Mar 21 1998
INSTANTANEOUS PEAK STAGE	3.64	Mar 21		3.64	Mar 21 1998
INSTANTANEOUS LOW FLOW	.25	Sep 24		.25	Sep 24 1998
ANNUAL RUNOFF (CFSM)	1.17			1.17	
ANNUAL RUNOFF (INCHES)	15.87			15.88	
10 PERCENT EXCEEDS	3.2			2.6	
50 PERCENT EXCEEDS	.96			.76	
90 PERCENT EXCEEDS	.34			.36	



CHRISTINA RIVER BASIN

01478137 TROUT RUN AT AVONDALE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1997 to September 1998 (discontinued).

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

REMARKS.--Interruptions in the record were due to malfunctions of the recording or monitoring instrument.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	---	---	---	2.0	.5	1.0
2	---	---	---	---	---	---	---	---	---	5.5	1.0	3.0
3	---	---	---	---	---	---	7.0	3.5	5.0	7.0	3.0	5.0
4	---	---	---	---	---	---	9.0	5.5	7.5	9.0	5.0	6.5
5	---	---	---	---	---	---	8.5	5.0	7.0	9.0	4.0	6.0
6	---	---	---	---	---	---	6.0	3.5	4.5	10.0	6.5	8.5
7	---	---	---	---	---	---	5.0	3.0	4.0	12.0	10.0	10.5
8	---	---	---	---	---	---	6.0	4.5	5.0	15.0	11.5	13.0
9	---	---	---	---	---	---	6.0	3.0	4.5	13.0	9.0	12.0
10	---	---	---	---	---	---	6.5	5.5	6.0	9.0	5.5	7.0
11	---	---	---	---	---	---	7.0	5.5	6.0	7.5	4.0	5.5
12	---	---	---	---	---	---	7.0	4.5	6.0	6.0	2.5	4.0
13	---	---	---	---	---	---	5.5	2.0	4.0	8.0	4.5	6.5
14	---	---	---	---	---	---	5.0	3.0	4.0	5.0	2.0	3.0
15	---	---	---	---	---	---	5.0	1.5	3.0	4.5	2.0	3.0
16	---	---	---	---	---	---	6.0	1.5	3.5	5.5	4.0	5.0
17	---	---	---	---	---	---	6.0	2.5	4.0	6.5	4.0	5.0
18	---	---	---	---	---	---	5.0	1.5	3.0	5.5	4.5	5.0
19	---	---	---	---	---	---	5.5	2.5	4.0	6.0	4.5	5.0
20	---	---	---	---	---	---	6.0	2.5	4.5	6.0	3.5	4.5
21	---	---	---	---	---	---	4.5	2.0	3.0	---	---	---
22	---	---	---	---	---	---	4.0	1.0	2.0	---	---	---
23	---	---	---	---	---	---	6.0	3.5	4.5	5.5	3.0	4.5
24	---	---	---	---	---	---	6.0	3.5	5.0	7.0	4.5	6.0
25	---	---	---	---	---	---	7.5	5.0	6.0	6.0	4.0	4.5
26	---	---	---	---	---	---	7.5	5.0	6.5	6.5	3.0	4.5
27	---	---	---	---	---	---	5.0	3.5	4.5	6.5	3.5	5.0
28	---	---	---	---	---	---	5.0	2.5	3.5	5.5	2.5	4.0
29	---	---	---	---	---	---	4.5	1.0	3.0	7.0	3.5	5.0
30	---	---	---	---	---	---	4.5	3.5	4.0	6.5	4.0	5.0
31	---	---	---	---	---	---	3.5	.5	2.5	7.0	4.0	5.5
MONTH	---	---	---	---	---	---	9.0	.5	4.5	15.0	.5	5.6

CHRISTINA RIVER BASIN

01478137 TROUT RUN AT AVONDALE, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	6.5	2.5	4.0	11.5	8.5	9.5	17.0	14.0	15.5	15.5	13.5	14.5
2	7.0	2.0	4.5	11.0	6.5	9.0	18.5	12.5	15.5	15.5	13.5	14.5
3	7.0	5.0	6.0	9.0	6.0	7.0	16.5	10.5	13.0	16.5	13.5	15.0
4	6.0	4.5	5.0	9.0	5.0	7.0	---	---	---	17.0	14.5	15.5
5	5.5	4.5	5.0	8.5	5.0	6.5	---	---	---	16.5	14.5	15.0
6	8.0	5.0	6.0	10.5	4.0	6.5	14.5	6.5	10.0	16.0	14.5	15.0
7	6.5	3.5	5.0	11.0	6.0	8.5	15.5	6.5	11.0	18.0	14.0	16.0
8	7.0	3.5	5.0	9.0	7.0	8.0	15.0	10.0	12.5	16.0	14.5	15.0
9	7.5	2.0	4.5	11.5	7.0	9.5	12.0	9.0	10.5	15.5	14.0	14.5
10	8.5	2.5	5.0	10.0	5.0	7.5	13.5	9.0	10.5	14.5	13.5	14.5
11	8.5	3.0	5.5	6.5	3.0	4.5	15.0	7.5	10.5	14.0	13.0	13.5
12	8.5	6.0	8.0	5.0	2.0	3.5	15.5	7.5	11.0	14.0	12.5	13.0
13	8.0	4.5	6.0	7.5	2.0	4.5	16.5	7.5	12.0	17.0	12.0	14.0
14	6.5	3.5	5.0	8.5	4.0	5.5	17.0	10.0	13.0	18.0	11.5	14.5
15	6.0	1.5	3.5	8.5	3.5	5.5	18.0	12.5	14.5	19.5	12.5	16.0
16	5.5	1.5	3.5	9.5	3.5	6.0	17.5	12.5	15.0	21.0	14.5	17.5
17	6.5	5.0	5.5	10.0	3.0	6.0	19.0	14.5	16.0	20.0	16.0	18.0
18	9.5	6.5	8.0	7.5	6.0	6.5	16.5	11.5	13.5	20.5	15.0	17.5
19	9.0	7.5	8.0	8.0	5.5	7.0	13.5	11.0	12.5	20.5	15.5	18.0
20	8.5	6.0	7.5	8.5	7.0	7.5	15.0	11.0	12.5	21.0	16.0	18.5
21	9.0	6.5	7.5	7.0	5.0	6.0	16.5	9.5	13.0	20.0	16.5	18.0
22	9.5	5.0	7.0	6.5	4.5	5.5	16.5	10.5	13.5	17.5	13.5	15.5
23	7.0	5.0	6.0	9.5	4.0	6.5	13.0	11.5	12.5	17.5	12.5	14.5
24	6.5	5.0	5.5	8.5	4.0	6.0	17.0	11.0	13.5	17.5	12.0	15.0
25	9.5	5.0	6.5	11.5	3.5	7.0	17.0	11.5	14.0	17.5	15.0	16.0
26	10.5	5.0	7.5	13.5	6.5	9.5	13.5	11.0	12.0	19.0	15.5	17.0
27	11.5	5.5	8.0	17.5	9.0	12.5	15.0	10.0	12.0	19.0	15.0	17.0
28	10.0	8.5	9.0	18.0	11.5	14.0	14.5	8.5	11.5	---	---	---
29	---	---	---	19.0	11.5	15.0	16.5	9.0	12.5	21.0	16.5	18.5
30	---	---	---	20.0	11.5	15.5	16.5	11.5	14.0	21.0	17.5	19.0
31	---	---	---	20.5	13.0	16.5	---	---	---	22.0	17.5	20.0
MONTH	11.5	1.5	6.0	20.5	2.0	8.0	19.0	6.5	12.8	22.0	11.5	16.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	20.5	17.0	19.0	---	---	---	20.5	17.0	18.5	20.5	18.0	19.5
2	20.0	14.5	17.0	21.0	16.5	19.0	20.5	16.0	18.5	21.5	17.5	19.5
3	18.0	15.5	17.0	21.5	17.0	19.0	20.5	16.0	18.5	20.0	17.5	19.0
4	17.5	13.5	15.5	21.0	17.5	19.5	21.0	17.0	19.0	20.5	18.0	19.0
5	17.0	13.5	15.5	21.5	18.5	19.5	21.0	17.0	19.0	19.5	17.0	18.5
6	17.0	13.5	15.0	21.0	16.5	19.0	21.0	17.0	19.0	20.0	16.5	18.5
7	16.0	13.5	14.5	20.5	17.5	19.0	20.5	17.0	19.0	20.5	18.5	19.0
8	17.0	12.5	14.5	19.5	18.0	18.5	21.5	18.5	20.0	20.0	17.0	18.5
9	17.0	13.5	15.5	20.0	17.5	18.5	21.5	19.0	20.5	17.0	15.0	16.5
10	16.5	14.5	15.5	22.0	18.0	20.0	24.0	19.5	21.0	17.5	15.0	16.0
11	16.5	15.0	15.5	20.0	16.0	18.0	22.5	20.5	21.5	18.0	14.5	16.0
12	18.0	16.5	17.5	21.0	15.5	18.0	22.0	19.0	20.5	19.5	16.0	17.5
13	19.0	17.0	17.5	21.5	16.0	19.0	21.0	18.5	20.0	20.5	17.5	19.0
14	19.0	16.5	17.5	21.5	17.5	19.5	21.0	19.0	20.0	21.0	18.5	20.0
15	18.5	16.0	17.5	21.0	19.0	20.0	21.0	19.0	20.0	21.5	19.0	20.0
16	21.0	17.0	19.0	22.0	19.0	20.5	21.0	19.0	20.0	22.0	19.5	21.0
17	21.5	17.0	19.0	23.0	19.5	21.0	24.5	19.5	21.5	22.5	19.5	20.5
18	21.0	17.5	19.0	22.5	20.0	21.0	23.0	20.5	21.5	20.0	18.0	19.0
19	21.0	17.0	19.0	22.0	18.0	20.0	21.0	17.5	18.5	20.0	17.5	19.0
20	22.0	18.0	20.0	22.5	19.0	21.0	19.5	15.5	17.5	20.0	18.0	19.0
21	22.5	18.5	20.5	23.5	19.5	21.5	20.5	15.5	18.0	20.5	18.5	19.5
22	---	---	---	23.0	20.0	21.5	21.5	18.5	20.0	21.0	19.0	20.0
23	---	---	---	23.5	20.0	21.5	21.0	19.0	20.0	19.0	14.5	16.5
24	---	---	---	22.5	20.0	21.0	22.0	19.5	20.5	16.5	12.5	14.5
25	23.5	18.5	21.0	21.5	18.5	20.0	21.5	20.0	20.5	17.0	15.0	16.0
26	24.0	20.0	21.5	20.5	18.0	19.5	23.0	20.0	21.5	19.5	15.5	17.5
27	22.5	20.0	21.0	21.5	17.0	19.5	23.0	21.5	22.0	21.0	17.5	19.0
28	21.5	18.5	20.0	22.0	18.5	20.0	22.5	20.5	21.5	20.0	17.0	19.0
29	---	---	---	22.5	19.5	21.0	22.0	19.0	20.5	17.5	14.5	16.0
30	---	---	---	22.0	19.5	21.0	21.5	19.0	20.5	18.5	15.0	17.0
31	---	---	---	22.0	19.5	20.5	22.0	19.5	20.5	---	---	---
MONTH	24.0	12.5	17.8	23.5	15.5	19.9	24.5	15.5	20.0	22.5	12.5	18.3

CHRISTINA RIVER BASIN

01478245 WHITE CLAY CREEK NEAR STRICKERSVILLE, PA

LOCATION.--Lat 39°44'51", long 75°46'15", Chester County, Hydrologic Unit 02040205, on right bank 0.1 mi downstream from West Branch White Clay Creek, in the White Clay Creek State Preserve, and 1.5 mi northeast of Strickersville.

DRAINAGE AREA.--59.2 mi².

PERIOD OF RECORD.--August 1996 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 120 ft above sea level, from topographic map.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 23	1715	*1,060	*6.58	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	73	e36	e38	59	75	99	69	75	62	32	20
2	21	76	e35	e40	57	72	224	88	54	52	28	24
3	21	53	e33	e38	55	199	98	91	52	47	27	39
4	21	37	e35	e38	58	137	91	86	50	44	26	24
5	20	33	e33	38	91	93	87	75	49	41	25	21
6	19	32	e30	37	73	83	81	72	48	36	24	20
7	19	35	e28	39	60	79	78	69	46	34	23	20
8	19	68	e30	65	56	109	79	141	45	109	23	25
9	19	73	33	63	53	433	197	165	44	67	23	20
10	19	50	38	48	52	160	191	139	45	46	106	19
11	20	39	51	41	53	104	109	197	47	39	98	18
12	20	35	39	39	209	92	96	330	196	36	30	18
13	21	33	36	39	80	86	91	160	141	35	26	18
14	21	e53	34	37	67	86	89	105	156	34	25	17
15	29	e60	33	42	60	81	86	89	71	34	24	18
16	31	e40	33	125	58	76	82	79	63	35	23	18
17	25	e35	33	59	86	75	88	73	55	34	43	22
18	35	e30	32	53	172	93	86	68	52	33	58	20
19	31	e30	32	49	98	308	93	64	48	31	33	19
20	e24	e30	32	45	82	134	122	60	47	31	25	19
21	e20	e32	31	43	76	420	89	56	47	35	24	19
22	e19	116	31	41	74	180	82	54	45	37	23	24
23	e21	e55	52	352	167	130	80	53	47	34	23	21
24	e24	e43	42	195	342	109	77	52	51	37	22	19
25	47	e38	114	101	183	100	71	51	48	31	21	19
26	38	e39	57	71	100	97	71	51	60	29	21	21
27	64	37	48	62	87	93	77	52	69	28	45	20
28	32	e36	53	188	81	88	67	52	56	28	24	20
29	28	37	45	120	---	85	66	51	58	27	21	18
30	26	36	86	77	---	82	66	55	67	27	21	18
31	26	---	53	65	---	80	---	51	---	38	20	---
TOTAL	801	1384	1298	2288	2689	4039	2913	2798	1932	1231	987	618
MEAN	25.8	46.1	41.9	73.8	96.0	130	97.1	90.3	64.4	39.7	31.8	20.6
MAX	64	116	114	352	342	433	224	330	196	109	106	39
MIN	19	30	28	37	52	72	66	51	44	27	20	17
CFSM	.44	.78	.71	1.25	1.62	2.20	1.64	1.52	1.09	.67	.54	.35
IN.	.50	.87	.82	1.44	1.69	2.54	1.83	1.76	1.21	.77	.62	.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1998, BY WATER YEAR (WY)

	1996	1997	1998	1996	1997	1998	1996	1997	1998	1996	1997	1998
MEAN	84.3	82.4	144	104	115	138	112	83.1	54.8	37.7	51.7	42.7
MAX	143	119	246	134	134	146	126	90.3	64.4	39.7	96.2	80.0
(WY)	1997	1997	1997	1997	1997	1997	1997	1998	1998	1998	1996	1996
MIN	25.8	46.1	41.9	73.8	96.0	130	97.1	76.0	45.1	35.6	27.0	20.6
(WY)	1998	1998	1998	1998	1998	1998	1998	1997	1997	1997	1997	1998

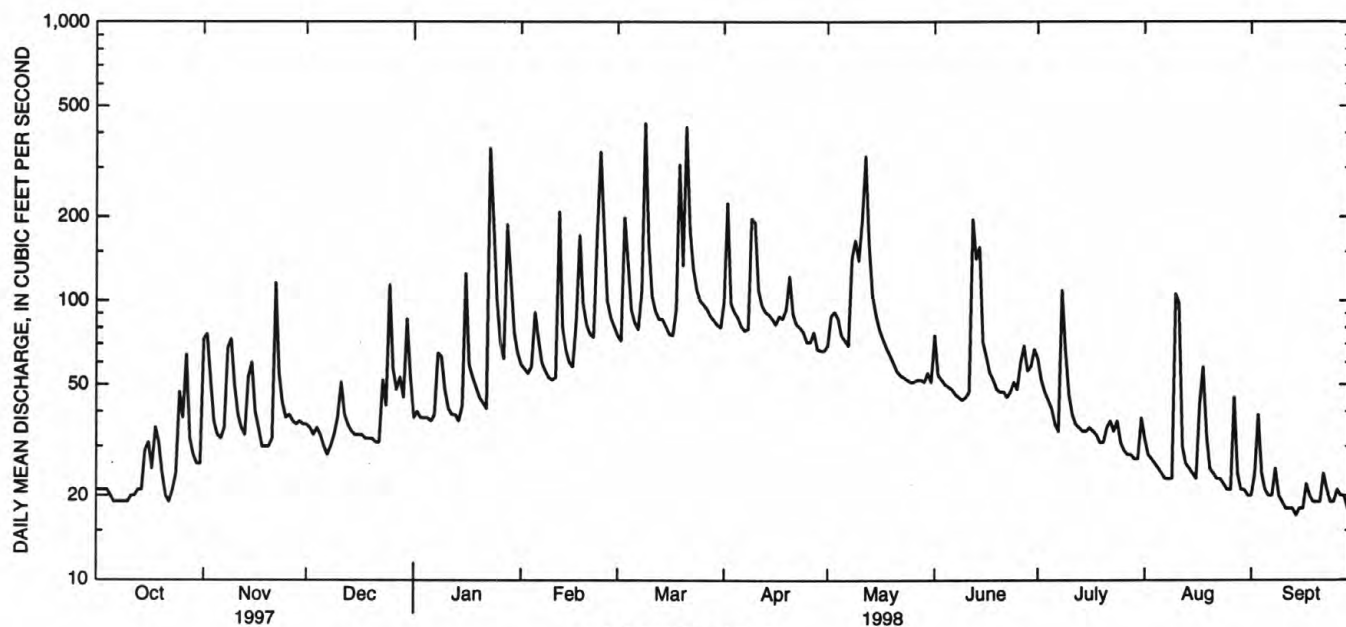
e Estimated.

CHRISTINA RIVER BASIN

01478245 WHITE CLAY CREEK NEAR STRICKERSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1996 - 1998	
ANNUAL TOTAL	26185		22978		84.0	
ANNUAL MEAN	71.7		63.0		105	
HIGHEST ANNUAL MEAN					63.0	
LOWEST ANNUAL MEAN					1997	
HIGHEST DAILY MEAN	e420	Jan 25	433	Mar 9	1540	Oct 19 1996
LOWEST DAILY MEAN	19	Oct 6-10,22	17	Sep 14	17	Sep 14 1998
ANNUAL SEVEN-DAY MINIMUM	19	Oct 5	18	Sep 10	18	Sep 10 1998
INSTANTANEOUS PEAK FLOW			a1060	Jan 23	a3940	Oct 19 1996
INSTANTANEOUS PEAK STAGE			6.58	Jan 23	b10.24	Oct 19 1996
INSTANTANEOUS LOW FLOW			16	Sep 14	16	Sep 14 1998
ANNUAL RUNOFF (CFSM)	1.21		1.06		1.42	
ANNUAL RUNOFF (INCHES)	16.45		14.44		19.27	
10 PERCENT EXCEEDS	129		109		152	
50 PERCENT EXCEEDS	51		48		62	
90 PERCENT EXCEEDS	23		21		23	

a From rating curve extended above 426 ft³/s.
b From floodmark.
e Estimated.



1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

CHRISTINA RIVER BASIN

01479820 RED CLAY CREEK NEAR KENNETT SQUARE, PA

LOCATION.--Lat 39°49'00", long 75°41'31", Chester County, Hydrologic Unit 02040205, on left bank along SR 82 (Creek Road), and 3.0 mi south of the intersection of SR 82 and U.S. Highway 1 at Kennett Square.

DRAINAGE AREA.--28.3 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 200 ft above sea level, from topographic map.

REMARKS.--Records poor. Some regulation upstream of gage. Several measurements of water temperature were made during the year. Satellite telemetry at station.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 21	0645	*932	*5.76	(No peaks above base discharge.)			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	61	20	19	24	44	51	32	42	26	22	9.3
2	12	40	19	19	23	44	75	40	31	23	19	15
3	11	27	19	20	23	95	43	37	31	20	17	31
4	12	21	22	20	24	63	42	35	27	19	e15	12
5	11	20	21	20	38	48	40	34	27	18	e14	10
6	11	19	20	20	29	44	38	43	27	18	e13	9.7
7	12	21	19	22	24	43	37	35	26	18	e13	10
8	12	50	19	38	22	63	37	71	26	64	e13	16
9	12	48	19	30	20	246	92	87	26	35	e14	12
10	12	27	23	23	19	70	70	66	27	27	22	11
11	10	22	27	21	20	53	45	86	28	23	34	9.8
12	8.9	21	21	21	74	48	39	110	134	20	15	9.0
13	9.5	20	20	21	27	47	37	63	51	18	14	7.8
14	12	36	19	20	24	46	37	49	50	19	14	9.5
15	17	34	19	24	22	45	37	44	33	19	11	9.4
16	16	24	19	60	21	43	36	41	31	e19	14	9.1
17	15	21	18	27	43	43	39	38	28	e18	61	19
18	21	21	18	25	71	50	37	37	24	e18	30	12
19	16	20	18	23	37	166	43	36	23	e17	27	12
20	e14	18	18	22	29	65	52	35	23	e17	18	12
21	e12	18	18	21	26	246	38	33	22	e20	15	10
22	e13	66	17	20	24	75	36	30	22	e25	11	16
23	e17	24	29	262	68	57	36	28	22	e22	13	12
24	e16	21	21	81	133	50	35	27	23	e20	13	8.4
25	e25	21	62	41	76	47	33	28	23	e19	12	8.8
26	e20	21	27	28	54	45	34	28	30	e18	11	9.9
27	45	20	26	25	49	44	36	26	29	e17	24	9.5
28	21	20	28	81	47	41	32	26	23	e16	13	8.1
29	e16	20	23	42	---	38	32	27	29	e16	10	6.7
30	e15	20	39	29	---	37	32	31	29	e16	9.5	7.5
31	e14	---	22	26	---	36	---	28	---	e25	10	---
TOTAL	471.4	822	710	1151	1091	2082	1271	1331	967	670	541.5	342.5
MEAN	15.2	27.4	22.9	37.1	39.0	67.2	42.4	42.9	32.2	21.6	17.5	11.4
MAX	45	66	62	262	133	246	92	110	134	64	61	31
MIN	8.9	18	17	19	19	36	32	26	22	16	9.5	6.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1998, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	30.1	35.7	43.4	51.1	44.8	59.5	47.7	44.4	33.5	30.2	23.8	25.8
MAX	75.5	61.3	128	96.1	81.3	116	85.5	79.2	57.3	94.5	55.2	66.8
(WY)	1997	1997	1997	1996	1994	1994	1993	1989	1996	1989	1996	1993
MIN	10.8	17.7	20.0	22.0	24.9	34.0	24.9	25.6	16.0	12.0	5.84	8.83
(WY)	1995	1995	1989	1992	1995	1990	1992	1995	1995	1995	1995	1995

e Estimated.

CHRISTINA RIVER BASIN

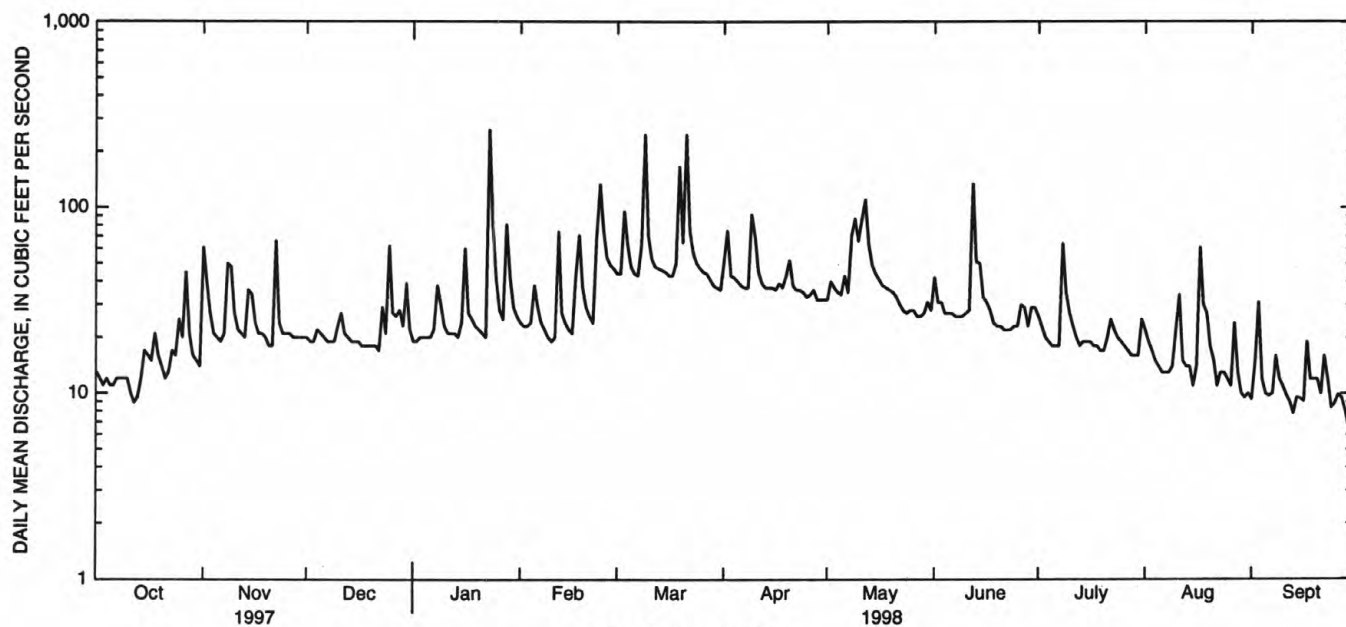
01479820 RED CLAY CREEK NEAR KENNETT SQUARE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1988 - 1998	
ANNUAL TOTAL	12831.1		11450.4		39.5	
ANNUAL MEAN	35.2		31.4		21.4	
HIGHEST ANNUAL MEAN					52.0	
LOWEST ANNUAL MEAN					1997	
HIGHEST DAILY MEAN	323	Jan 25	262	Jan 23	e1200	Jan 19 1996
LOWEST DAILY MEAN	8.9	Oct 12	6.7	Sep 29	.86	Sep 3 1995
ANNUAL SEVEN-DAY MINIMUM	11	Oct 7	8.4	Sep 24	1.1	Sep 2 1995
INSTANTANEOUS PEAK FLOW			932	Mar 21	a3760	Jan 19 1996
INSTANTANEOUS PEAK STAGE			5.76	Mar 21	b9.22	Jan 19 1996
10 PERCENT EXCEEDS	58		52		61	
50 PERCENT EXCEEDS	27		23		28	
90 PERCENT EXCEEDS	13		12		13	

a From rating curve extended above 2,100 ft³/s.

b From outside gage; peak may have been higher.

e Estimated.



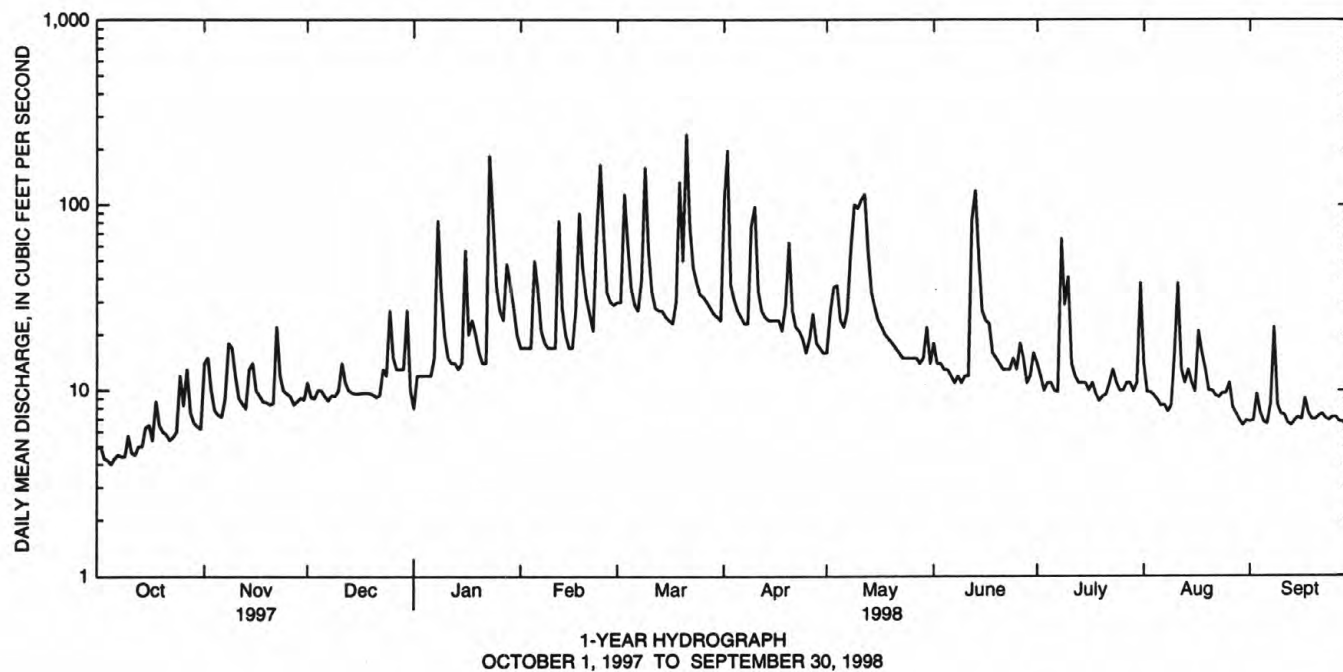
1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

CHRISTINA RIVER BASIN

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1960 - 1998	
ANNUAL TOTAL	7141.9		8354.1			
ANNUAL MEAN	19.6		22.9		26.7	
HIGHEST ANNUAL MEAN					47.0	
LOWEST ANNUAL MEAN					12.8	
HIGHEST DAILY MEAN	236	Jan 28	242	Mar 21	2520	Jun 22 1972
LOWEST DAILY MEAN	4.0	Oct 5	4.0	Oct 5	1.7	Aug 19 1963
ANNUAL SEVEN-DAY MINIMUM	4.3	Oct 3	4.3	Oct 3	2.1	Sep 7 1966
INSTANTANEOUS PEAK FLOW			709	Apr 2	a8920	Jan 19 1996
INSTANTANEOUS PEAK STAGE			6.35	Apr 2	11.62	Jan 19 1996
INSTANTANEOUS LOW FLOW			4.0	Oct 4-9	1.7	Aug 15 1963
ANNUAL RUNOFF (CFSM)	1.05		1.22		1.43	
ANNUAL RUNOFF (INCHES)	14.21		16.62		19.37	
10 PERCENT EXCEEDS	32		43		41	
50 PERCENT EXCEEDS	13		13		15	
90 PERCENT EXCEEDS	6.2		6.9		6.9	

a From rating curve extended above 8,200 ft³/s on basis of slope-area measurement at gage height 11.54 ft.



CHRISTINA RIVER BASIN

01480400 BIRCH RUN NEAR WAGONTOWN, PA

LOCATION.--Lat 40°01'38", long 75°50'43", Chester County, Hydrologic Unit 02040205, on right bank 15 ft upstream from SR 4005, 0.2 mi upstream of mouth, 0.6 mi downstream from Chambers Lake Reservoir, and 1.1 mi northwest of Wagontown.

DRAINAGE AREA.--4.55 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1995 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 510 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Flow regulated by Chambers Lake Reservoir (station 01480399) 0.6 mi upstream. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	3.1	2.8	1.5	3.8	7.4	19	11	6.8	2.0	1.9	2.1
2	1.6	3.2	2.9	1.5	3.6	6.4	54	8.3	6.8	2.0	1.9	2.2
3	1.6	3.7	2.9	1.5	3.6	14	25	8.7	6.9	1.9	1.9	2.1
4	1.6	3.5	2.9	1.5	3.7	18	17	8.8	7.2	2.0	1.9	2.0
5	1.6	3.5	3.0	1.5	6.2	12	15	8.8	7.2	2.0	1.9	2.1
6	1.6	3.6	3.0	1.5	7.0	9.4	15	8.9	7.2	1.9	1.9	2.2
7	1.6	3.5	2.9	1.5	5.3	7.7	15	8.9	7.2	2.0	1.9	2.3
8	1.6	3.5	3.0	1.6	4.3	9.0	14	9.1	5.4	2.1	1.9	2.3
9	1.6	3.5	2.8	1.6	3.7	38	15	9.2	2.1	2.0	2.0	2.3
10	1.6	3.5	2.7	1.5	3.5	30	18	9.3	2.1	2.0	2.0	2.3
11	1.6	3.5	2.5	1.5	3.6	16	15	9.4	2.1	2.0	2.0	2.3
12	1.6	2.9	2.3	1.5	20	11	14	9.5	2.4	2.0	2.0	2.4
13	1.6	2.6	2.3	1.5	13	12	14	9.5	2.1	2.0	2.0	2.3
14	3.5	2.9	2.2	1.5	8.3	13	14	9.5	2.1	2.0	2.0	2.3
15	6.3	2.8	2.1	1.6	5.5	13	14	e9.5	2.0	2.0	2.0	2.3
16	5.3	2.8	2.3	1.6	4.5	14	14	e9.5	2.0	2.0	2.0	2.3
17	3.1	2.8	2.2	1.6	5.1	16	13	e9.5	2.0	2.0	2.1	2.3
18	4.2	2.8	2.6	1.6	13	16	14	e9.5	2.0	2.0	2.1	2.4
19	4.4	2.4	3.0	1.6	12	16	14	e9.5	2.0	2.0	2.1	2.4
20	4.4	2.2	2.8	1.5	9.6	16	14	9.5	2.0	2.0	2.1	2.2
21	4.5	2.1	2.4	1.5	8.0	25	15	9.6	2.0	2.0	2.1	2.2
22	4.6	2.0	2.2	1.5	5.7	25	18	9.6	2.0	2.0	2.2	2.3
23	4.7	1.9	1.8	1.9	8.5	19	19	9.6	2.0	2.0	2.2	2.3
24	4.8	1.9	1.5	1.7	30	16	19	9.6	2.0	2.0	2.1	2.2
25	4.8	1.8	1.6	1.6	26	16	19	9.6	2.0	2.0	2.1	2.3
26	4.9	3.0	1.5	1.6	15	15	19	8.7	2.0	2.0	2.2	2.3
27	4.8	3.2	1.5	1.6	11	15	16	7.9	2.0	1.9	2.2	2.2
28	4.6	3.1	1.5	1.7	8.6	15	14	7.9	2.0	1.9	2.2	2.3
29	4.7	2.9	1.5	2.8	---	15	14	7.0	2.0	1.9	2.1	2.2
30	4.5	2.8	1.5	4.0	---	15	14	6.6	2.0	1.9	2.1	2.2
31	3.5	---	1.5	4.1	---	15	---	6.7	---	2.0	2.1	---
TOTAL	102.4	87.0	71.7	54.7	252.1	485.9	514	278.7	99.6	61.5	63.2	67.6
MEAN	3.30	2.90	2.31	1.76	9.00	15.7	17.1	8.99	3.32	1.98	2.04	2.25
MAX	6.3	3.7	3.0	4.1	30	38	54	11	7.2	2.1	2.2	2.4
MIN	1.6	1.8	1.5	1.5	3.5	6.4	13	6.6	2.0	1.9	1.9	2.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1998, BY WATER YEAR (WY)

MEAN	7.88	5.14	11.3	9.02	8.61	12.6	11.5	6.34	4.47	2.82	2.30	2.87
MAX	19.2	11.3	30.3	16.2	9.94	15.7	17.1	8.99	10.4	6.23	4.33	6.19
(WY)	1997	1997	1997	1996	1997	1998	1998	1998	1996	1996	1996	1996
MIN	1.15	1.23	1.21	1.76	5.79	11.1	2.90	3.09	1.58	1.33	1.25	1.45
(WY)	1996	1996	1996	1998	1995	1995	1995	1995	1995	1995	1995	1995

e Estimated.

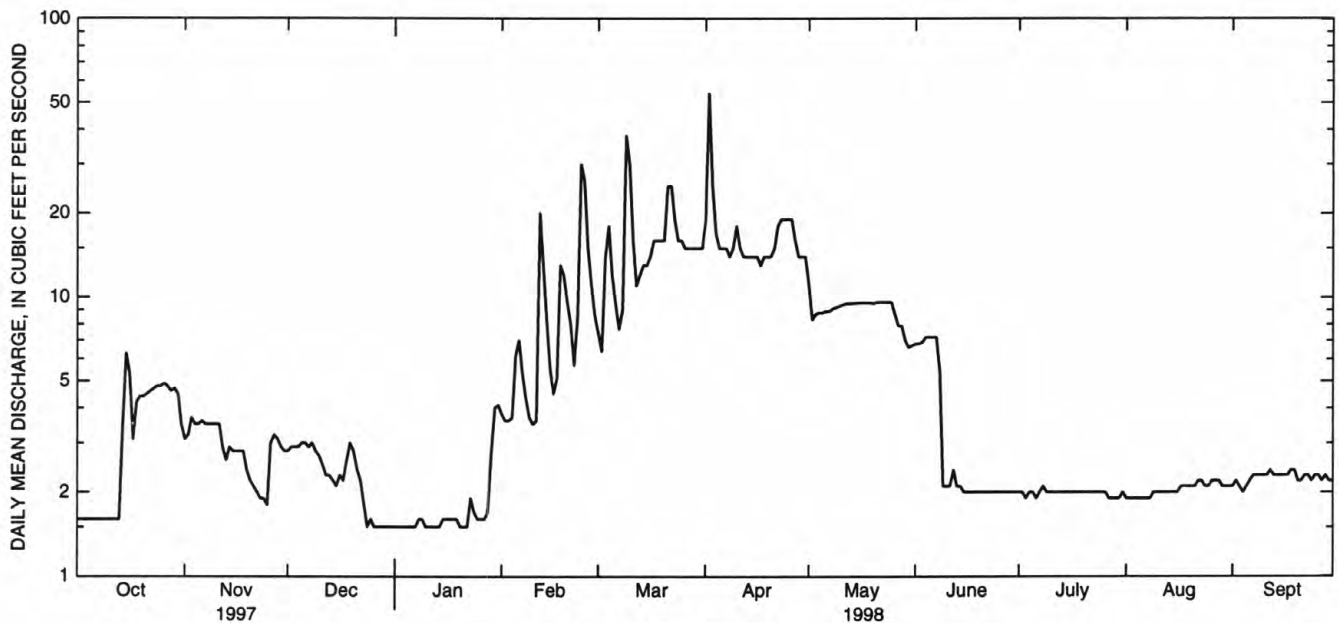
CHRISTINA RIVER BASIN

01480400 BIRCH RUN NEAR WAGONTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1995 - 1998	
ANNUAL TOTAL	1862.1		2138.4			
ANNUAL MEAN	5.10		5.86		6.95	
HIGHEST ANNUAL MEAN					9.52	
LOWEST ANNUAL MEAN					3.55	
HIGHEST DAILY MEAN	50	Jan 28	54	Apr 2	250	Oct 19 1996
LOWEST DAILY MEAN	1.5	Aug 30a	1.5	Dec 24b	.10	Feb 15 1995
ANNUAL SEVEN-DAY MINIMUM	1.5	Sep 4	1.5	Dec 26	.27	Apr 18 1995
INSTANTANEOUS PEAK FLOW			c73		c700	
INSTANTANEOUS PEAK STAGE			3.13		4.99	
10 PERCENT EXCEEDS	10		15		15	
50 PERCENT EXCEEDS	3.0		2.7		3.5	
90 PERCENT EXCEEDS	1.6		1.6		1.2	

a Also Sept. 1, 4-10, 14, 16-19.

b Also Dec. 26, Jan. 7, 10-14, 20-22.

c From rating curve extended above 59 ft³/s.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

CHRISTINA RIVER BASIN

01480400 BIRCH RUN NEAR WAGONTOWN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1996 to current year.

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

REMARKS.--Interruptions in the record were due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 26.0°C, July 19, Aug. 1, 1996; minimum, 0.0°C, several days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 21.0°C, Sept. 12-16, 27; minimum, 0.5°C, Dec. 31, Jan. 1.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.5	15.5	16.5	12.0	11.0	11.5	6.0	4.5	5.5	2.0	.5	1.0
2	17.0	15.0	15.5	12.0	11.0	11.5	5.0	4.0	4.5	3.0	1.0	2.0
3	17.0	15.0	15.5	12.0	10.5	11.0	5.0	4.0	4.5	3.5	1.5	2.5
4	17.5	15.5	16.0	12.0	10.5	11.0	6.0	4.5	5.0	4.0	2.0	3.0
5	18.0	15.5	16.5	11.5	10.0	10.5	5.5	4.0	5.0	4.0	2.0	3.0
6	18.0	15.5	16.5	11.0	10.0	10.5	4.5	3.5	4.0	4.5	2.5	3.5
7	18.0	16.0	16.5	10.5	10.0	10.5	4.0	3.5	3.5	5.0	3.5	4.0
8	17.5	16.0	16.5	10.5	10.0	10.5	4.0	3.5	3.5	6.5	5.0	6.0
9	18.0	15.5	16.5	10.5	10.0	10.0	4.0	3.0	3.5	7.0	5.5	6.0
10	18.0	15.5	16.5	10.5	9.5	9.5	4.0	3.5	4.0	6.5	5.0	6.0
11	17.0	15.0	16.0	10.0	9.0	9.5	4.0	4.0	4.0	6.5	5.0	5.5
12	17.0	14.5	15.5	9.5	8.0	9.0	4.5	3.0	4.0	6.0	4.5	5.0
13	17.5	15.0	16.0	9.0	8.0	8.5	4.0	3.0	3.5	6.0	4.0	5.0
14	16.5	15.0	15.5	8.0	7.5	8.0	3.5	2.5	3.0	5.0	3.5	4.0
15	15.0	15.0	15.0	8.0	7.0	7.5	3.5	2.5	3.0	4.5	3.5	4.0
16	16.0	15.0	15.5	7.5	6.0	7.0	4.0	2.5	3.0	4.5	4.0	4.5
17	16.0	15.0	15.5	7.0	5.5	6.0	4.0	3.0	3.0	5.0	4.0	4.5
18	16.0	15.0	15.5	7.0	5.5	6.0	3.5	2.5	3.0	4.5	3.5	4.0
19	15.5	15.0	15.5	7.0	5.5	6.0	4.0	3.0	3.0	4.5	3.5	4.0
20	16.0	15.0	15.0	7.0	5.5	6.0	4.0	3.0	3.0	4.5	3.0	3.5
21	15.5	14.0	14.5	7.0	5.5	6.0	3.5	2.5	3.0	4.0	2.5	3.0
22	14.5	13.5	14.0	7.0	6.0	6.5	3.0	2.5	3.0	4.5	2.5	3.5
23	14.0	13.0	13.5	7.0	5.5	6.0	4.0	3.0	3.5	4.0	2.5	3.5
24	13.5	12.5	13.0	6.0	5.0	5.5	4.0	2.5	3.0	5.0	2.5	4.0
25	13.0	12.0	12.5	6.0	4.5	5.0	4.5	3.5	3.5	4.0	2.5	3.0
26	12.5	12.0	12.0	6.0	5.0	5.5	4.5	3.0	3.5	4.5	2.5	3.0
27	13.0	12.0	12.5	6.0	5.0	5.5	3.5	2.5	3.0	4.5	2.5	3.5
28	12.0	11.0	11.5	5.5	5.0	5.5	3.0	2.0	2.5	3.5	2.5	3.0
29	12.0	10.5	11.0	6.0	5.0	5.5	3.5	2.0	3.0	4.0	2.0	3.0
30	12.0	10.5	11.0	6.0	5.5	5.5	3.0	2.0	2.5	3.5	2.5	3.0
31	12.0	10.5	11.0	---	---	---	2.0	.5	1.5	4.0	2.5	3.0
MONTH	18.0	10.5	14.6	12.0	4.5	7.9	6.0	.5	3.5	7.0	.5	3.8

CHRISTINA RIVER BASIN

01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA

LOCATION.--Lat 39°59'08", long 75°49'40", Chester County, Hydrologic Unit 02040205, on right bank at city limits of Coatesville, 1,200 ft upstream from bridge on old Lincoln Highway, and 0.6 mi downstream from Rock Run.

DRAINAGE AREA.--45.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1943 to December 1951, January 1970 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 306.05 ft above sea level. Sept. 10, 1943, to Dec. 31, 1951, nonrecording gage at site 1,100 ft downstream at different datum. Satellite telemetry at station.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversion from Rock Run Reservoir 2.6 mi upstream, capacity, 982 acre-ft, for municipal supply of city of Coatesville.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 9, 1942, reached a stage of 12.3 ft, site and datum then in use, discharge, 8,600 ft³/s, by slope-area measurement.

COOPERATION.--Records of diversion provided by city of Coatesville.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 21	1400	755	5.42	Apr. 1	1900	*1,370	*6.14

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	27	19	20	35	51	395	57	51	36	28	17
2	12	54	19	22	34	47	503	70	42	30	21	19
3	12	30	17	22	32	181	147	98	39	27	19	22
4	12	19	18	22	34	156	111	e89	37	28	19	19
5	11	16	19	21	63	75	96	e73	36	29	18	17
6	11	15	18	21	70	56	86	62	36	26	18	16
7	11	16	16	e30	40	52	81	e64	36	26	17	17
8	11	39	16	e120	36	75	76	126	34	105	17	37
9	11	45	16	e60	33	386	167	225	30	74	16	21
10	11	35	18	e37	32	180	270	216	30	69	27	18
11	12	23	25	29	33	90	117	201	31	36	53	18
12	11	19	21	26	199	66	90	256	204	31	23	15
13	11	17	18	25	68	61	81	153	203	28	19	14
14	10	26	17	25	45	63	79	94	120	26	19	13
15	13	39	16	24	38	58	75	77	55	27	20	14
16	15	25	16	108	35	57	73	68	51	26	18	14
17	12	21	16	43	41	58	76	63	50	25	51	15
18	16	19	16	40	168	67	68	60	39	25	36	16
19	18	19	16	40	93	270	88	56	36	23	28	15
20	13	17	16	31	59	126	168	53	34	22	23	14
21	13	17	15	27	50	435	89	51	33	23	22	14
22	12	52	15	26	41	195	80	49	32	26	21	15
23	12	33	21	179	84	123	79	49	33	23	20	14
24	12	23	21	213	324	96	75	48	35	23	20	13
25	23	19	52	64	184	83	68	46	33	21	20	13
26	23	19	33	46	81	79	68	47	44	20	20	14
27	31	18	25	38	59	73	83	45	47	20	22	13
28	20	17	25	62	53	71	63	43	33	20	19	12
29	15	17	22	68	---	66	58	42	32	19	18	12
30	14	17	49	48	---	63	58	52	39	18	17	12
31	14	---	32	39	---	63	---	43	---	49	16	---
TOTAL	434	753	663	1576	2064	3522	3568	2676	1555	981	705	483
MEAN	14.0	25.1	21.4	50.8	73.7	114	119	86.3	51.8	31.6	22.7	16.1
MAX	31	54	52	213	324	435	503	256	204	105	53	37
MIN	10	15	15	20	32	47	58	42	30	18	16	12
(†)	2.9	5.2	4.7	6.7	4.3	4.4	4.0	4.2	4.2	3.4	2.9	2.1

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

	MEAN	MAX	(WY)	MIN	(WY)
38.2	57.5	71.3	80.4	87.4	97.4
149	114	227	262	179	275
1997	1973	1997	1979	1971	1994
11.8	14.9	18.9	15.5	30.1	33.3
1987	1982	1981	1981	1992	1985
32.8	32.8	36.1	32.8	36.1	36.1
236	176	82.9	176	82.9	136
1989	1972	1984	1971	1979	1979
33.5	19.8	14.5	9.31	10.1	10.1
1977	1986	1944	1995	1986	1986

† Diversion for municipal supply, equivalent in cubic feet per second (includes change in contents from Rock Run Reservoir).

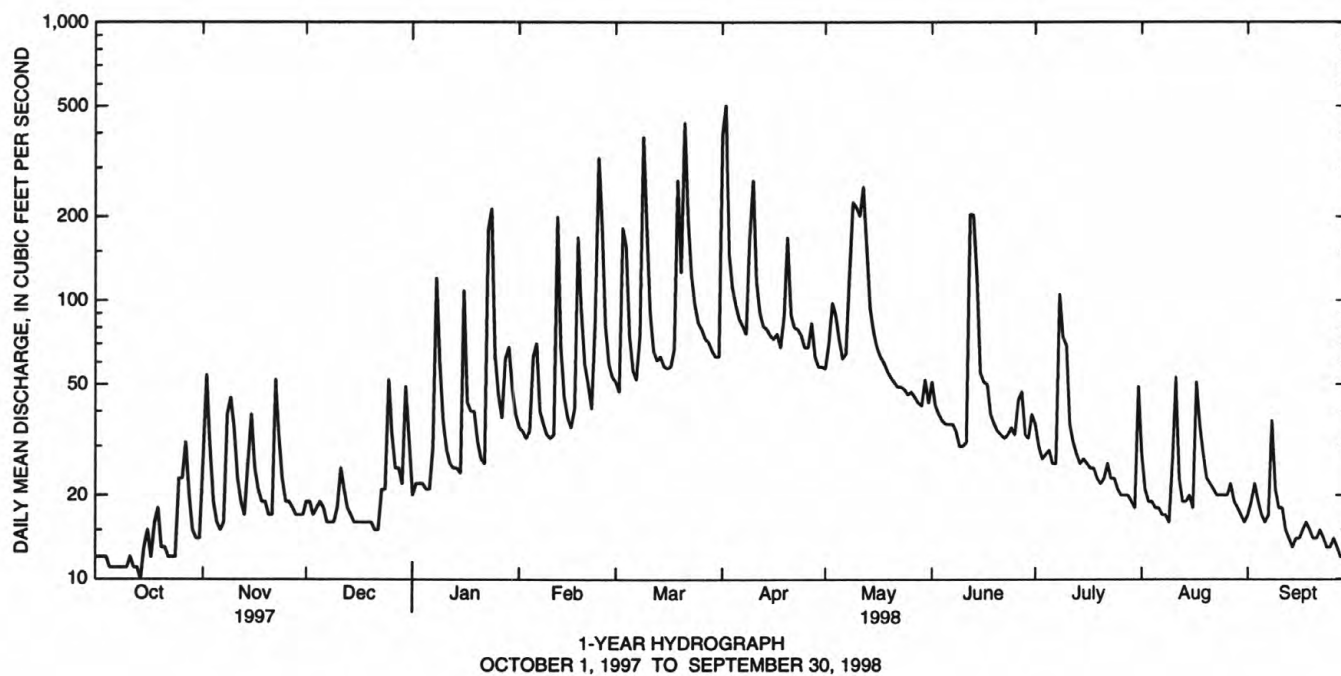
e Estimated.

CHRISTINA RIVER BASIN

01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		FOR PERIOD OF DAILY RECORD	
ANNUAL TOTAL	17374		18980		64.7	
ANNUAL MEAN	47.6		52.0		28.1	
HIGHEST ANNUAL MEAN					98.6	
LOWEST ANNUAL MEAN					28.1	
HIGHEST DAILY MEAN	724	Jan 25	503	Apr 2	3400	Jun 22 1972
LOWEST DAILY MEAN	10	Oct 14	10	Oct 14	4.6	Sep 10 1944
ANNUAL SEVEN-DAY MINIMUM	11	Oct 8	11	Oct 8	5.8	Sep 10 1995
INSTANTANEOUS PEAK FLOW			1370	Apr 1	a8100	Jun 29 1973
INSTANTANEOUS PEAK STAGE			6.14	Apr 1	10.08	Jun 29 1973
10 PERCENT EXCEEDS	87		97		114	
50 PERCENT EXCEEDS	29		32		43	
90 PERCENT EXCEEDS	12		14		16	

a From rating curve extended above 7,800 ft³/s on basis of slope-area measurement at gage height 9.92 ft.



CHRISTINA RIVER BASIN

01480500 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1970-72, 1995 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: January 1995 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 28.0°C, July 15, 1995; minimum, 0.0°C, many days during winters.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 24.5°C, July 21, Aug. 26; minimum 0.0°C, Jan. 1, 2.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.5	13.5	14.5	11.5	9.0	10.0	6.5	4.5	6.0	.5	.0	.5
2	13.5	11.0	12.0	11.5	10.0	11.0	4.5	3.0	3.5	.5	.0	.5
3	13.5	11.0	12.5	10.0	8.0	9.5	3.5	2.5	3.0	2.0	.5	1.0
4	16.0	13.5	14.5	9.5	8.5	9.0	5.5	3.5	4.5	4.5	2.0	3.0
5	16.5	14.5	15.5	8.5	6.5	7.5	5.5	4.5	5.0	4.5	3.5	4.0
6	17.5	15.5	16.5	8.0	6.5	7.0	4.5	3.0	3.5	---	---	---
7	18.0	16.0	17.0	8.5	8.0	8.0	3.0	2.0	2.5	---	---	---
8	18.0	16.5	17.0	8.5	8.5	8.5	3.5	3.0	3.5	---	---	---
9	18.0	16.0	17.0	9.0	8.5	8.5	3.5	2.5	3.0	---	---	---
10	19.0	17.0	18.0	8.5	8.0	8.5	3.5	3.0	3.5	---	---	---
11	18.0	15.0	16.0	8.5	7.5	8.0	4.0	3.5	3.5	7.0	5.0	5.5
12	---	---	---	8.0	6.5	7.0	4.5	3.5	4.0	5.0	3.5	4.0
13	14.5	12.0	13.5	6.5	5.0	5.5	4.0	3.0	3.0	5.0	4.0	4.5
14	16.5	14.5	15.5	5.5	5.0	5.0	3.5	2.5	2.5	4.5	2.0	3.0
15	16.5	13.0	14.5	5.5	4.5	5.0	2.5	1.5	1.5	2.0	1.0	1.5
16	13.5	12.5	13.0	5.0	4.0	4.5	2.0	.5	1.5	3.0	2.0	3.0
17	13.0	11.0	12.0	4.0	3.0	3.5	2.5	1.5	2.0	4.0	2.5	3.0
18	12.5	11.5	12.0	3.5	2.0	3.0	2.5	1.5	2.0	4.0	3.5	3.5
19	12.5	11.0	11.5	3.0	2.0	2.5	2.0	1.0	1.5	3.5	3.0	3.5
20	11.5	9.5	10.5	3.5	2.5	3.0	3.0	2.0	2.0	3.5	2.5	3.0
21	11.0	10.0	10.5	5.0	3.0	3.5	3.0	1.5	2.0	2.5	1.5	2.0
22	10.0	8.5	9.0	6.5	5.0	6.0	1.5	.5	1.0	2.5	1.5	2.5
23	8.5	6.5	7.5	7.0	6.0	6.5	2.5	.5	1.5	3.0	2.0	2.5
24	9.0	6.5	7.5	6.5	4.0	5.0	3.0	2.5	2.5	4.5	3.0	4.0
25	10.0	9.0	9.5	4.0	2.5	3.5	4.5	3.0	4.0	4.5	3.5	4.0
26	9.5	9.0	9.0	5.0	3.0	4.0	4.5	4.0	4.5	3.5	3.0	3.0
27	11.0	9.0	10.0	5.0	4.5	4.5	4.0	3.0	3.5	3.5	2.5	3.0
28	9.5	8.0	8.5	5.0	4.0	4.5	3.0	2.0	2.5	3.5	3.0	3.0
29	8.0	6.5	7.0	6.0	5.0	6.0	2.0	1.0	1.0	4.0	2.5	3.0
30	8.0	6.5	7.5	6.5	6.0	6.0	2.0	1.5	2.0	3.5	3.0	3.5
31	9.0	6.5	8.0	---	---	---	1.5	.5	1.0	4.0	3.5	3.5
MONTH	19.0	6.5	12.2	11.5	2.0	6.1	6.5	.5	2.8	7.0	.0	3.0

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	3.5	2.5	3.0	8.5	7.0	7.5	14.5	13.0	13.5	14.5	13.0	14.0
2	4.0	2.5	3.0	8.5	7.0	7.5	13.5	12.5	13.5	14.0	13.5	13.5
3	4.5	3.5	4.0	8.0	6.0	7.0	13.0	11.0	12.0	15.0	13.0	14.0
4	4.5	3.5	4.0	6.0	5.0	5.5	12.0	9.5	10.5	---	---	---
5	4.0	3.5	3.5	6.0	5.0	5.5	10.0	8.5	9.5	---	---	---
6	4.5	3.5	4.0	6.5	4.5	5.5	10.5	8.0	9.0	15.0	14.0	14.5
7	4.5	3.5	4.0	7.5	5.5	6.5	11.0	8.5	9.5	---	---	---
8	4.5	3.5	4.0	7.5	6.5	7.0	11.5	10.0	10.5	15.5	14.0	14.5
9	4.0	2.5	3.0	7.5	6.5	6.5	11.5	9.5	10.0	14.0	13.5	13.5
10	4.5	2.5	3.5	8.0	6.5	7.5	10.0	8.5	9.0	13.5	13.5	13.5
11	5.0	3.0	4.0	6.5	4.5	5.5	11.0	8.5	9.5	13.5	13.0	13.0
12	6.0	5.0	5.5	4.5	3.5	4.0	11.5	9.0	10.0	13.0	12.5	12.5
13	5.5	4.5	5.0	4.5	2.5	3.5	12.5	9.5	10.5	14.0	12.0	13.0
14	5.0	4.0	4.5	4.5	3.5	4.0	13.0	10.0	11.5	15.5	12.0	13.5
15	4.0	2.5	3.0	5.0	3.5	4.0	14.0	12.0	13.0	16.5	13.0	14.5
16	3.0	2.0	2.5	5.5	3.5	4.5	14.0	11.5	13.0	18.0	15.0	16.5
17	4.5	3.0	3.5	6.0	4.0	5.0	15.0	13.0	14.0	18.5	16.5	17.5
18	5.5	4.5	5.0	5.5	5.0	5.5	14.0	12.0	13.0	18.5	16.0	17.5
19	6.5	5.5	6.0	5.5	5.0	5.5	13.5	11.5	12.5	---	---	---
20	6.5	5.5	6.0	6.5	5.5	6.0	12.0	11.0	11.5	---	---	---
21	6.5	6.0	6.0	6.5	5.0	5.5	13.0	10.0	11.5	19.5	17.5	18.5
22	6.5	5.0	6.0	5.0	4.5	4.5	13.5	11.0	12.0	18.0	15.5	16.5
23	6.5	5.0	5.5	6.0	4.0	5.0	12.5	11.5	12.0	16.5	13.5	15.0
24	5.0	4.5	4.5	6.0	4.5	5.0	14.0	11.0	12.5	17.0	13.5	15.0
25	5.5	4.0	5.0	7.0	4.5	5.5	14.5	12.0	13.0	16.5	15.0	16.0
26	6.5	4.5	5.5	8.5	6.0	7.0	13.5	11.0	12.0	18.0	15.5	16.5
27	7.5	5.0	6.0	11.0	7.5	9.0	13.0	10.5	11.5	18.0	15.5	17.0
28	7.5	7.0	7.5	12.5	9.5	11.0	13.0	10.0	11.5	18.5	16.0	17.0
29	---	---	---	13.5	11.0	12.0	14.0	10.0	12.0	20.0	16.5	18.5
30	---	---	---	14.0	11.5	12.5	14.5	12.0	13.0	21.0	18.0	19.0
31	---	---	---	15.0	12.5	13.5	---	---	---	21.5	18.5	20.0
MONTH	7.5	2.0	4.5	15.0	2.5	6.6	15.0	8.0	11.6	21.5	12.0	15.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	20.5	18.5	19.5	22.0	18.5	20.5	22.0	18.5	20.0	22.0	19.0	20.5
2	19.0	16.0	17.5	22.0	18.0	20.0	21.5	17.5	19.5	21.0	18.5	20.0
3	18.5	17.0	18.0	22.5	18.0	20.0	22.0	17.5	20.0	21.0	18.5	20.0
4	17.0	15.0	16.0	21.5	19.0	20.0	22.0	18.5	20.5	21.5	19.0	20.0
5	16.5	14.5	15.5	22.0	19.0	20.5	22.5	19.0	21.0	20.5	18.0	19.5
6	17.0	14.0	15.5	21.5	18.0	20.0	22.5	19.0	21.0	21.0	17.5	19.0
7	16.0	14.0	15.0	21.5	18.5	20.0	22.0	19.0	20.5	20.5	19.0	20.0
8	16.5	13.5	15.0	20.0	17.5	18.5	23.5	20.0	22.0	20.5	18.0	19.0
9	17.0	14.0	15.5	20.0	17.5	18.5	23.0	21.0	22.0	18.0	16.0	17.0
10	16.5	15.0	15.5	21.5	18.5	20.0	22.5	21.0	21.5	17.5	15.0	16.5
11	15.5	15.0	15.5	21.5	17.5	19.5	23.0	21.0	22.0	18.0	14.5	16.5
12	16.0	15.5	16.0	21.5	17.0	19.0	23.0	20.5	21.5	19.5	16.0	18.0
13	17.0	16.0	16.5	21.5	17.5	19.5	23.0	19.5	21.0	21.0	18.5	19.5
14	18.0	17.0	17.0	22.0	19.0	20.5	22.0	20.5	21.0	22.5	19.5	21.0
15	17.5	16.5	17.0	21.5	20.0	20.5	22.5	20.0	21.0	22.0	20.0	21.0
16	19.0	16.5	17.5	23.0	20.0	21.5	22.5	20.5	21.5	22.5	20.5	21.5
17	19.5	17.0	18.5	23.5	21.0	22.0	22.0	21.0	21.5	22.0	20.0	21.0
18	21.0	18.0	19.5	24.0	21.5	22.5	23.0	20.5	21.5	20.0	18.5	19.5
19	21.0	18.0	19.5	23.0	20.0	21.5	21.5	18.5	20.0	20.0	18.0	19.0
20	22.0	19.0	20.5	24.0	20.5	22.5	20.0	16.5	18.0	20.5	18.5	19.5
21	22.5	20.0	21.0	24.5	21.0	23.0	21.0	16.5	18.5	21.0	19.0	20.0
22	22.0	20.0	20.5	23.5	22.0	22.5	22.5	19.0	20.5	21.0	19.5	20.5
23	21.0	19.5	20.0	23.5	21.5	22.5	23.0	20.5	21.5	19.5	16.0	17.5
24	21.5	20.0	20.5	24.0	21.0	22.5	23.5	21.0	22.0	16.0	13.0	14.5
25	23.5	20.0	21.5	23.0	20.0	21.5	23.5	21.0	22.5	15.5	14.5	15.0
26	23.0	21.0	22.0	22.5	19.5	21.0	24.5	21.5	23.0	18.5	15.0	16.5
27	23.5	20.5	22.0	22.0	19.0	20.5	23.5	22.0	23.0	20.0	17.5	18.5
28	22.5	20.0	21.0	23.0	20.0	21.5	24.0	21.5	22.5	20.0	18.5	19.5
29	20.5	19.0	20.0	24.0	20.5	22.0	23.0	20.5	22.0	18.5	15.5	16.5
30	22.0	19.5	20.5	23.5	21.0	22.5	23.0	20.0	22.0	17.0	15.0	16.0
31	---	---	---	22.5	20.5	21.5	23.0	21.0	22.0	---	---	---
MONTH	23.5	13.5	18.3	24.5	17.0	20.9	24.5	16.5	21.2	22.5	13.0	18.8
YEAR	24.5	.0	11.9									

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA

LOCATION.--Lat 39°57'42", long 75°48'06", Chester County, Hydrologic Unit 02040205, on left bank at bridge on SR 15068 at Modena, and 300 ft upstream from Dennis Run.

DRAINAGE AREA.--55.0 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1970 to current year.

REVISED RECORDS.--WDR PA-74-1: 1971-72(P), 1973. WDR PA-75-1: 1974(m).

GAGE.--Water-stage recorder. Elevation of gage is 265 ft above sea level, from topographic map.

REMARKS.--Records fair. Slight regulation from Rock Run Reservoir 5.6 mi upstream, capacity, 982 acre-ft, and by Lukens Steel Company. Diversion from Rock Run Reservoir for municipal supply of city of Coatesville reenters creek upstream from gage. Satellite telemetry at station.

COOPERATION.--Records of diversion provided by the city of Coatesville.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 1	1930	*1,720	*6.50	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	e51	28	29	47	74	508	77	78	48	40	26
2	18	74	30	34	46	70	581	97	57	41	32	30
3	19	39	31	34	45	220	185	117	55	39	31	33
4	17	27	29	33	49	188	154	104	50	38	30	29
5	18	24	27	33	79	104	135	89	50	41	30	28
6	17	22	27	32	89	80	125	82	50	37	29	26
7	17	26	25	48	57	73	115	83	48	37	28	27
8	17	66	25	144	51	104	113	157	47	134	28	46
9	17	61	26	79	48	e450	225	250	43	91	28	28
10	18	43	31	53	47	e300	309	233	43	79	58	27
11	19	30	33	42	57	e150	146	216	45	49	68	28
12	18	27	30	40	232	94	118	291	263	41	36	26
13	18	24	28	40	92	87	111	176	216	38	32	25
14	18	41	27	38	65	87	107	116	137	38	31	24
15	25	47	26	64	55	81	105	102	72	39	32	24
16	23	34	26	121	e52	77	100	93	70	37	30	23
17	20	29	27	57	e66	76	103	87	67	37	113	25
18	30	27	27	58	179	89	94	82	54	37	57	25
19	25	27	27	53	113	322	120	78	49	34	41	24
20	20	26	26	45	81	e200	192	75	47	34	35	24
21	19	29	26	41	69	e500	111	69	45	40	32	23
22	19	69	25	39	61	e300	102	67	44	38	31	21
23	19	43	37	337	e100	e200	99	65	46	35	30	21
24	19	31	35	175	e400	125	96	65	49	34	29	19
25	38	28	83	84	e200	112	89	64	46	32	29	20
26	34	27	46	64	e130	108	89	64	64	31	29	20
27	42	27	36	56	85	102	101	62	63	31	33	20
28	27	26	35	103	76	97	84	61	44	31	28	18
29	22	26	32	79	---	92	77	62	44	31	28	18
30	21	27	68	62	---	87	75	72	54	30	27	18
31	21	---	45	52	---	86	---	61	---	64	27	---
TOTAL	673	1078	1024	2169	2671	4735	4569	3317	2040	1366	1132	746
MEAN	21.7	35.9	33.0	70.0	95.4	153	152	107	68.0	44.1	36.5	24.9
MAX	42	74	83	337	400	500	581	291	263	134	113	46
MIN	17	22	25	29	45	70	75	61	43	30	27	18
CFSM	.39	.65	.60	1.27	1.73	2.78	2.77	1.95	1.24	.80	.66	.45
IN.	.46	.73	.69	1.47	1.81	3.20	3.09	2.24	1.38	.92	.77	.50
(†)	-0.6	+1.5	+0.8	+2.6	0	0	0	0	0	-0.7	-1.2	-1.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1998, BY WATER YEAR (WY)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	56.7	75.3	96.3	106	110	126	120	97.5	84.0	72.2	48.0	52.1																	
MAX	190	144	306	330	235	308	241	213	302	236	123	186																	
(WY)	1997	1997	1997	1979	1971	1994	1983	1989	1972	1984	1971	1979																	
MIN	21.7	28.7	25.6	20.1	41.9	43.0	39.9	49.2	32.6	30.8	16.8	21.4																	
(WY)	1998	1982	1981	1981	1992	1985	1985	1995	1985	1986	1995	1981																	

† Change in contents from Rock Run Reservoir, equivalent in cubic feet per second.

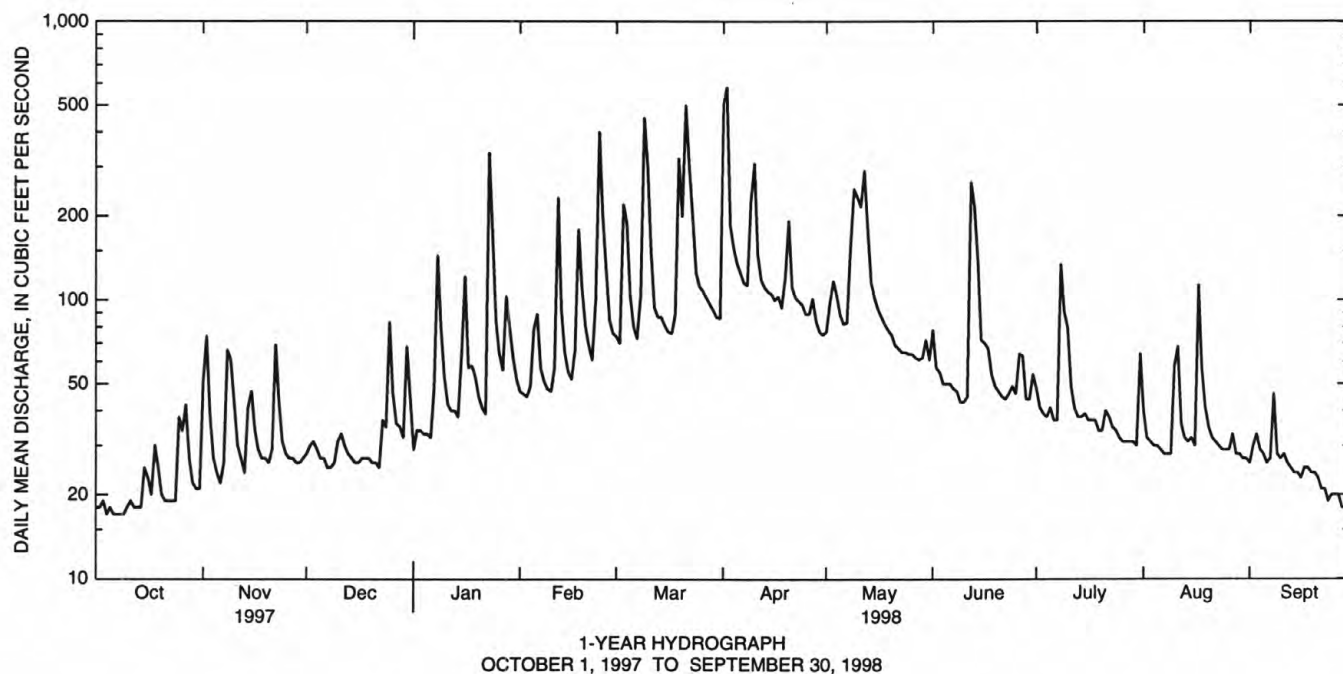
e Estimated.

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1970 - 1998	
ANNUAL TOTAL	23571		25520		87.1	
ANNUAL MEAN	64.6		69.9		130	
HIGHEST ANNUAL MEAN					37.6	
LOWEST ANNUAL MEAN					1979	
HIGHEST DAILY MEAN	873	Jan 25	581	Apr 2	4010	Jun 22 1972
LOWEST DAILY MEAN	17	Oct 4, 6-9	17	Oct 4, 6-9	9.8	Sep 13 1981
ANNUAL SEVEN-DAY MINIMUM	17	Oct 4	17	Oct 4	11	Sep 4 1995
INSTANTANEOUS PEAK FLOW			1720	Apr 1	a9600	Jun 29 1973
INSTANTANEOUS PEAK STAGE			6.50	Apr 1	12.47	Jun 29 1973
ANNUAL RUNOFF (CFSM)	1.17		1.27		1.58	
ANNUAL RUNOFF (INCHES)	15.94		17.26		21.51	
10 PERCENT EXCEEDS	115		132		150	
50 PERCENT EXCEEDS	41		45		58	
90 PERCENT EXCEEDS	20		24		27	

a From rating curve extended above 7,800 ft³/s on basis of slope-area measurement at gage height 11.48 ft.



CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1969 to October 1978, August 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1971 to October 1977, August 1981 to current year.

pH: May 1971 to October 1977, August 1981 to current year.

WATER TEMPERATURES: May 1971 to October 1977, August 1981 to current year.

DISSOLVED OXYGEN: May 1971 to October 1977, August 1981 to current year.

INSTRUMENTATION.--Water-quality monitor May 1971 to October 1977, August 1981 to current year.

REMARKS.--Data collection discontinued during winter months since 1981 water year. Other interruptions in the record were due to malfunctions of the recording or monitoring instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 858 microsiemens, Jan. 10, 1977; minimum, 72 microsiemens, Nov. 16, 1985.

pH: Maximum, 10.0, Dec. 21, 1971; minimum, 5.9, July 14, 1991.

WATER TEMPERATURE: Maximum, 33.5°C, July 19, 1977; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 19.5 mg/L, Sept. 2, 1990; minimum, 0.6 mg/L, Nov. 1, 3, 1974.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.45 µM-MF (COLS./ 100 ML) (31616)
MAR 1998									
05...	0845	1028	1028	107	5.5	237	7.7	12.0	330
17...	1130	1028	1028	78	6.1	262	8.0	--	180
APR									
06...	1222	1028	1028	127	10.4	247	7.9	--	360
20...	1310	1028	1028	186	13.1	215	7.8	10.8	8000
MAY									
04...	1225	1028	1028	100	16.1	249	7.8	--	K16000
19...	1210	1028	1028	80	19.4	269	8.2	--	390
26...	1225	1028	1028	67	18.5	286	7.8	--	840
JUN									
09...	0945	1028	1028	40	15.9	297	7.6	--	560
15...	1255	1028	1028	74	18.1	291	7.4	--	3200
22...	0910	1028	1028	45	21.6	318	7.7	8.3	K2000
22...	1210	1028	1028	31	21.6	325	7.9	10.9	140
JUL									
07...	1135	1028	1028	39	21.4	316	7.7	10.0	500
13...	1240	1028	1028	30	21.5	313	7.8	10.2	820
27...	1255	1028	1028	33	22.9	326	8.3	10.1	940
AUG									
10...	1200	1028	1028	31	22.9	320	7.5	9.5	2100
18...	1025	1028	1028	50	22.2	278	7.3	9.0	K12000
24...	1215	1028	1028	32	24.1	338	8.2	11.8	K1500
SEP									
09...	1200	1028	1028	8.1	18.4	314	7.6	10.5	3000
22...	1055	1028	1028	24	21.8	359	7.7	8.5	2100

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	379	350	368	360	277	308	333	312	324	---	---	---
2	377	348	368	281	201	263	---	---	---	---	---	---
3	378	354	369	327	278	300	---	---	---	---	---	---
4	391	363	379	347	327	337	---	---	---	---	---	---
5	392	360	383	366	335	350	---	---	---	---	---	---
6	388	365	380	371	349	359	---	---	---	---	---	---
7	386	368	378	365	321	351	---	---	---	---	---	---
8	388	365	379	359	210	281	---	---	---	---	---	---
9	389	360	381	301	259	288	---	---	---	---	---	---
10	399	379	391	323	288	302	---	---	---	---	---	---
11	397	376	386	347	320	333	---	---	---	---	---	---
12	395	357	379	354	335	347	---	---	---	---	---	---
13	406	373	390	368	338	354	---	---	---	---	---	---
14	412	391	404	355	290	318	---	---	---	---	---	---
15	403	291	360	301	279	287	---	---	---	---	---	---
16	350	330	339	327	300	313	---	---	---	---	---	---
17	373	342	353	336	311	321	---	---	---	---	---	---
18	365	235	318	321	305	315	---	---	---	---	---	---
19	346	309	329	323	304	315	---	---	---	---	---	---
20	371	341	355	332	308	321	---	---	---	---	---	---
21	376	355	366	338	273	324	---	---	---	---	---	---
22	372	342	360	273	239	250	---	---	---	---	---	---
23	377	343	364	293	248	275	---	---	---	---	---	---
24	368	344	358	318	292	303	---	---	---	---	---	---
25	357	219	293	325	309	318	---	---	---	---	---	---
26	335	260	305	327	300	319	---	---	---	---	---	---
27	309	260	288	346	309	326	---	---	---	---	---	---
28	357	289	328	345	316	334	---	---	---	---	---	---
29	377	347	362	346	303	323	---	---	---	---	---	---
30	375	347	361	345	329	337	---	---	---	---	---	---
31	369	348	358	---	---	---	---	---	---	---	---	---
MONTH	412	219	359	371	201	316	333	312	324	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	274	262	267	256	105	209	261	246	254
2	---	---	---	280	266	272	195	125	160	250	222	242
3	---	---	---	266	186	221	221	195	210	251	222	236
4	---	---	---	231	186	207	238	221	230	254	233	243
5	---	---	---	263	231	245	242	236	239	267	249	255
6	---	---	---	271	252	264	248	238	243	267	255	259
7	---	---	---	276	265	270	249	242	245	266	241	254
8	---	---	---	276	198	255	246	239	243	261	190	227
9	---	---	---	---	---	---	246	152	218	219	197	209
10	---	---	---	---	---	---	204	150	176	243	215	225
11	---	---	---	---	---	---	234	204	221	246	213	234
12	---	---	---	269	252	259	239	233	235	231	214	221
13	---	---	---	269	262	265	247	236	240	251	220	239
14	---	---	---	267	257	261	244	232	239	262	249	254
15	---	---	---	271	261	266	242	233	238	270	259	264
16	---	---	---	272	260	263	258	242	247	270	260	264
17	---	---	---	262	254	258	252	226	245	272	263	267
18	---	---	---	262	243	251	253	245	250	271	258	265
19	---	---	---	247	159	186	256	175	239	277	255	269
20	---	---	---	---	---	---	220	185	208	285	272	278
21	---	---	---	---	---	---	233	220	224	294	274	286
22	---	---	---	---	---	---	240	229	233	296	258	283
23	---	---	---	---	---	---	245	231	237	284	273	279
24	---	---	---	248	236	241	246	238	240	281	273	276
25	---	---	---	253	244	248	248	238	242	280	265	272
26	---	---	---	262	242	250	247	236	242	287	268	276
27	261	246	254	258	245	254	248	224	231	284	270	276
28	277	256	264	261	238	252	252	243	247	290	267	278
29	---	---	---	258	249	253	255	240	248	288	276	283
30	---	---	---	257	234	250	260	245	254	276	262	267
31	---	---	---	255	246	250	---	---	---	282	269	276
MONTH	277	246	259	280	159	250	260	105	231	296	190	258

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	310	283	299	314	260	292	371	345	358
2	287	259	277	328	308	317	327	308	316	366	248	335
3	298	274	289	325	302	317	330	312	320	331	252	309
4	306	269	291	330	315	324	370	313	329	355	311	332
5	297	283	292	324	302	310	370	307	329	365	333	348
6	299	275	290	333	316	323	368	310	336	355	330	345
7	298	283	292	330	312	323	346	325	337	363	341	355
8	301	283	292	334	165	252	345	322	333	341	236	279
9	317	294	307	274	222	240	340	314	326	345	285	317
10	315	299	308	285	230	266	340	174	298	355	329	341
11	310	288	298	310	285	295	291	233	259	351	333	342
12	303	113	210	318	301	309	312	291	301	363	338	350
13	233	195	212	333	313	322	331	301	315	381	361	371
14	278	223	246	337	320	327	333	311	320	385	362	376
15	297	278	288	342	316	325	333	311	321	388	366	377
16	306	243	296	337	317	327	341	322	331	394	371	381
17	301	242	286	340	323	330	342	110	259	390	265	339
18	321	300	310	334	314	324	305	228	275	363	338	352
19	325	313	319	334	304	319	335	284	313	371	351	363
20	320	312	316	316	300	309	348	318	333	374	356	366
21	321	311	317	312	241	294	352	330	345	374	352	364
22	339	315	322	304	253	290	352	331	343	372	355	365
23	317	306	312	312	295	303	352	334	343	373	347	364
24	318	300	310	322	297	310	355	334	347	388	352	370
25	324	300	312	332	317	326	363	336	347	387	343	365
26	325	239	305	337	320	328	355	320	339	388	328	360
27	300	240	268	340	316	328	349	262	315	386	350	373
28	311	300	305	337	320	329	358	338	348	397	370	382
29	323	303	311	339	319	329	360	336	350	393	373	382
30	310	240	291	343	326	335	362	334	351	380	341	363
31	---	---	---	342	242	277	368	344	359	---	---	---
MONTH	339	113	292	343	165	310	370	110	324	397	236	354

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.8	7.6	8.1	---	---	---	8.4	7.4	7.8	---	---	---
2	8.7	7.7	8.2	7.9	7.6	7.7	---	---	---	---	---	---
3	8.9	7.7	8.2	8.0	7.6	7.7	---	---	---	---	---	---
4	8.9	7.7	8.3	8.0	7.6	7.8	---	---	---	---	---	---
5	8.9	7.7	8.3	8.2	7.6	7.9	---	---	---	---	---	---
6	8.8	7.7	8.3	8.1	7.6	7.8	---	---	---	---	---	---
7	8.9	7.7	8.4	8.0	7.6	7.8	---	---	---	---	---	---
8	8.9	7.8	8.4	8.0	7.6	7.8	---	---	---	---	---	---
9	8.9	7.6	8.3	8.0	7.6	7.8	---	---	---	---	---	---
10	8.7	7.6	8.2	8.1	7.6	7.8	---	---	---	---	---	---
11	8.5	7.5	8.0	8.1	7.6	7.8	---	---	---	---	---	---
12	8.4	7.6	8.0	8.5	7.6	8.1	---	---	---	---	---	---
13	8.5	7.5	8.0	8.3	7.7	8.0	---	---	---	---	---	---
14	8.4	7.6	8.0	8.0	7.7	7.8	---	---	---	---	---	---
15	8.2	7.6	7.9	8.2	7.7	7.9	---	---	---	---	---	---
16	8.4	7.7	8.0	8.0	7.5	7.7	---	---	---	---	---	---
17	8.4	7.7	8.0	8.0	7.4	7.7	---	---	---	---	---	---
18	8.4	7.8	8.0	8.0	7.4	7.7	---	---	---	---	---	---
19	8.3	7.8	8.0	8.0	7.5	7.7	---	---	---	---	---	---
20	8.5	7.8	8.1	8.0	7.5	7.7	---	---	---	---	---	---
21	8.5	7.8	8.2	8.0	7.4	7.7	---	---	---	---	---	---
22	8.6	7.9	8.2	7.9	7.4	7.6	---	---	---	---	---	---
23	8.5	7.9	8.1	8.1	7.4	7.6	---	---	---	---	---	---
24	8.4	7.8	8.1	8.3	7.5	7.8	---	---	---	---	---	---
25	8.1	7.8	7.9	8.2	7.6	7.8	---	---	---	---	---	---
26	8.2	7.7	7.9	8.2	7.4	7.7	---	---	---	---	---	---
27	8.2	7.7	7.9	8.1	7.4	7.7	---	---	---	---	---	---
28	8.3	7.7	7.9	8.1	7.4	7.7	---	---	---	---	---	---
29	8.2	7.6	7.8	8.4	7.4	7.9	---	---	---	---	---	---
30	8.2	7.6	7.8	8.0	7.4	7.7	---	---	---	---	---	---
31	8.2	7.5	7.8	---	---	---	---	---	---	---	---	---
MONTH	8.9	7.5	8.1	8.5	7.4	7.8	8.4	7.4	7.8	---	---	---

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	8.3	7.5	7.8	8.3	7.2	7.5	8.4	7.4	7.8
2	---	---	---	8.4	7.5	7.8	7.3	7.2	7.2	8.0	7.4	7.6
3	---	---	---	7.6	7.5	7.5	7.5	7.2	7.3	8.1	7.3	7.6
4	---	---	---	7.8	7.5	7.6	7.6	7.4	7.5	8.2	7.2	7.6
5	---	---	---	8.2	7.5	7.8	7.7	7.5	7.6	8.1	7.4	7.6
6	---	---	---	8.3	7.6	7.8	8.0	7.5	7.8	8.3	7.4	7.7
7	---	---	---	8.5	7.5	7.9	8.2	7.7	7.9	8.5	7.4	7.8
8	---	---	---	7.8	7.4	7.6	8.3	7.6	7.9	7.5	7.2	7.3
9	---	---	---	---	---	---	7.9	7.5	7.7	7.3	7.2	7.2
10	---	---	---	---	---	---	7.6	7.5	7.5	7.2	7.0	7.1
11	---	---	---	---	---	---	8.0	7.5	7.7	7.2	7.0	7.1
12	---	---	---	7.9	7.6	7.7	8.1	7.5	7.7	7.1	7.0	7.0
13	---	---	---	8.0	7.6	7.7	8.2	7.5	7.7	7.2	7.0	7.1
14	---	---	---	8.0	7.6	7.7	8.6	7.5	7.8	7.5	7.1	7.2
15	---	---	---	8.1	7.6	7.8	8.8	7.4	8.0	7.7	7.1	7.3
16	---	---	---	8.3	7.6	7.8	8.8	7.4	8.0	8.0	7.1	7.4
17	---	---	---	8.4	7.5	7.8	8.8	7.5	7.8	8.3	7.1	7.5
18	---	---	---	8.1	7.6	7.8	8.9	7.5	8.1	8.1	7.2	7.5
19	---	---	---	7.7	7.5	7.6	7.8	7.5	7.6	8.6	7.1	7.7
20	---	---	---	---	---	---	8.2	7.4	7.7	8.5	7.3	7.8
21	---	---	---	---	---	---	8.8	7.4	8.0	8.4	7.3	7.7
22	---	---	---	---	---	---	8.8	7.4	8.0	8.5	7.3	7.8
23	---	---	---	---	---	---	8.7	7.4	7.9	8.5	7.4	7.8
24	---	---	---	8.0	7.6	7.7	9.0	7.5	8.1	8.5	7.4	7.8
25	---	---	---	7.9	7.6	7.7	8.9	7.5	8.1	8.4	7.3	7.7
26	---	---	---	8.1	7.6	7.7	8.2	7.5	7.7	8.3	7.2	7.7
27	8.0	7.4	7.6	8.2	7.5	7.7	8.8	7.5	8.0	8.3	7.2	7.6
28	7.9	7.4	7.6	8.4	7.5	7.8	8.9	7.5	8.0	8.2	7.2	7.6
29	---	---	---	8.5	7.4	7.8	9.0	7.5	8.1	8.1	7.1	7.5
30	---	---	---	8.6	7.3	7.8	8.9	7.6	8.1	7.8	7.0	7.3
31	---	---	---	8.6	7.3	7.8	---	---	---	---	---	---
MONTH	8.0	7.4	7.6	8.6	7.3	7.7	9.0	7.2	7.8	8.6	7.0	7.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	8.2	7.3	7.7	8.3	7.1	7.6	8.4	7.1	7.8
2	8.0	7.2	7.5	8.2	7.3	7.7	8.2	7.1	7.6	8.3	7.1	7.6
3	7.8	7.1	7.3	8.3	7.3	7.7	8.0	7.0	7.5	8.2	7.0	7.5
4	8.0	7.1	7.5	8.3	7.3	7.7	8.4	7.1	7.6	8.3	7.1	7.7
5	7.9	7.2	7.5	8.3	7.3	7.7	8.3	7.1	7.7	8.3	7.1	7.7
6	8.1	7.3	7.6	8.3	7.3	7.7	8.3	7.1	7.7	8.3	7.1	7.7
7	8.2	7.4	7.7	8.4	7.3	7.8	8.4	7.1	7.7	8.3	7.1	7.6
8	8.4	7.5	7.8	7.8	7.3	7.4	8.4	7.1	7.7	8.1	6.9	7.4
9	8.4	7.4	7.8	7.7	7.3	7.4	8.3	7.1	7.7	8.3	7.0	7.6
10	8.1	7.4	7.7	7.7	7.3	7.4	8.0	7.2	7.4	8.3	7.1	7.7
11	7.8	7.4	7.6	7.9	7.3	7.5	7.9	7.1	7.4	8.4	7.1	7.7
12	7.9	7.3	7.4	8.0	7.3	7.6	8.1	7.1	7.5	8.3	7.1	7.7
13	7.4	7.3	7.3	8.5	7.3	7.8	8.5	7.1	7.7	8.4	7.1	7.7
14	7.5	7.3	7.4	8.5	7.4	7.9	8.6	7.2	7.8	8.3	7.2	7.8
15	7.5	7.3	7.4	8.5	7.4	7.9	8.6	7.2	7.9	8.2	7.1	7.7
16	7.8	7.3	7.5	8.6	7.4	7.9	8.7	7.2	7.9	8.1	7.2	7.7
17	7.9	7.2	7.6	8.6	7.3	7.9	8.0	7.1	7.3	7.8	7.0	7.4
18	7.9	7.4	7.6	8.6	7.4	8.0	7.9	7.2	7.5	7.9	7.2	7.6
19	8.1	7.4	7.7	8.6	7.4	8.0	8.1	7.3	7.6	8.1	7.2	7.6
20	8.4	7.3	7.8	8.7	7.4	8.0	8.0	7.2	7.6	8.1	7.2	7.6
21	8.5	7.4	7.9	8.6	7.3	7.9	8.3	7.2	7.7	8.0	7.2	7.6
22	8.3	7.4	7.8	8.3	7.3	7.7	8.4	7.1	7.8	8.0	7.2	7.6
23	8.5	7.7	8.0	8.3	7.3	7.8	8.5	7.1	7.8	8.0	7.3	7.6
24	8.5	7.5	7.9	8.5	7.4	7.8	8.5	7.1	7.8	8.0	7.2	7.6
25	8.6	7.6	8.0	8.5	7.4	7.9	8.4	7.0	7.7	7.8	7.2	7.5
26	8.3	7.4	7.7	8.5	7.4	7.9	8.4	7.0	7.7	8.1	7.2	7.6
27	8.2	7.4	7.7	8.7	7.4	8.0	8.3	6.9	7.6	8.1	7.2	7.6
28	8.3	7.3	7.7	8.6	7.4	8.0	8.4	7.1	7.7	8.1	7.2	7.6
29	8.1	7.3	7.6	8.6	7.3	7.9	8.4	7.0	7.7	8.0	7.2	7.6
30	7.8	7.3	7.5	8.5	7.2	7.9	8.4	7.0	7.7	7.9	7.2	7.6
31	---	---	---	7.9	7.1	7.4	8.3	7.0	7.7	---	---	---
MONTH	8.6	7.1	7.6	8.7	7.1	7.8	8.7	6.9	7.7	8.4	6.9	7.6

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	17.5	15.0	16.5	---	---	---	9.5	6.0	8.0	---	---	---
2	16.0	12.5	14.5	---	---	---	---	---	---	---	---	---
3	16.5	12.5	14.5	---	---	---	---	---	---	---	---	---
4	18.5	15.0	16.5	---	---	---	---	---	---	---	---	---
5	20.0	16.0	18.0	---	---	---	---	---	---	---	---	---
6	20.5	17.0	19.0	10.5	8.5	9.5	---	---	---	---	---	---
7	20.5	17.5	19.5	10.5	10.0	10.5	---	---	---	---	---	---
8	20.5	18.0	19.5	10.5	10.0	10.5	---	---	---	---	---	---
9	20.5	17.5	19.0	11.0	10.0	10.5	---	---	---	---	---	---
10	21.5	18.5	20.0	10.5	9.0	10.0	---	---	---	---	---	---
11	20.0	16.5	18.0	11.0	9.5	10.0	---	---	---	---	---	---
12	17.0	14.5	16.0	10.0	8.0	9.5	---	---	---	---	---	---
13	17.5	14.5	16.0	8.0	7.0	7.5	---	---	---	---	---	---
14	19.0	16.5	18.0	7.5	7.0	7.0	---	---	---	---	---	---
15	19.0	15.0	16.5	7.5	6.5	7.0	---	---	---	---	---	---
16	16.0	14.0	15.0	7.5	6.0	6.5	---	---	---	---	---	---
17	15.0	13.0	14.0	6.5	5.0	5.5	---	---	---	---	---	---
18	15.5	13.5	14.5	6.0	4.0	5.0	---	---	---	---	---	---
19	14.0	13.0	13.5	6.5	4.0	5.0	---	---	---	---	---	---
20	14.5	11.5	13.0	7.0	4.5	6.0	---	---	---	---	---	---
21	13.5	11.0	12.5	8.0	5.5	6.5	---	---	---	---	---	---
22	12.5	10.5	11.5	9.0	8.0	8.5	---	---	---	---	---	---
23	11.0	8.5	10.0	9.5	8.5	8.5	---	---	---	---	---	---
24	12.0	8.5	10.0	8.5	5.5	7.0	---	---	---	---	---	---
25	12.0	11.5	11.5	6.5	4.5	5.5	---	---	---	---	---	---
26	11.5	11.0	11.0	7.5	5.5	6.5	---	---	---	---	---	---
27	13.5	11.0	12.0	8.0	6.5	7.0	---	---	---	---	---	---
28	11.5	9.5	10.5	8.0	6.5	7.0	---	---	---	---	---	---
29	11.0	8.5	9.5	9.5	7.5	8.5	---	---	---	---	---	---
30	11.0	8.0	9.5	9.5	8.5	9.0	---	---	---	---	---	---
31	11.5	8.0	10.0	---	---	---	---	---	---	---	---	---
MONTH	21.5	8.0	14.5	11.0	4.0	7.8	9.5	6.0	8.0	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	11.5	9.0	10.0	---	---	---	16.0	14.5	15.5
2	---	---	---	10.0	8.5	9.5	---	---	---	16.0	14.5	15.0
3	---	---	---	10.0	6.5	8.5	---	---	---	17.0	14.0	15.5
4	---	---	---	8.0	5.5	6.5	---	---	---	17.5	15.0	16.0
5	---	---	---	8.0	5.5	6.5	---	---	---	17.0	15.5	16.0
6	---	---	---	9.0	5.0	7.0	---	---	---	17.5	15.0	16.0
7	---	---	---	10.0	7.0	8.5	14.0	8.5	11.5	18.5	15.0	16.5
8	---	---	---	9.5	7.5	8.5	14.0	11.0	12.5	17.0	15.0	15.5
9	---	---	---	---	---	---	13.0	10.0	11.5	15.5	14.5	15.0
10	---	---	---	---	---	---	12.5	9.0	10.5	15.0	14.5	15.0
11	---	---	---	---	---	---	14.0	8.5	11.0	14.5	14.0	14.5
12	---	---	---	5.0	3.0	4.0	14.5	9.5	12.0	14.0	13.5	13.5
13	---	---	---	6.5	3.0	4.5	15.0	10.0	12.5	17.5	13.0	14.5
14	---	---	---	7.0	4.5	5.5	15.5	11.5	13.5	18.5	13.0	15.5
15	---	---	---	7.5	4.0	6.0	17.0	13.0	15.0	19.5	14.0	17.0
16	---	---	---	8.0	4.5	6.5	16.5	13.0	15.0	21.5	16.0	18.5
17	---	---	---	8.5	4.5	6.5	17.5	15.0	16.0	21.5	17.5	19.5
18	---	---	---	7.5	6.5	7.0	16.5	13.0	15.0	21.5	17.0	19.0
19	---	---	---	7.0	6.0	6.5	15.0	12.0	13.5	22.0	17.0	19.5
20	---	---	---	---	---	---	14.0	12.0	12.5	22.5	18.0	20.0
21	---	---	---	---	---	---	16.0	11.0	13.5	21.5	18.5	20.0
22	---	---	---	---	---	---	15.5	12.0	14.0	20.0	16.0	18.0
23	---	---	---	---	---	---	14.0	12.5	13.0	19.0	14.5	16.5
24	---	---	---	8.0	5.0	6.5	17.0	12.0	14.5	19.0	14.5	17.0
25	---	---	---	9.5	5.0	7.5	17.0	13.0	15.0	19.0	16.5	17.5
26	---	---	---	12.0	7.0	9.5	15.0	12.0	13.0	21.0	16.5	18.5
27	9.5	6.0	8.0	14.5	9.5	12.0	15.5	11.0	13.0	20.5	17.0	18.5
28	9.5	9.0	9.5	16.0	11.5	14.0	15.0	10.5	13.0	21.5	17.0	19.5
29	---	---	---	17.0	12.5	15.0	16.5	11.0	13.5	23.0	18.0	20.5
30	---	---	---	17.5	12.5	15.5	16.5	14.0	15.5	23.5	19.0	21.0
31	---	---	---	18.0	14.0	16.0	---	---	---	24.0	20.0	22.0
MONTH	9.5	6.0	8.8	18.0	3.0	8.6	17.5	8.5	13.3	24.0	13.0	17.3

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

[illegible]

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	11.5	9.6	10.6
2	---	---	---	---	---	---	---	---	---	10.8	9.5	10.2
3	---	---	---	---	---	---	---	---	---	11.5	10.0	10.7
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	11.5	10.0	10.5	---	---	---
16	---	---	---	---	---	---	12.2	9.6	11.0	---	---	---
17	---	---	---	---	---	---	11.4	9.3	10.3	---	---	---
18	---	---	---	---	---	---	12.0	9.7	10.7	---	---	---
19	---	---	---	---	---	---	10.8	9.7	10.3	---	---	---
20	---	---	---	---	---	---	11.0	10.0	10.5	---	---	---
21	---	---	---	---	---	---	11.7	9.5	10.6	---	---	---
22	---	---	---	---	---	---	11.6	9.6	10.5	---	---	---
23	---	---	---	---	---	---	11.2	9.6	10.2	---	---	---
24	---	---	---	---	---	---	11.7	9.7	10.6	---	---	---
25	---	---	---	13.4	12.1	12.7	11.8	9.8	10.8	---	---	---
26	---	---	---	12.7	11.8	12.2	11.6	9.7	10.6	---	---	---
27	---	---	---	13.2	11.7	12.2	12.3	10.3	11.1	---	---	---
28	---	---	---	12.4	10.5	11.7	12.8	10.3	11.4	---	---	---
29	---	---	---	12.3	10.3	11.2	12.6	10.2	11.4	---	---	---
30	---	---	---	12.3	9.8	11.1	12.4	10.0	10.9	---	---	---
31	---	---	---	12.2	9.5	10.7	---	---	---	---	---	---
MONTH	---	---	---	13.4	9.5	11.7	12.8	9.3	10.7	11.5	9.5	10.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	10.2	8.1	9.1	9.1	6.9	7.9	11.5	7.0	8.9
2	---	---	---	10.4	8.5	9.4	9.4	6.8	7.9	11.0	7.1	8.7
3	---	---	---	10.5	8.6	9.5	8.9	6.8	7.7	10.5	7.0	8.6
4	---	---	---	10.3	8.5	9.2	9.4	6.6	7.8	10.6	7.2	8.6
5	---	---	---	10.1	8.2	9.1	9.7	7.2	8.2	10.8	7.4	8.8
6	---	---	---	10.7	8.4	9.4	10.0	7.4	8.4	10.7	7.5	8.8
7	---	---	---	10.4	8.5	9.3	10.2	7.5	8.7	10.4	7.3	8.5
8	---	---	---	9.7	8.4	9.1	10.5	7.7	8.8	9.7	7.1	8.4
9	---	---	---	9.5	8.6	9.2	10.7	7.6	8.9	11.1	8.0	9.3
10	---	---	---	9.4	8.6	8.9	10.9	7.7	8.6	11.0	8.4	9.4
11	---	---	---	10.0	8.4	9.1	9.8	7.9	8.9	11.6	8.4	9.6
12	---	---	---	10.1	8.3	9.1	11.1	8.0	9.2	11.0	8.0	9.2
13	---	---	---	10.9	8.3	9.2	11.5	7.9	9.4	10.7	7.7	8.9
14	---	---	---	11.3	8.2	9.3	11.7	7.8	9.4	10.5	7.3	8.8
15	---	---	---	11.0	8.0	9.1	12.2	8.0	9.5	10.1	7.3	8.6
16	---	---	---	11.0	7.8	9.1	11.7	7.7	9.3	10.1	7.3	8.5
17	---	---	---	10.9	7.6	8.8	8.6	7.4	8.1	9.7	6.7	8.2
18	---	---	---	10.7	7.4	8.8	9.5	7.8	8.7	10.3	7.6	8.7
19	---	---	---	11.1	7.4	9.0	10.2	8.2	9.3	10.4	7.7	8.8
20	---	---	---	11.3	7.5	8.9	10.7	8.8	9.5	10.1	7.3	8.7
21	---	---	---	11.1	6.6	8.6	11.2	8.3	9.7	9.9	7.5	8.4
22	---	---	---	10.2	6.6	8.2	11.6	7.9	9.5	9.9	7.2	8.3
23	10.6	8.8	9.6	10.1	7.2	8.3	12.3	7.8	9.4	10.6	7.9	9.1
24	10.1	8.4	9.1	10.0	7.3	8.4	12.2	7.5	9.3	10.9	8.6	9.6
25	10.5	8.4	9.3	10.2	7.4	8.4	11.9	7.0	8.8	10.4	8.7	9.5
26	---	---	---	10.3	7.3	8.4	11.4	7.2	8.8	10.9	8.5	9.5
27	9.5	8.1	9.0	10.4	7.3	8.6	11.2	7.1	8.6	10.7	7.9	9.0
28	9.9	8.3	9.0	9.5	6.9	8.0	11.5	6.9	8.8	10.6	7.7	8.8
29	9.7	8.3	8.9	9.6	6.5	7.7	11.4	7.1	8.9	11.0	7.9	9.3
30	9.1	8.2	8.6	9.6	6.3	7.6	12.4	7.1	9.0	10.9	8.4	9.3
31	---	---	---	8.2	6.4	7.2	11.5	7.1	8.5	---	---	---
MONTH	10.6	8.1	9.1	11.3	6.3	8.8	12.4	6.6	8.8	11.6	6.7	8.9

CHRISTINA RIVER BASIN

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (000003)	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	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)
NOV 1997							
05...	1013	--	0	--	--	--	--
05...	1014	.5	3	341	7.9	8.1	13.5
05...	1015	.5	5	341	8.0	8.2	13.9
05...	1016	.5	7	341	8.0	8.2	13.9
05...	1017	.5	9	341	8.0	8.2	14.2
05...	1018	.5	11	340	8.0	8.2	14.1
05...	1019	.5	13	340	8.0	8.2	13.9
05...	1020	.5	15	340	8.0	8.2	14.0
05...	1021	.5	17	323	8.0	8.2	14.2
05...	1022	.5	19	340	8.0	8.2	14.4
05...	1023	.5	21	340	8.0	8.2	14.5
05...	1024	.5	23	340	8.0	8.2	14.5
05...	1025	.5	26	340	8.0	8.2	14.5
05...	1026	.5	29	340	8.0	8.2	14.5
05...	1027	.5	32	340	8.0	8.2	14.5
05...	1028	.5	35	340	8.0	8.2	14.5
05...	1029	.5	38	340	7.9	8.2	14.4
05...	1030	.5	40	340	8.0	8.2	14.4
05...	1031	.5	42	339	8.0	8.3	12.7
05...	1032	--	45	--	--	--	--

CHRISTINA RIVER BASIN

014806318 DOE RUN ABOVE TRIBUTARY AT SPRINGDELL, PA

LOCATION.--Lat 39°54'26", long 75°50'01", Chester County, Hydrologic Unit 02040205, on left bank downstream wingwall of bridge on SR 3045, 150 ft north of intersection with SR 841 at Springdell.

DRAINAGE AREA.--11.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1997 to September 1998 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 325 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair.

DISCHARGE, CUBIC FEET PER SECOND, AUGUST 1997 TO SEPTEMBER 1997
DAILY MEAN VALUES

[illegible]

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

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

CHRISTINA RIVER BASIN

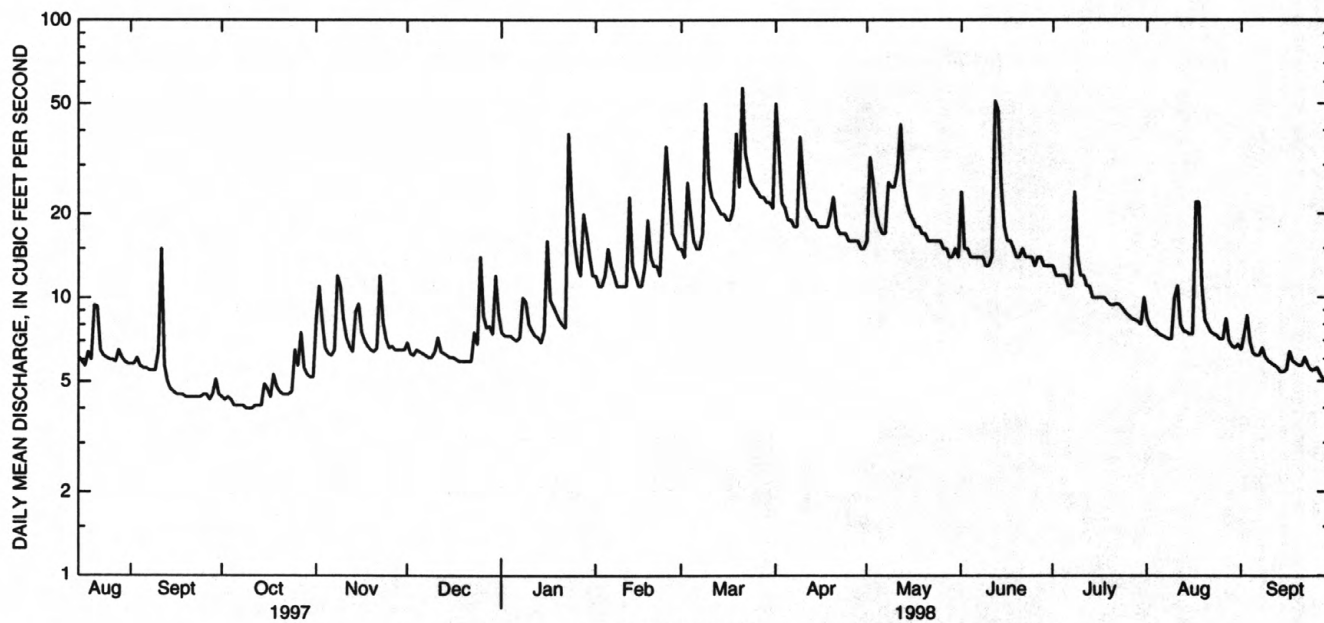
014806318 DOE RUN ABOVE TRIBUTARY AT SPRINGDELL, PA--Continued

SUMMARY STATISTICS

FOR 1998 WATER YEAR

FOR PERIOD OF DAILY RECORD

ANNUAL TOTAL	4644.6				
ANNUAL MEAN	12.7			12.7	
HIGHEST ANNUAL MEAN				12.7	1998
LOWEST ANNUAL MEAN				12.7	1998
HIGHEST DAILY MEAN	57	Mar 21		57	Mar 21 1998
LOWEST DAILY MEAN	4.0	Oct 9-11		4.0	Oct 9-11 1997
ANNUAL SEVEN-DAY MINIMUM	4.1	Oct 5		4.1	Oct 5 1997
INSTANTANEOUS PEAK FLOW	a194	Jun 12		a194	Jun 12 1998
INSTANTANEOUS PEAK STAGE	5.04	Jun 12		5.04	Jun 12 1998
INSTANTANEOUS LOW FLOW	3.9	Oct 9		3.9	Oct 9 1997
ANNUAL RUNOFF (CFSM)	1.14			1.14	
ANNUAL RUNOFF (INCHES)	15.43			15.44	
10 PERCENT EXCEEDS	23			22	
50 PERCENT EXCEEDS	11			8.8	
90 PERCENT EXCEEDS	5.6			5.0	

a From rating curve extended above 75 ft³/s.

1-YEAR HYDROGRAPH
AUGUST 15, 1997 TO SEPTEMBER 30, 1998

CHRISTINA RIVER BASIN

014806318 DOE RUN ABOVE TRIBUTARY AT SPRINGDELL, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1997 to September 1998 (discontinued).

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

REMARKS.--Interruptions in the record were due to malfunctions of the recording or monitoring instrument.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	---	---	---	1.5	1.0	1.0
2	---	---	---	---	---	---	---	---	---	4.0	1.0	2.5
3	---	---	---	---	---	---	5.5	3.5	4.5	6.5	4.0	5.0
4	---	---	---	---	---	---	8.5	5.5	7.0	8.5	6.0	7.0
5	---	---	---	---	---	---	8.0	5.5	7.0	8.0	5.5	7.0
6	---	---	---	---	---	---	5.5	4.0	5.0	10.5	7.0	9.0
7	---	---	---	---	---	---	4.5	3.0	4.0	12.5	10.5	11.5
8	---	---	---	---	---	---	5.5	4.5	5.0	15.0	12.5	14.0
9	---	---	---	---	---	---	5.5	3.5	4.5	14.5	11.0	14.0
10	---	---	---	---	---	---	6.0	5.5	5.5	11.0	7.0	9.0
11	---	---	---	---	---	---	6.5	6.0	6.0	7.0	5.5	6.0
12	---	---	---	---	---	---	7.0	5.5	6.5	5.5	3.5	4.5
13	---	---	---	---	---	---	5.5	3.5	4.5	7.5	5.5	6.5
14	---	---	---	---	---	---	5.0	3.5	4.5	5.5	3.0	4.0
15	---	---	---	---	---	---	4.0	2.5	3.5	4.5	2.0	3.0
16	---	---	---	---	---	---	4.5	2.5	3.5	5.5	4.5	5.5
17	---	---	---	---	---	---	5.0	2.5	4.0	6.5	5.0	5.5
18	---	---	---	---	---	---	4.5	2.5	3.5	6.5	5.5	6.0
19	---	---	---	---	---	---	4.5	3.0	3.5	6.0	5.0	5.5
20	---	---	---	---	---	---	5.5	3.0	4.0	5.5	4.5	5.0
21	---	---	---	---	---	---	4.5	3.0	3.5	4.5	2.5	3.5
22	---	---	---	---	---	---	3.0	2.0	2.5	5.0	3.0	4.0
23	---	---	---	---	---	---	5.5	3.0	4.5	6.0	3.5	5.0
24	---	---	---	---	---	---	5.5	4.0	5.0	8.0	6.0	7.0
25	---	---	---	---	---	---	8.0	5.5	6.5	6.5	5.0	6.0
26	---	---	---	---	---	---	7.5	6.0	7.0	6.0	4.0	5.0
27	---	---	---	---	---	---	6.0	4.5	5.0	6.0	4.0	5.0
28	---	---	---	---	---	---	4.5	3.0	4.0	5.5	4.5	5.0
29	---	---	---	---	---	---	4.0	1.5	3.0	7.0	4.0	5.0
30	---	---	---	---	---	---	4.5	3.5	4.5	6.5	5.0	5.5
31	---	---	---	---	---	---	3.5	1.5	3.0	7.0	5.0	6.0
MONTH	---	---	---	---	---	---	8.5	1.5	4.6	15.0	1.0	6.1

CHRISTINA RIVER BASIN

014806318 DOE RUN ABOVE TRIBUTARY AT SPRINGDELL, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	6.0	3.5	5.0	12.0	9.5	10.5	17.0	15.5	16.0	15.5	14.0	15.0
2	6.5	3.0	5.0	11.0	8.5	10.0	17.0	13.5	15.0	15.5	14.0	14.5
3	7.0	5.5	6.5	10.0	6.5	8.5	15.5	11.0	13.0	16.5	13.5	15.0
4	6.5	5.0	6.0	9.0	5.5	7.5	13.0	9.5	11.0	17.0	14.5	15.5
5	5.5	5.0	5.5	8.5	6.0	7.0	12.0	8.5	10.0	16.0	14.5	15.0
6	7.5	5.5	6.5	9.5	5.0	7.0	13.5	8.0	10.5	16.5	14.5	15.0
7	6.5	4.5	6.0	10.5	7.0	8.5	14.5	8.0	11.5	18.0	14.0	15.5
8	7.0	4.5	5.5	10.0	8.0	9.0	14.5	11.0	13.0	16.0	14.0	15.0
9	6.5	3.0	4.5	12.0	8.0	10.0	13.0	9.5	11.0	15.0	14.0	14.5
10	7.0	3.5	5.0	11.5	6.5	9.0	13.5	9.0	11.0	14.5	14.0	14.5
11	8.0	4.0	6.0	6.5	4.0	5.0	14.0	8.0	11.0	14.0	13.0	13.5
12	9.5	7.5	8.5	5.5	2.5	4.0	15.0	8.5	11.5	13.5	12.5	13.0
13	8.0	5.5	7.0	7.0	2.5	4.5	15.5	9.0	12.0	17.0	12.5	14.5
14	7.0	4.5	6.0	7.5	5.0	6.0	16.0	11.0	13.5	17.5	12.5	15.0
15	5.5	2.5	4.0	8.0	4.5	6.0	17.0	13.0	15.0	19.0	13.0	16.0
16	5.0	2.5	3.5	9.0	4.5	6.5	17.0	13.0	15.0	20.5	15.0	17.5
17	7.0	5.0	6.0	9.0	4.5	7.0	18.0	15.0	16.0	20.0	16.0	18.0
18	9.5	7.0	8.5	8.0	7.0	7.5	16.5	12.5	14.5	20.0	15.0	17.5
19	10.5	8.5	9.5	8.5	7.0	7.5	14.5	11.5	13.0	21.0	15.5	18.0
20	9.5	7.5	8.5	9.5	8.0	8.5	14.5	11.0	12.5	21.5	16.5	18.5
21	9.5	7.5	8.5	8.5	5.5	7.0	16.0	10.5	13.0	20.0	17.0	18.5
22	9.5	6.5	8.0	7.0	4.0	5.5	16.5	11.5	14.0	18.5	14.5	16.0
23	8.0	6.0	7.0	9.0	5.0	7.0	13.5	12.0	13.0	17.5	13.0	15.0
24	7.0	6.0	6.5	8.5	5.5	7.0	17.5	11.5	14.0	18.0	13.0	15.5
25	9.5	5.5	7.0	10.5	5.0	8.0	17.5	12.5	15.0	17.5	15.0	16.0
26	10.0	6.5	8.0	13.5	8.0	10.5	14.5	11.5	13.0	19.5	15.5	17.0
27	10.5	6.5	8.5	17.0	10.5	13.5	15.5	10.5	12.5	19.0	15.5	17.0
28	10.5	9.5	10.0	17.5	13.5	15.5	15.5	9.5	12.5	20.5	15.0	17.5
29	---	---	---	18.5	13.0	15.5	17.0	10.0	13.5	21.5	16.5	18.5
30	---	---	---	19.0	13.0	16.0	16.5	13.0	14.5	21.5	17.5	19.0
31	---	---	---	19.5	14.5	17.0	---	---	---	22.0	17.5	19.5
MONTH	10.5	2.5	6.7	19.5	2.5	8.8	18.0	8.0	13.0	22.0	12.5	16.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	21.0	17.5	19.5	21.5	17.5	19.0	---	---	---	21.5	18.5	20.0
2	20.0	15.0	17.5	21.0	16.5	18.5	---	---	---	21.0	18.5	20.0
3	19.0	16.0	17.5	21.0	16.5	18.5	---	---	---	21.0	18.5	20.0
4	17.5	14.0	16.0	20.5	17.5	19.0	---	---	---	22.0	18.5	20.0
5	17.0	14.0	15.5	22.0	17.5	19.5	---	---	---	20.5	18.0	19.5
6	18.0	13.5	15.5	20.5	16.5	18.5	---	---	---	21.5	17.5	19.5
7	16.5	14.0	15.0	20.5	17.0	19.0	---	---	---	21.0	19.0	20.5
8	17.5	13.0	15.0	19.0	17.0	17.5	---	---	---	20.5	18.0	19.5
9	17.5	14.0	15.5	20.0	16.5	18.0	---	---	---	18.0	16.0	17.0
10	16.5	14.5	15.5	22.0	17.5	19.5	---	---	---	18.0	15.5	17.0
11	15.5	15.0	15.0	20.5	16.5	18.5	---	---	---	18.5	15.0	17.0
12	17.5	15.0	16.5	21.0	16.0	18.5	---	---	---	20.0	16.5	18.0
13	18.5	16.0	17.0	21.0	16.5	19.0	---	---	---	21.0	18.5	20.0
14	18.5	16.5	17.5	21.5	18.0	19.5	---	---	---	22.0	19.5	21.0
15	17.0	15.5	16.5	20.5	19.0	19.5	---	---	---	22.0	20.0	21.0
16	20.0	16.0	17.5	21.5	18.5	20.0	---	---	---	22.5	20.5	21.5
17	20.0	16.5	18.0	22.5	19.0	20.5	---	---	---	22.0	20.5	21.0
18	20.5	17.0	18.5	23.5	19.5	21.5	---	---	---	20.5	19.0	20.0
19	20.0	16.5	18.5	22.0	19.0	20.5	---	---	---	20.0	18.0	19.5
20	21.5	17.5	19.0	23.0	19.5	21.0	---	---	---	21.0	18.5	20.0
21	22.0	17.5	19.5	24.0	20.0	22.0	21.0	16.5	18.5	21.0	19.0	20.0
22	19.5	18.0	18.5	23.0	20.5	22.0	22.0	19.0	20.5	21.0	19.5	20.5
23	19.5	17.5	18.5	23.0	20.5	21.5	22.5	20.0	21.0	19.5	16.0	17.5
24	20.5	18.0	19.0	23.5	20.5	22.0	23.0	20.0	21.5	16.0	13.0	15.0
25	22.5	17.5	19.5	23.0	19.5	21.0	23.0	20.5	21.5	16.5	15.0	16.0
26	22.0	19.0	20.0	22.0	19.5	20.5	23.5	21.0	22.5	19.0	15.5	17.0
27	22.0	18.5	20.0	---	---	---	23.5	21.0	22.5	21.0	18.0	19.5
28	21.5	18.0	19.5	---	---	---	24.0	21.0	22.5	20.5	18.5	19.5
29	19.5	17.5	18.5	---	---	---	23.0	20.5	21.5	18.5	15.5	16.5
30	21.0	18.0	19.0	---	---	---	23.0	19.5	21.5	18.5	15.5	17.0
31	---	---	---	---	---	---	23.0	20.5	21.5	---	---	---
MONTH	22.5	13.0	17.6	24.0	16.0	19.8	24.0	16.5	21.4	22.5	13.0	19.0

CHRISTINA RIVER BASIN

01480637 LITTLE BROAD RUN NEAR MARSHALLTON, PA

LOCATION.--Lat 39°57'38", long 75°42'44", Chester County, Hydrologic Unit 02040205, on left bank downstream wingwall of culvert on TR 448, 1.8 mi northwest of Marshallton.

DRAINAGE AREA.--0.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1997 to September 1998 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 310 ft above sea level, from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.30	e.95	.37	.24	e.58	1.3	3.3	1.3	1.2	.57	.37	.24
2	e.30	e.90	.35	.24	e.57	1.2	2.4	1.5	1.0	.53	.34	.61
3	e.29	e.42	.34	.23	e.55	1.6	2.2	1.4	1.0	.52	.34	.29
4	e.29	e.32	.35	.23	e.60	1.3	2.0	1.3	.98	.54	.33	.26
5	e.29	e.30	.31	.23	e.95	1.2	1.9	1.2	.96	.53	.33	.24
6	e.28	e.29	.30	e.27	e.70	1.2	1.8	1.3	.92	.49	.32	.24
7	e.28	e.42	.30	e.40	e.60	1.2	1.7	1.1	.96	.47	.32	.28
8	e.28	e.75	.29	e.60	e.58	1.3	1.7	1.7	.96	1.3	.31	.27
9	e.28	e.65	.28	e.36	e.56	2.6	3.0	1.7	.90	.63	.31	.24
10	e.29	e.44	.36	.26	e.60	2.7	2.3	1.6	.87	.56	.61	.23
11	e.28	e.34	.33	.25	e1.0	2.3	2.1	1.7	.92	.51	.40	.23
12	e.28	e.32	.30	.25	e1.5	2.1	2.0	1.9	2.5	.48	.36	.23
13	e.28	e.30	.28	.25	e.80	1.9	1.9	1.7	1.1	.46	.34	.22
14	e.29	e.75	.25	.25	e.70	1.8	1.9	1.7	1.0	.44	.33	.22
15	e.55	e.50	.25	.40	e.64	1.6	1.9	1.7	1.0	.44	.32	.22
16	e.38	e.53	.24	.47	e.62	1.5	1.8	1.6	1.0	.42	.40	.22
17	e.29	e.46	e.25	.29	e1.1	1.4	1.7	1.6	.87	.42	.46	.25
18	e.46	e.42	e.24	.30	e1.0	1.4	1.6	1.5	.72	.40	.64	.23
19	e.34	.39	e.23	.30	e.80	2.2	1.8	1.4	.66	.39	.31	.22
20	e.32	.38	e.24	.31	e.75	1.7	1.7	1.4	.64	.38	.29	.22
21	e.32	.52	e.22	.30	e.72	3.3	1.6	1.4	.63	.42	.28	.22
22	e.34	1.0	e.23	.30	e.69	2.7	1.5	1.3	.64	.43	.29	.24
23	e.30	.57	e.50	1.4	e1.6	2.5	1.5	1.3	.65	.46	.29	.23
24	e.23	e.38	e.34	1.0	e1.8	2.4	1.5	1.2	.65	.40	.29	.23
25	e.75	e.38	.56	.75	e1.7	2.2	1.4	1.2	.63	.40	.29	.24
26	e.70	e.38	.24	.58	e1.6	2.2	1.4	1.1	.81	.40	.33	.24
27	e.55	.40	.25	.54	1.4	2.1	1.3	1.0	.66	.38	.35	.23
28	e.30	.43	.24	.81	1.4	2.0	1.3	1.0	.60	.38	.27	.22
29	e.27	.41	.25	.60	---	1.9	1.3	1.0	.60	.39	.27	.21
30	e.25	.39	.34	e.63	---	1.8	1.3	1.0	.68	.37	.26	.26
31	e.24	---	.25	e.60	---	1.7	---	.97	---	.62	.29	---
TOTAL	10.60	14.69	9.28	13.64	26.11	58.3	54.8	42.77	26.71	15.13	10.64	7.48
MEAN	.34	.49	.30	.44	.93	1.88	1.83	1.38	.89	.49	.34	.25
MAX	.75	1.0	.56	1.4	1.8	3.3	3.3	1.9	2.5	1.3	.64	.61
MIN	.23	.29	.22	.23	.55	1.2	1.3	.97	.60	.37	.26	.21
CFSM	.57	.82	.50	.73	1.55	3.13	3.04	2.30	1.48	.81	.57	.42
IN.	.66	.91	.58	.85	1.62	3.61	3.40	2.65	1.66	.94	.66	.46

e Estimated.

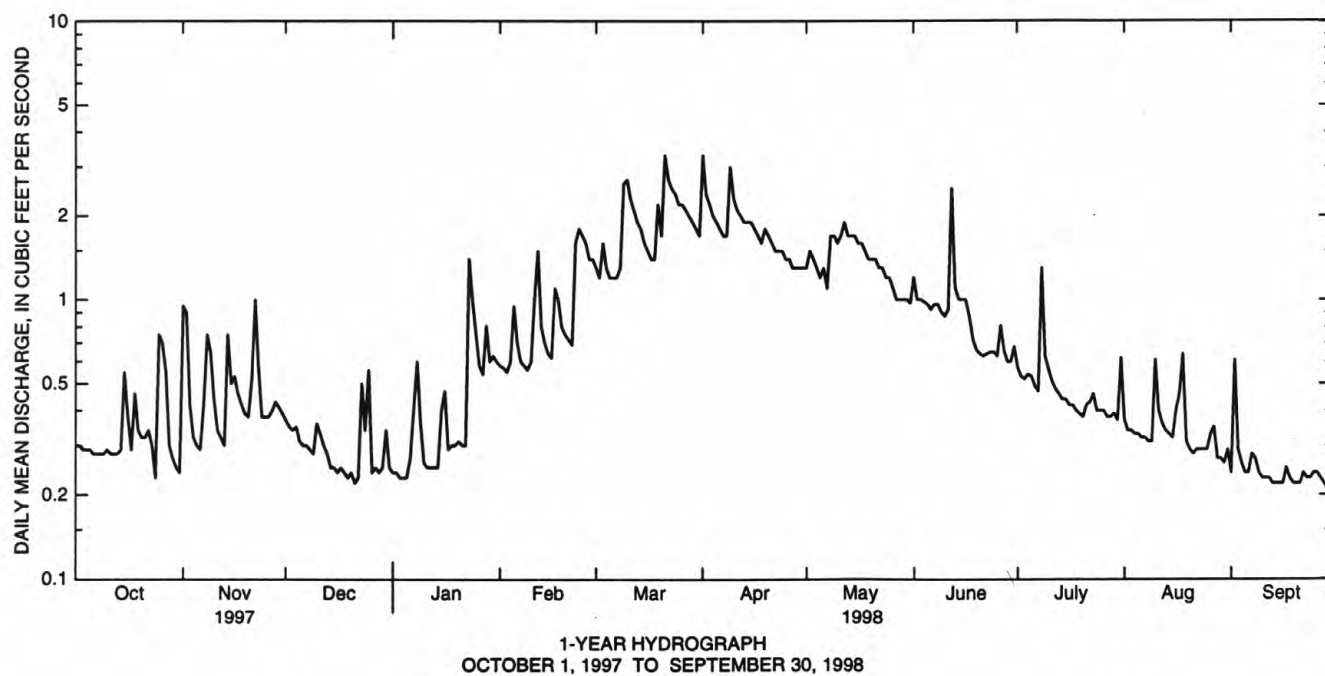
CHRISTINA RIVER BASIN

01480637 LITTLE BROAD RUN NEAR MARSHALLTON, PA--Continued

SUMMARY STATISTICS

FOR 1998 WATER YEAR

ANNUAL TOTAL	290.15	
ANNUAL MEAN	.79	
HIGHEST DAILY MEAN	3.3	Mar 21
LOWEST DAILY MEAN	.21	Sep 29
ANNUAL SEVEN-DAY MINIMUM	.22	Sep 10
INSTANTANEOUS PEAK FLOW	19	Jun 12
INSTANTANEOUS PEAK STAGE	1.85	Jun 12
INSTANTANEOUS LOW FLOW	.21	Dec 24, Sep 29
ANNUAL RUNOFF (CFSM)	1.32	
ANNUAL RUNOFF (INCHES)	17.99	
10 PERCENT EXCEEDS	1.7	
50 PERCENT EXCEEDS	.53	
90 PERCENT EXCEEDS	.24	



CHRISTINA RIVER BASIN

01480637 LITTLE BROAD RUN NEAR MARSHALLTON, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1997 to September 1998 (discontinued).

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

REMARKS.--Interruptions in the record were due to malfunctions of the recording or monitoring instrument.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	10.0	6.0	8.0	---	---	---
2	---	---	---	---	---	---	7.5	5.0	6.0	---	---	---
3	---	---	---	---	---	---	8.0	4.5	6.5	---	---	---
4	---	---	---	---	---	---	10.5	7.0	9.0	---	---	---
5	---	---	---	---	---	---	9.5	6.5	8.5	---	---	---
6	---	---	---	---	---	---	7.5	5.5	6.5	---	---	---
7	---	---	---	---	---	---	7.5	5.0	6.5	---	---	---
8	---	---	---	---	---	---	9.0	6.5	7.5	---	---	---
9	---	---	---	---	---	---	8.5	5.5	7.0	---	---	---
10	---	---	---	---	---	---	8.5	8.0	8.0	---	---	---
11	---	---	---	---	---	---	9.0	8.0	8.5	---	---	---
12	---	---	---	---	---	---	9.5	7.5	8.5	---	---	---
13	---	---	---	---	---	---	8.5	5.5	7.0	---	---	---
14	---	---	---	---	---	---	8.0	5.5	7.0	---	---	---
15	---	---	---	---	---	---	7.5	4.5	6.0	---	---	---
16	---	---	---	---	---	---	9.0	5.0	6.5	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	6.5	2.5	4.5	---	---	---	---	---	---
20	---	---	---	7.5	3.5	5.5	---	---	---	---	---	---
21	---	---	---	8.0	4.5	7.5	---	---	---	---	---	---
22	---	---	---	10.0	8.0	9.0	---	---	---	---	---	---
23	---	---	---	9.5	6.0	8.0	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	9.0	6.5	7.5	---	---	---	---	---	---
28	---	---	---	9.0	6.5	7.5	---	---	---	---	---	---
29	---	---	---	10.5	8.0	9.0	---	---	---	---	---	---
30	---	---	---	10.0	8.5	9.5	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	10.5	2.5	7.6	10.5	4.5	7.3	---	---	---

CHRISTINA RIVER BASIN

01480637 LITTLE BROAD RUN NEAR MARSHALLTON, PA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	15.5	14.0	14.5
2	---	---	---	---	---	---	---	---	---	15.5	14.0	14.5
3	---	---	---	---	---	---	---	---	---	16.0	13.5	15.0
4	---	---	---	---	---	---	---	---	---	16.0	14.5	15.0
5	---	---	---	---	---	---	---	---	---	16.0	14.5	15.0
6	---	---	---	---	---	---	---	---	---	15.5	14.0	15.0
7	---	---	---	---	---	---	---	---	---	17.5	14.0	15.5
8	---	---	---	---	---	---	---	---	---	15.5	14.0	14.5
9	---	---	---	---	---	---	---	---	---	15.0	14.0	14.5
10	---	---	---	---	---	---	---	---	---	14.5	14.0	14.0
11	---	---	---	---	---	---	---	---	---	14.0	13.0	13.5
12	---	---	---	---	---	---	---	---	---	14.0	13.0	13.0
13	---	---	---	---	---	---	---	---	---	16.5	12.5	14.0
14	---	---	---	---	---	---	---	---	---	17.0	12.0	14.5
15	---	---	---	---	---	---	---	---	---	18.0	13.0	15.5
16	---	---	---	---	---	---	---	---	---	19.0	14.5	16.5
17	---	---	---	---	---	---	---	---	---	18.5	15.5	16.5
18	---	---	---	---	---	---	---	---	---	18.5	14.5	16.5
19	---	---	---	---	---	---	---	---	---	19.5	15.0	17.0
20	---	---	---	---	---	---	15.5	12.0	13.5	19.5	15.5	17.5
21	---	---	---	---	---	---	16.5	11.0	13.5	18.5	15.5	17.0
22	---	---	---	---	---	---	16.5	11.5	14.0	17.0	14.0	15.5
23	---	---	---	---	---	---	14.5	12.5	13.0	17.0	13.0	15.0
24	---	---	---	---	---	---	17.0	12.0	14.0	17.0	13.0	15.5
25	---	---	---	---	---	---	16.5	12.5	14.5	17.0	15.0	15.5
26	---	---	---	---	---	---	13.5	12.0	13.0	18.0	15.0	16.5
27	---	---	---	---	---	---	15.0	11.0	13.0	18.0	15.0	16.5
28	---	---	---	---	---	---	15.0	10.5	12.5	19.0	15.0	17.0
29	---	---	---	---	---	---	16.5	10.5	13.5	20.0	16.0	18.0
30	---	---	---	---	---	---	16.5	13.0	14.5	20.0	16.5	18.0
31	---	---	---	---	---	---	---	---	---	20.5	17.0	19.0
MONTH	---	---	---	---	---	---	17.0	10.5	13.5	20.5	12.0	15.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	19.0	16.0	18.0	20.0	16.5	18.0	20.5	17.0	19.0	18.0	16.0	17.0
2	18.5	14.5	17.0	19.5	16.0	18.0	20.5	16.5	18.5	19.5	15.5	17.5
3	17.5	15.5	16.5	20.0	16.0	18.0	20.5	16.5	18.5	18.0	15.5	17.0
4	17.0	14.0	15.5	20.0	17.0	18.5	21.0	17.0	19.0	19.0	16.5	17.5
5	16.5	14.0	15.5	20.0	17.5	18.5	21.0	17.0	19.5	18.0	15.5	16.5
6	16.5	13.5	15.0	20.0	16.5	18.5	21.0	17.0	19.0	18.5	14.5	17.0
7	16.0	14.0	15.0	19.5	16.5	18.5	21.0	17.0	19.0	19.0	17.0	18.0
8	16.5	13.5	15.0	18.5	17.0	17.5	21.5	19.0	20.0	18.0	15.0	16.5
9	17.0	13.5	15.5	19.0	16.5	17.5	21.5	19.0	20.5	15.5	13.5	14.5
10	16.5	14.5	15.5	20.5	17.5	19.0	22.0	19.5	20.5	16.0	13.0	14.5
11	15.5	15.0	15.5	19.5	16.0	18.0	21.0	19.0	20.0	16.5	13.0	15.0
12	18.0	15.5	16.0	19.5	16.0	18.0	21.0	18.5	19.5	18.0	14.5	16.5
13	17.5	15.5	16.0	20.5	16.0	18.5	21.0	18.0	19.5	19.0	16.5	17.5
14	17.5	15.5	16.5	21.0	17.5	19.5	20.0	18.0	19.0	19.5	17.0	18.5
15	17.0	15.0	16.0	20.5	18.5	19.5	20.0	18.0	19.0	19.5	17.5	18.5
16	19.0	15.5	17.5	21.5	18.5	20.0	21.5	18.5	19.5	20.5	18.0	19.0
17	19.5	16.0	17.5	22.0	19.0	20.5	20.5	19.0	19.5	19.0	17.5	18.5
18	19.5	16.5	18.0	22.0	19.5	20.5	22.5	18.0	19.5	18.5	16.5	17.5
19	20.0	16.5	18.0	21.5	18.5	20.0	18.5	15.5	17.0	18.5	16.0	17.5
20	20.5	17.0	19.0	22.5	19.0	21.0	17.5	14.5	16.0	19.0	17.0	18.0
21	21.0	17.5	19.5	23.0	19.5	21.5	18.5	14.5	17.0	19.5	17.0	18.5
22	19.0	18.0	18.5	22.5	20.0	21.5	19.5	17.0	18.5	19.0	16.5	18.5
23	19.0	17.0	18.0	22.5	20.0	21.0	20.0	18.0	19.0	16.5	12.5	15.0
24	19.0	17.5	18.0	22.0	19.5	21.0	20.5	18.0	19.5	15.0	11.0	13.0
25	21.0	17.0	19.0	21.5	19.0	20.5	20.5	18.0	19.5	15.5	14.0	15.0
26	21.0	18.0	19.5	21.0	19.0	20.0	21.0	19.0	20.0	17.5	14.5	16.0
27	20.5	18.0	19.5	21.5	18.0	20.0	20.0	19.0	19.5	19.5	16.5	18.0
28	19.5	17.5	18.5	22.0	19.0	20.5	20.5	18.5	19.5	19.0	15.0	17.5
29	18.5	17.0	18.0	22.5	19.5	21.0	19.5	17.0	18.5	16.0	13.0	15.0
30	20.0	17.5	18.5	22.0	20.0	21.0	20.0	17.0	18.5	17.5	14.0	15.5
31	---	---	---	21.0	19.0	20.0	20.0	17.5	18.5	---	---	---
MONTH	21.0	13.5	17.2	23.0	16.0	19.5	22.5	14.5	19.0	20.5	11.0	16.8

CHRISTINA RIVER BASIN

01480675 MARSH CREEK NEAR GLENMOORE, PA

LOCATION.--Lat 40°05'52", long 75°44'31", Chester County, Hydrologic Unit 02040205, on left bank 200 ft north of Pennsylvania Turnpike, 1.2 mi downstream from Lyons Run, 1.8 mi upstream from Black Horse Creek, and 3.0 mi northeast of Glenmoore.

DRAINAGE AREA.--8.57 mi².

PERIOD OF RECORD.--July 1966 to current year.

REVISED RECORDS.--WDR PA-74-1: 1967(M), 1971-72(P) WDR PA-93-1: 1992.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 450 ft above sea level, from topographic map.

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

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 1	2200	*171	*2.43	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	7.4	5.7	6.2	8.6	12	41	12	12	7.1	7.0	2.0
2	1.3	16	4.3	4.5	7.7	11	140	20	11	5.8	4.7	2.4
3	1.3	15	3.6	5.9	7.8	23	38	19	9.5	4.9	3.4	4.1
4	1.2	7.9	4.5	7.8	8.1	32	18	18	8.7	5.0	2.9	3.2
5	1.1	4.5	4.9	7.3	17	15	16	16	7.7	5.6	2.8	2.6
6	1.0	3.2	4.0	5.9	21	12	15	13	7.3	4.5	2.6	2.3
7	1.0	3.9	3.4	e4.6	12	11	14	13	7.1	4.0	2.3	2.6
8	1.1	11	3.5	e4.4	9.2	16	14	20	6.7	24	2.3	5.9
9	1.2	17	3.2	e27	7.9	78	31	58	6.2	37	2.5	4.6
10	1.1	13	4.0	12	7.5	67	97	90	6.3	17	4.6	3.1
11	.96	7.8	7.5	8.3	8.3	19	37	75	6.7	8.7	7.1	2.3
12	.96	4.9	6.2	6.4	52	13	18	74	34	5.9	5.0	2.0
13	1.0	3.9	4.6	6.1	27	13	17	52	60	5.0	3.6	1.9
14	1.2	8.4	4.1	5.3	12	13	17	24	46	4.3	3.1	1.9
15	1.4	13	3.3	6.0	8.8	13	16	18	20	4.1	3.0	1.9
16	1.7	9.5	3.1	26	7.7	12	15	16	12	4.2	2.7	1.7
17	1.5	5.9	3.2	18	9.9	12	15	15	11	4.1	8.5	2.0
18	3.2	4.2	3.1	13	24	13	14	14	9.9	3.9	10	2.0
19	3.1	3.6	3.0	12	20	57	19	13	8.2	3.7	8.1	2.0
20	2.1	3.6	3.1	9.5	13	45	46	12	7.5	3.4	4.8	2.0
21	1.6	3.7	3.1	6.8	11	77	22	12	6.5	3.5	3.3	1.8
22	1.5	13	2.7	6.5	9.7	62	15	11	6.0	3.7	2.6	1.9
23	1.3	13	6.3	31	17	25	14	10	6.5	3.5	2.4	1.8
24	1.3	7.8	7.5	82	64	17	13	10	7.5	3.4	2.4	1.6
25	5.6	4.9	15	23	46	15	13	10	7.0	3.1	2.3	1.6
26	6.3	4.5	14	12	16	14	14	10	9.0	3.0	2.9	1.9
27	11	4.5	8.9	10	12	14	22	9.9	10	2.9	3.0	1.9
28	7.8	3.8	7.8	14	12	13	15	9.8	7.5	2.8	2.7	1.5
29	4.0	4.1	6.5	18	---	13	13	9.6	6.0	2.8	2.4	1.5
30	2.7	4.4	14	14	---	12	12	14	6.7	2.6	2.3	1.4
31	2.3	---	12	10	---	12	---	11	---	8.9	2.1	---
TOTAL	74.42	227.4	180.1	423.5	477.2	761	791	709.3	370.5	202.4	119.4	69.4
MEAN	2.40	7.58	5.81	13.7	17.0	24.5	26.4	22.9	12.4	6.53	3.85	2.31
MAX	11	17	15	82	64	78	140	90	60	37	10	5.9
MIN	.96	3.2	2.7	4.4	7.5	11	12	9.6	6.0	2.6	2.1	1.4
CFSM	.28	.88	.68	1.59	1.99	2.86	3.08	2.67	1.44	.76	.45	.27
IN.	.32	.99	.78	1.84	2.07	3.30	3.43	3.08	1.61	.88	.52	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1998, BY WATER YEAR (WY)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	7.33	11.3	14.6	14.6	17.1	21.3	19.5	15.4	10.9	8.90	5.80	6.13																						
MAX	25.3	22.8	49.9	35.9	44.8	58.4	47.4	36.7	42.2	34.0	22.1	21.4																						
(WY)	1997	1997	1997	1978	1971	1994	1983	1989	1972	1984	1971	1979																						
MIN	2.33	3.18	2.07	1.19	5.09	6.58	4.84	4.97	2.81	2.28	.93	.88																						
(WY)	1982	1982	1981	1981	1980	1981	1985	1969	1986	1987	1995	1980																						

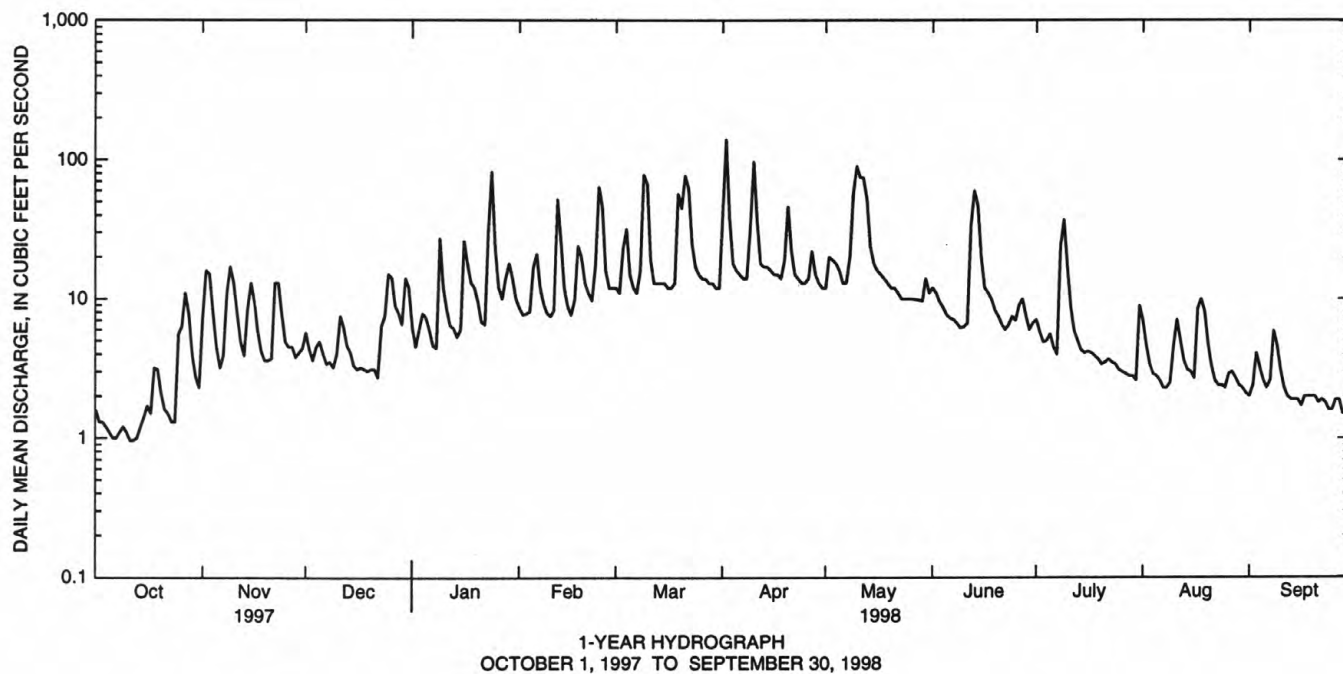
e Estimated.

CHRISTINA RIVER BASIN

01480675 MARSH CREEK NEAR GLENMOORE, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1966 - 1998	
ANNUAL TOTAL	3568.52		4405.62		12.7	
ANNUAL MEAN	9.78		12.1		23.2	
HIGHEST ANNUAL MEAN					1984	
LOWEST ANNUAL MEAN					4.99	
HIGHEST DAILY MEAN	171	Jan 25	140	Apr 2	444	Jun 22 1972
LOWEST DAILY MEAN	.96	Oct 11,12	.96	Oct 11,12	.39	Sep 8 1995a
ANNUAL SEVEN-DAY MINIMUM	1.0	Oct 6	1.0	Oct 6	.41	Sep 7 1966
INSTANTANEOUS PEAK FLOW			171	Apr 1	946	Jun 22 1972
INSTANTANEOUS PEAK STAGE			2.43	Apr 1	4.68	Jun 22 1972
INSTANTANEOUS LOW FLOW			.96	Oct 10-13	.30	Aug 31 1966
ANNUAL RUNOFF (CFSM)	1.14		1.41		1.48	
ANNUAL RUNOFF (INCHES)	15.49		19.12		20.17	
10 PERCENT EXCEEDS	18		23		25	
50 PERCENT EXCEEDS	6.1		7.5		7.8	
90 PERCENT EXCEEDS	1.4		2.0		2.2	

a Also Sept. 12, 15, 16, 1995.



LOCATION.--Lat 40°03'19", long 75°43'00", Chester County, Hydrologic Unit 02040205, on left bank 1,000 ft downstream from Marsh Creek Dam, 0.2 mi upstream from mouth, and 3.0 mi north of Downingtown.

PERIOD OF RECORD.--June 1973 to current year.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated since November 1973 by Marsh Creek Reservoir (station 01480684). Several measurements of water temperature were made during the year. Satellite telemetry at station.

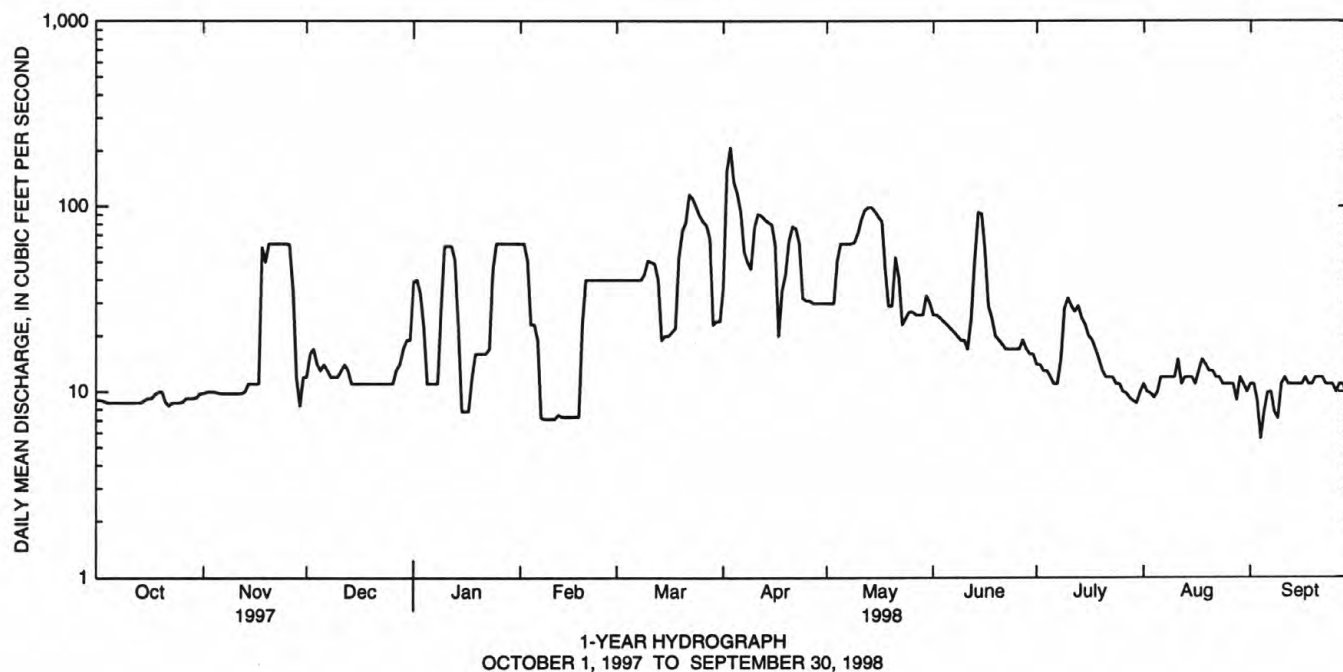
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	9.8	12	39	63	40	37	30	26	14	11	11
2	9.0	10	16	40	63	40	156	30	26	14	10	11
3	8.9	10	17	34	51	40	208	30	25	13	9.8	9.0
4	8.7	10	14	22	23	40	136	51	24	13	9.3	5.6
5	8.7	9.9	13	11	23	40	117	63	23	12	10	7.8
6	8.7	9.8	14	11	19	40	93	63	22	11	12	9.9
7	8.7	9.8	13	11	7.2	40	57	63	21	11	12	10
8	8.7	9.8	12	11	7.1	40	50	63	20	15	12	7.8
9	8.7	9.8	12	28	7.1	43	46	64	19	28	12	7.2
10	8.7	9.8	12	61	7.1	51	77	72	19	32	12	11
11	8.7	9.8	13	61	7.1	50	91	85	17	29	15	12
12	8.7	9.8	14	61	7.5	49	89	95	25	27	11	11
13	8.7	10	13	51	7.3	40	85	99	51	29	12	11
14	8.7	11	11	22	7.3	19	82	99	93	25	12	11
15	9.0	11	11	7.8	7.3	20	80	94	91	23	12	11
16	9.2	11	11	7.8	7.3	20	62	88	58	20	11	11
17	9.2	11	11	7.8	7.3	21	20	83	29	19	13	12
18	9.7	60	11	12	7.3	22	35	46	25	17	15	11
19	10	50	11	16	23	53	43	29	20	15	14	11
20	10	63	11	16	40	74	65	29	19	13	13	12
21	8.8	63	11	16	40	82	78	53	18	12	13	12
22	8.4	63	11	16	40	116	76	41	17	12	12	12
23	8.7	63	11	17	40	110	63	23	17	12	12	11
24	8.7	63	11	45	40	99	32	25	17	11	11	11
25	8.7	63	11	63	40	89	31	27	17	11	11	11
26	8.8	62	11	63	40	83	31	27	17	10	11	10
27	9.2	35	13	63	40	79	30	26	19	9.8	11	11
28	9.2	12	14	63	40	67	30	26	17	9.2	9.0	11
29	9.2	8.4	17	63	---	23	30	26	16	8.9	12	9.8
30	9.3	12	19	63	---	24	30	33	16	8.7	11	9.8
31	9.8	---	19	63	---	24	---	30	---	10	10	---
TOTAL	278.5	789.7	400	1065.4	711.9	1578	2060	1613	824	494.6	361.1	311.9
MEAN	8.98	26.3	12.9	34.4	25.4	50.9	68.7	52.0	27.5	16.0	11.6	10.4
MAX	10	63	19	63	63	116	208	99	93	32	15	12
MIN	8.4	8.4	11	7.8	7.1	19	20	23	16	8.7	9.0	5.6

MEAN	20.3	23.6	44.4	43.2	34.9	40.0	43.4	35.1	23.9	21.9	14.6	15.8
MAX	59.5	60.0	148	128	72.4	119	140	83.4	71.2	81.6	31.4	54.3
(WY)	1997	1989	1997	1979	1996	1994	1983	1989	1982	1984	1989	1979
MIN	3.39	3.50	3.01	7.30	.86	.83	.84	.72	4.06	5.18	6.42	6.47
(WY)	1981	1979	1974	1981	1989	1974	1974	1974	1976	1983	1981	1981

CHRISTINA RIVER BASIN

01480685 MARSH CREEK NEAR DOWNINGTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1973 - 1998	
ANNUAL TOTAL	8408.4		10488.1		29.9	
ANNUAL MEAN	23.0		28.7		11.6	
HIGHEST ANNUAL MEAN					52.9	
LOWEST ANNUAL MEAN					11.6	
HIGHEST DAILY MEAN	236	Feb 2	208	Apr 3	462	Jun 18 1982
LOWEST DAILY MEAN	2.8	Aug 21	5.6	Sep 4	.31	Dec 22 1973
ANNUAL SEVEN-DAY MINIMUM	6.8	Aug 17	7.2	Feb 7	.40	Feb 27 1980
INSTANTANEOUS PEAK FLOW			a366	Nov 18	a560	Dec 14 1983
INSTANTANEOUS PEAK STAGE			3.36	Nov 18	3.70	Dec 14 1983
10 PERCENT EXCEEDS	59		63		66	
50 PERCENT EXCEEDS	11		16		16	
90 PERCENT EXCEEDS	8.2		8.8		5.8	

a From rating curve extended above 300 ft³/s.

CHRISTINA RIVER BASIN

01480700 EAST BRANCH BRANDYWINE CREEK NEAR DOWNINGTOWN, PA

LOCATION.--Lat 40°02'05", long 75°42'32", Chester County, Hydrologic Unit 02040205, on right bank 20 ft downstream from bridge on Dowlin Forge Road, 200 ft east of State Highway 282, 0.4 mi downstream from Shamona Creek, 1.5 mi downstream from Marsh Creek, 2.0 mi upstream from Beaver Creek, and 2.2 mi north of Downingtown.

DRAINAGE AREA.--60.6 mi².

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1948-57. October 1965 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 270 ft above sea level, from topographic map. Prior to July 30, 1966, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since November 1973 by Marsh Creek Reservoir (station 01480684) 1.9 mi upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	59	36	69	111	102	536	94	90	e60	49	23
2	22	87	39	76	108	97	679	124	75	e55	38	25
3	22	55	39	67	97	195	361	138	72	e54	35	31
4	21	35	38	54	63	182	250	146	68	e55	33	20
5	22	30	37	38	117	120	216	143	65	e55	32	20
6	21	28	36	37	98	107	181	156	63	e50	33	21
7	20	29	34	45	57	102	139	130	60	e45	33	27
8	20	54	31	138	51	132	126	205	58	e161	33	48
9	20	70	31	121	49	442	258	320	56	e123	32	23
10	20	50	33	121	47	237	350	317	56	e104	51	25
11	21	35	45	107	47	154	227	334	56	82	79	25
12	21	31	41	102	235	129	184	354	230	72	41	26
13	21	29	37	89	82	113	172	250	298	71	36	25
14	21	50	33	55	60	88	164	211	228	66	38	26
15	27	63	31	39	53	84	160	180	172	62	38	27
16	30	44	30	153	51	80	139	179	130	60	35	29
17	28	37	31	66	59	78	96	165	95	56	136	38
18	38	88	30	69	153	91	106	114	75	52	58	32
19	34	75	29	70	110	305	129	86	65	48	41	31
20	29	92	29	59	106	230	223	89	61	45	34	32
21	25	92	29	54	99	496	165	109	58	44	31	33
22	23	140	28	52	91	323	151	97	56	56	30	33
23	24	111	41	284	137	256	137	76	58	46	28	32
24	25	100	38	270	280	202	103	77	59	43	28	30
25	49	97	100	167	209	181	96	79	57	38	26	29
26	37	96	58	133	129	171	103	79	95	37	27	29
27	62	64	48	123	110	162	122	75	80	35	30	30
28	34	35	52	147	103	147	104	73	58	34	24	30
29	27	28	50	146	---	94	93	78	56	33	25	26
30	24	33	102	128	---	91	92	107	68	31	26	24
31	23	---	68	117	---	89	---	81	---	84	23	---
TOTAL	833	1837	1304	3196	2912	5280	5862	4666	2718	1857	1203	850
MEAN	26.9	61.2	42.1	103	104	170	195	151	90.6	59.9	38.8	28.3
MAX	62	140	102	284	280	496	679	354	298	161	136	48
MIN	20	28	28	37	47	78	92	73	56	31	23	20

e Estimated.

CHRISTINA RIVER BASIN

01480700 EAST BRANCH BRANDYWINE CREEK NEAR DOWNINGTOWN, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	60.7	76.9	115	124	114	141	134	109	72.8	69.1	44.6	52.2
MAX	199	169	385	361	242	380	365	246	181	257	90.9	191
(WY)	1997	1997	1997	1979	1979	1994	1983	1989	1982	1984	1989	1979
MIN	23.2	25.2	23.5	17.5	47.8	35.7	28.9	49.2	29.6	22.9	18.8	17.1
(WY)	1981	1982	1981	1981	1992	1985	1985	1976	1985	1977	1981	1980

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1974 - 1998

ANNUAL TOTAL	28592			32518			92.8			150		
ANNUAL MEAN	78.3			89.1						1984		
HIGHEST ANNUAL MEAN							39.3			1981		
LOWEST ANNUAL MEAN							2020			Jan 26 1978		
HIGHEST DAILY MEAN	776			Jan 25			679			Apr 2		
LOWEST DAILY MEAN	20			Aug 11-13			20			Oct 7-10a		
ANNUAL SEVEN-DAY MINIMUM	20			Oct 6			20			Oct 6		
INSTANTANEOUS PEAK FLOW							2210			Apr 1		
INSTANTANEOUS PEAK STAGE							6.24			Apr 1		
INSTANTANEOUS LOW FLOW							18			Sep 5		
10 PERCENT EXCEEDS	155			181			180			180		
50 PERCENT EXCEEDS	54			60			59			59		
90 PERCENT EXCEEDS	22			26			26			26		

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1973, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	44.3	76.4	92.0	81.4	139	129	123	98.8	99.8	63.1	56.5	45.2
MAX	120	168	245	168	286	195	238	144	306	128	147	148
(WY)	1972	1973	1973	1973	1971	1972	1973	1973	1972	1972	1971	1971
MIN	24.8	27.6	32.0	33.3	51.6	70.0	64.3	43.2	30.3	18.3	15.3	20.1
(WY)	1970	1966	1966	1969	1969	1969	1969	1969	1966	1966	1966	1970

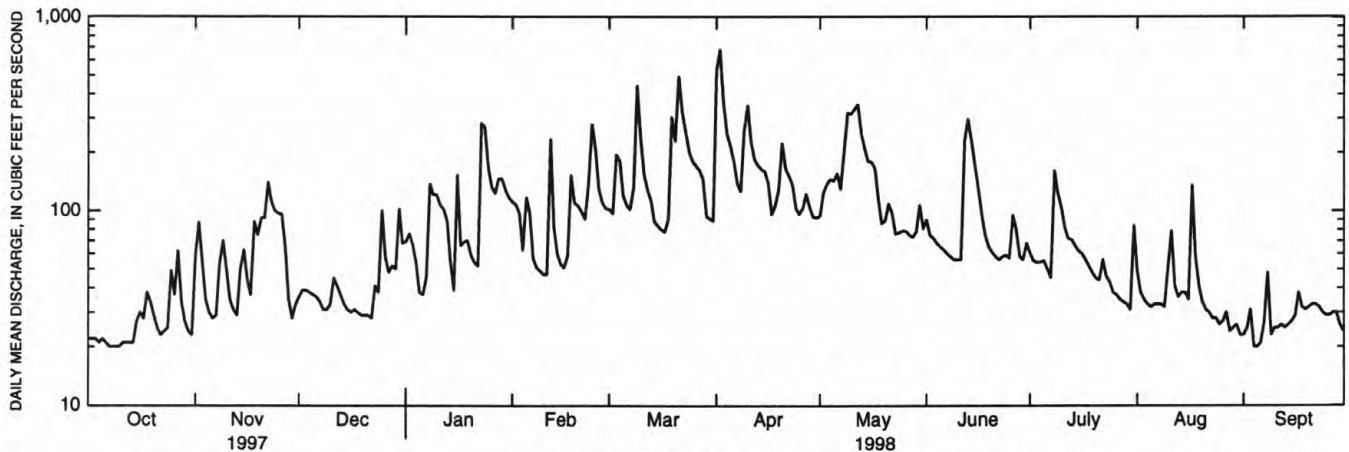
SUMMARY STATISTICS WATER YEARS 1966 - 1973

ANNUAL TOTAL	87.0			1973			1969			1969		
ANNUAL MEAN	139			51.6			3220			Jun 22 1972		
HIGHEST ANNUAL MEAN	51.6			1969			7.2			Sep 12 1966		
LOWEST ANNUAL MEAN	3220			Jun 22 1972			8.0			Sep 7 1966		
HIGHEST DAILY MEAN	7.2			Sep 12 1966			8.0			Sep 7 1966		
LOWEST DAILY MEAN	8.0			Sep 7 1966			b8070			Jun 22 1972		
ANNUAL SEVEN DAY MINIMUM	b8070			Jun 22 1972			c12.06			Jun 22 1972		
INSTANTANEOUS PEAK FLOW	c12.06			Jun 22 1972			7.2			Sep 2,3,11-13, 1966		
INSTANTANEOUS PEAK STAGE	7.2			Sep 2,3,11-13, 1966			1.44			19.51		
INSTANTANEOUS LOW FLOW	1.44			19.51			163			56		
ANNUAL RUNOFF (CFSM)	19.51			163			56			23		
ANNUAL RUNOFF (INCHES)	163			56			23					
10 PERCENT EXCEEDS	56			23								
50 PERCENT EXCEEDS	23											
90 PERCENT EXCEEDS												

a Also Sept. 4, 5.

b From rating curve extended above 5,000 ft³/s.

c From floodmark.

1-YEAR HYDROGRAPH
OCTOBER 1, 1997 TO SEPTEMBER 30, 1998

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA

LOCATION.--Lat 39°58'07", long 75°40'25", Chester County, Hydrologic Unit 02040205, on left bank at downstream side of Sugars Bridge (U.S. Highway 322), 2,000 ft upstream from Valley Creek, 1.5 mi north of Marshallton, and 3.3 mi southeast of Downingtown.

DRAINAGE AREA.--89.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1972 to current year.

REVISED RECORDS.--WDR PA-75-1: 1972(P), 1973, 1974.

GAGE.--Water-stage recorder. Elevation of gage is 195 ft above sea level, from topographic map. Feb. 1 to Apr. 10, and June 25 to Nov. 17, 1972, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated since November 1973 by Marsh Creek Reservoir (station 01480684) about 7.5 mi upstream. Satellite and landline telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	99	53	77	133	145	729	142	117	85	60	42
2	35	126	53	91	129	140	1190	180	98	69	49	51
3	39	85	56	78	127	262	463	180	94	65	46	60
4	37	57	56	71	98	232	317	179	91	65	44	39
5	e37	49	50	53	147	161	276	184	87	67	42	37
6	e36	47	48	50	139	148	240	208	85	59	44	38
7	e36	49	46	62	96	145	202	171	82	57	42	42
8	e37	79	43	159	88	175	184	272	81	200	42	81
9	e38	98	42	148	84	706	393	407	78	148	42	41
10	35	77	45	131	81	325	517	392	77	122	67	40
11	35	e59	59	118	80	211	293	392	79	91	100	41
12	36	e48	52	115	312	177	241	444	416	80	51	41
13	37	50	48	108	130	166	229	305	343	79	46	40
14	38	77	43	77	100	144	234	241	259	75	47	41
15	48	95	41	57	89	137	215	217	184	71	47	43
16	44	67	41	198	85	133	203	200	151	70	45	43
17	41	60	40	95	98	129	164	190	124	66	270	58
18	54	88	39	91	192	140	167	160	99	61	111	47
19	50	68	39	91	146	421	190	131	91	57	67	44
20	44	88	39	78	137	272	287	125	88	55	55	44
21	41	91	39	68	132	766	212	136	85	55	50	46
22	39	153	38	63	123	405	197	134	82	63	49	47
23	39	112	56	403	163	299	189	115	86	55	48	43
24	39	101	51	380	386	240	161	111	88	53	48	41
25	76	96	135	197	271	215	151	117	83	50	46	41
26	58	97	81	158	175	206	152	118	125	47	46	42
27	93	76	65	146	156	196	172	111	117	47	60	42
28	54	50	72	179	149	186	148	108	85	47	46	41
29	43	42	65	173	---	145	143	100	82	45	44	38
30	42	48	130	149	---	140	143	130	101	43	45	38
31	41	---	89	139	---	137	---	102	---	85	44	---
TOTAL	1358	2332	1754	4003	4046	7304	8402	6002	3658	2232	1843	1332
MEAN	43.8	77.7	56.6	129	145	236	280	194	122	72.0	59.5	44.4
MAX	93	153	135	403	386	766	1190	444	416	200	270	81
MIN	35	42	38	50	80	129	143	100	77	43	42	37
CFSM	.49	.86	.63	1.44	1.61	2.62	3.12	2.15	1.36	.80	.66	.49
IN.	.56	.96	.73	1.66	1.67	3.02	3.48	2.48	1.51	.92	.76	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	93.6	117	175	189	181	221	215	174	120	114	76.4	87.3													
MAX	304	242	577	527	409	525	594	410	315	421	177	292													
(WY)	1997	1997	1997	1979	1979	1994	1983	1989	1982	1984	1996	1979													
MIN	41.2	43.6	40.8	30.9	74.6	61.6	53.1	81.9	47.0	41.1	35.9	29.5													
(WY)	1987	1974	1981	1981	1980	1985	1985	1976	1985	1977	1995	1980													

e Estimated.

CHRISTINA RIVER BASIN

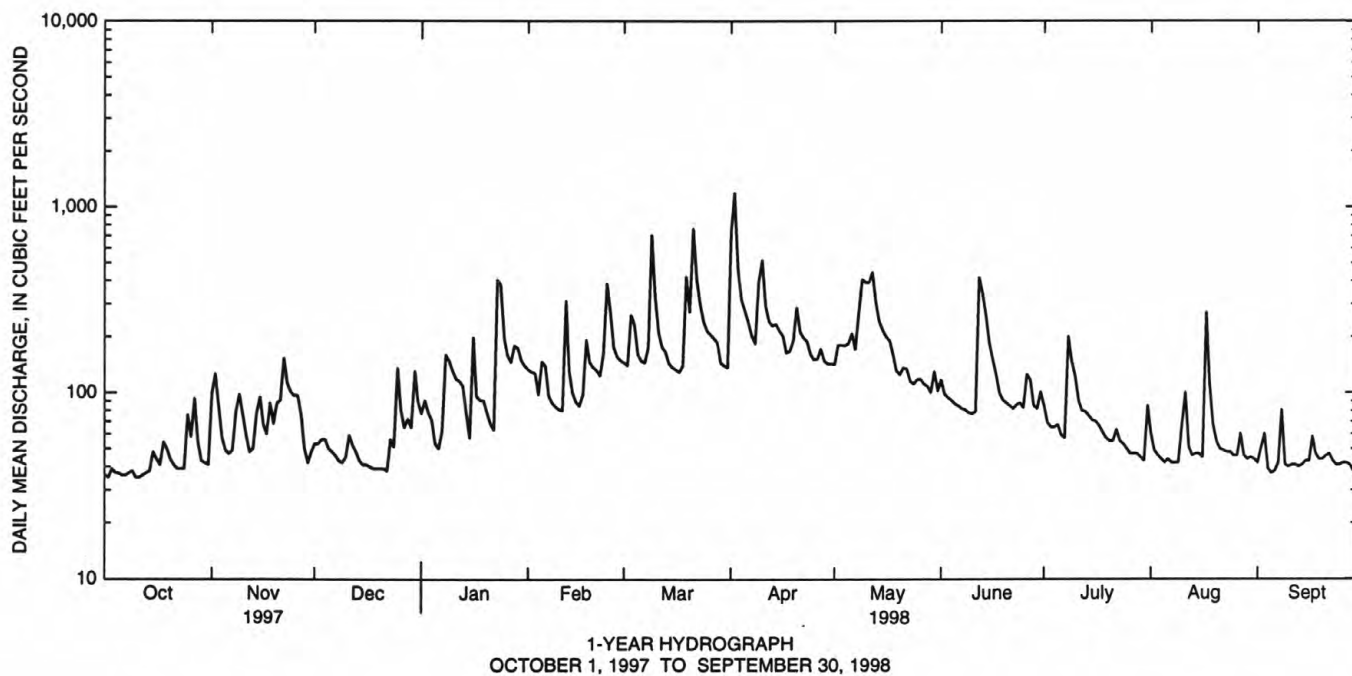
01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1974 - 1998	
ANNUAL TOTAL	42950		44266			
ANNUAL MEAN	118		121		147	
HIGHEST ANNUAL MEAN					257	
LOWEST ANNUAL MEAN					59.7	
HIGHEST DAILY MEAN	1360	Jan 25	1190	Apr 2	3040	Jan 26 1978
LOWEST DAILY MEAN	35	Oct 2,10,11	35	Oct 2,10,11	23	Sep 12 1995
ANNUAL SEVEN-DAY MINIMUM	a36	Oct 6	a36	Oct 6	26	Sep 6 1995
INSTANTANEOUS PEAK FLOW			3120	Apr 1	b8160	Jun 22 1972
INSTANTANEOUS PEAK STAGE			9.04	Apr 1	c13.40	Jun 22 1972
ANNUAL RUNOFF (CFSM)	1.31		1.35		1.63	
ANNUAL RUNOFF (INCHES)	17.77		18.32		22.19	
10 PERCENT EXCEEDS	223		236		285	
50 PERCENT EXCEEDS	84		85		96	
90 PERCENT EXCEEDS	39		41		42	

a Computed using estimated daily discharges.

b From rating curve extended above 3,600 ft³/s on basis of slope-area measurement of peak flow.

c From floodmark.



CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966, October 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1972 to current year.

pH: February 1972 to current year.

WATER TEMPERATURES: February 1972 to current year.

DISSOLVED OXYGEN: February 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1972.

REMARKS.--Data collection discontinued during winter months since 1981 water year. Other interruptions in the record were due to malfunctions of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 652 microsiemens, Feb. 6, 1977; minimum, 67 microsiemens, July 1, 1984.

pH: Maximum, 9.9, May 13, June 5, 1973; minimum, 5.4, Oct. 24, 26, 1973.

WATER TEMPERATURE: Maximum, 33.0°C, July 18, 1977; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 19.4 mg/L, Mar. 18, 1989; minimum, 0.8 mg/L, July 23, 1984.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.45 µM-MF (COLS./ 100 ML) (31616)
MAR 1998									
05...	0955	1028	1028	159	6.1	229	7.6	12.4	K6900
17...	1100	1028	1028	128	6.4	255	7.8	13.2	230
APR									
06...	1200	1028	1028	246	9.9	218	7.6	11.6	86
20...	1250	1028	1028	286	12.7	195	7.7	10.6	3300
MAY									
04...	1205	1028	1028	175	15.4	236	7.8	11.1	640
19...	1145	1028	1028	155	18.4	252	7.8	10.5	290
26...	1210	1028	1028	140	18.3	260	8.0	11.2	250
JUN									
09...	0925	1028	1028	101	16.0	262	7.7	9.6	360
15...	1235	1028	1028	202	17.6	215	7.6	9.6	860
22...	1030	1028	1028	107	22.7	268	7.6	8.2	500
JUL									
07...	1030	1028	1028	76	21.1	286	7.8	9.0	480
13...	1130	1028	1028	101	21.5	261	7.4	9.4	590
27...	1205	1028	1028	65	23.0	307	8.3	10.9	340
AUG									
10...	1040	1028	1028	59	23.8	308	7.7	8.7	300
18...	0910	1028	1028	112	22.2	220	7.4	8.4	>600
24...	1115	1028	1028	68	23.9	304	7.9	9.8	520
SEP									
09...	1105	1028	1028	55	18.3	304	7.7	9.3	640
22...	1010	1028	1028	65	20.9	329	7.4	8.0	>8000

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	377	342	363	362	233	301	402	357	390	---	---	---
2	389	309	360	264	234	244	411	329	383	---	---	---
3	403	370	384	295	247	266	---	---	---	---	---	---
4	392	341	370	325	288	308	---	---	---	---	---	---
5	---	---	---	348	314	330	---	---	---	---	---	---
6	---	---	---	353	326	342	---	---	---	---	---	---
7	---	---	---	353	324	340	---	---	---	---	---	---
8	---	---	---	345	279	306	---	---	---	---	---	---
9	---	---	---	289	257	277	---	---	---	---	---	---
10	393	360	380	306	267	288	---	---	---	---	---	---
11	404	344	378	---	---	---	---	---	---	---	---	---
12	400	335	374	---	---	---	---	---	---	---	---	---
13	398	342	370	347	321	336	---	---	---	---	---	---
14	379	344	367	336	270	298	---	---	---	---	---	---
15	376	303	349	280	243	264	---	---	---	---	---	---
16	358	321	340	307	263	284	---	---	---	---	---	---
17	376	348	363	310	278	296	---	---	---	---	---	---
18	382	303	339	311	194	268	---	---	---	---	---	---
19	362	299	324	283	251	265	---	---	---	---	---	---
20	360	314	344	267	240	254	---	---	---	---	---	---
21	358	315	344	296	254	265	---	---	---	---	---	---
22	366	324	349	290	236	249	---	---	---	---	---	---
23	376	359	368	278	251	264	---	---	---	---	---	---
24	382	344	363	291	266	279	---	---	---	---	---	---
25	365	246	298	300	278	291	---	---	---	---	---	---
26	331	279	300	309	279	300	---	---	---	---	---	---
27	284	238	261	331	289	305	---	---	---	---	---	---
28	333	279	305	395	331	353	---	---	---	---	---	---
29	354	318	338	419	379	399	---	---	---	---	---	---
30	361	327	349	407	357	389	---	---	---	---	---	---
31	367	332	352	---	---	---	---	---	---	---	---	---
MONTH	404	238	347	419	194	299	411	329	387	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	256	242	250	259	98	212	253	242	247
2	---	---	---	258	244	252	172	92	133	251	219	234
3	---	---	---	258	184	223	193	172	184	235	218	225
4	---	---	---	218	186	200	204	193	198	237	207	223
5	---	---	---	242	218	228	211	202	206	226	210	216
6	---	---	---	249	225	237	218	201	208	224	194	210
7	---	---	---	253	239	245	232	199	213	230	212	221
8	---	---	---	257	209	244	237	199	221	231	180	215
9	---	---	---	209	124	154	224	124	199	194	170	184
10	---	---	---	208	142	180	178	123	151	194	169	182
11	---	---	---	223	207	213	205	178	190	202	180	192
12	---	---	---	232	220	225	207	198	204	189	181	184
13	---	---	---	---	---	---	215	196	205	209	181	197
14	---	---	---	246	234	240	216	195	206	210	190	202
15	---	---	---	253	237	245	215	198	208	212	193	203
16	---	---	---	255	242	248	230	205	212	215	206	209
17	---	---	---	259	223	244	244	230	235	224	209	216
18	---	---	---	254	225	241	241	228	235	247	215	229
19	249	229	239	236	142	170	239	222	233	252	233	243
20	258	241	250	197	162	177	222	186	196	252	238	243
21	264	246	256	198	108	143	214	199	205	251	228	239
22	267	250	259	194	149	174	221	211	215	257	227	238
23	268	187	249	205	183	193	240	217	222	258	246	253
24	187	166	174	218	201	208	245	234	238	264	246	254
25	212	176	192	220	207	213	249	235	242	262	244	254
26	241	212	227	221	210	215	255	241	248	262	246	252
27	252	237	243	227	211	218	253	227	234	266	242	254
28	256	241	250	228	219	224	242	220	234	265	247	256
29	---	---	---	249	228	242	246	229	238	264	251	257
30	---	---	---	259	239	248	253	235	243	257	227	240
31	---	---	---	262	244	251	---	---	---	264	236	249
MONTH	268	166	234	262	108	218	259	92	212	266	169	226

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	265	233	245	281	257	268	304	261	280	340	278	320
2	266	243	255	291	270	283	318	281	301	337	274	314
3	267	252	258	298	277	290	322	283	304	317	250	286
4	272	252	263	302	270	286	333	299	316	346	314	330
5	274	255	266	300	266	283	335	314	327	367	325	348
6	278	252	266	304	280	295	334	297	319	361	315	344
7	285	258	273	308	284	293	341	306	328	352	312	336
8	286	260	273	311	179	242	346	301	328	313	240	271
9	282	251	270	239	182	209	352	303	330	345	298	318
10	283	270	278	243	216	230	344	204	316	354	317	338
11	282	261	273	263	235	249	278	205	243	360	331	344
12	277	143	197	275	246	261	314	278	296	363	311	340
13	191	142	170	277	251	262	328	284	309	363	315	343
14	207	176	193	284	264	276	326	296	314	357	327	344
15	222	203	211	298	274	287	331	286	312	345	308	331
16	234	214	223	305	281	293	334	292	318	339	305	328
17	251	210	238	311	291	301	335	114	246	338	252	300
18	268	243	253	325	288	309	266	191	226	333	303	320
19	277	254	267	323	288	304	297	252	275	351	300	327
20	281	254	270	328	221	288	312	285	300	349	310	336
21	282	261	274	334	289	312	320	294	310	352	314	334
22	286	263	278	289	263	273	338	293	317	347	318	338
23	286	268	278	276	215	252	337	297	322	354	324	341
24	287	269	278	348	241	281	338	297	322	359	331	348
25	291	269	280	364	331	350	345	312	332	367	333	353
26	294	211	270	364	317	339	344	312	331	380	326	355
27	264	212	238	336	307	323	337	265	299	382	329	358
28	283	253	268	343	321	329	341	316	327	372	330	356
29	283	261	274	334	304	323	349	310	332	382	329	363
30	282	245	265	338	311	326	333	291	317	381	344	364
31	---	---	---	338	248	280	334	300	321	---	---	---
MONTH	294	142	255	364	179	287	352	114	307	382	240	334

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	8.4	7.6	7.9	8.0	7.7	7.8	7.3	7.0	7.2	---	---	---
2	8.6	7.6	7.9	7.7	7.6	7.7	7.1	6.8	7.0	---	---	---
3	8.6	7.6	7.9	7.9	7.6	7.8	---	---	---	---	---	---
4	8.6	7.6	7.9	8.1	7.7	7.9	---	---	---	---	---	---
5	---	---	---	8.2	7.8	8.0	---	---	---	---	---	---
6	---	---	---	8.2	7.8	7.9	---	---	---	---	---	---
7	---	---	---	8.0	7.8	7.9	---	---	---	---	---	---
8	---	---	---	7.9	7.7	7.8	---	---	---	---	---	---
9	---	---	---	7.9	7.7	7.8	---	---	---	---	---	---
10	8.4	7.5	7.8	7.9	7.7	7.8	---	---	---	---	---	---
11	8.4	7.5	7.8	---	---	---	---	---	---	---	---	---
12	8.5	7.5	7.8	---	---	---	---	---	---	---	---	---
13	8.4	7.5	7.8	8.1	7.7	7.8	---	---	---	---	---	---
14	8.2	7.5	7.7	7.8	7.6	7.7	---	---	---	---	---	---
15	7.8	7.6	7.7	7.8	7.6	7.6	---	---	---	---	---	---
16	8.2	7.6	7.8	7.9	7.5	7.7	---	---	---	---	---	---
17	8.3	7.6	7.8	7.9	7.4	7.6	---	---	---	---	---	---
18	8.0	7.5	7.7	7.6	7.4	7.5	---	---	---	---	---	---
19	7.9	7.4	7.6	7.8	7.4	7.6	---	---	---	---	---	---
20	8.1	7.4	7.7	7.7	7.4	7.5	---	---	---	---	---	---
21	8.2	7.4	7.7	7.6	7.3	7.4	---	---	---	---	---	---
22	8.5	7.5	7.9	7.5	7.1	7.2	---	---	---	---	---	---
23	8.6	7.7	8.0	7.4	7.1	7.2	---	---	---	---	---	---
24	8.7	7.8	8.1	7.5	7.2	7.3	---	---	---	---	---	---
25	7.8	7.4	7.6	7.4	7.2	7.3	---	---	---	---	---	---
26	7.6	7.4	7.5	7.4	7.2	7.3	---	---	---	---	---	---
27	7.7	7.3	7.5	7.3	7.0	7.1	---	---	---	---	---	---
28	7.8	7.5	7.6	7.3	7.1	7.2	---	---	---	---	---	---
29	8.0	7.5	7.7	7.4	7.0	7.2	---	---	---	---	---	---
30	8.0	7.6	7.7	7.2	7.0	7.1	---	---	---	---	---	---
31	8.2	7.7	7.9	---	---	---	---	---	---	---	---	---
MONTH	8.7	7.3	7.8	8.2	7.0	7.6	7.3	6.8	7.1	---	---	---

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	---	---	---	8.0	7.6	7.7	7.8	7.1	7.5	8.6	7.5	7.9
2	---	---	---	8.1	7.6	7.8	7.4	7.1	7.2	8.3	7.5	7.8
3	---	---	---	7.7	7.5	7.6	7.5	7.4	7.4	8.4	7.5	7.8
4	---	---	---	7.8	7.5	7.6	7.5	7.4	7.5	8.2	7.5	7.8
5	---	---	---	8.0	7.6	7.7	7.6	7.5	7.5	8.2	7.5	7.7
6	---	---	---	8.0	7.6	7.8	7.7	7.5	7.6	7.6	7.5	7.5
7	---	---	---	8.1	7.6	7.8	7.8	7.5	7.6	8.3	7.5	7.7
8	---	---	---	7.8	7.6	7.7	7.8	7.5	7.6	7.6	7.4	7.5
9	---	---	---	7.8	7.4	7.5	7.6	7.4	7.5	7.6	7.4	7.5
10	---	---	---	7.9	7.5	7.7	7.5	7.3	7.4	7.5	7.4	7.5
11	---	---	---	7.8	7.5	7.7	7.7	7.4	7.5	7.6	7.4	7.5
12	---	---	---	7.8	7.6	7.7	7.8	7.5	7.6	7.5	7.4	7.5
13	---	---	---	7.8	7.6	7.7	7.9	7.5	7.6	7.6	7.4	7.5
14	---	---	---	7.8	7.6	7.7	8.0	7.5	7.7	7.8	7.4	7.6
15	---	---	---	7.9	7.6	7.8	8.2	7.5	7.7	7.9	7.5	7.6
16	---	---	---	8.0	7.6	7.8	8.2	7.5	7.7	8.0	7.5	7.6
17	---	---	---	8.0	7.6	7.8	8.3	7.5	7.7	8.0	7.4	7.7
18	---	---	---	7.9	7.6	7.7	8.5	7.5	7.9	8.1	7.5	7.7
19	7.8	7.5	7.7	7.6	7.5	7.6	7.7	7.5	7.6	8.3	7.5	7.8
20	7.8	7.6	7.7	7.7	7.5	7.6	8.0	7.5	7.7	8.4	7.5	7.8
21	7.9	7.6	7.7	7.6	7.4	7.5	8.4	7.5	7.8	8.4	7.5	7.8
22	8.0	7.6	7.8	7.6	7.5	7.6	8.6	7.5	7.9	8.3	7.5	7.8
23	7.8	7.6	7.7	7.7	7.6	7.6	8.4	7.5	7.8	8.4	7.6	7.9
24	7.6	7.5	7.5	7.8	7.6	7.7	8.7	7.5	8.0	8.5	7.6	7.9
25	7.7	7.5	7.6	7.8	7.6	7.7	8.8	7.5	8.1	8.2	7.6	7.8
26	7.9	7.6	7.7	7.9	7.6	7.7	8.1	7.5	7.7	8.4	7.5	7.9
27	7.9	7.6	7.7	7.9	7.6	7.7	8.7	7.5	8.0	8.4	7.5	7.9
28	7.8	7.6	7.7	8.0	7.6	7.7	8.8	7.6	8.0	8.3	7.5	7.8
29	---	---	---	8.0	7.6	7.8	8.9	7.6	8.1	8.3	7.5	7.8
30	---	---	---	8.0	7.6	7.7	9.0	7.6	8.1	7.8	7.4	7.5
31	---	---	---	8.1	7.6	7.8	---	---	---	7.9	7.4	7.6
MONTH	8.0	7.5	7.7	8.1	7.4	7.7	9.0	7.1	7.7	8.6	7.4	7.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	7.9	7.4	7.6	8.1	7.5	7.7	8.5	7.4	7.8	8.5	7.4	7.8
2	8.0	7.5	7.7	8.1	7.6	7.8	8.6	7.5	7.8	8.6	7.4	7.8
3	8.0	7.5	7.7	8.2	7.6	7.8	8.6	7.5	7.9	8.3	7.3	7.7
4	8.1	7.6	7.8	8.2	7.5	7.8	8.8	7.5	8.0	8.4	7.4	7.8
5	8.1	7.6	7.8	8.2	7.5	7.8	8.8	7.5	8.0	8.5	7.4	7.8
6	8.1	7.6	7.8	8.3	7.6	7.8	8.8	7.4	8.0	8.5	7.5	7.8
7	8.1	7.6	7.8	8.5	7.6	7.9	8.8	7.4	8.0	8.4	7.4	7.8
8	8.2	7.6	7.8	7.7	7.5	7.6	8.8	7.4	8.0	7.9	7.3	7.6
9	8.4	7.6	7.8	7.8	7.5	7.6	8.8	7.4	7.9	8.3	7.4	7.8
10	8.1	7.6	7.8	7.8	7.5	7.6	8.6	7.3	7.7	8.3	7.5	7.8
11	7.8	7.6	7.7	8.0	7.5	7.7	8.0	7.2	7.5	8.4	7.5	7.8
12	7.6	7.3	7.4	8.1	7.6	7.8	8.3	7.3	7.7	8.4	7.5	7.8
13	7.5	7.3	7.4	8.4	7.6	7.9	8.4	7.4	7.8	8.5	7.4	7.8
14	7.5	7.4	7.5	8.5	7.6	8.0	8.5	7.4	7.8	8.4	7.4	7.8
15	7.6	7.4	7.5	8.5	7.5	7.9	8.6	7.4	7.9	8.4	7.4	7.8
16	7.8	7.5	7.6	8.6	7.5	8.0	8.6	7.4	7.9	8.4	7.4	7.8
17	7.8	7.5	7.6	8.6	7.4	7.9	7.7	7.0	7.3	7.8	7.2	7.5
18	7.8	7.5	7.7	8.6	7.5	7.9	7.7	7.2	7.4	8.2	7.4	7.7
19	7.9	7.5	7.7	8.7	7.5	8.0	7.9	7.3	7.6	8.4	7.4	7.8
20	8.1	7.5	7.7	8.8	7.5	8.0	8.0	7.5	7.7	8.3	7.4	7.8
21	8.1	7.5	7.8	8.8	7.4	8.0	8.1	7.5	7.7	8.2	7.4	7.7
22	7.8	7.5	7.6	8.5	7.4	7.8	8.3	7.5	7.8	8.0	7.3	7.6
23	8.0	7.5	7.7	8.6	7.4	7.8	8.4	7.4	7.8	8.2	7.5	7.7
24	8.0	7.5	7.7	8.6	7.4	7.9	8.6	7.4	7.9	8.2	7.5	7.8
25	8.2	7.5	7.8	8.6	7.5	7.9	8.6	7.4	7.8	8.0	7.5	7.7
26	8.1	7.4	7.6	8.7	7.5	7.9	8.6	7.4	7.9	8.3	7.5	7.8
27	7.8	7.3	7.6	8.8	7.5	8.0	8.4	7.3	7.7	8.1	7.5	7.7
28	8.0	7.5	7.7	8.8	7.5	8.1	8.5	7.3	7.8	7.9	7.4	7.6
29	7.8	7.5	7.7	8.9	7.5	8.1	8.5	7.4	7.8	8.0	7.4	7.6
30	7.7	7.5	7.6	8.9	7.5	8.1	8.6	7.4	7.8	8.1	7.5	7.7
31	---	---	---	7.8	7.4	7.6	8.4	7.3	7.8	---	---	---
MONTH	8.4	7.3	7.7	8.9	7.4	7.9	8.8	7.0	7.8	8.6	7.2	7.7

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.5	15.0	16.5	14.5	12.5	13.5	10.0	7.0	8.5	---	---	---
2	16.5	12.5	14.5	14.0	12.5	13.5	7.5	5.5	6.5	---	---	---
3	18.0	13.5	15.5	13.0	10.5	12.0	---	---	---	---	---	---
4	19.0	15.5	17.0	13.0	11.0	12.0	---	---	---	---	---	---
5	---	---	---	12.0	9.0	10.5	---	---	---	---	---	---
6	---	---	---	11.5	9.0	10.5	---	---	---	---	---	---
7	---	---	---	11.5	11.0	11.5	---	---	---	---	---	---
8	---	---	---	11.5	11.0	11.0	---	---	---	---	---	---
9	---	---	---	11.5	10.5	11.0	---	---	---	---	---	---
10	22.5	19.0	20.5	11.5	10.0	11.0	---	---	---	---	---	---
11	20.0	17.0	18.5	---	---	---	---	---	---	---	---	---
12	18.5	15.0	16.5	---	---	---	---	---	---	---	---	---
13	18.5	15.0	16.5	9.0	7.5	8.5	---	---	---	---	---	---
14	20.0	18.0	18.5	8.5	7.5	8.0	---	---	---	---	---	---
15	19.0	15.5	17.0	8.0	7.0	7.5	---	---	---	---	---	---
16	17.5	15.0	16.0	8.0	6.5	7.0	---	---	---	---	---	---
17	16.5	13.5	15.0	8.0	5.5	6.5	---	---	---	---	---	---
18	16.0	14.5	15.0	8.5	4.5	6.5	---	---	---	---	---	---
19	15.0	13.5	14.0	7.5	4.5	6.5	---	---	---	---	---	---
20	15.0	11.5	13.0	8.0	5.5	7.0	---	---	---	---	---	---
21	14.5	11.5	12.5	9.0	6.5	7.5	---	---	---	---	---	---
22	13.0	10.0	11.5	10.5	8.5	9.0	---	---	---	---	---	---
23	12.5	8.5	10.5	10.0	8.5	9.0	---	---	---	---	---	---
24	13.0	9.5	11.0	8.5	6.5	7.5	---	---	---	---	---	---
25	12.5	12.0	12.5	8.5	5.5	6.5	---	---	---	---	---	---
26	12.5	11.5	12.0	8.5	6.5	7.5	---	---	---	---	---	---
27	13.5	11.5	12.0	8.5	7.0	8.0	---	---	---	---	---	---
28	12.5	10.0	11.0	9.0	7.0	7.5	---	---	---	---	---	---
29	12.5	9.0	10.5	10.5	8.5	9.5	---	---	---	---	---	---
30	13.0	9.0	11.0	10.0	9.0	9.5	---	---	---	---	---	---
31	13.5	9.5	11.5	---	---	---	---	---	---	---	---	---
MONTH	22.5	8.5	14.2	14.5	4.5	9.1	10.0	5.5	7.5	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	11.0	8.5	9.5	17.5	15.5	16.5	16.0	14.5	15.5
2	---	---	---	10.0	8.0	9.5	17.0	12.5	15.0	15.5	14.5	15.0
3	---	---	---	9.5	7.0	8.5	13.5	11.0	12.5	16.5	14.0	15.5
4	---	---	---	8.0	6.0	7.0	12.5	10.0	11.0	16.5	15.0	15.5
5	---	---	---	7.5	5.5	7.0	11.5	9.0	10.0	16.0	14.5	15.0
6	---	---	---	8.5	5.0	7.0	13.0	8.5	10.5	15.5	14.5	15.0
7	---	---	---	9.5	6.5	8.5	13.5	9.0	11.5	17.5	14.5	16.0
8	---	---	---	9.5	8.0	8.5	14.0	11.5	13.0	16.5	14.5	15.0
9	---	---	---	---	---	---	12.5	9.5	11.0	15.0	14.0	14.5
10	---	---	---	---	---	---	12.0	9.0	10.5	15.0	14.5	14.5
11	---	---	---	7.0	5.0	6.0	13.5	9.0	11.0	14.5	13.5	14.0
12	---	---	---	5.5	3.5	4.5	14.0	9.5	11.5	13.5	13.0	13.5
13	---	---	---	---	---	---	14.5	9.5	12.5	16.5	13.0	14.5
14	---	---	---	7.0	5.0	6.0	14.5	11.0	13.0	17.0	13.0	15.0
15	---	---	---	8.0	4.5	6.0	16.0	12.5	14.0	18.5	13.5	16.0
16	---	---	---	8.5	5.0	7.0	15.5	12.5	14.0	19.5	15.5	17.5
17	---	---	---	9.0	5.0	7.0	17.5	15.0	16.0	19.0	16.5	18.0
18	---	---	---	8.0	7.0	7.5	16.5	13.5	15.0	20.0	15.5	18.0
19	9.0	7.5	8.5	7.5	6.5	7.0	15.0	12.5	13.5	20.5	17.0	19.0
20	8.0	7.0	7.5	8.0	7.0	7.5	14.5	11.5	13.0	21.5	17.5	19.5
21	8.5	7.0	8.0	8.0	6.0	6.5	15.0	11.0	13.0	21.0	18.0	19.5
22	9.0	6.0	7.5	6.5	5.5	6.0	15.5	12.0	13.5	18.5	15.5	17.0
23	8.0	6.0	7.0	8.0	5.0	6.5	14.0	12.5	13.0	18.5	14.5	16.5
24	6.0	6.0	6.0	8.0	5.5	7.0	16.5	12.0	14.5	18.5	14.5	17.0
25	8.0	5.0	6.5	9.5	5.5	7.5	17.0	13.0	15.5	18.0	16.5	17.5
26	8.5	6.0	7.5	11.5	7.0	9.5	15.5	12.0	13.5	20.0	16.5	18.5
27	10.0	6.5	8.5	14.0	9.0	11.5	15.0	11.0	13.0	19.5	17.0	18.5
28	9.5	8.5	9.0	15.0	11.0	13.0	15.0	10.5	13.0	20.5	17.0	19.0
29	---	---	---	17.5	12.5	15.0	16.0	11.0	13.5	22.0	18.0	20.0
30	---	---	---	18.0	13.5	16.0	16.0	13.5	15.0	22.5	19.0	20.5
31	---	---	---	18.5	14.5	17.0	---	---	---	23.5	20.0	21.5
MONTH	10.0	5.0	7.6	18.5	3.5	8.6	17.5	8.5	13.1	23.5	13.0	16.8

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	23.0	20.5	21.5	24.5	21.0	22.5	25.0	20.5	22.5	24.5	21.5	23.0
2	21.5	18.0	19.5	24.5	20.5	22.0	25.0	20.0	22.0	24.0	21.0	22.5
3	21.5	18.5	20.0	24.5	20.5	22.5	25.5	20.0	22.5	24.0	20.5	22.0
4	19.5	16.5	18.5	24.0	21.0	22.5	26.0	21.0	23.0	25.0	21.0	22.5
5	19.5	16.5	18.0	25.0	21.0	23.0	26.5	21.0	23.5	24.5	20.0	22.0
6	20.0	16.0	18.0	24.5	20.5	22.5	26.0	21.0	23.5	24.5	19.5	22.0
7	18.5	16.5	17.5	23.5	20.5	22.0	25.5	21.0	23.0	24.0	21.0	22.5
8	19.0	15.5	17.0	22.0	19.0	20.5	26.5	22.0	24.0	22.5	20.0	21.0
9	19.5	15.5	17.5	22.0	19.0	20.5	26.5	23.0	24.5	21.0	18.0	19.5
10	18.5	17.0	17.5	23.5	21.0	22.0	25.5	23.5	24.0	21.0	17.0	19.0
11	17.5	16.5	17.0	23.5	20.0	22.0	25.0	22.5	23.5	22.0	17.0	19.0
12	18.0	17.0	17.5	24.0	19.5	22.0	25.5	22.5	23.5	23.0	18.0	20.5
13	19.5	18.0	18.5	24.5	20.0	22.5	25.0	22.0	23.5	24.0	20.0	21.5
14	19.5	17.5	18.5	24.5	21.5	23.0	24.5	22.0	23.0	24.0	20.5	22.0
15	18.5	17.5	18.0	24.5	22.5	23.5	24.5	22.0	23.0	23.0	20.5	22.0
16	20.5	17.5	19.0	25.5	22.5	24.0	24.5	22.5	23.5	24.0	21.0	22.5
17	22.0	19.0	20.5	26.0	23.5	24.5	24.0	23.0	23.5	22.5	20.5	21.5
18	23.0	19.5	21.0	27.0	23.5	25.0	25.0	22.0	23.5	21.5	19.5	20.5
19	23.5	20.0	22.0	26.0	22.5	24.0	23.5	21.0	22.0	21.5	19.0	20.0
20	25.0	21.5	23.0	26.5	23.0	24.5	23.0	18.5	21.0	22.0	19.5	20.5
21	25.5	22.0	23.5	27.5	23.5	25.0	24.0	19.0	21.5	22.5	20.0	21.0
22	24.0	22.0	23.0	26.0	24.0	25.0	25.5	21.5	23.5	22.0	20.0	21.0
23	23.5	21.5	22.0	26.5	23.5	25.0	25.5	23.0	24.0	20.0	17.0	18.5
24	24.0	22.0	22.5	26.5	23.0	24.5	26.5	23.0	24.5	19.0	14.5	16.5
25	26.0	22.0	24.0	26.5	22.5	24.0	26.5	23.5	25.0	18.0	16.5	17.5
26	27.0	23.0	24.5	25.5	22.5	23.5	27.0	24.0	25.0	20.5	17.0	18.5
27	25.0	22.5	23.5	25.5	21.5	23.5	26.0	24.0	25.0	22.0	18.5	20.5
28	25.0	22.0	23.5	26.0	22.0	24.0	26.5	23.5	25.0	22.5	19.5	21.0
29	22.5	21.5	22.0	27.0	22.5	24.5	26.0	22.5	24.0	20.5	17.0	18.5
30	24.5	22.0	22.5	26.5	23.5	25.0	26.5	22.0	24.0	20.0	17.0	18.5
31	---	---	---	25.0	22.0	23.5	26.0	23.0	24.5	---	---	---
MONTH	27.0	15.5	20.4	27.5	19.0	23.3	27.0	18.5	23.5	25.0	14.5	20.6

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.4	6.6	8.6	9.6	8.3	8.8	---	---	---	---	---	---
2	13.2	7.4	9.5	9.8	9.1	9.4	12.7	10.3	11.2	---	---	---
3	---	---	---	11.6	9.6	10.4	---	---	---	---	---	---
4	13.0	6.8	9.0	11.9	9.5	10.4	---	---	---	---	---	---
5	---	---	---	12.5	9.7	10.9	---	---	---	---	---	---
6	---	---	---	12.6	9.5	10.8	---	---	---	---	---	---
7	---	---	---	10.9	9.2	9.8	---	---	---	---	---	---
8	---	---	---	10.4	9.2	9.7	---	---	---	---	---	---
9	---	---	---	10.6	9.3	9.8	---	---	---	---	---	---
10	11.7	4.8	6.9	11.5	9.3	10.1	---	---	---	---	---	---
11	11.9	4.9	7.2	---	---	---	---	---	---	---	---	---
12	12.5	5.6	7.8	---	---	---	---	---	---	---	---	---
13	12.4	5.2	7.8	12.6	9.4	10.7	---	---	---	---	---	---
14	11.2	4.8	6.8	11.2	9.8	10.4	---	---	---	---	---	---
15	8.3	4.8	6.4	12.5	10.6	11.4	---	---	---	---	---	---
16	11.9	7.1	8.7	13.1	10.5	11.5	---	---	---	---	---	---
17	12.6	7.2	9.1	13.5	10.6	11.7	---	---	---	---	---	---
18	11.7	7.1	8.9	13.1	10.7	11.4	---	---	---	---	---	---
19	11.4	7.9	9.1	13.3	11.3	12.2	---	---	---	---	---	---
20	13.1	7.8	9.6	12.7	10.5	11.7	---	---	---	---	---	---
21	13.3	7.7	9.9	11.6	8.9	10.4	---	---	---	---	---	---
22	13.5	8.9	10.6	---	---	---	---	---	---	---	---	---
23	13.8	9.1	10.7	---	---	---	---	---	---	---	---	---
24	14.3	8.7	10.7	---	---	---	---	---	---	---	---	---
25	9.9	8.3	9.1	---	---	---	---	---	---	---	---	---
26	10.7	8.6	9.3	---	---	---	---	---	---	---	---	---
27	10.7	8.8	9.7	---	---	---	---	---	---	---	---	---
28	12.1	9.3	10.2	---	---	---	---	---	---	---	---	---
29	12.6	9.5	10.6	---	---	---	---	---	---	---	---	---
30	12.8	9.3	10.6	---	---	---	---	---	---	---	---	---
31	13.1	8.7	10.4	---	---	---	---	---	---	---	---	---
MONTH	14.3	4.8	9.1	13.5	8.3	10.6	12.7	10.3	11.2	---	---	---

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	---	---	---	12.9	10.9	11.8	10.6	8.4	9.2	11.2	9.4	10.2
2	---	---	---	13.0	10.9	11.8	10.2	8.8	9.4	10.7	9.4	10.0
3	---	---	---	11.9	10.9	11.4	11.0	10.0	10.5	10.8	9.4	10.1
4	---	---	---	12.8	11.7	12.2	11.0	10.3	10.7	11.4	9.1	10.1
5	---	---	---	13.3	11.7	12.4	11.4	10.7	11.0	10.7	9.0	9.6
6	---	---	---	13.3	11.0	12.2	11.7	10.1	10.9	9.5	8.9	9.1
7	---	---	---	12.6	10.2	11.5	11.4	10.1	10.8	11.0	8.6	9.6
8	---	---	---	11.0	10.1	10.4	11.1	10.0	10.5	9.4	8.5	8.9
9	---	---	---	---	---	---	10.5	10.0	10.3	9.5	8.9	9.1
10	---	---	---	---	---	---	10.6	10.3	10.5	9.5	9.0	9.2
11	---	---	---	11.8	10.2	11.1	11.1	10.4	10.8	9.7	9.2	9.4
12	---	---	---	12.4	11.2	11.9	11.5	10.5	11.0	10.0	9.4	9.7
13	---	---	---	---	---	---	11.5	9.7	10.7	10.4	9.3	9.8
14	---	---	---	12.2	11.3	11.7	10.8	9.4	10.0	11.2	9.3	10.1
15	---	---	---	12.7	11.3	12.1	10.6	9.1	9.8	11.1	9.5	10.3
16	---	---	---	12.9	11.5	12.2	10.5	8.9	9.7	11.1	9.1	10.1
17	---	---	---	13.6	11.5	12.4	10.3	8.6	9.3	11.2	9.1	10.0
18	---	---	---	12.9	11.4	12.0	10.7	8.6	9.5	11.3	8.9	10.0
19	12.8	11.6	12.1	12.1	11.5	11.8	9.7	8.7	9.1	11.2	8.4	9.6
20	12.9	11.6	12.2	12.1	11.2	11.7	10.6	8.9	9.5	11.5	8.1	9.6
21	13.1	11.6	12.2	11.9	11.2	11.7	10.9	9.3	10.0	11.2	8.1	9.4
22	13.4	11.7	12.5	12.3	11.8	12.1	11.2	9.6	10.3	11.8	8.7	10.0
23	13.0	11.6	12.2	12.7	11.5	12.1	11.4	9.9	10.6	12.4	8.9	10.2
24	12.4	12.2	12.3	13.0	11.6	12.3	11.9	10.1	10.8	12.4	8.8	10.2
25	13.0	12.0	12.5	13.2	11.7	12.4	12.0	10.1	10.9	11.7	8.6	9.7
26	13.2	11.7	12.4	12.6	10.9	11.8	11.9	10.4	11.1	11.8	8.5	9.8
27	13.3	11.3	12.3	12.0	10.1	11.1	12.4	11.1	11.7	11.7	8.4	9.8
28	12.7	11.2	11.8	11.7	9.6	10.6	13.4	10.2	11.7	11.5	8.3	9.4
29	---	---	---	11.4	8.9	10.1	12.0	9.6	10.8	11.3	7.7	9.3
30	---	---	---	11.1	8.6	9.8	11.7	9.6	10.4	10.0	7.3	8.4
31	---	---	---	11.0	8.4	9.6	---	---	---	10.2	7.3	8.6
MONTH	13.4	11.2	12.3	13.6	8.4	11.6	13.4	8.4	10.4	12.4	7.3	9.7

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	9.9	7.1	8.3	9.8	7.9	8.7	---	---	---	13.1	7.0	8.9
2	10.6	7.9	9.1	10.1	7.9	8.8	---	---	---	13.1	7.2	9.1
3	10.4	7.9	8.9	10.6	7.7	9.0	---	---	---	11.4	7.2	8.6
4	10.8	8.3	9.4	10.3	7.2	8.6	---	---	---	11.8	7.0	8.7
5	11.0	8.5	9.4	10.1	7.2	8.5	11.1	6.1	7.9	11.9	6.8	8.6
6	10.8	8.4	9.4	10.6	7.5	8.8	11.2	6.1	8.0	11.7	7.1	8.7
7	10.9	8.4	9.6	10.6	7.5	8.8	11.3	6.3	8.3	11.4	6.9	8.7
8	11.4	8.7	9.8	8.5	7.3	7.9	11.9	6.3	8.7	10.3	7.3	8.5
9	11.2	8.6	9.7	9.1	7.8	8.6	12.7	7.0	9.0	11.8	7.9	9.3
10	10.8	8.5	9.4	9.0	7.5	8.1	13.4	7.1	9.0	12.0	8.3	9.6
11	9.9	8.5	9.1	9.3	7.4	8.2	10.7	7.9	9.0	12.4	8.1	9.6
12	8.9	8.4	8.7	9.4	7.2	8.1	11.7	7.7	9.1	12.1	7.8	9.4
13	8.8	8.6	8.7	---	---	---	11.9	7.5	9.1	12.3	7.5	9.3
14	9.1	8.6	8.8	---	---	---	11.8	7.2	8.9	12.4	7.7	9.3
15	9.7	8.7	9.2	---	---	---	11.9	7.1	8.9	12.3	7.5	9.3
16	9.9	8.7	9.4	---	---	---	11.9	6.8	8.7	12.4	7.7	9.3
17	9.9	8.5	9.1	---	---	---	8.0	6.4	7.3	10.6	7.0	8.7
18	9.9	8.4	9.1	---	---	---	9.4	7.6	8.3	11.8	8.0	9.4
19	10.2	8.1	9.0	---	---	---	10.0	7.7	8.8	12.1	8.1	9.6
20	10.5	7.9	9.0	---	---	---	10.7	8.4	9.3	11.7	8.0	9.5
21	10.5	7.8	8.9	---	---	---	11.0	8.3	9.4	11.8	7.9	9.2
22	9.9	7.8	8.7	---	---	---	11.4	8.0	9.3	10.4	7.7	8.6
23	10.6	8.4	9.2	---	---	---	11.8	7.8	9.2	11.2	7.7	9.1
24	10.6	8.2	9.1	---	---	---	12.2	7.5	9.1	11.5	8.5	9.6
25	10.9	7.8	9.2	---	---	---	12.6	7.3	9.1	10.9	8.4	9.3
26	10.6	7.7	8.5	---	---	---	13.1	7.1	9.2	11.8	8.0	9.5
27	9.9	7.8	8.6	---	---	---	12.1	6.7	8.7	11.1	7.3	8.8
28	10.5	7.9	9.0	---	---	---	12.7	6.9	8.9	10.5	7.0	8.3
29	10.1	8.2	9.0	---	---	---	12.5	6.9	9.0	11.3	7.3	8.8
30	9.7	8.2	8.8	---	---	---	13.1	7.0	9.0	11.4	7.6	8.9
31	---	---	---	---	---	---	12.6	6.8	8.9	---	---	---
MONTH	11.4	7.1	9.1	10.6	7.2	8.5	13.4	6.1	8.8	13.1	6.8	9.1

CHRISTINA RIVER BASIN

01480870 EAST BRANCH BRANDYWINE CREEK BELOW DOWNINGTOWN, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	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)
OCT 1997							
22...	1058	--	55	--	--	--	--
22...	1059	.5	52	325	7.5	10.2	10.0
22...	1100	.5	48	326	7.5	10.0	11.0
22...	1101	.5	44	325	7.5	10.0	11.0
22...	1102	.5	40	326	7.5	10.0	11.3
22...	1103	.5	37	324	7.5	10.0	11.3
22...	1104	.5	35	326	7.5	10.0	11.3
22...	1105	.5	32	326	7.5	10.0	11.3
22...	1106	.5	30	326	7.5	10.0	11.4
22...	1107	.5	27	327	7.5	10.1	11.4
22...	1108	.5	25	327	7.6	10.1	11.4
22...	1109	.5	22	327	7.6	10.1	11.4
22...	1110	.5	20	327	7.6	10.1	11.1
22...	1111	.5	18	327	7.6	10.2	10.9
22...	1112	.5	15	327	7.6	10.2	11.4
22...	1113	.5	13	327	7.6	10.2	11.2
22...	1114	.5	10	327	7.6	10.2	11.3
22...	1115	.5	8	327	7.6	10.2	10.2
22...	1116	.5	5	327	7.6	10.2	10.2
22...	1117	.5	3	327	7.6	10.2	10.7
22...	1118	--	0	--	--	--	--

CHRISTINA RIVER BASIN

01480878 UNNAMED TRIBUTARY TO VALLEY CREEK AT HIGHWAY 30 AT EXTON, PA

LOCATION.--Lat 40°01'35", long 75°38'11", Chester County, Hydrologic Unit 02040205, on right bank downstream wingwall of bridge on U.S. Business Route 30, 0.4 mi west of intersection with SR 100 at Exton.

DRAINAGE AREA.--2.64 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1997 to September 1998 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 290 ft above sea level, from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND, JULY 1997 TO SEPTEMBER 1997
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	.33	.86
2	---	---	---	---	---	---	---	---	---	---	.33	.80
3	---	---	---	---	---	---	---	---	---	---	e.33	.88
4	---	---	---	---	---	---	---	---	---	---	.43	.61
5	---	---	---	---	---	---	---	---	---	---	e.85	.59
6	---	---	---	---	---	---	---	---	---	---	e.80	.59
7	---	---	---	---	---	---	---	---	---	---	e.80	.56
8	---	---	---	---	---	---	---	---	---	---	e.79	.57
9	---	---	---	---	---	---	---	---	---	---	e.79	.55
10	---	---	---	---	---	---	---	---	---	.74	e.76	1.6
11	---	---	---	---	---	---	---	---	---	.34	e.74	23
12	---	---	---	---	---	---	---	---	---	.29	e.69	1.6
13	---	---	---	---	---	---	---	---	---	.26	e.65	.72
14	---	---	---	---	---	---	---	---	---	.25	e.63	.61
15	---	---	---	---	---	---	---	---	---	.23	e.60	.58
16	---	---	---	---	---	---	---	---	---	.19	e.56	.54
17	---	---	---	---	---	---	---	---	---	.29	e.60	.52
18	---	---	---	---	---	---	---	---	---	.48	e1.5	.50
19	---	---	---	---	---	---	---	---	---	.21	.37	.45
20	---	---	---	---	---	---	---	---	---	.20	15	.48
21	---	---	---	---	---	---	---	---	---	.22	e2.0	.52
22	---	---	---	---	---	---	---	---	---	3.4	e.75	.50
23	---	---	---	---	---	---	---	---	---	5.4	.51	.49
24	---	---	---	---	---	---	---	---	---	7.5	.44	.49
25	---	---	---	---	---	---	---	---	---	e1.5	.37	.49
26	---	---	---	---	---	---	---	---	---	e.31	.34	.47
27	---	---	---	---	---	---	---	---	---	e.33	.32	.45
28	---	---	---	---	---	---	---	---	---	e.33	4.1	.58
29	---	---	---	---	---	---	---	---	---	e.33	1.2	1.2
30	---	---	---	---	---	---	---	---	---	.32	.47	.52
31	---	---	---	---	---	---	---	---	---	e.30	.60	---
TOTAL	---	---	---	---	---	---	---	---	---	---	38.65	42.32
MEAN	---	---	---	---	---	---	---	---	---	---	1.25	1.41
MAX	---	---	---	---	---	---	---	---	---	---	15	23
MIN	---	---	---	---	---	---	---	---	---	---	.32	.45
CFSM	---	---	---	---	---	---	---	---	---	---	.47	.53
IN.	---	---	---	---	---	---	---	---	---	---	.54	.60

e Estimated.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

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

CHRISTINA RIVER BASIN

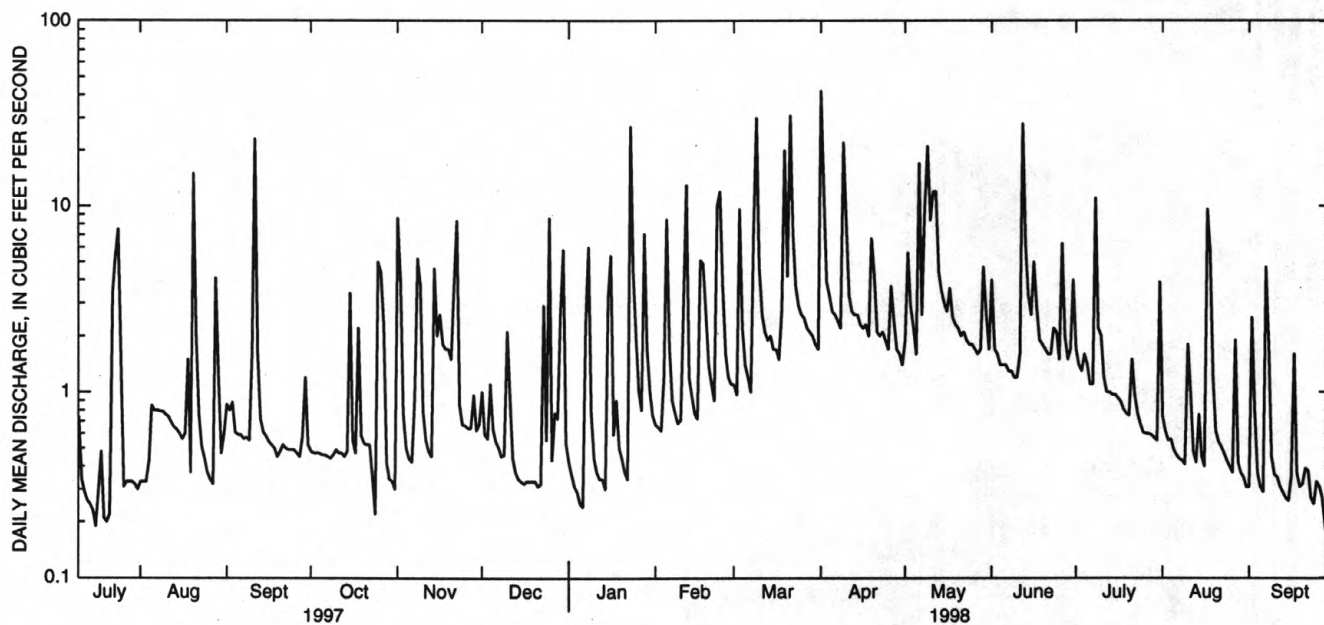
01480878 UNNAMED TRIBUTARY TO VALLEY CREEK AT HIGHWAY 30 AT EXTON, PA--Continued

SUMMARY STATISTICS

FOR 1998 WATER YEAR

FOR PERIOD OF DAILY RECORD

ANNUAL TOTAL	927.65				
ANNUAL MEAN	2.54			2.54	
HIGHEST ANNUAL MEAN				2.54	1998
LOWEST ANNUAL MEAN				2.54	1998
HIGHEST DAILY MEAN	42	Apr 1		42	Apr 1 1998
LOWEST DAILY MEAN	.16	Sep 29		.16	Sep 29 1998
ANNUAL SEVEN-DAY MINIMUM	.24	Sep 24		.24	Sep 24 1998
INSTANTANEOUS PEAK FLOW	a187	Apr 1		a187	Apr 1 1998
INSTANTANEOUS PEAK STAGE	4.87	Apr 1		4.87	Apr 1 1998
INSTANTANEOUS LOW FLOW	.11	Sep 29		.11	Sep 29 1998
ANNUAL RUNOFF (CFSM)	.96			.96	
ANNUAL RUNOFF (INCHES)	13.07			13.08	
10 PERCENT EXCEEDS	5.3			4.9	
50 PERCENT EXCEEDS	1.2			.89	
90 PERCENT EXCEEDS	.34			.33	

a From rating curve extended above 60 ft³/s.

JULY 10, 1997 TO SEPTEMBER 30, 1998

CHRISTINA RIVER BASIN

01480878 UNNAMED TRIBUTARY TO VALLEY CREEK AT HIGHWAY 30 AT EXTON, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1997 to September 1998 (discontinued).

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

REMARKS.--Interruptions in the record were due to malfunctions of the recording or monitoring instrument.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 26.5°C, July 21; minimum, 0.0°C, several days during winter.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	8.0	3.5	6.0	.5	.0	.0
2	---	---	---	---	---	---	4.0	2.0	3.0	1.0	.0	.5
3	---	---	---	---	---	---	4.5	1.0	3.0	5.0	1.0	3.0
4	---	---	---	---	---	---	8.0	4.0	6.0	8.0	4.5	6.0
5	---	---	---	---	---	---	7.0	3.5	5.5	8.0	4.5	6.5
6	---	---	---	---	---	---	3.5	1.5	2.5	9.5	6.0	8.0
7	---	---	---	---	---	---	3.0	1.0	2.0	11.5	9.5	10.5
8	---	---	---	---	---	---	5.0	2.5	3.5	14.0	11.5	13.0
9	---	---	---	---	---	---	4.0	1.5	3.0	14.0	9.0	12.5
10	---	---	---	---	---	---	6.5	4.0	4.5	9.0	5.5	7.5
11	---	---	---	---	---	---	5.0	4.5	4.5	6.5	3.5	5.0
12	---	---	---	---	---	---	5.5	4.0	4.5	5.0	2.0	3.5
13	---	---	---	---	---	---	4.5	1.5	3.5	6.5	3.0	5.0
14	---	---	---	---	---	---	3.5	1.5	3.0	3.0	1.0	2.0
15	---	---	---	---	---	---	2.5	.0	1.5	3.5	.5	1.5
16	---	---	---	---	---	---	3.5	.0	2.0	4.5	3.5	4.0
17	---	---	---	---	---	---	4.0	.5	2.5	5.5	3.5	4.5
18	---	---	---	---	---	---	3.0	.5	2.0	5.0	4.0	4.5
19	---	---	---	4.5	1.0	3.0	3.5	1.0	2.5	5.5	3.5	4.5
20	---	---	---	5.5	2.0	3.5	4.5	1.0	3.0	4.5	2.0	3.5
21	---	---	---	9.0	3.0	5.0	3.0	1.0	2.0	3.5	.5	2.0
22	---	---	---	9.0	7.5	8.0	1.0	.0	.5	4.5	1.5	3.0
23	---	---	---	8.5	6.5	7.5	4.5	1.0	3.5	5.0	1.5	3.5
24	---	---	---	6.5	3.0	4.5	6.0	2.0	3.5	7.5	5.0	6.0
25	---	---	---	4.0	1.5	3.0	7.5	4.5	5.5	5.5	3.0	4.5
26	---	---	---	6.0	3.5	5.0	6.5	4.0	5.5	5.5	2.0	3.5
27	---	---	---	6.5	4.5	5.5	4.0	3.5	4.0	5.0	2.0	3.5
28	---	---	---	7.0	4.5	5.5	4.0	1.5	3.0	4.0	3.0	3.5
29	---	---	---	8.5	6.0	7.0	4.5	.0	2.0	6.5	2.0	4.0
30	---	---	---	8.0	7.0	7.5	4.0	2.0	3.0	5.5	3.5	4.5
31	---	---	---	---	---	---	2.0	.0	1.0	6.0	3.0	4.5
MONTH	---	---	---	9.0	1.0	5.4	8.0	.0	3.3	14.0	.0	4.8

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	6.0	1.5	3.5	12.5	8.0	9.5	17.0	14.5	16.0	16.0	14.0	14.5
2	6.5	1.5	4.0	11.0	7.0	9.0	18.0	12.0	15.0	16.0	13.5	14.5
3	6.5	5.0	5.5	9.0	6.5	7.5	16.5	10.0	13.0	17.0	14.0	15.5
4	5.5	4.0	4.5	8.5	5.0	6.5	11.5	8.5	10.0	17.0	14.5	15.5
5	4.5	4.0	4.0	8.0	4.5	6.0	12.0	7.5	9.5	16.5	14.5	15.0
6	7.0	4.0	5.0	10.5	3.5	6.5	14.5	7.0	10.0	16.0	14.0	15.0
7	6.0	3.0	4.5	10.5	6.0	8.0	16.0	7.0	11.0	18.5	14.0	16.0
8	6.5	2.5	4.0	9.0	6.5	8.0	15.0	10.5	12.5	16.0	14.0	15.0
9	6.5	1.5	4.0	12.5	6.5	9.5	12.0	8.5	10.0	16.0	13.5	15.0
10	8.0	2.0	4.5	10.5	4.5	8.0	13.0	8.0	10.0	15.0	13.5	14.5
11	8.5	3.0	5.5	6.0	2.5	4.0	15.5	7.0	10.5	14.0	13.0	13.5
12	9.0	6.0	8.0	5.0	1.0	3.0	16.5	7.5	11.5	14.0	12.5	13.0
13	8.0	4.0	6.0	7.5	1.0	4.0	17.0	8.0	12.0	17.5	11.5	14.0
14	5.5	2.5	4.0	7.5	3.5	5.0	17.5	10.0	13.5	18.5	11.0	14.5
15	5.0	.5	2.5	8.0	3.0	5.0	17.5	12.5	14.5	20.5	12.5	16.0
16	4.5	.5	2.5	9.5	3.0	6.0	17.5	12.5	15.0	21.5	14.5	18.0
17	6.5	4.0	5.0	10.5	3.0	6.0	18.5	14.0	15.5	20.5	16.0	18.0
18	8.0	6.5	7.5	7.0	6.0	6.5	17.5	11.5	14.0	21.5	15.0	17.5
19	9.0	7.0	8.0	7.5	5.5	6.5	13.5	11.0	12.5	21.5	15.5	18.0
20	8.0	6.0	7.0	9.0	7.0	7.5	15.0	11.0	12.5	22.5	16.0	19.0
21	8.5	6.0	7.5	7.5	4.0	5.5	17.0	9.5	13.0	21.5	16.0	18.5
22	10.0	4.5	7.0	6.5	4.0	5.0	17.5	11.0	13.5	18.5	14.0	16.0
23	6.5	4.5	6.0	8.5	4.0	6.0	13.0	11.5	12.5	18.0	12.5	15.0
24	6.0	4.5	5.5	8.5	4.0	6.0	18.0	11.0	14.0	19.0	12.5	15.5
25	9.0	4.0	6.0	12.0	4.0	7.5	18.0	12.0	14.5	18.5	15.0	16.5
26	10.5	4.5	7.0	14.0	6.5	10.0	13.0	10.0	11.5	20.5	15.5	17.5
27	11.5	5.0	8.0	18.0	9.0	13.0	16.0	9.5	12.0	20.0	15.5	17.5
28	9.5	8.5	9.0	19.0	11.0	14.5	16.0	8.5	12.0	20.5	15.5	18.0
29	---	---	---	20.0	12.0	15.5	17.5	9.0	13.0	22.5	16.5	19.5
30	---	---	---	20.5	12.0	16.0	17.5	12.0	14.5	23.5	18.5	20.5
31	---	---	---	21.0	13.5	17.0	---	---	---	23.5	18.5	21.0
MONTH	11.5	.5	5.6	21.0	1.0	8.0	18.5	7.0	12.6	23.5	11.0	16.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	22.0	17.0	20.0	22.5	18.5	20.0	22.5	18.0	20.0	23.0	19.5	21.0
2	20.5	15.0	18.0	22.5	17.5	20.0	22.5	17.5	20.0	24.0	19.5	21.0
3	19.5	16.0	17.5	22.5	17.5	20.0	22.5	18.0	20.5	22.0	19.0	20.5
4	18.0	14.0	16.0	22.0	18.5	20.0	22.5	18.5	21.0	23.0	19.5	21.0
5	17.5	14.0	15.5	23.0	18.5	20.5	23.5	19.0	21.5	22.0	18.5	20.5
6	18.5	13.5	15.5	22.0	17.5	20.0	23.5	19.0	21.0	22.5	18.0	20.5
7	17.0	14.0	15.0	21.5	18.0	20.0	22.5	19.0	21.0	24.5	20.0	21.5
8	17.5	13.0	15.0	20.0	18.5	19.0	24.5	20.5	22.5	22.0	18.0	20.5
9	18.0	13.5	16.0	20.5	17.5	19.0	24.5	21.5	23.0	18.5	16.0	17.5
10	17.5	15.0	16.0	23.0	18.5	20.5	24.5	22.0	23.0	18.5	15.5	17.0
11	17.5	15.5	16.0	21.5	17.0	19.0	24.5	22.0	23.0	19.5	15.0	17.5
12	19.0	17.0	18.0	22.0	16.5	19.0	23.5	21.0	22.0	21.5	17.0	19.5
13	19.5	17.5	18.5	22.5	17.0	20.0	23.0	20.5	21.5	23.0	19.5	21.0
14	19.5	17.0	18.0	23.0	18.5	21.0	22.5	20.5	21.5	23.5	20.5	22.0
15	18.0	16.5	17.5	22.5	20.0	21.0	23.0	20.0	21.5	24.0	21.0	22.5
16	22.0	17.0	19.0	23.5	20.0	21.5	23.5	21.0	22.0	25.0	21.5	23.5
17	22.0	18.0	20.0	24.0	20.5	22.0	24.5	21.5	23.0	23.0	21.0	22.0
18	22.0	18.0	20.0	24.0	21.0	22.5	25.5	21.5	23.0	21.5	19.5	20.5
19	22.5	18.0	20.0	23.5	20.0	21.5	22.0	18.0	19.5	22.0	19.0	20.5
20	23.5	19.0	21.0	24.5	21.0	23.0	21.0	16.5	18.5	22.5	20.0	21.0
21	23.5	19.5	21.5	26.5	21.0	23.0	22.0	17.0	19.5	25.0	20.5	22.5
22	21.0	19.5	20.0	24.0	22.0	23.0	23.5	20.0	21.5	23.5	21.0	22.5
23	21.5	19.0	20.0	24.0	21.5	22.5	24.5	21.0	22.5	21.0	17.5	19.5
24	21.5	19.0	20.0	24.0	21.0	22.5	24.5	21.5	23.0	20.0	16.0	18.5
25	24.0	19.0	21.5	24.0	20.0	21.5	24.5	22.0	23.0	21.5	19.0	20.5
26	26.0	20.5	22.0	23.0	19.5	21.0	25.0	22.5	24.0	25.0	21.0	23.0
27	23.5	20.5	22.0	23.0	18.5	21.0	25.0	22.5	23.5	---	---	---
28	23.0	19.5	21.0	23.5	20.0	22.0	24.5	22.0	23.5	---	---	---
29	20.5	18.5	19.5	24.5	21.0	23.0	24.0	21.0	22.5	---	---	---
30	23.0	19.5	21.0	24.0	21.5	23.0	24.5	20.5	22.5	---	---	---
31	---	---	---	22.5	20.0	21.5	24.5	21.5	23.0	---	---	---
MONTH	26.0	13.0	18.7	26.5	16.5	21.1	25.5	16.5	21.9	25.0	15.0	20.7
YEAR	26.5	.0	12.9									

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA

LOCATION.--Lat 39°52'11", long 75°35'37", Delaware County, Hydrologic Unit 02040205, on left bank 27 ft upstream from Penn Central Railroad bridge at Chadds Ford, 150 ft upstream from Harvey Run, and 1,200 ft downstream from highway bridge on U.S. Highway 1.

DRAINAGE AREA.--287 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1911 to September 1953, October 1962 to current year. Prior to October 1911, monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1202: 1917-18(M), 1919-20, 1922-31(M), 1932-33, 1934(M), 1936, 1938(P), 1939(M), 1942, 1944-46(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 150.45 ft above sea level. Prior to May 21, 1927, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since November 1973 by Marsh Creek Reservoir (station 01480684) about 17 mi upstream. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 19, 1955, reached a stage of 14.64 ft, gage datum, discharge, about 16,400 ft³/s.

REVISIONS.--The maximum discharges for water years 1996 and 1997 have been revised to 15,100 ft³/s, Jan. 20, 1996, gage height 14.23 ft, and 12,500 ft³/s, Oct. 19, 1996, gage height 13.31 ft, superseding figures published in reports for 1996 and 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	252	150	e175	317	403	835	374	456	276	226	111
2	88	374	145	e190	301	380	3280	477	355	231	154	114
3	91	276	142	191	293	790	1290	614	327	214	139	227
4	94	168	146	189	260	975	949	489	305	206	131	131
5	89	140	148	163	395	515	807	488	297	221	124	111
6	90	130	140	154	425	427	699	630	290	199	120	106
7	86	132	136	164	287	396	613	468	275	189	118	104
8	84	225	133	330	253	458	544	706	267	547	118	187
9	85	306	131	468	236	2060	857	1350	258	630	116	131
10	85	243	136	295	225	1320	1800	1300	247	370	123	107
11	82	176	181	251	219	702	920	1140	261	297	377	105
12	84	153	165	228	997	555	706	1490	1320	233	172	104
13	87	141	148	219	445	500	637	1130	1130	218	135	100
14	89	199	140	189	308	464	602	754	963	206	130	98
15	105	272	134	167	270	430	591	647	539	199	131	100
16	130	202	131	534	251	400	556	587	451	200	125	98
17	104	170	130	318	285	384	495	549	443	193	460	132
18	123	191	127	249	714	432	487	496	344	182	457	113
19	134	172	126	250	506	1420	521	432	299	175	334	105
20	113	186	125	221	405	1010	944	407	282	169	166	103
21	101	190	125	197	365	2230	605	402	271	166	144	104
22	96	432	123	187	328	1460	530	399	260	202	134	110
23	92	314	178	838	391	1070	510	360	274	178	130	108
24	97	239	164	1600	1500	825	467	353	273	166	127	96
25	185	212	377	610	1140	713	427	352	265	156	123	96
26	171	206	286	413	581	663	414	353	299	148	116	102
27	283	192	199	354	457	627	476	331	444	145	219	101
28	174	151	213	511	422	593	408	320	265	143	132	96
29	128	144	189	564	---	517	375	314	246	140	116	90
30	117	146	341	397	---	477	372	415	306	135	115	87
31	113	---	278	347	---	456	---	343	---	219	114	---
TOTAL	3506	6334	5287	10963	12576	23652	22717	18470	12012	6953	5326	3377
MEAN	113	211	171	354	449	763	757	596	400	224	172	113
MAX	283	432	377	1600	1500	2230	3280	1490	1320	630	460	227
MIN	82	130	123	154	219	380	372	314	246	135	114	87

e Estimated.

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	276	337	479	554	553	665	638	534	391	352	244	256
MAX	924	751	1634	1664	1308	1713	1509	1097	833	1153	562	906
(WY)	1997	1997	1997	1979	1979	1994	1983	1989	1975	1975	1996	1979
MIN	113	136	130	106	217	195	200	262	154	149	94.5	93.2
(WY)	1998	1982	1981	1981	1992	1981	1985	1985	1985	1977	1995	1980

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1974 - 1998

ANNUAL TOTAL	133668	131173	
ANNUAL MEAN	366	359	439
HIGHEST ANNUAL MEAN			714
LOWEST ANNUAL MEAN			199
HIGHEST DAILY MEAN	3800	Jan 25	10600
LOWEST DAILY MEAN	82	Oct 11	49
ANNUAL SEVEN-DAY MINIMUM	85	Oct 7	50
INSTANTANEOUS PEAK FLOW			a16400
INSTANTANEOUS PEAK STAGE			9.24
INSTANTANEOUS LOW FLOW			80
10 PERCENT EXCEEDS	721	706	823
50 PERCENT EXCEEDS	243	249	303
90 PERCENT EXCEEDS	105	106	129

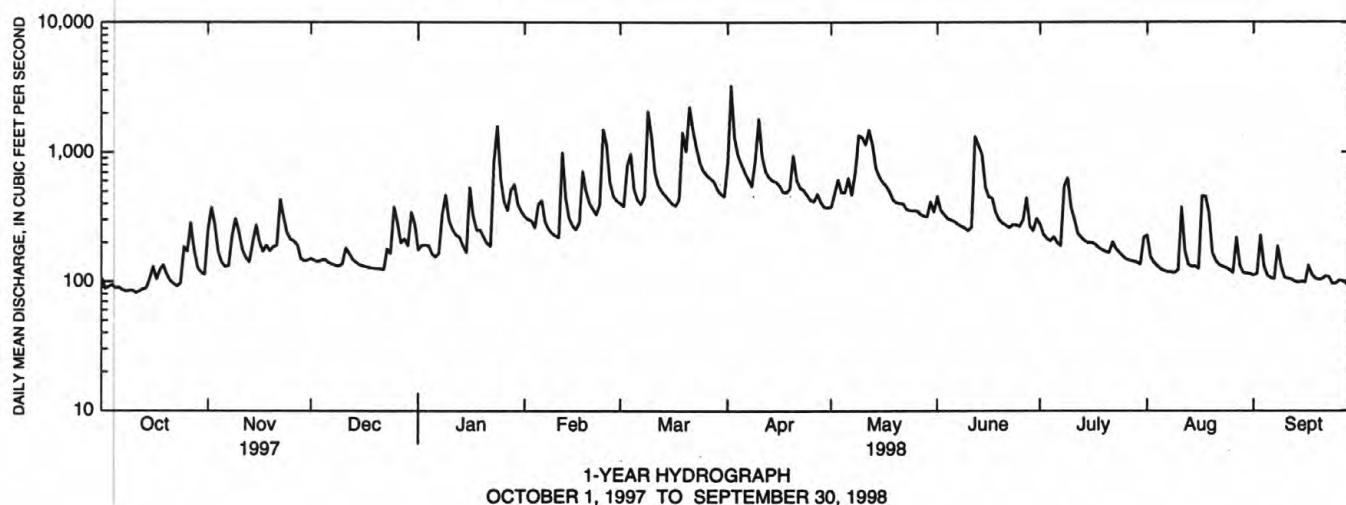
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911-1953, 1963-1973, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	219	301	348	444	570	605	530	435	364	309	278	230
MAX	666	625	827	1020	1130	1366	1043	946	1144	802	1089	1050
(WY)	1972	1972	1973	1936	1971	1920	1973	1952	1972	1919	1933	1971
MIN	67.7	98.3	114	145	214	247	226	175	149	91.1	82.1	59.4
(WY)	1964	1942	1966	1966	1934	1931	1963	1926	1963	1963	1930	1932

SUMMARY STATISTICS WATER YEARS 1911-1953 1963-1973

ANNUAL MEAN	385	
HIGHEST ANNUAL MEAN	625	1928
LOWEST ANNUAL MEAN	218	1932
HIGHEST DAILY MEAN	9590	Aug 24 1933
LOWEST DAILY MEAN	42	Sep 12 1966
ANNUAL SEVEN-DAY MINIMUM	45	Sep 7 1966
INSTANTANEOUS PEAK FLOW	b23800	Jun 22 1972
INSTANTANEOUS PEAK STAGE	16.56	Jun 22 1972
INSTANTANEOUS LOW FLOW	4.9	Oct 2 1942
ANNUAL RUNOFF (CFSM)	1.34	
ANNUAL RUNOFF (INCHES)	18.23	
10 PERCENT EXCEEDS	700	
50 PERCENT EXCEEDS	274	
90 PERCENT EXCEEDS	118	

- a From rating curve extended above 14,700 ft³/s on basis of contracted-opening measurement of peak flow.
b From rating curve extended above 9,000 ft³/s on basis of area-velocity study.



CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1965 to current year.

pH: October 1965 to September 1966, December 1971 to current year.

WATER TEMPERATURES: October 1964 to current year.

DISSOLVED OXYGEN: October 1971 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1963 to September 1978.

INSTRUMENTATION.--Water-quality monitor since August 1971.

REMARKS.--Data collection discontinued during winter months since 1981 water year. Other interruptions in the record were due to malfunctions of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 556 microsiemens, June 16, 1991; minimum, 42 microsiemens, Nov. 26, 1979.

pH: Maximum, 9.8, Apr. 9, 1975; minimum, 6.1, Feb. 22, 1976.

WATER TEMPERATURE: Maximum, 31.0°C, July 18, 19, 1977, Aug. 15, 1988; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 17.1 mg/L, Dec. 5, 1976; minimum, 3.0 mg/L, June 21, 1984.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SPE- CIFIC CON- DUCT- ANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.45 μM-MF (COLS./ 100 ML) (31616)
MAR 1998									
05...	1050	1028	1028	501	6.5	225	7.3	12.2	1500
17...	1250	1028	1028	378	6.5	255	7.4	12.4	86
APR									
06...	1140	1028	1028	689	9.5	224	--	11.3	200
20...	1220	1028	1028	1050	12.1	210	--	10.1	E1800
MAY									
04...	1142	1028	1028	480	16.1	255	7.4	9.8	570
19...	1100	1028	1028	437	18.6	256	7.2	8.4	140
26...	1145	1028	1028	352	18.5	262	7.4	10.1	120
JUN									
09...	0855	1028	1028	261	16.9	280	7.5	9.2	60
15...	1200	1028	1028	527	18.4	253	7.3	--	560
JUL									
07...	0920	1028	1028	195	21.9	300	7.5	8.3	180
13...	1005	1028	1028	222	21.5	283	7.7	7.5	K60
27...	0945	1028	1028	152	22.8	314	7.5	8.0	120
AUG									
10...	0930	1028	1028	122	24.8	330	7.4	7.5	580
18...	0840	1028	1028	382	22.8	190	7.2	--	>600
24...	0955	1028	1028	131	24.1	316	7.2	7.5	120
SEP									
09...	0940	1028	1028	131	19.4	260	7.5	8.0	88
22...	0850	1028	1028	116	22.0	341	7.4	6.6	210

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)	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)
MAR 1998											
09...	1915	1028	80020	2500	152	.035	1.6	.041	.34	.037	.031

CHRISTINA RIVER BASI

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	---	---	---	382	354	365	---	---	---
2	---	---	---	---	---	---	391	355	376	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	316	307	311	---	---	---	---	---	---
7	---	---	---	350	311	323	---	---	---	---	---	---
8	---	---	---	357	325	338	---	---	---	---	---	---
9	---	---	---	349	273	305	---	---	---	---	---	---
10	---	---	---	298	283	290	---	---	---	---	---	---
11	---	---	---	292	284	288	---	---	---	---	---	---
12	---	---	---	302	283	295	---	---	---	---	---	---
13	---	---	---	321	300	311	---	---	---	---	---	---
14	---	---	---	363	308	340	---	---	---	---	---	---
15	---	---	---	308	279	292	---	---	---	---	---	---
16	---	---	---	285	277	281	---	---	---	---	---	---
17	---	---	---	321	280	302	---	---	---	---	---	---
18	---	---	---	321	285	299	---	---	---	---	---	---
19	---	---	---	312	255	279	---	---	---	---	---	---
20	---	---	---	287	273	281	---	---	---	---	---	---
21	---	---	---	274	266	271	---	---	---	---	---	---
22	---	---	---	357	271	307	---	---	---	---	---	---
23	---	---	---	304	282	292	---	---	---	---	---	---
24	---	---	---	339	304	327	---	---	---	---	---	---
25	---	---	---	361	339	352	---	---	---	---	---	---
26	---	---	---	361	344	353	---	---	---	---	---	---
27	---	---	---	381	349	360	---	---	---	---	---	---
28	---	---	---	402	349	364	---	---	---	---	---	---
29	---	---	---	373	363	367	---	---	---	---	---	---
30	---	---	---	384	371	380	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	402	255	316	391	354	371	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	263	255	261	243	147	232	269	249	260
2	---	---	---	270	246	259	172	121	143	267	251	262
3	---	---	---	252	199	235	211	172	196	262	242	251
4	---	---	---	216	192	203	229	211	222	260	247	253
5	---	---	---	247	212	232	232	225	229	272	247	260
6	---	---	---	261	247	257	232	220	226	269	224	253
7	---	---	---	260	254	257	230	222	226	266	235	255
8	---	---	---	---	---	---	234	228	231	263	227	254
9	---	---	---	---	---	---	232	189	224	241	197	222
10	---	---	---	---	---	---	189	145	163	243	207	227
11	---	---	---	232	202	217	209	177	195	258	238	249
12	---	---	---	245	232	240	217	209	215	241	223	233
13	---	---	---	246	241	243	223	210	217	256	226	244
14	---	---	---	254	244	249	221	212	217	252	239	245
15	---	---	---	250	246	248	228	218	223	264	243	253
16	---	---	---	260	247	254	230	224	227	256	243	250
17	---	---	---	257	247	252	235	228	231	258	247	254
18	---	---	---	---	---	---	237	231	235	255	243	250
19	249	234	244	---	---	---	239	231	236	264	248	257
20	258	248	254	---	---	---	233	199	214	265	250	260
21	266	258	263	244	128	160	225	202	215	258	251	255
22	270	258	266	246	152	193	228	220	225	259	253	256
23	270	237	263	248	223	229	239	225	232	268	256	262
24	237	178	198	230	221	225	240	232	236	267	250	262
25	221	180	205	228	222	225	251	238	245	259	250	255
26	243	219	233	232	227	229	254	245	250	263	253	257
27	254	243	248	237	226	231	268	246	256	259	254	257
28	262	252	259	233	229	231	252	246	250	260	254	256
29	---	---	---	236	232	234	258	243	250	260	254	257
30	---	---	---	240	230	237	255	244	251	265	244	255
31	---	---	---	240	229	235	---	---	---	255	248	252
MONTH	270	178	243	270	128	233	268	121	224	272	197	252

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	297	275	289	347	294	314	301	294	298
2	258	234	246	287	275	282	336	311	320	307	287	296
3	264	253	258	301	283	295	337	320	327	293	262	272
4	268	254	261	306	295	299	360	333	347	270	259	264
5	272	268	270	323	303	314	373	353	360	280	263	269
6	273	266	270	322	306	312	367	357	362	297	280	289
7	276	269	272	313	300	306	359	348	352	301	288	297
8	277	269	272	310	218	286	354	339	348	320	275	300
9	280	272	277	235	196	216	367	329	351	286	257	268
10	286	273	277	275	235	255	380	327	346	290	278	282
11	288	282	285	265	257	262	340	273	310	296	286	291
12	282	158	232	292	257	273	285	265	274	311	296	306
13	216	167	192	295	282	289	309	280	298	308	302	304
14	242	208	221	296	285	291	318	292	306	325	305	313
15	255	242	249	304	295	301	322	304	315	320	308	313
16	264	255	260	317	295	305	315	302	307	333	313	319
17	269	257	264	312	303	308	339	196	303	335	315	322
18	283	261	269	309	300	303	224	176	205	333	313	322
19	289	282	286	324	305	314	251	217	239	332	324	328
20	307	285	292	317	301	310	282	249	262	345	327	333
21	311	298	306	322	303	312	310	279	292	338	332	335
22	300	287	295	325	308	313	307	298	302	357	335	339
23	297	290	294	323	294	304	306	295	301	341	333	337
24	297	294	295	307	289	298	331	305	317	361	339	345
25	300	290	295	314	290	302	336	323	331	350	340	345
26	302	286	294	322	306	311	338	327	333	351	335	340
27	303	247	269	339	312	321	337	259	289	341	333	336
28	278	248	263	356	318	333	288	278	283	358	339	344
29	292	278	286	349	331	340	296	283	287	350	338	345
30	295	280	286	347	333	338	300	291	297	364	339	346
31	---	---	---	379	315	336	307	293	299	---	---	---
MONTH	311	158	270	379	196	301	380	176	309	364	257	313

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.9	7.3	7.6	7.8	7.6	7.7	7.3	7.1	7.2	---	---	---
2	8.0	7.4	7.6	7.9	7.6	7.7	7.3	7.1	7.1	---	---	---
3	8.0	7.5	7.7	7.8	7.7	7.8	---	---	---	---	---	---
4	8.1	7.5	7.8	7.9	7.7	7.8	---	---	---	---	---	---
5	---	---	---	8.2	7.9	8.0	---	---	---	---	---	---
6	---	---	---	8.1	7.9	8.1	---	---	---	---	---	---
7	---	---	---	8.1	7.9	8.0	---	---	---	---	---	---
8	8.2	7.5	7.8	8.0	7.9	8.0	---	---	---	---	---	---
9	8.1	7.5	7.7	8.0	7.9	7.9	---	---	---	---	---	---
10	7.8	7.4	7.6	8.1	7.9	8.0	---	---	---	---	---	---
11	7.6	7.3	7.5	8.1	7.9	8.0	---	---	---	---	---	---
12	7.7	7.3	7.4	8.1	7.9	8.0	---	---	---	---	---	---
13	7.8	7.4	7.5	8.1	7.9	8.0	---	---	---	---	---	---
14	7.6	7.3	7.4	8.0	7.8	7.9	---	---	---	---	---	---
15	7.4	7.2	7.3	8.0	7.8	7.9	---	---	---	---	---	---
16	7.4	7.2	7.3	8.0	7.8	7.9	---	---	---	---	---	---
17	7.4	7.2	7.3	7.9	7.7	7.8	---	---	---	---	---	---
18	7.5	7.2	7.4	7.9	7.7	7.8	---	---	---	---	---	---
19	7.5	7.3	7.4	7.9	7.6	7.7	---	---	---	---	---	---
20	7.5	7.3	7.4	7.8	7.5	7.7	---	---	---	---	---	---
21	7.8	7.2	7.5	7.8	7.5	7.7	---	---	---	---	---	---
22	7.8	7.4	7.6	7.7	7.4	7.5	---	---	---	---	---	---
23	---	---	---	7.5	7.3	7.4	---	---	---	---	---	---
24	7.7	7.4	7.6	7.4	7.2	7.3	---	---	---	---	---	---
25	7.6	7.2	7.4	7.3	7.2	7.3	---	---	---	---	---	---
26	7.3	7.1	7.2	7.3	7.1	7.2	---	---	---	---	---	---
27	7.2	7.0	7.1	7.3	7.2	7.2	---	---	---	---	---	---
28	7.2	7.0	7.1	7.3	7.1	7.2	---	---	---	---	---	---
29	7.5	7.1	7.3	7.3	7.1	7.2	---	---	---	---	---	---
30	7.6	7.2	7.4	7.3	7.1	7.2	---	---	---	---	---	---
31	7.7	7.5	7.6	---	---	---	---	---	---	---	---	---
MONTH	8.2	7.0	7.5	8.2	7.1	7.7	7.3	7.1	7.1	---	---	---

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	7.7	7.5	7.6
4	---	---	---	---	---	---	---	---	---	7.7	7.4	7.6
5	---	---	---	---	---	---	---	---	---	7.6	7.3	7.4
6	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
7	---	---	---	---	---	---	---	---	---	7.6	7.3	7.4
8	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
9	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
10	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
11	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
12	---	---	---	---	---	---	---	---	---	7.3	7.3	7.3
13	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
14	---	---	---	---	---	---	---	---	---	7.4	7.2	7.3
15	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
16	---	---	---	---	---	---	---	---	---	7.4	7.2	7.3
17	---	---	---	---	---	---	---	---	---	7.4	7.2	7.3
18	---	---	---	---	---	---	---	---	---	7.4	7.2	7.3
19	---	---	---	---	---	---	---	---	---	7.4	7.2	7.3
20	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
21	---	---	---	---	---	---	---	---	---	7.4	7.3	7.3
22	---	---	---	---	---	---	---	---	---	7.5	7.3	7.4
23	---	---	---	---	---	---	---	---	---	7.5	7.3	7.4
24	---	---	---	---	---	---	---	---	---	7.6	7.3	7.5
25	---	---	---	---	---	---	---	---	---	7.5	7.3	7.4
26	---	---	---	---	---	---	---	---	---	7.6	7.3	7.4
27	---	---	---	---	---	---	---	---	---	7.6	7.3	7.4
28	---	---	---	---	---	---	---	---	---	7.6	7.3	7.4
29	---	---	---	---	---	---	---	---	---	7.7	7.3	7.4
30	---	---	---	---	---	---	---	---	---	7.4	7.2	7.3
31	---	---	---	---	---	---	---	---	---	7.5	7.2	7.3
MONTH	---	---	---	---	---	---	---	---	---	7.7	7.2	7.4

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	---	---	---	7.8	7.5	7.7	8.3	7.5	7.8
2	7.4	7.2	7.3	---	---	---	7.7	7.4	7.5	8.3	7.5	7.8
3	7.7	7.3	7.5	7.8	7.5	7.6	7.8	7.5	7.6	7.8	7.6	7.7
4	7.7	7.4	7.5	7.8	7.5	7.6	7.8	7.5	7.6	8.0	7.4	7.7
5	7.7	7.4	7.6	7.7	7.5	7.6	7.8	7.4	7.6	8.2	7.5	7.7
6	7.8	7.4	7.6	7.8	7.4	7.6	7.8	7.4	7.6	8.3	7.5	7.8
7	7.8	7.4	7.6	7.9	7.5	7.7	7.8	7.4	7.6	8.3	7.6	7.8
8	7.9	7.5	7.7	7.6	7.4	7.5	7.9	7.4	7.6	8.0	7.6	7.8
9	7.9	7.5	7.7	7.4	7.4	7.4	7.8	7.3	7.5	8.1	7.5	7.7
10	7.7	7.4	7.6	7.6	7.3	7.4	7.8	7.3	7.5	8.2	7.6	7.8
11	7.5	7.4	7.5	7.7	7.4	7.5	7.5	7.2	7.4	8.4	7.7	7.9
12	7.4	7.3	7.4	7.7	7.4	7.5	7.5	7.2	7.3	8.5	7.7	7.9
13	7.3	7.3	7.3	8.1	7.5	7.8	7.6	7.3	7.4	8.5	7.6	8.0
14	7.4	7.3	7.3	8.3	7.7	8.0	7.7	7.3	7.5	8.6	7.6	7.9
15	7.4	7.3	7.4	8.0	7.8	7.9	7.8	7.4	7.6	8.4	7.6	7.9
16	7.4	7.3	7.4	8.3	7.7	8.1	7.7	7.4	7.6	8.3	7.5	7.8
17	7.4	7.4	7.4	---	---	---	7.8	7.2	7.5	7.9	7.4	7.6
18	7.5	7.3	7.4	---	---	---	7.3	7.1	7.2	7.7	7.3	7.5
19	7.5	7.4	7.4	7.9	7.4	7.7	7.4	7.2	7.3	7.9	7.4	7.6
20	7.6	7.4	7.5	7.6	7.0	7.3	7.5	7.2	7.3	7.9	7.4	7.6
21	7.5	7.4	7.5	7.7	7.0	7.3	7.5	7.3	7.4	7.8	7.4	7.5
22	---	---	---	7.4	6.8	7.1	7.6	7.3	7.4	7.8	7.4	7.5
23	---	---	---	7.3	6.8	7.1	7.7	7.3	7.4	7.9	7.5	7.6
24	---	---	---	7.7	7.1	7.4	7.9	7.2	7.5	7.9	7.6	7.7
25	---	---	---	7.9	7.3	7.5	7.9	7.4	7.6	7.7	7.6	7.6
26	---	---	---	7.8	7.4	7.6	8.0	7.4	7.6	8.0	7.5	7.7
27	---	---	---	8.1	7.5	7.7	7.5	7.3	7.4	8.1	7.6	7.7
28	---	---	---	8.2	7.7	7.9	7.7	7.3	7.4	7.9	7.5	7.7
29	---	---	---	8.0	7.7	7.8	7.8	7.4	7.6	7.8	7.5	7.6
30	---	---	---	8.1	7.6	7.8	8.1	7.4	7.7	7.7	7.5	7.6
31	---	---	---	7.9	7.7	7.8	8.2	7.5	7.8	---	---	---
MONTH	7.9	7.2	7.5	8.3	6.8	7.6	8.2	7.1	7.5	8.6	7.3	7.7

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	17.5	15.5	16.5	13.5	10.5	11.5	8.5	7.0	8.0	---	---	---
2	16.0	14.0	15.0	13.5	13.0	13.5	7.0	5.5	6.0	---	---	---
3	15.5	13.5	14.5	13.0	11.5	12.5	---	---	---	---	---	---
4	17.0	14.5	15.5	12.0	10.5	11.5	---	---	---	---	---	---
5	---	---	---	10.5	9.5	10.0	---	---	---	---	---	---
6	---	---	---	9.5	8.0	8.5	---	---	---	---	---	---
7	---	---	---	9.5	9.0	9.0	---	---	---	---	---	---
8	20.0	18.5	19.0	10.0	9.5	10.0	---	---	---	---	---	---
9	20.5	18.0	19.0	10.5	10.0	10.0	---	---	---	---	---	---
10	20.5	19.0	19.5	10.5	9.5	10.0	---	---	---	---	---	---
11	19.5	17.5	18.5	10.0	9.5	10.0	---	---	---	---	---	---
12	17.5	15.5	17.0	9.5	8.0	9.0	---	---	---	---	---	---
13	16.5	15.5	16.0	8.0	7.0	7.5	---	---	---	---	---	---
14	18.0	16.0	17.0	7.0	6.5	7.0	---	---	---	---	---	---
15	17.5	16.0	16.5	7.0	6.5	6.5	---	---	---	---	---	---
16	16.0	15.0	15.5	6.5	5.5	6.5	---	---	---	---	---	---
17	15.0	13.5	14.5	6.0	5.0	5.5	---	---	---	---	---	---
18	15.0	13.5	14.5	5.0	4.0	4.5	---	---	---	---	---	15.5
19	14.5	13.0	13.5	5.0	3.5	4.5	---	---	---	---	---	---
20	13.5	11.5	12.5	5.0	3.5	4.5	---	---	---	---	---	---
21	13.0	11.0	12.0	6.0	4.5	5.0	---	---	---	---	---	---
22	12.0	10.5	11.0	8.5	6.0	7.5	---	---	---	---	---	---
23	---	---	---	9.0	8.5	8.5	---	---	---	---	---	---
24	---	---	---	8.5	6.0	7.0	---	---	---	---	---	---
25	11.0	9.5	10.5	6.0	5.0	5.5	---	---	---	---	---	---
26	11.0	10.5	11.0	6.5	5.5	6.0	---	---	---	---	---	---
27	12.5	10.5	11.5	7.5	6.5	7.0	---	---	---	---	---	---
28	11.5	10.0	11.0	7.0	6.5	6.5	---	---	---	---	---	---
29	10.5	9.0	9.5	8.0	7.0	7.5	---	---	---	---	---	---
30	10.0	8.0	9.5	8.5	7.5	8.0	---	---	---	---	---	---
31	10.5	8.5	9.5	---	---	---	---	---	---	---	---	---
MONTH	20.5	8.0	14.2	13.5	3.5	8.0	8.5	5.5	7.0	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	10.0	9.0	9.5	18.0	16.0	17.0	16.0	15.5	15.5
2	---	---	---	10.0	9.0	9.5	16.5	15.0	15.5	16.0	15.0	15.5
3	---	---	---	9.5	7.5	9.0	15.0	12.5	13.5	16.5	15.0	15.5
4	---	---	---	7.5	6.5	7.0	13.5	10.5	11.5	17.0	15.5	16.5
5	---	---	---	7.0	6.0	6.5	10.5	9.5	10.0	16.5	15.5	16.0
6	---	---	---	7.5	5.5	6.5	11.5	9.0	10.5	16.0	15.5	15.5
7	---	---	---	9.0	7.0	8.0	12.5	10.0	11.5	18.0	15.5	16.5
8	---	---	---	---	---	---	13.5	12.0	12.5	17.5	15.0	16.5
9	---	---	---	---	---	---	13.5	10.0	12.0	15.0	14.5	15.0
10	---	---	---	---	---	---	11.5	9.0	10.0	15.0	14.5	15.0
11	---	---	---	7.5	5.0	6.0	12.0	9.5	11.0	14.5	14.0	14.5
12	---	---	---	5.0	3.5	4.0	13.0	10.5	12.0	14.0	13.5	13.5
13	---	---	---	5.0	3.0	4.0	13.5	11.0	12.5	16.0	13.0	14.5
14	---	---	---	6.0	4.5	5.5	14.5	12.0	13.5	16.5	14.0	15.5
15	---	---	---	6.0	4.5	5.5	16.0	14.0	15.0	18.0	15.0	16.5
16	---	---	---	7.0	5.0	6.0	16.0	14.5	15.5	20.0	17.0	18.5
17	---	---	---	7.5	5.0	6.5	17.0	15.5	16.0	20.0	18.5	19.5
18	---	---	---	---	---	---	17.0	14.5	15.5	20.5	18.0	19.5
19	8.5	7.5	8.0	---	---	---	16.0	13.0	14.5	21.0	18.5	20.0
20	8.5	7.5	8.0	---	---	---	13.5	12.0	12.5	22.0	19.0	20.5
21	8.0	7.5	7.5	8.0	6.0	6.5	14.5	12.0	13.5	21.5	20.0	21.0
22	8.0	6.5	7.5	6.0	5.5	5.5	15.0	13.0	14.0	20.5	18.0	19.0
23	8.0	6.5	7.5	7.0	5.0	6.0	15.0	13.5	14.0	18.5	16.0	17.5
24	6.5	5.5	6.0	7.0	6.0	6.5	15.5	12.5	14.0	18.5	16.0	17.5
25	7.0	5.0	6.0	8.5	5.5	7.0	16.5	14.0	15.5	18.5	17.0	18.0
26	8.0	6.5	7.0	11.0	7.5	9.0	16.0	13.0	14.5	20.0	17.5	19.0
27	9.0	7.0	8.0	14.0	10.5	12.0	14.0	11.5	13.0	20.0	18.5	19.5
28	9.5	9.0	9.5	15.5	13.0	14.5	14.5	12.0	13.0	21.0	18.5	19.5
29	---	---	---	17.0	14.5	15.5	15.5	12.0	14.0	22.0	19.5	21.0
30	---	---	---	17.5	15.0	16.5	16.0	14.0	15.0	23.0	20.5	22.0
31	---	---	---	18.5	16.0	17.5	---	---	---	23.5	21.5	22.5
MONTH	9.5	5.0	7.5	18.5	3.0	8.4	18.0	9.0	13.4	23.5	13.0	17.6

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

[illegible]

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	---	---	---	11.5	9.4	10.1
2	---	---	---	---	---	---	---	---	---	11.4	8.6	9.8
3	---	---	---	---	---	---	---	---	---	12.5	9.1	10.6
4	---	---	---	---	---	---	---	---	---	11.5	9.1	10.1
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	10.0	8.5	9.2
16	---	---	---	---	---	---	---	---	---	10.1	8.5	9.2
17	---	---	---	---	---	---	---	---	---	9.7	8.0	8.7
18	---	---	---	---	---	---	---	---	---	9.9	8.4	9.1
19	---	---	---	---	---	---	---	---	---	9.9	8.1	9.1
20	---	---	---	---	---	---	---	---	---	10.4	8.6	9.3
21	---	---	---	---	---	---	---	---	---	10.1	8.7	9.4
22	---	---	---	---	---	---	---	---	---	10.6	8.9	9.7
23	---	---	---	---	---	---	---	---	---	10.3	8.7	9.6
24	---	---	---	12.7	11.5	12.0	---	---	---	10.8	8.6	9.7
25	---	---	---	11.8	10.9	11.3	---	---	---	11.0	8.7	9.8
26	---	---	---	11.2	10.4	10.8	---	---	---	11.3	8.5	9.9
27	---	---	---	11.0	9.7	10.4	---	---	---	11.3	8.9	10.1
28	---	---	---	10.7	9.8	10.2	---	---	---	11.8	9.1	10.3
29	---	---	---	10.5	9.4	9.9	---	---	---	11.5	8.7	10.0
30	---	---	---	10.4	9.0	9.7	13.8	9.2	11.4	11.0	8.0	9.2
31	---	---	---	10.6	9.1	9.8	---	---	---	---	---	---
MONTH	---	---	---	12.7	9.0	10.5	13.8	9.2	11.4	12.5	8.0	9.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	10.1	7.1	8.6	10.1	5.9	8.8	12.0	8.0	9.6
2	---	---	---	9.4	8.0	8.8	9.7	6.9	8.4	---	---	---
3	10.4	8.0	9.3	8.7	7.2	7.9	10.1	6.8	8.1	---	---	---
4	10.9	8.6	9.6	8.7	7.3	7.9	7.9	5.6	6.8	---	---	---
5	10.3	8.1	9.1	8.0	6.4	7.2	7.6	4.8	6.1	---	---	---
6	10.5	8.4	9.4	8.7	7.1	7.8	7.5	5.2	6.0	---	---	---
7	10.5	8.4	9.4	9.5	7.7	8.5	7.6	5.9	6.6	---	---	---
8	11.9	8.9	10.1	---	---	---	8.7	6.1	7.1	---	---	---
9	11.8	8.9	10.2	---	---	---	7.8	5.5	6.8	---	---	---
10	11.2	8.8	9.9	---	---	---	8.4	4.2	6.7	9.7	6.6	8.1
11	9.4	8.3	8.9	---	---	---	11.5	6.0	8.9	9.4	7.3	8.0
12	---	---	---	---	---	---	13.8	11.0	12.1	8.5	6.6	7.4
13	---	---	---	8.8	7.1	8.0	11.1	8.4	9.7	9.4	6.9	7.9
14	---	---	---	8.5	6.9	7.7	10.0	7.8	8.9	9.4	6.2	7.8
15	---	---	---	7.9	6.4	7.1	10.0	7.0	8.2	9.5	7.0	8.0
16	---	---	---	8.2	6.5	7.2	9.9	7.5	8.6	9.7	6.6	8.1
17	---	---	---	8.4	6.4	7.2	---	---	---	9.9	6.2	7.9
18	---	---	---	9.0	6.7	7.8	---	---	---	10.3	6.1	7.9
19	---	---	---	8.1	6.7	7.3	---	---	---	10.0	6.7	8.1
20	---	---	---	9.2	6.7	7.9	---	---	---	9.8	6.2	8.0
21	---	---	---	9.2	7.2	8.0	---	---	---	9.5	7.1	7.9
22	---	---	---	9.1	6.9	7.9	10.2	8.1	8.9	9.1	6.1	7.6
23	---	---	---	10.5	7.0	8.6	10.4	7.7	8.8	9.8	6.6	7.9
24	9.2	7.6	8.3	11.3	7.8	9.4	9.3	6.3	7.9	9.0	5.7	7.7
25	9.5	7.5	8.4	11.1	8.2	9.4	8.1	5.7	6.7	8.1	7.0	7.6
26	9.3	7.3	8.1	10.9	7.7	9.0	8.5	5.5	6.6	10.2	6.8	8.5
27	11.6	6.8	9.9	10.4	6.2	8.5	12.2	5.8	9.5	10.4	7.8	8.7
28	11.6	9.2	10.6	10.3	5.0	7.3	12.3	8.9	10.3	9.1	6.1	7.8
29	9.2	8.2	8.6	8.9	5.3	6.8	12.3	8.4	10.2	9.0	6.9	7.7
30	9.6	7.7	8.7	8.7	5.4	6.8	11.4	8.4	9.5	8.6	6.1	7.7
31	---	---	---	8.6	3.9	6.7	11.7	7.7	9.5	---	---	---
MONTH	11.9	6.8	9.3	11.3	3.9	7.9	13.8	4.2	8.3	12.0	5.7	8.0

CHRISTINA RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING DEPTH (FEET) (000003)	SAMPLE LOC- ATION, CROSS SECTION (FT FM R BK) (72103)	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)
NOV 1997							
05...	1447	--	64	--	--	--	--
05...	1448	.5	61	279	7.8	9.7	9.8
05...	1449	.5	59	279	7.8	9.7	9.9
05...	1450	.5	57	279	7.8	9.7	10.2
05...	1451	.5	55	279	7.8	9.7	10.4
05...	1452	.5	53	279	7.8	9.7	10.4
05...	1453	.5	51	279	7.9	9.7	10.3
05...	1454	.5	49	279	7.9	9.7	10.2
05...	1455	.5	47	279	7.9	9.7	10.1
05...	1456	.5	45	279	7.8	9.7	10.0
05...	1457	.5	43	280	7.8	9.7	10.1
05...	1458	.5	41	279	7.8	9.7	9.9
05...	1459	.5	39	280	7.8	9.7	10.0
05...	1500	.5	37	279	7.9	9.7	10.4
05...	1501	.5	35	279	7.9	9.7	10.2
05...	1502	.5	33	279	7.9	9.7	10.6
05...	1503	.5	31	279	7.9	9.7	10.6
05...	1504	.5	29	280	7.9	9.7	10.6
05...	1505	.5	27	280	7.9	9.7	10.7
05...	1506	.5	25	280	7.9	9.7	10.7
05...	1507	.5	23	280	7.9	9.7	10.7
05...	1508	.5	21	280	7.9	9.7	10.7
05...	1509	.5	19	280	7.9	9.7	10.7
05...	1510	.5	17	280	7.9	9.7	10.7
05...	1511	.5	15	280	7.9	9.7	10.7
05...	1512	.5	13	280	7.9	9.7	10.7
05...	1513	.5	11	280	7.9	9.7	10.7
05...	1514	.5	9	280	7.9	9.7	10.7
05...	1515	.5	7	280	7.9	9.8	10.7
05...	1516	.5	5	281	7.9	9.8	10.6
05...	1517	.5	3	281	7.8	9.8	10.5
05...	1518	--	0	--	--	--	--

CHRISTINA RIVER BASIN

LAKES AND RESERVOIRS IN CHRISTINA RIVER BASIN

01480399 CHAMBERS LAKE RESERVOIR NEAR WAGONTOWN.--40°01'40", long 75°51'03", Chester County, Hydrologic Unit 02040205, at Hibernia Dam on Birch Run, 0.6 mi upstream from gaging station on Birch Run (station 01480400), 0.9 mi upstream from mouth, and 1.4 mi northwest of Wagontown. DRAINAGE AREA, 4.5 mi². PERIOD OF RECORD, May 1997 to current year. GAGE, non-recording gage. Manual measurement from top of concrete riser at upstream flank of Hibernia Dam. Datum of gage is sea level (levels by Chester County Water Resources Authority, Chester County Parks and Recreation Department).

REMARKS.--Reservoir formed by earthfill dam with principle spillway at elevation 587.5 ft, capacity 2,000 acre-ft. Dam crest at elevation 596.5 ft. Normal elevation 580 ft, capacity 1,226 acre feet. Reservoir is used for water supply, flood control, and recreation. Figures given herein represent total contents.

COOPERATION.--Records provided by Chester County Water Resources Authority, in cooperation with City of Coatesville Authority and Chester County Parks and Recreation Department.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,240 acre-ft, March 9, 1998, elevation, 580.67 ft; minimum contents, 880 acre-ft, Dec. 23, 24, 1997, elevation, 575.83 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,240 acre-ft, March 9, elevation, 580.67 ft; minimum contents, 880 acre-ft, Dec. 23, 24 elevation, 575.83 ft.

01480684 MARSH CREEK RESERVOIR NEAR DOWNINGTOWN.--Lat 40°03'24", long 75°43'06", Chester County, Hydrologic Unit 02040205, on right bank at dam on Marsh Creek, 0.3 mi upstream from mouth, and 3.2 mi north of Downingtown. DRAINAGE AREA, 20.1 mi². PERIOD OF RECORD, November 1973 to current year. GAGE, Water-stage recorder. Datum of gage is sea level (levels by Pennsylvania Department of Environmental Protection).

REMARKS.--Reservoir formed by earthfill dam with concrete spillway at elevation 359.5 ft. Storage began November 1973. Total capacity, 22,190 acre-ft, elevation 373 ft. Reservoir is used for water supply, flood control, and recreation. Figures given herein represent contents above lowest gate sill at elevation 289.5 ft.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 16,380 acre-ft, Jan. 25, 1979, elevation, 363.49 ft; minimum contents (after first filling), 10,410 acre-ft, Mar. 3, 1976, elevation, 351.75 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,370 acre-ft, Apr. 2, elevation, 361.65 ft; minimum contents, 12,880 acre-ft, Feb. 4, elevation, 356.94 ft.

MONTHEND ELEVATION, IN FEET ABOVE SEA LEVEL, AND CONTENTS AT 2400 HRS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
01480399 Chambers Lake Reservoir				01480684 Marsh Creek Reservoir		
Sept. 30	578.58	1,080	--	359.43	14,150	--
Oct. 31	576.71	940	- 2.3	358.85	13,830	- 5.2
Nov. 30	576.54	928	- 0.2	357.68	13,250	- 9.7
Dec. 31	576.33	913	- 0.2	357.57	13,190	- 1.0
CAL YR 1997	--	--	--	--	--	+ 0.9
Jan. 31	580.17	1,190	+ 4.5	357.56	13,190	0
Feb. 28	580.21	1,200	+ 0.2	359.18	14,010	+14.8
Mar. 31	579.08	1,120	- 1.3	360.10	14,510	+ 8.1
Apr. 30	576.83	948	- 2.9	360.12	14,520	+ 0.2
May 31	577.58	1,010	+ 1.0	360.15	14,540	+ 0.3
June 30	578.21	1,060	+ 0.8	360.30	14,620	+ 1.3
July 31	578.08	1,050	- 0.2	360.00	14,460	- 2.6
Aug. 31	577.42	994	- 0.9	359.91	14,410	- 0.8
Sept. 30	575.92	884	- 1.8	359.28	14,060	- 5.9
WTR YR 1998	--	--	- 0.3	--	--	- 0.1

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE

LOCATION.--Lat 39°30'03", long 75°34'07", New Castle County, Delaware, Hydrologic Unit 02040205, on platform about 0.4 mi downstream from Reedy Island near Port Penn.

DRAINAGE AREA.--11,200 mi², approximately.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to current year.

pH: February 1970 to current year.

WATER TEMPERATURES: February 1970 to current year.

DISSOLVED OXYGEN: February 1970 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1970. Probes interfaced with a data collection platform since the 1986 water year. Probes placed in situ since July 1998.

REVISIONS.--Dissolved oxygen data for November and December 1996 and January 1997 were determined to be in error. These data should not be used and have been removed from the USGS database.

REMARKS.--Interruptions in the record were due to malfunctions of the pump or recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 35,600 microsiemens, Nov. 15, 1978; minimum, 100 microsiemens, several days in 1969, 1970, 1974 and 1979.

pH: Maximum, 8.9, Mar. 4, 1980; minimum, 5.4, Dec. 31, 1972.

WATER TEMPERATURE: Maximum, 32.5°C, July 23, 1987; minimum, 0.0°C, many days during winters.

DISSOLVED OXYGEN: Maximum, 17.1 mg/L, Dec. 16, 19, 1976; minimum, 0.3 mg/L, Sept. 16, 17, 1971.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 22,200 microsiemens, Nov. 14; minimum recorded, 223 microsiemens, May 13.

WATER TEMPERATURE: Maximum recorded, 28.0°C, several days; minimum recorded, 3.0°C, Jan. 1.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	19800	12900	15900	16000	9510	12400	9100	4610	6090
2	---	---	---	19800	13000	16100	16200	9260	12100	8020	4250	5930
3	---	---	---	17700	12300	14500	16000	7170	10300	---	---	---
4	---	---	---	17400	11600	14000	16100	7300	10800	---	---	---
5	---	---	---	16600	11300	13200	16500	8650	12400	---	---	---
6	16200	10300	12900	17100	11300	13300	15400	8450	10900	---	---	---
7	17500	10100	12600	20400	12200	15800	11900	6770	8880	---	---	---
8	18000	10400	13400	21900	15100	18100	14100	5670	9070	---	---	---
9	18400	10900	13900	20300	13600	17000	16400	6180	10800	---	---	---
10	18900	10900	14300	18900	13900	16200	17000	7360	11500	---	---	---
11	19700	11400	14100	19500	13500	15900	17200	8360	11900	---	---	---
12	19300	11700	14900	19600	13300	15600	16700	8990	11800	---	---	---
13	19100	12500	14800	19400	13000	15200	16600	8660	11500	---	---	---
14	19000	12900	15100	22200	14200	17400	14500	8050	10200	---	---	---
15	19500	12700	15000	20300	13300	17000	15400	7450	9960	---	---	---
16	20300	12600	16100	18000	11200	14600	14800	7290	9710	---	---	---
17	21200	13300	17100	15300	11300	13100	16000	7460	10800	---	---	---
18	19600	12100	16000	15600	11100	12500	15800	7900	11000	6260	1050	2760
19	20100	13300	16000	15700	11200	12900	14600	7850	10700	7200	1010	2940
20	20100	13200	17000	14800	11200	13000	15000	7710	10100	7240	1090	2820
21	19800	12800	16300	15000	10900	12500	15500	7210	11000	10300	1100	5330
22	17200	13300	15000	14300	10600	12400	14600	8610	11500	12700	5100	8250
23	18900	12900	15200	19700	10700	14300	16700	9710	12700	14100	5940	9870
24	18200	12800	15000	18000	12000	14500	17300	9170	13300	11100	3900	7540
25	17700	12400	14600	18500	10600	13800	18900	9590	13900	6800	2500	4350
26	19600	13000	15800	17500	9370	13200	16200	8950	11900	6010	2250	3280
27	20200	13800	16600	14900	7650	10500	14800	8800	10700	5060	2050	3090
28	17400	12200	14300	17900	7480	12200	15200	8750	11600	6630	2180	4500
29	17100	12000	13900	19100	9110	12900	15300	9060	11700	8190	4250	6370
30	17600	11800	13900	18500	9800	13200	14500	7540	11300	7090	3970	5620
31	19100	11800	14700	---	---	---	9250	4920	7070	5740	3300	4450
MONTH	21200	10100	14900	22200	7480	14400	18900	4920	11100	14100	1010	5200

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	10500	3460	5310	8420	2220	4120	692	311	417	1700	620	789
2	9710	3630	5660	8190	1950	3640	474	320	365	3890	647	1110
3	9000	3360	5110	7970	1800	3360	404	280	326	3190	580	1010
4	11600	3340	6320	6680	1520	2640	428	267	318	2740	578	1030
5	16500	8410	11500	4340	1260	1860	3070	259	636	1770	534	888
6	16000	7290	11200	4900	1230	1990	5590	257	1690	2020	544	879
7	13000	6540	9110	4690	1040	1770	6450	360	2340	3750	477	950
8	12800	5890	9140	5100	1020	2200	6610	711	2670	2090	477	845
9	12900	5580	8560	6690	1390	2940	7660	1290	3680	2270	350	734
10	11300	5170	7220	2730	535	1220	8550	1640	4110	4180	375	1140
11	11000	5110	6930	827	333	572	6340	1130	2800	2360	359	991
12	10800	4860	7230	1310	309	461	5450	1030	2040	4180	302	941
13	7520	3990	5180	1450	307	417	4810	838	1670	2670	223	905
14	8220	3490	4790	1830	317	493	4830	945	1690	1340	227	406
15	8400	3060	4690	428	315	385	4160	982	1560	841	257	323
16	---	---	---	428	318	343	4260	990	1540	357	279	302
17	---	---	---	670	318	379	3320	829	1480	1720	265	370
18	---	---	---	888	323	390	2460	812	1090	2520	245	444
19	---	---	---	720	317	380	2920	758	1270	2640	234	571
20	---	---	---	1190	307	462	5280	663	1560	4490	262	1200
21	---	---	---	2780	353	1390	5230	673	2030	5350	326	1570
22	---	---	---	2980	976	1760	5690	605	1830	5560	412	1590
23	---	---	---	2750	609	1400	6540	700	1890	6340	471	1890
24	---	---	---	2170	504	915	5220	727	1920	6050	659	2060
25	---	---	---	2210	486	912	2870	580	1140	6460	886	2240
26	---	---	---	1650	512	827	4200	655	1240	6150	1120	2450
27	---	---	---	764	469	558	3220	577	1310	6960	1190	2660
28	---	---	---	634	349	498	3600	548	1270	7020	1430	2830
29	---	---	---	702	316	412	3260	586	1100	5860	1430	2670
30	---	---	---	996	339	512	1510	554	811	4720	1390	2140
31	---	---	---	923	316	494	---	---	---	4520	1370	2400
MONTH	16500	3060	7200	8420	307	1280	8550	257	1590	7020	223	1300
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	---	---	---	5890	1740	2780	13000	4870	8630	17500	9180	12700
2	---	---	---	8500	1610	3650	14000	5470	9230	18600	9610	13500
3	---	---	---	8690	1820	4550	14600	6320	9430	18100	10000	12900
4	---	---	---	10800	2180	5470	14900	6560	9510	17800	10400	13100
5	---	---	---	11100	2670	5490	15700	6680	9790	18100	10700	13400
6	---	---	---	12700	3070	6400	15700	6880	10000	17300	10200	12900
7	---	---	---	11400	3370	6440	15600	7700	10300	16000	9700	12400
8	---	---	---	11800	3780	5990	15400	8220	10800	17000	9820	13000
9	---	---	---	10800	3640	5960	15700	8220	11000	16600	10100	13000
10	---	---	---	11000	2170	6050	15700	8130	11100	16900	10100	13000
11	---	---	---	10700	3980	6360	15000	8270	10900	17500	10500	13500
12	---	---	---	11800	3900	6430	13900	7690	10600	17800	10800	13700
13	---	---	---	11500	3960	6580	15000	7600	10800	18600	10900	13700
14	---	---	---	10400	3810	5860	14300	8840	11100	18400	11600	14500
15	---	---	---	8060	3620	5140	14000	8490	10300	17300	11700	13800
16	8900	3100	5080	---	---	---	13900	8410	10200	16400	10600	12800
17	7110	2570	3930	---	---	---	14300	8330	10200	17700	10400	12800
18	6770	1990	3260	9880	3180	5270	14200	7910	9950	18200	10900	13800
19	7050	1740	3250	10500	3290	5470	15700	7790	10200	18800	11500	14200
20	7310	1450	3010	9980	3420	5410	15900	8710	11100	18300	11700	13900
21	7190	1420	2710	---	---	---	15600	8650	11100	16800	11600	13900
22	6790	1440	2490	---	---	---	14500	8130	10600	17000	11200	13700
23	7390	1470	2790	---	---	---	15700	8640	11100	17800	10900	13200
24	7410	1520	2810	---	---	---	15100	8590	11200	17000	11800	14100
25	6970	1560	2930	---	---	---	12900	7930	10100	16300	11300	13600
26	6110	1580	2900	---	---	---	14400	8030	10600	16600	10500	12800
27	5720	1580	2460	11200	4670	7270	13700	8180	10500	17600	10700	13400
28	6780	1570	3480	---	---	---	15000	8450	11100	17600	10200	12800
29	7400	1610	3240	9860	4660	6840	16000	9480	12500	18000	10500	13600
30	5720	1830	2830	10500	4490	6580	15900	8720	11400	18800	11200	14500
31	---	---	---	13100	4660	7560	16100	8780	12000	---	---	---
MONTH	8900	1420	3140	13100	1610	5800	16100	4870	10600	18800	9180	13400
YEAR	22200	223	7750									

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	7.7	7.6	7.7	---	---	---	---	---	---
2	---	---	---	7.7	7.6	7.7	---	---	---	---	---	---
3	---	---	---	7.7	7.6	7.6	---	---	---	---	---	---
4	---	---	---	7.7	7.6	7.6	---	---	---	---	---	---
5	---	---	---	7.7	7.6	7.7	---	---	---	---	---	---
6	---	---	---	7.7	7.6	7.7	---	---	---	---	---	---
7	---	---	---	7.8	7.7	7.8	---	---	---	---	---	---
8	---	---	---	7.8	7.8	7.8	---	---	---	---	---	---
9	---	---	---	7.8	7.8	7.8	---	---	---	---	---	---
10	---	---	---	7.8	7.8	7.8	---	---	---	---	---	---
11	---	---	---	7.8	7.7	7.8	---	---	---	---	---	---
12	7.5	7.3	7.4	7.8	7.7	7.8	---	---	---	---	---	---
13	---	---	---	7.9	7.7	7.8	---	---	---	---	---	---
14	---	---	---	7.9	7.8	7.8	---	---	---	---	---	---
15	7.5	7.4	7.5	7.8	7.7	7.8	---	---	---	---	---	---
16	7.5	7.3	7.5	---	---	---	---	---	---	---	---	---
17	7.4	7.2	7.4	7.8	7.5	7.7	---	---	---	---	---	---
18	7.5	7.4	7.4	7.8	7.6	7.7	---	---	---	7.8	7.7	7.7
19	7.5	7.4	7.5	7.8	7.6	7.7	---	---	---	7.8	7.6	7.7
20	7.5	7.4	7.5	7.8	7.4	7.6	---	---	---	7.7	7.5	7.6
21	7.5	7.4	7.5	7.7	7.5	7.6	---	---	---	7.8	7.5	7.7
22	7.5	7.4	7.5	7.7	7.7	7.7	---	---	---	7.9	7.6	7.8
23	7.6	7.4	7.5	7.8	7.7	7.7	---	---	---	7.9	7.7	7.8
24	7.6	7.5	7.5	7.8	7.6	7.7	---	---	---	7.8	7.6	7.7
25	7.6	7.5	7.5	7.8	7.6	7.7	---	---	---	7.6	7.4	7.5
26	7.7	7.5	7.6	7.8	7.5	7.7	---	---	---	7.6	7.4	7.4
27	7.7	7.6	7.6	7.8	7.5	7.6	---	---	---	7.6	7.3	7.4
28	7.7	7.5	7.6	---	---	---	---	---	---	7.7	7.5	7.6
29	7.6	7.5	7.6	---	---	---	---	---	---	7.8	7.4	7.7
30	7.7	7.5	7.6	---	---	---	---	---	---	7.6	7.4	7.5
31	---	---	---	---	---	---	---	---	---	7.6	7.4	7.4
MONTH	7.7	7.2	7.5	7.9	7.4	7.7	---	---	---	7.9	7.3	7.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	7.7	7.4	7.5	7.9	7.6	7.7	7.6	7.4	7.5	7.3	7.2	7.2
2	7.7	7.4	7.5	7.8	7.6	7.7	7.6	7.5	7.5	7.3	7.2	7.3
3	7.6	7.4	7.5	7.8	7.6	7.6	7.6	7.5	7.5	7.3	7.2	7.2
4	7.7	7.4	7.6	7.7	7.6	7.6	7.6	7.5	7.6	7.3	7.2	7.3
5	7.9	7.7	7.8	7.7	7.5	7.6	7.7	7.5	7.6	7.4	7.2	7.3
6	7.9	7.7	7.8	7.7	7.5	7.6	7.8	7.6	7.7	7.3	7.2	7.3
7	7.7	7.6	7.7	7.6	7.5	7.5	7.8	7.6	7.7	7.4	7.2	7.3
8	7.7	7.6	7.7	7.7	7.5	7.6	7.9	7.6	7.7	7.4	7.3	7.3
9	7.7	7.6	7.6	7.8	7.6	7.6	7.9	7.7	7.8	7.5	7.3	7.4
10	7.6	7.5	7.6	7.6	7.6	7.6	8.0	7.7	7.8	7.4	7.3	7.4
11	7.6	7.5	7.5	7.7	7.6	7.6	7.9	7.6	7.7	7.6	7.3	7.4
12	7.5	7.4	7.5	7.7	7.6	7.6	7.8	7.5	7.6	7.4	7.3	7.3
13	7.5	7.4	7.4	7.7	7.6	7.6	7.6	7.5	7.5	7.4	7.3	7.3
14	7.6	7.4	7.5	7.7	7.6	7.6	7.6	7.4	7.5	7.4	7.3	7.3
15	7.7	7.5	7.6	7.7	7.6	7.6	7.5	7.3	7.4	7.3	7.2	7.3
16	---	---	---	7.7	7.6	7.6	7.4	7.3	7.4	7.3	7.2	7.3
17	---	---	---	7.7	7.6	7.6	7.4	7.3	7.4	7.4	7.2	7.3
18	---	---	---	7.7	7.6	7.6	7.4	7.2	7.3	7.4	7.2	7.2
19	---	---	---	7.6	7.6	7.6	7.3	7.3	7.3	7.3	7.1	7.2
20	---	---	---	7.6	7.4	7.5	7.4	7.2	7.3	7.3	7.1	7.2
21	---	---	---	7.7	7.5	7.6	7.3	7.1	7.2	7.3	7.2	7.2
22	---	---	---	7.7	7.6	7.7	7.3	7.1	7.2	7.4	7.2	7.3
23	---	---	---	7.8	7.5	7.6	7.3	7.2	7.2	7.4	7.3	7.3
24	---	---	---	7.6	7.5	7.5	7.3	7.2	7.2	7.4	7.2	7.3
25	---	---	---	7.6	7.5	7.5	7.3	7.2	7.2	7.3	7.3	7.3
26	---	---	---	7.6	7.4	7.5	7.3	7.2	7.2	7.3	7.2	7.3
27	---	---	---	7.5	7.4	7.5	7.3	7.2	7.3	7.3	7.2	7.3
28	---	---	---	7.5	7.4	7.5	7.3	7.3	7.3	7.3	7.2	7.3
29	---	---	---	7.5	7.4	7.5	7.3	7.3	7.3	7.3	7.2	7.3
30	---	---	---	7.5	7.4	7.5	7.3	7.2	7.2	7.3	7.1	7.2
31	---	---	---	7.5	7.4	7.4	---	---	---	7.3	7.2	7.3
MONTH	7.9	7.4	7.6	7.9	7.4	7.6	8.0	7.1	7.4	7.6	7.1	7.3

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	7.3	7.3	7.3	7.7	7.4	7.5	7.6	7.4	7.5
2	---	---	---	7.4	7.3	7.3	7.7	7.4	7.5	7.6	7.4	7.5
3	---	---	---	7.3	7.2	7.3	7.8	7.3	7.5	7.6	7.4	7.5
4	---	---	---	7.4	7.3	7.4	7.7	7.5	7.6	7.5	7.4	7.5
5	---	---	---	7.5	7.3	7.4	7.8	7.5	7.6	7.5	7.4	7.4
6	---	---	---	7.5	7.4	7.4	7.8	7.5	7.6	7.4	7.4	7.4
7	---	---	---	7.5	7.4	7.4	7.7	7.5	7.6	7.4	7.4	7.4
8	---	---	---	7.5	7.4	7.4	7.7	7.5	7.6	7.5	7.4	7.4
9	---	---	---	7.4	7.4	7.4	7.7	7.5	7.6	7.5	7.4	7.5
10	---	---	---	7.4	7.3	7.4	7.7	7.5	7.6	7.6	7.5	7.5
11	---	---	---	7.4	7.4	7.4	7.6	7.5	7.5	7.6	7.5	7.5
12	---	---	---	7.4	7.3	7.4	7.6	7.5	7.5	7.5	7.5	7.5
13	---	---	---	7.4	7.3	7.4	7.6	7.5	7.5	7.6	7.5	7.5
14	---	---	---	7.5	7.3	7.4	7.7	7.5	7.6	7.6	7.5	7.5
15	---	---	---	7.4	7.4	7.4	7.7	7.5	7.6	7.5	7.5	7.5
16	7.3	7.2	7.3	---	---	---	7.6	7.5	7.5	7.5	7.4	7.5
17	7.3	7.2	7.3	---	---	---	7.6	7.5	7.5	7.5	7.4	7.5
18	7.3	7.2	7.2	7.4	7.2	7.3	7.6	7.5	7.5	7.6	7.4	7.5
19	7.3	7.2	7.2	7.4	7.2	7.3	7.7	7.5	7.6	7.6	7.4	7.5
20	7.3	7.1	7.2	7.4	7.2	7.4	7.7	7.4	7.6	7.5	7.4	7.5
21	7.3	7.1	7.2	---	---	---	7.5	7.4	7.5	7.5	7.4	7.4
22	7.2	7.1	7.2	---	---	---	7.5	7.4	7.4	7.5	7.4	7.4
23	7.2	7.1	7.2	---	---	---	7.5	7.4	7.4	7.5	7.4	7.5
24	7.2	7.1	7.2	---	---	---	7.5	7.3	7.4	7.6	7.5	7.5
25	7.2	7.1	7.1	---	---	---	7.5	7.3	7.4	7.5	7.5	7.5
26	7.2	7.1	7.1	---	---	---	7.5	7.4	7.5	7.6	7.4	7.5
27	7.3	7.1	7.2	7.5	7.4	7.5	7.5	7.4	7.5	7.6	7.5	7.5
28	7.4	7.2	7.3	7.5	7.4	7.5	7.6	7.5	7.5	7.6	7.5	7.5
29	7.3	7.2	7.3	7.6	7.4	7.4	7.6	7.5	7.5	7.7	7.5	7.6
30	7.3	7.2	7.3	7.5	7.4	7.4	7.6	7.5	7.5	7.6	7.5	7.6
31	---	---	---	7.5	7.4	7.5	7.5	7.5	7.5	---	---	---
MONTH	7.4	7.1	7.2	7.6	7.2	7.4	7.8	7.3	7.5	7.7	7.4	7.5

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	14.5	14.0	14.0	8.0	7.5	8.0	4.0	3.0	3.5
2	---	---	---	14.0	14.0	14.0	8.0	7.0	7.5	4.0	3.5	4.0
3	---	---	---	14.5	13.5	14.0	7.5	6.5	7.0	4.0	3.5	4.0
4	---	---	---	14.0	13.5	14.0	7.5	7.0	7.5	4.5	4.0	4.0
5	---	---	---	14.0	13.0	13.5	7.5	7.0	7.5	5.0	4.0	4.5
6	20.0	19.5	19.5	13.5	13.0	13.0	7.0	6.0	7.0	5.5	4.5	5.0
7	20.5	19.5	20.0	13.0	12.5	13.0	6.5	6.0	6.5	5.5	5.0	5.0
8	21.0	20.0	20.0	12.5	12.5	12.5	6.5	6.0	6.0	6.5	5.5	6.0
9	21.0	20.0	20.5	12.5	12.0	12.5	6.0	5.5	6.0	6.5	6.0	6.5
10	21.0	20.5	20.5	12.5	12.0	12.5	6.0	6.0	6.0	7.0	6.0	6.5
11	21.0	20.0	20.5	12.5	12.0	12.0	6.0	6.0	6.0	7.0	6.0	6.5
12	21.0	20.0	20.0	12.0	11.5	12.0	6.5	6.0	6.0	6.0	6.0	6.0
13	21.0	20.0	20.0	11.5	10.5	11.0	6.0	5.5	6.0	6.5	6.0	6.0
14	21.0	20.0	20.5	10.5	10.0	10.5	6.0	5.5	6.0	6.0	5.0	5.5
15	20.5	19.5	19.5	10.5	10.0	10.0	6.0	5.0	5.5	---	---	---
16	19.5	18.5	19.0	10.0	9.5	10.0	6.0	5.0	5.5	---	---	---
17	19.0	18.5	18.5	9.5	8.5	9.0	6.0	5.5	5.5	---	---	---
18	18.5	18.0	18.0	9.0	8.5	9.0	6.0	5.5	5.5	5.5	5.5	5.5
19	18.0	17.5	17.5	9.0	8.5	8.5	6.0	5.5	5.5	5.5	5.5	5.5
20	17.5	17.0	17.5	9.0	8.5	8.5	6.0	5.5	5.5	5.5	5.0	5.5
21	17.0	16.5	17.0	9.0	8.5	8.5	6.0	5.5	5.5	5.5	5.0	5.0
22	16.5	15.5	16.5	9.5	8.5	9.0	5.5	5.0	5.0	5.5	4.5	5.0
23	16.0	15.0	15.5	9.5	9.0	9.0	5.5	5.0	5.5	6.0	5.0	5.5
24	15.5	15.0	15.5	9.0	8.0	8.5	5.5	5.5	5.5	6.0	5.5	5.5
25	15.5	15.0	15.0	8.5	7.5	8.0	6.0	5.5	6.0	6.0	5.5	5.5
26	15.0	14.5	14.5	8.0	7.5	8.0	6.5	6.0	6.0	6.0	5.0	5.5
27	15.0	14.5	15.0	8.0	7.5	7.5	6.0	5.5	5.5	5.5	5.0	5.5
28	14.5	14.0	14.0	8.0	7.5	7.5	6.0	5.5	5.5	5.5	5.0	5.0
29	14.0	13.5	13.5	8.5	7.5	8.0	5.5	5.0	5.5	6.0	5.0	5.0
30	14.5	13.5	14.0	8.0	8.0	8.0	5.5	5.0	5.0	5.5	5.0	5.5
31	14.5	13.5	14.0	---	---	---	5.0	4.0	4.5	5.5	4.5	5.0
MONTH	21.0	13.5	17.5	14.5	7.5	10.5	8.0	4.0	6.0	7.0	3.0	5.3

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	5.5	5.0	5.0	7.5	7.0	7.0	12.5	11.0	12.0	16.5	16.0	16.0
2	5.5	4.5	5.0	7.5	7.0	7.5	13.0	11.5	12.5	16.5	16.0	16.5
3	5.5	5.0	5.5	7.5	7.0	7.0	13.0	12.0	12.5	17.5	16.5	17.0
4	5.5	5.0	5.0	7.5	7.0	7.0	12.5	11.5	12.0	17.5	16.5	17.0
5	5.0	4.5	5.0	7.5	7.0	7.0	12.0	11.5	12.0	18.0	17.0	17.5
6	5.5	5.0	5.0	8.0	7.0	7.0	12.5	11.5	12.0	18.0	17.0	17.5
7	5.5	4.5	5.0	8.0	7.0	7.5	13.0	11.5	12.0	18.5	17.5	17.5
8	5.5	4.5	5.0	7.5	7.0	7.5	13.0	12.0	12.5	18.0	17.5	17.5
9	6.0	4.5	5.0	8.5	7.5	8.0	12.5	12.0	12.0	17.5	17.0	17.5
10	6.5	5.0	5.5	8.0	7.5	8.0	12.5	11.5	12.0	17.5	16.5	17.0
11	6.0	5.0	5.5	7.5	6.5	7.0	13.0	11.5	12.0	17.0	16.5	16.5
12	6.5	6.0	6.0	7.0	6.0	6.5	13.5	12.0	12.5	17.0	16.0	16.0
13	6.5	5.5	6.0	6.5	5.5	6.0	14.0	12.5	13.0	17.0	15.5	16.0
14	6.0	5.0	5.5	6.5	6.0	6.0	14.0	12.5	13.5	17.5	15.5	16.5
15	6.5	5.0	5.5	6.5	5.5	6.0	15.0	13.0	14.0	18.0	16.0	17.0
16	---	---	---	6.5	5.5	6.0	15.0	14.0	14.5	18.5	17.0	17.5
17	---	---	---	6.5	6.0	6.0	16.0	14.5	15.5	19.0	17.5	18.0
18	---	---	---	6.5	6.0	6.5	16.0	15.0	15.5	19.5	18.0	18.5
19	---	---	---	7.0	6.5	6.5	15.5	15.0	15.0	20.0	18.5	19.0
20	---	---	---	7.0	6.5	6.5	15.5	15.0	15.0	20.5	19.0	20.0
21	---	---	---	6.5	6.5	6.5	16.0	15.0	15.5	21.0	20.0	20.5
22	---	---	---	6.5	6.0	6.5	16.0	15.0	15.5	20.5	20.0	20.0
23	---	---	---	7.0	6.0	6.5	15.5	15.0	15.5	21.0	19.5	20.0
24	---	---	---	7.0	6.0	6.5	16.5	15.0	15.5	21.0	20.0	20.5
25	---	---	---	7.5	6.0	6.5	16.5	15.5	16.0	21.0	20.0	20.5
26	---	---	---	8.0	6.5	7.0	16.0	15.5	15.5	21.5	20.5	21.0
27	---	---	---	9.0	7.5	8.0	16.0	15.0	15.5	21.5	20.5	21.0
28	---	---	---	10.0	8.0	9.0	16.0	15.0	15.5	22.0	21.0	21.5
29	---	---	---	10.5	9.0	9.5	16.5	15.0	15.5	22.5	21.5	22.0
30	---	---	---	11.5	9.5	10.5	16.5	15.5	16.0	23.5	22.0	22.5
31	---	---	---	12.0	10.5	11.0	---	---	---	24.0	22.5	23.0
MONTH	6.5	4.5	5.3	12.0	5.5	7.2	16.5	11.0	13.9	24.0	15.5	18.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	---	---	---	26.5	25.5	26.0	27.5	26.5	27.0	27.5	27.0	27.0
2	---	---	---	26.5	25.5	26.0	27.5	26.5	26.5	27.0	27.0	27.0
3	---	---	---	27.0	25.5	26.5	28.0	26.5	27.0	27.5	26.5	27.0
4	---	---	---	27.0	26.0	26.5	27.5	26.5	27.0	27.5	26.5	27.0
5	---	---	---	27.5	26.0	26.5	28.0	26.5	27.0	27.0	26.5	26.5
6	---	---	---	27.5	26.0	26.5	28.0	26.5	27.0	27.0	26.0	26.5
7	---	---	---	27.0	25.5	26.0	27.0	26.5	26.5	26.5	26.0	26.5
8	---	---	---	26.0	25.0	25.5	27.5	26.5	26.5	26.5	25.5	26.0
9	---	---	---	26.0	25.0	25.5	27.5	26.5	27.0	26.0	24.5	25.0
10	---	---	---	27.0	25.5	26.0	27.5	26.5	27.0	24.5	24.0	24.0
11	---	---	---	26.0	25.0	25.5	27.5	27.0	27.0	24.5	23.5	24.0
12	---	---	---	26.5	25.0	25.5	27.5	27.0	27.0	24.0	23.5	24.0
13	---	---	---	26.0	25.5	26.0	27.5	27.0	27.0	25.0	24.0	24.0
14	---	---	---	26.5	25.5	26.0	27.0	26.5	27.0	25.0	24.0	24.5
15	---	---	---	26.5	26.0	26.0	27.0	26.5	27.0	25.0	24.5	24.5
16	22.5	21.5	22.0	---	---	---	27.5	26.5	27.0	25.5	24.5	25.0
17	23.5	22.0	22.5	---	---	---	28.0	27.0	27.0	25.5	25.0	25.0
18	24.0	22.5	23.0	28.0	26.5	27.0	27.5	27.0	27.0	25.5	25.0	25.0
19	24.5	23.0	23.5	27.5	26.5	27.0	27.0	26.0	26.5	25.5	24.5	25.0
20	25.0	23.5	24.0	27.5	27.0	27.0	27.0	25.5	26.0	25.5	24.5	25.0
21	26.0	24.0	24.5	---	---	---	26.5	25.5	26.0	25.5	25.0	25.0
22	25.0	24.5	24.5	---	---	---	27.0	26.0	26.0	25.5	25.0	25.0
23	25.5	24.5	25.0	---	---	---	27.0	26.0	26.5	25.0	23.5	24.5
24	26.0	25.0	25.0	---	---	---	27.0	26.5	27.0	24.5	23.5	23.5
25	27.0	25.0	25.5	---	---	---	27.5	26.5	27.0	24.0	23.0	23.5
26	26.5	25.5	26.0	---	---	---	27.5	27.0	27.5	23.5	23.0	23.0
27	27.0	26.0	26.5	28.0	27.5	27.5	27.5	27.0	27.5	24.0	23.0	23.5
28	26.5	25.5	26.0	27.5	27.0	27.5	27.5	27.0	27.0	24.0	23.0	23.5
29	26.5	25.5	26.0	28.0	27.0	27.5	28.0	27.0	27.0	24.0	23.0	23.5
30	26.5	25.5	26.0	28.0	27.5	27.5	28.0	27.0	27.5	23.5	22.5	23.0
31	---	---	---	27.5	26.5	27.5	28.0	27.0	27.5	---	---	---
MONTH	27.0	21.5	24.7	28.0	25.0	26.5	28.0	25.5	26.9	27.5	22.5	24.9
YEAR	28.0	3.0	15.5									

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	9.4	8.4	8.9	12.2	10.7	11.4	---	---	---
2	---	---	---	9.4	8.6	9.0	11.9	10.6	10.9	---	---	---
3	---	---	---	9.2	8.6	9.0	12.1	10.8	11.4	---	---	---
4	---	---	---	10.1	8.8	9.1	12.8	11.0	11.8	---	---	---
5	---	---	---	9.5	8.9	9.2	12.5	10.9	11.2	---	---	---
6	---	---	---	9.6	9.0	9.3	12.9	10.9	11.3	---	---	---
7	---	---	---	10.3	9.1	9.6	13.3	11.1	11.7	---	---	---
8	---	---	---	9.7	9.3	9.5	11.6	11.2	11.4	---	---	---
9	---	---	---	10.1	9.4	9.7	11.6	11.2	11.4	---	---	---
10	---	---	---	10.1	9.5	9.7	11.4	11.1	11.3	---	---	---
11	---	---	---	10.6	9.6	10.0	11.4	11.0	11.2	---	---	---
12	---	---	---	10.4	10.0	10.2	11.3	11.1	11.2	---	---	---
13	---	---	---	10.5	10.1	10.3	11.3	11.1	11.2	---	---	---
14	---	---	---	10.7	10.1	10.4	11.3	11.1	11.2	---	---	---
15	---	---	---	10.7	10.1	10.3	11.4	11.0	11.3	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	10.8	10.4	10.6	12.7	11.2	11.5	---	---	---
18	---	---	---	11.0	10.4	10.6	---	---	---	---	---	---
19	8.5	8.1	8.3	10.8	10.4	10.5	---	---	---	---	---	---
20	8.7	8.4	8.5	10.7	10.2	10.4	12.4	10.9	11.2	---	---	---
21	8.8	8.6	8.7	11.0	10.3	10.5	11.1	10.8	10.9	---	---	---
22	8.9	8.6	8.7	10.5	10.2	10.3	11.2	10.9	11.0	---	---	---
23	8.9	8.6	8.7	10.4	9.9	10.2	11.2	11.0	11.1	---	---	---
24	8.8	8.6	8.7	10.5	9.9	10.1	11.3	11.0	11.1	---	---	---
25	8.8	8.6	8.7	10.7	10.3	10.4	11.9	11.1	11.3	---	---	---
26	9.1	8.5	8.7	11.0	10.4	10.6	11.9	11.1	11.4	---	---	---
27	9.0	8.4	8.7	11.4	10.6	11.1	11.3	11.1	11.2	---	---	---
28	9.4	8.7	9.0	11.4	10.8	11.1	11.5	11.3	11.3	---	---	---
29	9.3	8.6	9.0	11.4	10.4	11.0	11.6	11.4	11.4	---	---	---
30	10.0	8.6	9.1	11.6	10.8	11.3	---	---	---	---	---	---
31	10.1	8.5	9.1	---	---	---	---	---	---	---	---	---
MONTH	10.1	8.1	8.8	11.6	8.4	10.1	13.3	10.6	11.3	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	10.6	10.4	10.5	8.9	8.6	8.7
2	---	---	---	---	---	---	10.5	10.3	10.4	8.8	8.4	8.7
3	---	---	---	---	---	---	10.5	10.3	10.4	8.9	8.4	8.7
4	---	---	---	---	---	---	10.5	10.2	10.4	9.0	8.4	8.8
5	---	---	---	---	---	---	10.4	10.1	10.2	9.1	8.4	8.8
6	---	---	---	---	---	---	10.3	9.9	10.1	8.9	8.2	8.7
7	---	---	---	---	---	---	10.0	9.7	9.9	9.0	8.1	8.6
8	---	---	---	---	---	---	10.0	9.6	9.8	8.8	8.3	8.6
9	---	---	---	---	---	---	9.9	9.5	9.8	8.9	8.4	8.7
10	---	---	---	---	---	---	9.7	9.2	9.5	8.7	8.2	8.5
11	---	---	---	---	---	---	9.6	9.1	9.4	8.7	8.1	8.4
12	---	---	---	---	---	---	9.4	9.0	9.2	9.2	8.1	8.5
13	---	---	---	---	---	---	9.3	9.0	9.1	8.9	8.2	8.6
14	---	---	---	---	---	---	9.4	9.0	9.2	9.2	8.4	8.8
15	---	---	---	---	---	---	9.4	9.0	9.1	9.3	8.4	8.8
16	---	---	---	---	---	---	9.3	9.0	9.1	9.2	8.5	8.8
17	---	---	---	---	---	---	9.3	8.9	9.1	9.1	8.0	8.6
18	---	---	---	---	---	---	9.3	8.9	9.1	9.0	7.9	8.5
19	---	---	---	---	---	---	9.1	8.9	9.0	9.0	7.9	8.5
20	---	---	---	---	---	---	9.2	8.7	8.9	8.9	7.8	8.4
21	---	---	---	---	---	---	9.1	8.6	8.8	8.7	7.7	8.3
22	---	---	---	---	---	---	9.0	8.4	8.7	8.6	7.6	8.2
23	---	---	---	---	---	---	8.8	8.4	8.7	8.5	7.6	8.1
24	---	---	---	---	---	---	8.7	8.3	8.5	8.4	7.4	8.0
25	---	---	---	---	---	---	8.9	8.3	8.6	8.1	7.4	7.8
26	---	---	---	---	---	---	9.0	8.4	8.6	7.9	7.3	7.6
27	---	---	---	---	---	---	8.8	8.5	8.7	7.8	7.2	7.5
28	---	---	---	---	---	---	9.0	8.5	8.7	7.8	7.1	7.4
29	---	---	---	---	---	---	9.2	8.4	8.7	7.7	7.1	7.4
30	---	---	---	10.6	10.3	10.4	9.1	8.6	8.8	7.9	7.0	7.5
31	---	---	---	10.6	10.3	10.4	---	---	---	7.9	7.1	7.5
MONTH	---	---	---	10.6	10.3	10.4	10.6	8.3	9.3	9.3	7.0	8.3

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	7.5	5.4	6.5	7.7	6.1	6.8	7.4	6.7	7.0
2	---	---	---	7.3	5.4	6.4	7.8	6.3	6.9	7.5	6.4	7.0
3	---	---	---	7.3	4.7	6.4	---	---	---	7.4	6.3	6.8
4	---	---	---	7.3	5.6	6.6	---	---	---	7.0	6.2	6.6
5	---	---	---	7.3	5.4	6.6	---	---	---	7.0	6.2	6.4
6	---	---	---	7.3	5.9	6.7	6.9	5.6	6.3	6.9	6.3	6.6
7	---	---	---	7.1	5.3	6.6	7.0	5.4	6.3	6.8	5.7	6.4
8	---	---	---	7.1	5.3	6.6	7.0	5.6	6.4	7.2	6.2	6.8
9	---	---	---	7.0	5.8	6.6	7.0	5.9	6.5	7.4	6.5	6.9
10	---	---	---	6.8	5.5	6.4	7.2	5.9	6.5	7.6	6.4	7.1
11	---	---	---	7.0	6.0	6.6	6.7	5.7	6.3	7.6	7.1	7.3
12	---	---	---	7.7	6.1	6.8	6.8	5.5	6.3	7.6	7.0	7.3
13	---	---	---	7.8	5.6	6.9	7.0	5.8	6.5	8.0	6.8	7.2
14	---	---	---	7.7	5.4	6.9	7.2	6.1	6.7	7.7	7.2	7.5
15	---	---	---	7.6	6.5	7.1	7.0	6.2	6.6	7.7	6.9	7.3
16	7.6	7.1	7.4	---	---	---	6.9	6.0	6.5	7.3	6.6	7.0
17	8.0	7.1	7.4	---	---	---	7.0	6.1	6.5	7.0	6.4	6.8
18	8.2	6.5	7.2	---	---	---	6.9	6.0	6.5	7.4	6.5	6.9
19	7.7	6.1	6.9	---	---	---	7.0	6.3	6.7	7.3	6.5	6.8
20	7.5	5.5	6.4	---	---	---	7.8	6.6	7.1	7.5	6.3	6.9
21	6.9	5.6	6.3	---	---	---	7.5	6.8	7.2	7.6	6.7	7.3
22	7.1	6.5	6.7	---	---	---	7.4	6.7	7.0	7.4	6.9	7.2
23	7.1	6.0	6.6	---	---	---	7.6	6.7	7.2	7.6	6.8	7.2
24	7.1	5.6	6.5	---	---	---	7.8	6.6	7.2	7.8	7.1	7.4
25	7.0	5.4	6.4	---	---	---	7.4	6.2	6.9	7.6	7.1	7.3
26	7.0	5.1	6.2	---	---	---	7.6	6.6	7.1	7.4	6.8	7.1
27	7.3	5.2	6.3	7.2	5.9	6.7	7.4	6.8	7.1	7.2	6.7	6.9
28	7.3	5.5	6.5	7.1	6.4	6.8	7.6	6.8	7.2	7.2	6.4	6.9
29	7.6	5.5	6.6	7.3	5.5	6.5	7.9	7.0	7.3	7.7	6.6	7.2
30	7.3	5.4	6.3	7.3	6.3	6.8	7.6	6.7	7.1	7.5	6.8	7.2
31	---	---	---	8.3	6.3	6.9	7.2	6.7	7.0	---	---	---
MONTH	8.2	5.1	6.6	8.3	4.7	6.7	7.9	5.4	6.8	8.0	5.7	7.0

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1998

Annual maximum discharge at crest-stage partial-record stations during water year 1998								
Station name and number	Location and drainage area	Period of Record	Water year 1998 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
<u>DELAWARE RIVER BASIN</u>								
LACKAWAXEN RIVER BASIN								
Dyberry Creek above Reser- voir near Honesdale, Pa. (01429300)	Lat 41°39'26", long 75°17'12", Wayne County, Hydrologic Unit 02040103, on right bank 955 ft downstream from bridge on West Branch Dyberry Creek at Tanners Falls, 0.2 mi downstream from confluence of the East and West Branches of Dyberry Creek, and 6 mi north of Dyberry. Datum of gage is 1,023.43 ft above sea level. Drainage area is 45.8 mi ² .	1975-98	3-10-98	8.64	1,330	9-27-85	11.75	5,140
VANDERMARK CREEK BASIN								
Vandermark Creek at Milford, Pa. (01438300)	Lat 41°19'35", long 74°47'50", Pike County, Hydrologic Unit 02040104, at stone bridge on Broad Street in Milford, and 0.4 mi upstream of mouth. Datum of gage is 490.50 ft above sea level. Drainage area is 5.36 mi ² .	1962-98	3-10-98	2.40	119	9-25-75	3.65	372
BRODHEAD CREEK BASIN								
Mill Creek at Mountain- home, Pa. (01440300)	Lat 41°09'50", long 75°16'00", Monroe County, Hydrologic Unit 02040104, at stone-arch bridge on macadam road, 0.5 mi east of Mountainhome, and 1.5 mi upstream of mouth. Drainage area is 5.84 mi ² .	1961-98	3-09-98	9.37	458	7-28-69	12.65	1,650
LEHIGH RIVER BASIN								
Lehigh River at Allen- town, Pa. (01451192)	Lat 40°36'23", long 75°27'17", Lehigh County, Hydrologic Unit 02040106, on upstream side of bridge on Hamilton Street in Allentown, 200 ft downstream from lock and dam, and 0.7 mi upstream from Little Lehigh Creek. Drain- age area is 1,033 mi ² .	1977-81* 1982-94 1995-98	1-09-98	40.91	9,400a	1-20-96	48.25	Unknown

* Operated as a low-flow partial-record station.

a About.

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 1998--Continued

Station name and number	Location and drainage area	Period of Record	Water year 1998 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ /s)	Date	Gage height (ft)	Dis- charge (ft ³ /s)
<u>DELAWARE RIVER BASIN--Continued</u>								
CHRISTINA RIVER BASIN								
BRANDYWINE CREEK BASIN								
WEST BRANCH BRANDYWINE CREEK BASIN								
Sucker Run near Coates- ville, Pa. (01480610)	Lat 39°58'20", long 75°51'03", Chester County, Hydrologic Unit 02040205, at concrete bridge on South Park Avenue on SR 372, 1.6 mi upstream of mouth, and 2.0 mi west of Coatesville. Drainage area is 2.57 mi ² .	1964-98	4-01-98	5.53	280	7-21-79	8.49	1,500

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1998

Discharge measurements made at miscellaneous sites during water year 1998						
Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN						
EQUINUNK CREEK BASIN						
01427200 Equinunk Creek	Delaware River	Lat 41°50'15", long 75°13'55", Wayne County, Hydrologic Unit 02040101, at highway bridge 700 ft downstream from South Branch Equinunk Creek, and 1.4 mi above mouth and Equinunk.	56.3	1946-57* 1978-91* 1992-97	10-08-97 6-11-98 7-21-98 8-05-98	4.1 23 30 7.4
LACKAWAXEN RIVER BASIN						
01431600 Wallen-paupack Creek	Lackawaxen River	Lat 41°20'10", long 75°20'25", Wayne County, Hydrologic Unit 02040103, at bridge on dirt road 2.6 mi south of intersection of State Routes 84 and 191, and at East Sterling, Pa.	33.4	1944-57 1978-81 1989-97	10-16-97 12-09-97 1-06-98 3-05-98 4-21-98 6-16-98 7-29-98	19 86 235 302 407 205 28
01432110 Lackawaxen River	Delaware River	Lat 41°28'33", long 75°02'12", Pike County, Hydrologic Unit 02040103, at mouth, and downstream from bridge on SR 590 at Rowland, Pa. Regulated by lakes and reservoirs upstream.	588	1949a 1989-97	10-16-97 12-09-97 1-06-98 6-16-98 7-29-98	58 349 3,210 3,360 120
SHOHOLA CREEK BASIN						
01432500 Shohola Creek	Delaware River	Lat 41°27'20", long 74°55'25", Pike County, Hydrologic Unit 02040104, 1.7 mi upstream from mouth, and 1.4 mi south of Shohola. Prior to 1959 at highway bridge 0.4 mi upstream.	83.6	1920-28† 1957-80 1981-91* 1992-97	10-10-97 6-10-98 7-20-98 8-06-98	8.2 154 30 6.2
BRODHEAD CREEK PARADISE CREEK						
01440485 Swiftwater Creek	Forest Hills Run	Lat 41°05'38", long 75°19'21", Monroe County, Hydrologic Unit 02040104, on right ban, at Connaught Laboratories at Swiftwater, and 3.0 mi upstream of mouth.	6.59	1995-97	12-10-97 1-29-98 3-24-98 5-05-98 6-16-98 7-21-98 8-26-98	12 18 27 29 26 8.4 9.0
NESHAMINY CREEK BASIN						
01464690 Pine Run	North Branch Neshaminy Creek	Lat 40°20'04", long 75°08'24", Bucks County, Hydrologic Unit 02040201, at bridge on SR 313, and 0.8 mi south-east of Fountainville, Pa.	7.00	1995-97	10-16-97 2-18-98 5-29-98 7-15-98	1.1 39 6.3 2.7
01464693 Pine Run	North Branch Neshaminy Creek	Lat 40°19'17", long 75°09'48", Bucks County, Hydrologic Unit 02040201, at bridge on Rickerts Road, and 1.2 mi northwest of Doylestown, Pa.	8.44	1995-97	10-20-97 2-18-98 5-29-98 7-15-98	1.5 37 8.5 3.0
01464742 Neshaminy Creek	Delaware River	Lat 40°17'21", long 75°10'45", Bucks County, Hydrologic Unit 02040201, at bridge on Upper State Road, and 0.8 mi southeast of U.S. Highway 202 in New Britain, Pa.	61.5	1993-97	10-16-97 2-18-98 5-29-98	29 313 40
01464750 Neshaminy Creek	Delaware River	Lat 40°15'33", long 75°02'06", Bucks County, Hydrologic Unit 02040201, on left bank on bridge on Rushland Road at Rushland, and 2000 ft upstream from confluence with Little Neshaminy Creek. Prior to October 1992 published as "near" Rushland.	91.0	1933 1950 1963-64 1987-92† 1995-97	10-15-97 2-17-98 7-14-98	22 81 36

† Operated as a continuous-record station.

* Operated as a low-flow partial-record station.

a Prior to October 1988 at latitude 41°28'19", longitude 75°02'25".

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1998--Continued

Discharge measurements made at miscellaneous sites during water year 1998--Continued						
Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
DELAWARE RIVER BASIN--Continued						
NESHAMINY CREEK BASIN--Continued						
01465045 Mill Creek	Neshaminy Creek	Lat 40°18'02", long 75°02'56", Bucks County, Hydrologic Unit 02040201, at Lower Mountain Road bridge, 0.4 mi downstream from confluence with Watson Creek, and 1.1 mi southeast of Buckingham, Pa.	12.7	1995-97	10-15-97 2-17-98 7-14-98	1.7 16 5.8
01465055 Mill Creek	Neshaminy Creek	Lat 40°17'21", long 75°02'07", Bucks County, Hydrologic Unit 02040201, at New Hope Road bridge, 2.3 mi downstream from confluence with Watson Creek, and 1.0 mi northwest of Wycombe, Pa.	14.2	1995-97	10-15-97 2-17-98 7-15-98	1.9 15 5.7
01465460 Iron Works Creek	Mill Creek	Lat 40°11'54", long 75°00'40", Bucks County, Hydrologic Unit 02040201, at lower Holland Road bridge 300 ft east of Bustleton Pike, and 1.3 mi south of Richboro.	3.69	1981* 1982-86 1991-97	10-15-97 2-17-98 7-14-98	.2 3.4 1.7
SCHUYLKILL RIVER BASIN						
†01472190 Pickering Creek	Schuylkill River	Lat 40°06'33", long 75°31'42", Chester County, Hydrologic Unit 02040203, at bridge on Creek Road at SR 29, 0.3 mi downstream from Conrail bridge, 1.0 mi south of Phoenixville, and 2.6 mi up- stream from Pickering Creek Dam.	31.4	1967-68† 1975-95 1981-84 1994-97	11-13-97 1-06-98 6-25-98	18 22 33
01473110 Skipack Creek	Perkiomen Creek	Lat 40°10'17", long 75°25'52", Montgomery County, Hydrologic Unit 02040203, at bridge on State Route 363, and 0.4 mi east of Evansburg.	52.9	1995-97	11-13-97 1-06-98 2-26-98 5-19-98 6-25-98 8-11-98	19 41 132 58 21 21
CHRISTINA RIVER BASIN						
01478230 Middle Branch White Clay Creek	White Clay Creek	Lat 39°45'02", long 75°46'19", Chester County, Hydrologic Unit 02040205, at bridge on Sharpless Road, 2.0 mi south of Landenberg, and 6.0 mi south of Avondale, Pa. Formerly published as "White Clay Creek".	25.5	1989-97	10-10-97 11-12-97 1-05-98 3-02-98 4-20-98 5-27-98 7-06-98 8-10-98	7.0 15 16 28 52 24 16 10
BIG ELK CREEK BASIN						
01494990 Big Elk Creek	Elk River	Lat 39°43'50", long 75°50'55", Chester County, Hydrologic Unit 02060002, at bridge on Lewisville Road, 1.5 mi east of Lewisville, and 9.2 mi north of Elkton, Md.	41.0	1989-97	10-17-97 10-17-97 11-12-97 1-05-98 3-02-98 4-20-98 5-27-98 7-06-98 8-10-98	15 14 25 27 49 78 36 26 16

† Operated as a continuous-record station.

* Operated as a low-flow partial-record station.

† Operated as a water-quality partial-record station since 1974.

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. These data are usually collected less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)	ANC WATER UNFLTRD IT FIELD (MG/L AS CACO3) (00419)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00613)
01472080*		PIGEON CREEK NEAR SLONAKER, PA (LAT 40 12 03N LONG 075 37 10W)									
OCT 1997 30...	1200	1028	80020	3.2	182	6.9	8.0	11.7	43	11	<.010
01472138		FRENCH CREEK NEAR COVENTRYVILLE, PA (LAT 40 10 14N LONG 075 41 50W)									
OCT 1997 01...	1055	1028	80020	5.7	142	6.8	13.5	9.1	39	8.4	<.010
01472140		SOUTH BRANCH FRENCH CREEK AT COVENTRYVILLE, PA (LAT 40 09 18N LONG 075 42 52W)									
OCT 1997 09...	1130	1028	80020	3.7	203	7.3	16.0	11.0	96	14	.010
01472154		FRENCH CREEK NEAR PUGHTOWN, PA (LAT 40 09 17N LONG 075 38 25W)									
OCT 1997 08...	0945	1028	80020	9.3	171	6.9	16.5	9.5	75	11	<.010
01472157		FRENCH CREEK NEAR PHOENIXVILLE, PA (LAT 40 09 05N LONG 075 36 06W)									
OCT 1997 02...	1315	1028	80020	21	166	7.3	11.5	11.4	43	11	.012
014721612		FRENCH CREEK AT RAILROAD BRIDGE AT PHOENIXVILLE, PA (LAT 40 08 10N LONG 075 30 41W)									
OCT 1997 02...	0830	1028	80020	22	231	7.2	11.5	10.2	59	15	.019
014721854		PICKERING CREEK AT MERLIN, PA (LAT 40 06 25N LONG 075 35 34W)									
OCT 1997 16...	0950	1028	80020	9.3	228	6.9	12.5	9.4	75	21	<.010
01472190		PICKERING CREEK NEAR PHOENIXVILLE, PA (LAT 40 06 33N LONG 075 31 42W)									
OCT 1997 30...	0830	1028	80020	14	249	7.1	6.0	10.9	79	24	<.010
01476790		EAST BRANCH CHESTER CREEK AT GREEN HILL, PA (LAT 39 59 49N LONG 075 35 40W)									
OCT 1997 03...	1300	1028	80020	.37	371	6.8	13.5	9.5	51	55	.016
01476835		EAST BRANCH CHESTER CREEK AT WESTTOWN, PA (LAT 39 56 26N LONG 075 32 30W)									
OCT 1997 06...	1215	1028	80020	3.2	395	7.1	17.5	8.6	69	50	.083
01476840		GOOSE CR TRIB TO E BR CHESTER CR NR W CHESTER, PA (LAT 39 56 04N LONG 075 33 31W)									
OCT 1997 03...	1015	1028	80020	11	766	7.2	15.0	9.8	61	110	.108
01476848		EAST BR CHESTER CR BELOW GOOSE CR NR WEST CHESTER, PA (LAT 39 55 45N LONG 075 32 00W)									
OCT 1997 06...	0940	1028	80020	12	581	7.0	16.0	8.6	69	78	.078

* Formerly published as Pigeon Creek near Parker Ford.

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	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)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (µG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (µG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (µG/G) (01029)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (µG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (µG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (µG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (µG/G) (01053)
01472080*	PIGEON CREEK NEAR SLONAKER, PA (LAT 40 12 03N LONG 075 37 10W)									
OCT 1997 30...	1.81	<.015	.045	--	--	--	--	--	--	--
01472138	FRENCH CREEK NEAR COVENTRYVILLE, PA (LAT 40 10 14N LONG 075 41 50W)									
OCT 1997 01...	.595	<.015	.010	--	<1	42	29	22000	30	440
01472140	SOUTH BRANCH FRENCH CREEK AT COVENTRYVILLE, PA (LAT 40 09 18N LONG 075 42 52W)									
OCT 1997 09...	1.97	<.015	<.010	2	<1	18	26	23000	20	350
01472154	FRENCH CREEK NEAR PUGHTOWN, PA (LAT 40 09 17N LONG 075 38 25W)									
OCT 1997 08...	.919	<.015	<.010	3	<1	32	27	28000	40	860
01472157	FRENCH CREEK NEAR PHOENIXVILLE, PA (LAT 40 09 05N LONG 075 36 06W)									
OCT 1997 02...	1.12	<.015	<.010	--	--	--	--	--	--	--
014721612	FRENCH CREEK AT RAILROAD BRIDGE AT PHOENIXVILLE, PA (LAT 40 08 10N LONG 075 30 41W)									
OCT 1997 02...	1.13	<.015	<.010	--	--	--	--	--	--	--
014721854	PICKERING CREEK AT MERLIN, PA (LAT 40 06 25N LONG 075 35 34W)									
OCT 1997 16...	1.18	<.015	.015	2	<1	30	16	22000	20	240
01472190	PICKERING CREEK NEAR PHOENIXVILLE, PA (LAT 40 06 33N LONG 075 31 42W)									
OCT 1997 30...	1.14	<.020	<.010	--	--	--	--	--	--	--
01476790	EAST BRANCH CHESTER CREEK AT GREEN HILL, PA (LAT 39 59 49N LONG 075 35 40W)									
OCT 1997 09...	4.32	<.015	<.010	4	<1	29	31	40000	40	1100
01476835	EAST BRANCH CHESTER CREEK AT WESTTOWN, PA (LAT 39 56 26N LONG 075 32 30W)									
OCT 1997 06...	3.93	<.015	.272	--	--	--	--	--	--	--
01476840	GOOSE CR TRIB TO E BR CHESTER CR NR W CHESTER, PA (LAT 39 56 04N LONG 075 33 31W)									
OCT 1997 03...	16.9	.018	3.13	--	--	--	--	--	--	--
01476848	EAST BR CHESTER CR BELOW GOOSE CR NR WEST CHESTER, PA (LAT 39 55 45N LONG 075 32 00W)									
OCT 1997 06...	9.69	<.015	1.54	--	--	--	--	--	--	--

* Formerly published as Pigeon Creek near Parker Ford.

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	MERCURY RECOV. FM BOT- TOM MA- TERIAL (µG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (µG/G AS ZN) (01093)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (GM/KG AS C) (00693)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (µG/KG) (39333)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (µG/KG) (39351)	P,P'- DDD, RECOVER IN BOT- TOM MA- TERIAL (µG/KG) (39363)	P,P'- DDE, RECOVER IN BOT- TOM MA- TERIAL (µG/KG) (39368)	P,P'- DDT, RECOVER IN BOT- TOM MA- TERIAL (µG/KG) (39373)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (µG/KG) (39383)
01472080*	PIGEON CREEK NEAR SLONAKER, PA (LAT 40 12 03N LONG 075 37 10W)								
OCT 1997 30...	--	--	--	--	--	--	--	--	--
01472138	FRENCH CREEK NEAR COVENTRYVILLE, PA (LAT 40 10 14N LONG 075 41 50W)								
OCT 1997 01...	.04	100	44	<.200	12.0	<.500	1.10	E.540	.580
01472140	SOUTH BRANCH FRENCH CREEK AT COVENTRYVILLE, PA (LAT 40 09 18N LONG 075 42 52W)								
OCT 1997 09...	.02	60	8.9	<.200	<3.00	<.500	.260	<.500	<.200
01472154	FRENCH CREEK NEAR PUGHTOWN, PA (LAT 40 09 17N LONG 075 38 25W)								
OCT 1997 08...	.04	110	16	<.200	<3.00	<.500	.430	<.500	.240
01472157	FRENCH CREEK NEAR PHOENIXVILLE, PA (LAT 40 09 05N LONG 075 36 06W)								
OCT 1997 02...	--	--	--	--	--	--	--	--	--
014721612	FRENCH CREEK AT RAILROAD BRIDGE AT PHOENIXVILLE, PA (LAT 40 08 10N LONG 075 30 41W)								
OCT 1997 02...	--	--	--	--	--	--	--	--	--
014721854	PICKERING CREEK AT MERLIN, PA (LAT 40 06 25N LONG 075 35 34W)								
OCT 1997 16...	.04	100	16	<.200	<3.00	<.500	.600	<.500	.300
01472190	PICKERING CREEK NEAR PHOENIXVILLE, PA (LAT 40 06 33N LONG 075 31 42W)								
OCT 1997 30...	--	--	--	--	--	--	--	--	--
01476790	EAST BRANCH CHESTER CREEK AT GREEN HILL, PA (LAT 39 59 49N LONG 075 35 40W)								
OCT 1997 09...	.04	130	32	<.300	32.0	1.10	3.10	E1.70	3.90
01476835	EAST BRANCH CHESTER CREEK AT WESTTOWN, PA (LAT 39 56 26N LONG 075 32 30W)								
OCT 1997 06...	--	--	--	--	--	--	--	--	--
01476840	GOOSE CR TRIB TO E BR CHESTER CR NR W CHESTER, PA (LAT 39 56 04N LONG 075 33 31W)								
OCT 1997 03...	--	--	--	--	--	--	--	--	--
01476848	EAST BR CHESTER CR BELOW GOOSE CR NR WEST CHESTER, PA (LAT 39 55 45N LONG 075 32 00W)								
OCT 1997 06...	--	--	--	--	--	--	--	--	--

* Formerly published as Pigeon Creek near Parker Ford.

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	ENDO-SULFAN I TOTAL IN BOT- TOM MA- TERIAL ($\mu\text{G/KG}$) (39389)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL ($\mu\text{G/KG}$) (39393)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL ($\mu\text{G/KG}$) (39413)	HEPTA- CHLOR EPOXIDE TOT. IN BOT- TOM MA- TERIAL ($\mu\text{G/KG}$) (39423)	LINDANE TOTAL IN BOT- TOM MA- TERIAL ($\mu\text{G/KG}$) (39343)	METH- OXY- CHLOR, TOT. IN BOT- TOM MA- TERIAL ($\mu\text{G/KG}$) (39481)	MIREX, TOTAL IN BOT- TOM MA- TERIAL ($\mu\text{G/KG}$) (39758)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL ($\mu\text{G/KG}$) (39403)	PCB, TOTAL IN BOT- TOM MA- TERIAL ($\mu\text{G/KG}$) (39519)
01472080*	PIGEON CREEK NEAR SLONAKER, PA (LAT 40 12 03N LONG 075 37 10W)								
OCT 1997 30...	--	--	--	--	--	--	--	--	--
01472138	FRENCH CREEK NEAR COVENTRYVILLE, PA (LAT 40 10 14N LONG 075 41 50W)								
OCT 1997 01...	<.200	<.200	<.200	<.200	<.200	<2.50	<.200	<50.0	10.0
01472140	SOUTH BRANCH FRENCH CREEK AT COVENTRYVILLE, PA (LAT 40 09 18N LONG 075 42 52W)								
OCT 1997 09...	<.200	<.200	<.200	<.200	<.200	<2.50	<.200	<50.0	<5.00
01472154	FRENCH CREEK NEAR PUGHTOWN, PA (LAT 40 09 17N LONG 075 38 25W)								
OCT 1997 08...	<.200	<.200	<.200	<.200	<.200	<2.50	<.200	<50.0	<5.00
01472157	FRENCH CREEK NEAR PHOENIXVILLE, PA (LAT 40 09 05N LONG 075 36 06W)								
OCT 1997 02...	--	--	--	--	--	--	--	--	--
014721612	FRENCH CREEK AT RAILROAD BRIDGE AT PHOENIXVILLE, PA (LAT 40 08 10N LONG 075 30 41W)								
OCT 1997 02...	--	--	--	--	--	--	--	--	--
014721854	PICKERING CREEK AT MERLIN, PA (LAT 40 06 25N LONG 075 35 34W)								
OCT 1997 16...	<.200	<.200	<.200	<.200	<.200	<2.50	<.200	<50.0	9.10
01472190	PICKERING CREEK NEAR PHOENIXVILLE, PA (LAT 40 06 33N LONG 075 31 42W)								
OCT 1997 30...	--	--	--	--	--	--	--	--	--
01476790	EAST BRANCH CHESTER CREEK AT GREEN HILL, PA (LAT 39 59 49N LONG 075 35 40W)								
OCT 1997 09...	<.200	<.400	<.200	.850	<.200	<2.50	<.200	<50.0	9.40
01476835	EAST BRANCH CHESTER CREEK AT WESTTOWN, PA (LAT 39 56 26N LONG 075 32 30W)								
OCT 1997 06...	--	--	--	--	--	--	--	--	--
01476840	GOOSE CR TRIB TO E BR CHESTER CR NR W CHESTER, PA (LAT 39 56 04N LONG 075 33 31W)								
OCT 1997 03...	--	--	--	--	--	--	--	--	--
01476848	EAST BR CHESTER CR BELOW GOOSE CR NR WEST CHESTER, PA (LAT 39 55 45N LONG 075 32 00W)								
OCT 1997 06...	--	--	--	--	--	--	--	--	--

* Formerly published as Pigeon Creek near Parker Ford.

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)	ANC WATER UNFLTRD 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)
01478120	EAST BRANCH WHITE CLAY CREEK AT AVONDALE, PA (LAT 39 49 42N LONG 075 46 52W)										
NOV 1997 12...	0840	1028	80020	7.5	356	7.7	7.0	10.8	85	20	.024
01478190	MIDDLE BRANCH WHITE CLAY CREEK AT WICKERTON, PA (LAT 39 47 44N LONG 075 49 27W)										
NOV 1997 12...	1110	1028	80020	5.5	253	7.6	8.0	11.9	41	20	.026
01478220	WEST BRANCH WHITE CLAY CREEK NEAR CHESTERVILLE, PA (LAT 39 45 56N LONG 075 47 47W)										
NOV 1997 12...	1330	1028	80020	4.6	202	7.6	8.0	12.4	26	17	.028
01479680	WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA (LAT 39 50 13N LONG 075 43 33W)										
OCT 1997 14...	0940	1028	80020	3.6	374	7.1	15.0	8.7	97	26	.023
01479800	EAST BRANCH RED CLAY CREEK NEAR FIVE POINTS, PA (LAT 39 49 10N LONG 075 41 29W)										
OCT 1997 14...	1210	1028	80020	2.7	378	7.2	16.0	9.7	123	29	.019
01480629	BUCK RUN AT DOE RUN, PA (LAT 39 55 46N LONG 075 49 24W)										
NOV 1997 06...	1245	1028	80020	8.8	238	7.7	7.5	12.3	47	17	.024
01480632	DOE RUN AT SPRINGDELL, PA (LAT 39 54 25N LONG 075 49 42W)										
NOV 1997 06...	0940	1028	80020	5.9	153	7.3	6.5	12.2	23	11	.030
01480640	WEST BRANCH BRANDYWINE CREEK AT WAWASET, PA (LAT 39 55 34N LONG 075 39 47W)										
OCT 1997 10...	0930	1028	80020	43	285	7.0	18.0	8.2	67	24	.053
01480903	VALLEY CR AT MULSTEINS MEADOWS NR DOWNINGTOWN, PA (LAT 39 58 31N LONG 075 39 48W)										
NOV 1997 04...	1000	1028	80020	7.2	421	8.0	9.5	11.0	119	29	.031
01480950	EAST BRANCH BRANDYWINE CREEK AT WAWASET, PA (LAT 39 55 35N LONG 075 38 54W)										
OCT 1997 29...	1000	1028	80020	50	350	7.3	8.0	11.2	63	33	.015
01481030	BRANDYWINE CREEK NEAR CHADDS FORD, PA (LAT 39 51 15N LONG 075 35 58W)										
NOV 1997 13...	0830	1028	80020	125	299	7.4	6.5	11.1	68	26	.025
01494900	EAST BRANCH BIG ELK CREEK AT ELKVIEW, PA (LAT 39 48 48N LONG 075 54 04W)										
OCT 1997 31...	1230	1028	80020	3.6	184	6.7	9.5	12.0	39	16	<.010

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	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)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (µG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (µG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (µG/G AS CU) (01029)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (µG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (µG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (µG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (µG/G) (01053)
01478120	EAST BRANCH WHITE CLAY CREEK AT AVONDALE, PA (LAT 39 49 42N LONG 075 46 52W)									
NOV 1997 12...	4.73	<.020	.053	--	--	--	--	--	--	--
01478190	MIDDLE BRANCH WHITE CLAY CREEK AT WICKERTON, PA (LAT 39 47 44N LONG 075 49 27W)									
NOV 1997 12...	4.97	<.020	.230	--	--	--	--	--	--	--
01478220	WEST BRANCH WHITE CLAY CREEK NEAR CHESTERVILLE, PA (LAT 39 45 56N LONG 075 47 47W)									
NOV 1997 12...	3.27	<.020	.039	--	--	--	--	--	--	--
01479680	WEST BRANCH RED CLAY CREEK AT KENNETT SQUARE, PA (LAT 39 50 13N LONG 075 43 33W)									
OCT 1997 14...	4.77	.039	.021	--	--	--	--	--	--	--
01479800	EAST BRANCH RED CLAY CREEK NEAR FIVE POINTS, PA (LAT 39 49 10N LONG 075 41 29W)									
OCT 1997 14...	2.92	.026	.066	--	--	--	--	--	--	--
01480629	BUCK RUN AT DOE RUN, PA (LAT 39 55 46N LONG 075 49 24W)									
NOV 1997 06...	4.26	<.020	.026	--	--	--	--	--	--	--
01480632	DOE RUN AT SPRINGDELL, PA (LAT 39 54 25N LONG 075 49 42W)									
NOV 1997 06...	4.81	<.020	.026	--	--	--	--	--	--	--
01480640	WEST BRANCH BRANDYWINE CREEK AT WAWASET, PA (LAT 39 55 34N LONG 075 39 47W)									
OCT 1997 10...	2.80	<.015	<.010	--	--	--	--	--	--	--
01480903	VALLEY CR AT MULSTEINS MEADOWS NR DOWNINGTOWN, PA (LAT 39 58 31N LONG 075 39 48W)									
NOV 1997 04...	2.23	<.020	.027	--	--	--	--	--	--	--
01480950	EAST BRANCH BRANDYWINE CREEK AT WAWASET, PA (LAT 39 55 35N LONG 075 38 54W)									
OCT 1997 29...	3.41	<.015	.168	--	--	--	--	--	--	--
01481030	BRANDYWINE CREEK NEAR CHADDS FORD, PA (LAT 39 51 15N LONG 075 35 58W)									
NOV 1997 13...	2.91	<.020	.169	3	<1	34	27	25000	70	720
01494900	EAST BRANCH BIG ELK CREEK AT ELKVIEW, PA (LAT 39 48 48N LONG 075 54 04W)									
OCT 1997 31...	6.30	<.020	.094	--	--	--	--	--	--	--

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

[illegible]

	ENDO-SULFAN	ENDRIN,	HEPTA-CHLOR,	HEPTA-CHLOR	LINDANE	METH-OXY-	MIREX,	TOXA-PHENE,	PCB,
	I TOTAL	TOTAL	TOTAL	TOTAL	EPOXIDE	CHLOR,	TOTAL	TOTAL	TOTAL
	IN BOT-TOM MA-TERIAL	IN BOT-TOM MA-TERIAL	IN BOT-TOM MA-TERIAL	TOT. IN BOTTOM MATL. TERIAL	IN BOT-TOM MA-TERIAL	TOT. IN BOTTOM MATL. TERIAL	IN BOT-TOM MA-TERIAL	IN BOT-TOM MA-TERIAL	IN BOT-TOM MA-TERIAL
DATE	(µG/KG)	(µG/KG)	(µG/KG)	(µG/KG)	(µG/KG)	(µG/KG)	(µG/KG)	(µG/KG)	(µG/KG)
	(39389)	(39393)	(39413)	(39423)	(39343)	(39481)	(39758)	(39403)	(39519)

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]

NOV 1997	13...	<.200	<.200	<.200	.210	<.200	<2.50	<.200	<50.0	13.0
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[illegible]

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)	ANC WATER UNFLTRD FET FIELD (MG/L AS CACO3) (00410)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
01473153	UNNAMED TRIBUTARY TO VALLEY CREEK NEAR FRAZER, PA (LAT 40 02 50N LONG 75 33 48W)										
SEP 1998 09...	1645	1028	80020	.61	569	8.2	18.8	9.2	227	--	.015
01473154	VALLEY CREEK AT MILL LANE, PA (LAT 40 03 03N LONG 075 33 17W)										
SEP 1998 09...	1600	1028	80020	1.1	625	7.9	15.8	9.0	192	--	.010
01473155	VALLEY CREEK AT RT 202 AT MILL LANE, PA (LAT 40 03 05N LONG 75 33 03W)										
SEP 1998 09...	1550	1028	80020	1.3	613	8.0	15.6	8.8	205	--	.010
01473156	VALLEY CREEK NEAR VALLEY STORE, PA (LAT 40 03 04N LONG 75 32 44W)										
SEP 1998 09...	1540	1028	80020	1.6	608	8.1	16.0	8.7	176	--	.010
01473157	VALLEY CREEK AT VALLEY STORE, PA (LAT 40 03 29N LONG 075 31 56W)										
SEP 1998 09...	1330	1028	80020	.42	608	7.9	15.6	8.2	186	--	.016
01473158	VALLEY CREEK ABOVE RT 29 AT VALLEY STORE, PA (LAT 40 03 29N LONG 75 31 51W)										
SEP 1998 09...	1115	1028	80020	1.5	794	7.6	13.7	6.1	251	60	.033
01473159	VALLEY CREEK BELOW RT 29 AT VALLEY STORE, PA (LAT 40 03 34N LONG 75 31 49W)										
SEP 1998 09...	1045	1028	80020	2.6	814	7.5	13.2	5.0	261	79	.038
01473160	VALLEY CREEK NEAR DEVALT, PA (LAT 40 03 37N LONG 75 31 44W)										
SEP 1998 09...	1000	1028	80020	2.9	807	7.6	13.0	6.0	292	--	.066
01473161	VALLEY CR AT CHURCH RD BRIDGE AT CEDAR HOLLOW, PA (LAT 40 03 54N LONG 75 31 05W)										
SEP 1998 09...	0800	1028	80020	3.3	799	7.7	13.1	8.7	275	--	.085

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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 DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	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)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
01473153	UNNAMED TRIBUTARY TO VALLEY CREEK NEAR FRAZER, PA (LAT 40 02 50N LONG 75 33 48W)									
SEP 1998 09...	2.64	.028	.18	.181	--	--	--	--	--	--
01473154	VALLEY CREEK AT MILL LANE, PA (LAT 40 03 03N LONG 075 33 17W)									
SEP 1998 09...	3.30	.039	.12	.073	--	--	--	--	--	--
01473155	VALLEY CREEK AT RT 202 AT MILL LANE, PA (LAT 40 03 05N LONG 75 33 03W)									
SEP 1998 09...	3.11	.027	.21	.065	--	--	--	--	--	--
01473156	VALLEY CREEK NEAR VALLEY STORE, PA (LAT 40 03 04N LONG 75 32 44W)									
SEP 1998 09...	3.00	.034	.19	.054	--	--	--	--	--	--
01473157	VALLEY CREEK AT VALLEY STORE, PA (LAT 40 03 29N LONG 075 31 56W)									
SEP 1998 09...	2.37	.127	.32	.046	--	--	--	--	--	--
01473158	VALLEY CREEK ABOVE RT 29 AT VALLEY STORE, PA (LAT 40 03 29N LONG 75 31 51W)									
SEP 1998 09...	2.13	.713	.80	.026	53	34	56	20	<.10	7.6
01473159	VALLEY CREEK BELOW RT 29 AT VALLEY STORE, PA (LAT 40 03 34N LONG 75 31 49W)									
SEP 1998 09...	2.22	1.39	1.5	.018	53	35	57	28	<.10	8.0
01473160	VALLEY CREEK NEAR DEVALT, PA (LAT 40 03 37N LONG 75 31 44W)									
SEP 1998 09...	2.43	.965	1.1	.022	--	--	--	--	--	--
01473161	VALLEY CR AT CHURCH RD BRIDGE AT CEDAR HOLLOW, PA (LAT 40 03 54N LONG 75 31 05W)									
SEP 1998 09...	2.92	.309	.43	.026	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

[illegible]

ANALYSIS OF STREAMFLOW SAMPLES COLLECTED AT PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	MANGA- NESE, DIS- SOLVED (μ G/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (μ G/L AS MO) (01060)	NICKEL, DIS- SOLVED (μ G/L AS NI) (01065)	SILVER, DIS- SOLVED (μ G/L AS AG) (01075)	ZINC, DIS- SOLVED (μ G/L AS ZN) (01090)	ANTI- MONY, DIS- SOLVED (μ G/L AS SB) (01095)	ALUM- INUM, DIS- SOLVED (μ G/L AS AL) (01106)	LITHIUM DIS- SOLVED (μ G/L AS LI) (01130)	SELE- NIUM, DIS- SOLVED (μ G/L AS SE) (01145)	URANIUM NATURAL DIS- SOLVED (μ G/L AS U) (22703)
01473153	UNNAMED TRIBUTARY TO VALLEY CREEK NEAR FRAZER, PA (LAT 40 02 50N LONG 75 33 48W)									
SEP 1998 09...	--	--	--	--	--	--	15	--	--	--
01473154	VALLEY CREEK AT MILL LANE, PA (LAT 40 03 03N LONG 075 33 17W)									
SEP 1998 09...	--	--	--	--	--	--	<10	--	--	--
01473155	VALLEY CREEK AT RT 202 AT MILL LANE, PA (LAT 40 03 05N LONG 75 33 03W)									
SEP 1998 09...	--	--	--	--	--	--	<10	--	--	--
01473156	VALLEY CREEK NEAR VALLEY STORE, PA (LAT 40 03 04N LONG 75 32 44W)									
SEP 1998 09...	--	--	--	--	--	--	<10	--	--	--
01473157	VALLEY CREEK AT VALLEY STORE, PA (LAT 40 03 29N LONG 075 31 56W)									
SEP 1998 09...	--	--	--	--	--	--	<10	--	--	--
01473158	VALLEY CREEK ABOVE RT 29 AT VALLEY STORE, PA (LAT 40 03 29N LONG 75 31 51W)									
SEP 1998 09...	45	<1.0	2.3	<1.0	3.7	<1.0	5.7	210	<1	<1.0
01473159	VALLEY CREEK BELOW RT 29 AT VALLEY STORE, PA (LAT 40 03 34N LONG 75 31 49W)									
SEP 1998 09...	32	<1.0	2.8	<1.0	3.1	<1.0	4.4	190	<1	<1.0
01473160	VALLEY CREEK NEAR DEVALT, PA (LAT 40 03 37N LONG 75 31 44W)									
SEP 1998 09...	--	--	--	--	--	--	<10	--	--	--
01473161	VALLEY CR AT CHURCH RD BRIDGE AT CEDAR HOLLOW, PA (LAT 40 03 54N LONG 75 31 05W)									
SEP 1998 09...	--	--	--	--	--	--	<10	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SPECTRAL REFLECTANCE PROJECT

REMOTE ASSESSMENT OF THE LOCATION AND QUALITY OF MINE DRAINAGE
USING SPECTRAL REFLECTANCE,
SOUTHERN ANTHRACITE COALFIELD, PENNSYLVANIA

Contaminated mine drainage (CMD) from abandoned coal mines typically contains high concentrations of iron and other metals, which degrade water supplies and aquatic ecosystems and which ultimately can precipitate as rust-colored coatings on streambeds. Locating CMD and characterizing the chemistry of discharges and receiving streams can be difficult, time consuming, and costly because CMD originates from numerous nonpoint sources and access can be restricted in areas having few roads, steep terrain, and private ownership. A remote-sensing technique for locating and characterizing the chemical quality of discharges and affected streams could provide an efficient and cost-effective means of obtaining data on the sources and effects of CMD in a watershed.

The purpose of the Spectral Reflectance project is to demonstrate a remote-sensing method for identifying and characterizing surface waters affected by coal-mine drainage. Our goal is to use Digital Multispectral Video (DMSV) technology for aerial spectral-reflectance measurements to distinguish between acidic ($\text{pH} < 4$) and near-neutral ($\text{pH} 6 - 6.5$) water that is affected by CMD. Spectral data from both ground and aerially-mounted imagers will be collected repeatedly during different seasons at 15-20 sites (WDR-PA-98-2) in the Southern Anthracite Coalfield. As part of a preliminary evaluation of the DMSV technology, water-quality and streambed precipitate samples at nine sites in the Schuylkill River Basin (fig. 8) were collected in October 1997. The water-quality data are being used to verify that spectral-reflectance imaging is capable of differentiating acidic and near-neutral water. Specific research objectives are (1) to verify that the aerial spectral-reflectance images and data are comparable to ground spectral-reflectance images and data; (2) to quantify the relation between key water-quality measures and both ground-collected and aerially collected spectral-reflectance data; and (3) to explain the sources of variability by analyzing microbial populations and the mineralogy and chemistry of streambed precipitates.

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SPECTRAL REFLECTANCE PROJECT--Continued

TABLE 1.--SPECTRAL REFLECTANCE PROJECT STATION LIST.

REMARKS.--All samples collected by the U.S. Geological Survey.

LOCAL ID	STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	DRAINAGE AREA
MISCELLANEOUS RECORD STATIONS					
Bell-121	404512076025501	BELL WATER LEVEL TUNNEL	40°45'12"	76°02'55"	n.a.
Bell-1	0146742496	BELL WATER LEVEL TUNNEL, 400 FT BELOW DISCHARGE, NEAR MIDDLEPORT, PA	40°45'12"	76°02'58"	.02
Bell-2	0146742498	BELL WATER LEVEL TUNNEL, 740 FT BELOW DISCHARGE, NEAR MIDDLEPORT, PA	40°45'14"	76°02'57"	.02
SCr-149	404403076072401	SILVER CREEK MINE TUNNEL	40°44'03"	76°07'24"	n.a.
SCr-1	01467455	SILVER CREEK MINE TUNNEL, 400 FT BELOW DISCHARGE, AT NEW PHILADELPHIA, PA	40°43'42"	76°07'26"	.02
SCr-2	01467456	SILVER CREEK MINE TUNNEL, 720 FT BELOW DISCHARGE, AT NEW PHILADELPHIA, PA	40°43'43"	76°07'28"	.02
Otto-190	403958076191401	OTTO AIR SHAFT	40°39'58"	76°19'14"	n.a.
Otto-1	0146784348	OTTO AIR SHAFT, 700 FT BELOW DISCHARGE, NEAR LLEWELLYN, PA	40°40'03"	76°19'11"	.08
Otto-2	0146784350	OTTO AIR SHAFT, 1400 FT BELOW DISCHARGE, NEAR LLEWELLYN, PA	40°40'07"	76°19'07"	.09

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

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

CONSTITUENT	UNITS	PARAMETER CODE DISSOLVED	PARAMETER 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	ICP 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	Electrometric	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

SPECTRAL REFLECTANCE PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
404512076025501 BELL WATER LEVEL TUNNEL (LAT 40 45 12N LONG 076 02 55W)											
OCT 1997 16...	1100	1028	9813	E.71	278	3.9	3.9	619	9.6	3.5	31
0146742496 BELL WATER LEVEL TUNNEL NEAR MIDDLEPORT, PA (LAT 40 45 12N LONG 076 02 58W)											
OCT 1997 16...	1030	1028	9813	E.71	283	3.8	3.9	754	9.8	10.5	94
0146742498 BELL WATER LEVEL TUNNEL, 225 M DS, NR MIDDLEPORT, PA (LAT 40 45 14N LONG 076 02 57W)											
OCT 1997 16...	1000	1028	9813	.71	286	3.8	3.9	734	9.5	10.5	93
404403076072401 SILVER CREEK MINE TUNNEL (LAT 40 44 03N LONG 076 07 24W)											
OCT 1997 16...	1200	1028	9813	E1.6	543	5.9	6.0	317	11.9	.5	5
01467455 SILVER CR MINE TUNNEL DISCH 120 FT DS AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 26W)											
OCT 1997 16...	1245	1028	9813	E1.6	542	6.0	6.0	311	12.3	.8	42
01467456 SILVER CR MINE TUNNEL AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 28W)											
OCT 1997 16...	1230	1028	9813	1.6	537	6.3	6.2	336	12.3	8.8	83
403958076191401 OTTO AIR SHAFT (LAT 40 39 58N LONG 076 19 14W)											
OCT 1997 03...	1400	1028	9813	--	588	6.0	6.0	261	15.6	.1	1
16...	1445	1028	9813	E2.4	570	5.7	6.0	331	12.2	.2	3
MAY 1998 01...	1400	1028	9813	--	498	5.7	5.9	332	11.9	.3	3
0146784348 OTTO AIR SHAFT NEAR LLEWELLYN, PA (LAT 40 40 03N LONG 076 19 11W)											
OCT 1997 16...	1530	1028	9813	E2.4	570	5.7	6.4	306	12.2	8.0	75
0146784350 OTTO AIR SHAFT, 400 M DS, NEAR LLEWELLYN, PA (LAT 40 40 07N LONG 076 19 07W)											
OCT 1997 03...	1350	1028	9813	--	588	6.7	--	186	12.2	11.2	100
16...	1515	1028	9813	2.4	568	5.7	6.5	471	12.2	9.8	92

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SPECTRAL REFLECTANCE PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

MISCELLANEOUS STATION ANALYSES

DATE	ACIDITY (MG/L AS CACO3) (00435)	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)
404512076025501 BELL WATER LEVEL TUNNEL (LAT 40 45 12N LONG 076 02 55W)											
OCT 1997 16...	--	40	15	15	14	14	2.1	2.0	1.2	1.2	0
0146742496 BELL WATER LEVEL TUNNEL NEAR MIDDLEPORT, PA (LAT 40 45 12N LONG 076 02 58W)											
OCT 1997 16...	--	28	16	15	15	14	2.1	2.0	1.2	1.1	0
0146742498 BELL WATER LEVEL TUNNEL, 225 M DS, NR MIDDLEPORT (LAT 40 45 14N LONG 076 02 57W)											
OCT 1997 16...	--	26	14	14	13	13	2.3	2.1	1.2	1.2	0
404403076072401 SILVER CREEK MINE TUNNEL (LAT 40 44 03N LONG 076 07 24W)											
OCT 1997 16...	--	28	47	46	30	29	2.7	2.7	1.4	1.4	40
01467455 SILVER CR MINE TUNNEL DISCH 120 FT DS AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 26W)											
OCT 1997 16...	--	52	46	44	29	28	2.6	2.5	1.5	1.1	--
01467456 SILVER CR MINE TUNNEL AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 28W)											
OCT 1997 16...	--	--	47	45	30	29	2.7	2.6	1.4	1.3	--
403958076191401 OTTO AIR SHAFT (LAT 40 39 58N LONG 076 19 14W)											
OCT 1997 03...	--	32	38	38	37	36	3.7	3.7	1.3	1.2	46
16...	--	22	42	40	40	38	8.7	7.9	1.4	1.3	--
MAY 1998 01...	52	52	36	36	37	35	7.1	6.6	1.2	.80	--
0146784348 OTTO AIR SHAFT NEAR LLEWELLYN, PA (LAT 40 40 03N LONG 076 19 11W)											
OCT 1997 16...	--	16	38	38	36	2.8	8.3	8.2	1.4	1.4	--
0146784350 OTTO AIR SHAFT, 400 M DS, NEAR LLEWELLYN, PA (LAT 40 40 07N LONG 076 19 07W)											
OCT 1997 03...	--	--	--	--	--	--	--	--	--	--	--
16...	--	0	41	41	39	39	8.4	8.2	1.4	1.4	--

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SPECTRAL REFLECTANCE PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
404512076025501 BELL WATER LEVEL TUNNEL (LAT 40 45 12N LONG 076 02 55W)										
OCT 1997 16...	0	130	2.9	<.2	13	4	<.040	.050	.13	<.020
0146742496 BELL WATER LEVEL TUNNEL NEAR MIDDLEPORT, PA (LAT 40 45 12N LONG 076 02 58W)										
OCT 1997 16...	0	140	2.6	<.2	14	16	<.040	.040	.08	<.020
0146742498 BELL WATER LEVEL TUNNEL, 225 M DS, NR MIDDLEPORT (LAT 40 45 14N LONG 076 02 57W)										
OCT 1997 16...	0	140	2.4	<.2	14	18	<.040	.040	.20	<.020
404403076072401 SILVER CREEK MINE TUNNEL (LAT 40 44 03N LONG 076 07 24W)										
OCT 1997 16...	40	240	1.9	<.2	15	20	<.040	.280	.28	<.020
01467455 SILVER CR MINE TUNNEL DISCH 120 FT DS AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 26W)										
OCT 1997 16...	38	220	1.6	<.2	14	38	<.040	.280	.29	<.020
01467456 SILVER CR MINE TUNNEL AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 28W)										
OCT 1997 16...	34	230	1.5	<.2	16	32	<.040	.270	.28	<.020
403958076191401 OTTO AIR SHAFT (LAT 40 39 58N LONG 076 19 14W)										
OCT 1997 03...	46	250	2.3	<.2	11	18	<.040	.250	.37	<.020
16...	48	230	2.2	<.2	12	<2	<.040	.270	.29	<.020
MAY 1998 01...	34	220	2.4	<.2	11	8	<.040	.220	.35	.020
0146784348 OTTO AIR SHAFT NEAR LLEWELLYN, PA (LAT 40 40 03N LONG 076 19 11W)										
OCT 1997 16...	48	230	2.1	<.2	12	16	<.040	.280	.29	<.020
0146784350 OTTO AIR SHAFT, 400 M DS, NEAR LLEWELLYN, PA (LAT 40 40 07N LONG 076 19 07W)										
OCT 1997 03...	--	--	--	--	--	--	--	--	--	--
16...	44	230	2.1	<.2	12	14	<.040	.280	.29	<.020

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SPECTRAL REFLECTANCE PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
404512076025501 BELL WATER LEVEL TUNNEL (LAT 40 45 12N LONG 076 02 55W)										
OCT 1997 16...	1200	1100	<4	<4	19	19	<10	<10	<50	<50
0146742496 BELL WATER LEVEL TUNNEL NEAR MIDDLEPORT, PA (LAT 40 45 12N LONG 076 02 58W)										
OCT 1997 16...	1200	1200	<4	<4	19	19	<10	<10	<50	<50
0146742498 BELL WATER LEVEL TUNNEL, 225 M DS, NR MIDDLEPORT (LAT 40 45 14N LONG 076 02 57W)										
OCT 1997 16...	1300	1300	<4	<4	21	20	<10	<10	<50	<50
404403076072401 SILVER CREEK MINE TUNNEL (LAT 40 44 03N LONG 076 07 24W)										
OCT 1997 16...	1000	240	5	5	19	19	<10	<10	<50	<50
01467455 SILVER CR MINE TUNNEL DISCH 120 FT DS AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 26W)										
OCT 1997 16...	1200	<200	5	<4	18	18	<10	<10	<50	<50
01467456 SILVER CR MINE TUNNEL AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 28W)										
OCT 1997 16...	1800	<200	6	<4	20	18	<10	<10	<50	<50
403958076191401 OTTO AIR SHAFT (LAT 40 39 58N LONG 076 19 14W)										
OCT 1997 03...	8500	1300	<4	<4	30	27	<10	<10	<50	<50
16...	1800	<200	<4	<4	24	22	<10	<10	<50	<50
MAY 1998 01...	1800	200	<4	<4	23	21	<10	<10	<50	<50
0146784348 OTTO AIR SHAFT NEAR LLEWELLYN, PA (LAT 40 40 03N LONG 076 19 11W)										
OCT 1997 16...	1700	<200	<4	<4	23	24	<10	<10	<50	<50
0146784350 OTTO AIR SHAFT, 400 M DS, NEAR LLEWELLYN, PA (LAT 40 40 07N LONG 076 19 07W)										
OCT 1997 03...	--	--	--	--	--	--	--	--	--	--
16...	1700	<200	<4	<4	24	23	<10	<10	<50	<50

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SPECTRAL REFLECTANCE PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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)
404512076025501 BELL WATER LEVEL TUNNEL (LAT 40 45 12N LONG 076 02 55W)										
OCT 1997 16...	<50	53	<10	<10	5100	4600	1	1.3	<30	30
0146742496 BELL WATER LEVEL TUNNEL NEAR MIDDLEPORT, PA (LAT 40 45 12N LONG 076 02 58W)										
OCT 1997 16...	70	<50	<10	<10	4700	4100	1	1.3	<30	<30
0146742498 BELL WATER LEVEL TUNNEL, 225 M DS, NR MIDDLEPORT (LAT 40 45 14N LONG 076 02 57W)										
OCT 1997 16...	<50	<50	<10	<10	4500	3400	1	1.2	<30	<25
404403076072401 SILVER CREEK MINE TUNNEL (LAT 40 44 03N LONG 076 07 24W)										
OCT 1997 16...	110	110	<10	<10	26000	25000	2	2.3	40	41
01467455 SILVER CR MINE TUNNEL DISCH 120 FT DS AT NEW PHIL (LAT 40 43 42N LONG 076 07 26W)										
OCT 1997 16...	110	.000	<10	<10	26000	23000	<1	<1.0	40	36
01467456 SILVER CR MINE TUNNEL AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 28W)										
OCT 1997 16...	120	110	<10	<10	28000	23000	<1	<1.0	40	38
403958076191401 OTTO AIR SHAFT (LAT 40 39 58N LONG 076 19 14W)										
OCT 1997 03...	170	80	22	<10	2800	3000	<1	<1.0	<30	25
16...	90	77	<10	<10	17000	16000	1	1.3	<30	<50
MAY 1998 01...	50	52	<10	<10	8200	7000	1	<1.0	<30	<25
0146784348 OTTO AIR SHAFT NEAR LLEWELLYN, PA (LAT 40 40 03N LONG 076 19 11W)										
OCT 1997 16...	80	81	<10	<10	15000	15000	<1	<1.0	30	<25
0146784350 OTTO AIR SHAFT, 400 M DS, NEAR LLEWELLYN, PA (LAT 40 40 07N LONG 076 19 07W)										
OCT 1997 03...	--	--	--	--	--	--	--	--	--	--
16...	90	77	<10	<10	16000	15000	<1	<1.0	<30	<25

ANALYSIS OF SAMPLES COLLECTED AT SPECIAL-STUDY SITES

SPECTRAL REFLECTANCE PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

MISCELLANEOUS 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)
404512076025501 BELL WATER LEVEL TUNNEL (LAT 40 45 12N LONG 076 02 55W)										
OCT 1997 16...	1400	1400	<100	55	<7	<7	100	95	180	180
0146742496 BELL WATER LEVEL TUNNEL NEAR MIDDLEPORT, PA (LAT 40 45 12N LONG 076 02 58W)										
OCT 1997 16...	1500	1400	<100	<50	<7	<7	100	95	170	170
0146742498 BELL WATER LEVEL TUNNEL, 225 M DS, NR MIDDLEPORT (LAT 40 45 14N LONG 076 02 57W)										
OCT 1997 16...	1600	1600	61	59	<7	<7	100	97	180	170
404403076072401 SILVER CREEK MINE TUNNEL (LAT 40 44 03N LONG 076 07 24W)										
OCT 1997 16...	3500	3400	120	120	<7	<7	480	480	270	270
01467455 SILVER CR MINE TUNNEL DISCH 120 FT DS AT NEW PHIL(LAT 40 43 42N LONG 076 07 26W)										
OCT 1997 16...	3300	3300	120	120	<7	<7	460	450	330	250
01467456 SILVER CR MINE TUNNEL AT NEW PHILADELPHIA, PA (LAT 40 43 42N LONG 076 07 28W)										
OCT 1997 16...	3600	3300	130	120	--	<7	500	460	280	250
403958076191401 OTTO AIR SHAFT (LAT 40 39 58N LONG 076 19 14W)										
OCT 1997 03...	7400	3000	220	110	<7	<7	400	160	320	140
16...	2900	2600	110	100	<7	<7	400	370	120	110
MAY 1998 01...	2100	2000	88	88	<7	<7	350	320	190	180
0146784348 OTTO AIR SHAFT NEAR LLEWELLYN, PA (LAT 40 40 03N LONG 076 19 11W)										
OCT 1997 16...	2800	2700	100	100	<7	<7	380	380	120	110
0146784350 OTTO AIR SHAFT, 400 M DS, NEAR LLEWELLYN, PA (LAT 40 40 07N LONG 076 19 07W)										
OCT 1997 03...	--	--	--	--	--	--	--	--	--	--
16...	2800	2800	120	110	<7	<7	380	370	130	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)

(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
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)

(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

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

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

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

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

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

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

GROUND-WATER-LEVEL STATION RECORDS

BERKS COUNTY

402615075530501. Local number, BE 623.

LOCATION.--Lat 40°26'15", long 75°53'05", Hydrologic Unit 02040203, at Wesner Road, Blandon.

Owner: Maiden Creek Township Water Authority.

AQUIFER.--Dolomite of Leithsville Formation of Early and Middle Cambrian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 385 ft, casing information not available.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 430 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 1.7 ft above land-surface datum. Prior to Apr. 30, 1981, top of casing, 1.30 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

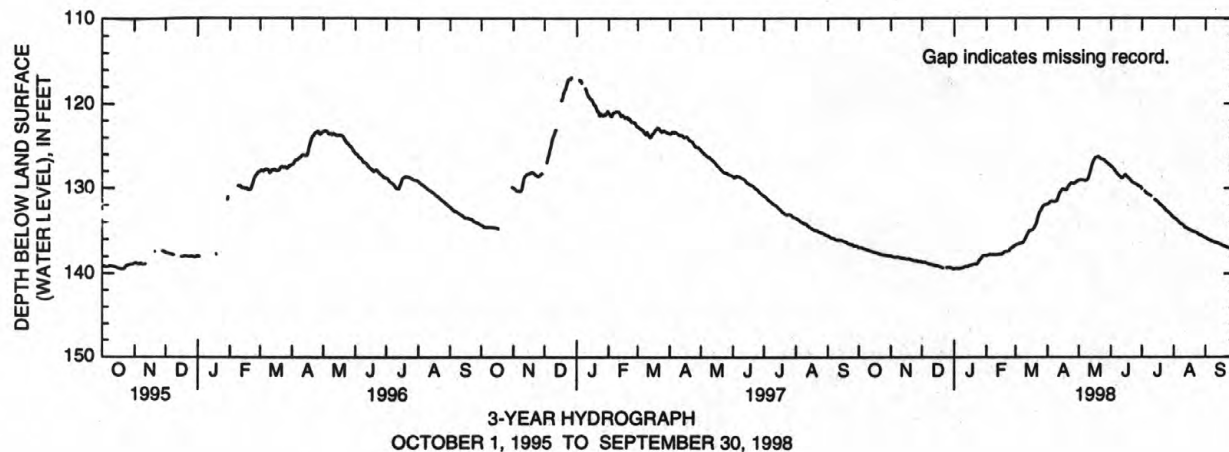
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 109.44 ft below land-surface datum, Apr. 19, 1994; lowest, 140.82 ft below land-surface datum, Dec. 23, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137.00	137.92	138.68	139.46	137.91	136.65	131.89	129.06	127.45	130.13	133.51	135.79
2	137.00	138.02	138.70	139.40	137.86	136.61	131.81	129.01	127.47	---	133.55	135.87
3	136.97	138.03	138.69	139.36	137.81	136.54	131.67	129.01	127.62	130.29	133.64	135.94
4	137.00	138.09	138.66	139.40	137.78	136.54	131.56	129.01	127.75	130.38	133.77	136.02
5	137.04	138.10	138.74	139.40	137.76	136.48	131.57	129.06	127.93	130.57	133.89	136.12
6	137.09	138.06	138.76	139.39	137.81	136.47	131.59	129.08	128.14	130.62	133.99	136.08
7	137.15	138.02	138.87	139.39	137.79	136.41	131.63	129.13	128.29	130.74	134.13	136.21
8	137.20	138.05	138.89	139.37	137.78	136.38	131.60	129.07	128.45	130.77	134.22	136.20
9	137.20	138.13	138.87	139.31	137.80	136.20	131.60	129.03	128.56	130.80	134.26	136.29
10	137.31	138.16	138.88	139.29	137.81	135.96	131.44	128.83	128.64	130.97	134.31	136.34
11	137.34	138.19	139.00	139.19	137.79	135.74	131.02	128.46	128.80	---	134.49	136.33
12	137.35	138.24	138.99	139.15	137.75	135.44	130.68	127.99	128.79	---	134.63	136.39
13	137.38	138.24	139.01	139.16	137.75	135.24	130.51	127.49	128.70	131.28	134.67	136.46
14	137.47	138.20	139.10	139.20	137.73	134.99	130.27	127.10	128.48	131.39	134.71	136.51
15	137.50	138.31	139.10	139.09	137.77	134.98	130.12	126.78	128.39	131.51	134.81	136.54
16	137.51	138.32	139.08	139.02	137.70	134.97	130.12	126.52	128.60	131.56	134.88	136.61
17	137.54	138.33	139.15	139.02	137.60	134.92	130.22	126.39	128.71	131.70	134.89	136.67
18	137.58	138.32	139.19	138.98	137.46	134.82	130.24	126.34	128.82	131.85	134.98	136.72
19	137.57	138.28	139.20	138.93	137.44	134.66	130.21	126.27	128.90	131.92	135.05	136.74
20	137.69	138.38	139.28	138.89	137.41	134.38	129.91	126.24	129.07	132.07	135.09	136.80
21	137.70	138.38	139.33	138.89	137.37	134.17	129.76	126.39	129.24	132.15	135.12	136.83
22	137.77	138.44	139.34	138.90	137.37	133.65	129.60	126.51	129.34	132.27	135.19	136.92
23	137.78	138.44	---	138.89	137.28	133.22	129.42	126.55	129.42	132.39	135.21	137.00
24	137.80	138.52	139.32	138.69	137.05	132.86	129.37	126.62	129.43	132.59	135.29	137.02
25	137.88	138.52	139.26	138.40	136.99	132.70	129.46	126.62	129.49	132.67	135.39	137.04
26	137.88	138.45	139.27	138.33	136.96	132.48	129.48	126.74	129.60	132.73	135.46	137.08
27	137.85	138.60	139.26	138.18	136.82	132.17	129.43	126.88	129.65	132.91	135.51	137.10
28	137.92	138.58	139.31	137.97	136.72	132.08	129.28	126.96	129.79	132.98	135.53	137.21
29	137.92	138.60	139.31	137.92	---	131.99	129.23	127.10	129.79	133.14	135.65	137.23
30	137.94	138.55	139.36	137.87	---	131.97	129.11	127.23	129.85	133.25	135.70	137.23
31	137.94	---	139.46	137.91	---	131.93	---	127.23	---	133.44	135.77	---
MEAN	137.49	138.28	139.07	138.91	137.54	134.63	130.46	127.57	128.77	131.75	134.75	136.58
MAX	137.94	138.60	139.46	139.46	137.91	136.65	131.89	129.13	129.85	133.44	135.77	137.23
MIN	136.97	137.92	138.66	137.87	136.72	131.93	129.11	126.24	127.45	130.13	133.51	135.79

WTR YR 1998: HIGHEST 126.24, MAY 19; LOWEST 139.46, DECEMBER 31, JANUARY 1.



BUCKS COUNTY

402643075150501. Local number, BK 929.

LOCATION.--Lat 40°26'43", long 75°15'05", Hydrologic Unit 02040105, at Nockamixon State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Shale of Brunswick Formation of Late Triassic age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 116 ft, cased to 27 ft, open hole.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land-surface datum is 490 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 3.0 ft above land-surface datum. Prior to Mar. 17, 1980, top of casing, 1.05 ft above land-surface datum. Prior to June 1970, land surface datum was approximately 16 feet lower.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

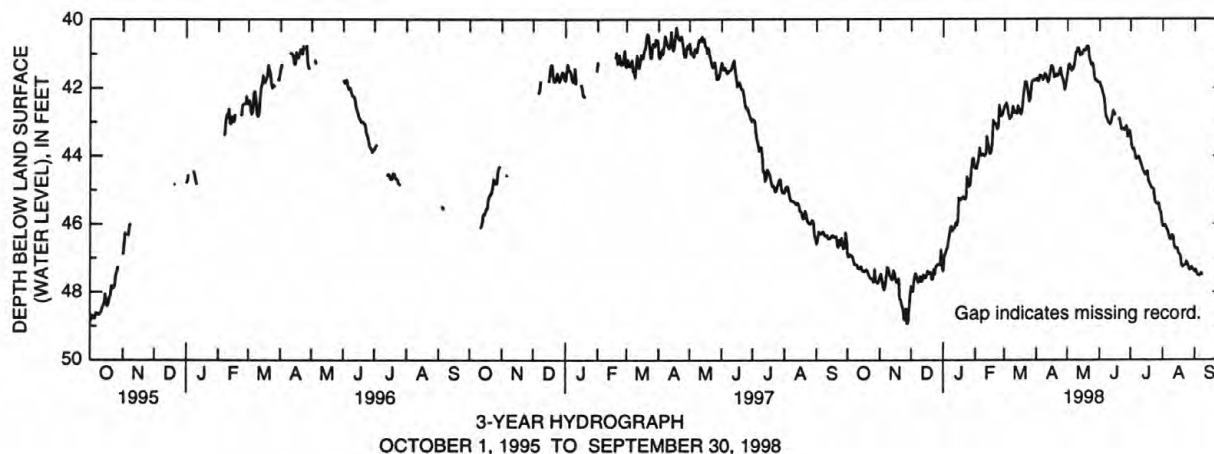
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 39.29 ft below land-surface datum, Mar. 28, 1991; lowest, 59.75 ft below land-surface datum, Nov. 26, 1968.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.94	47.55	47.84	47.39	44.38	42.54	41.72	41.55	41.83	43.44	46.06	47.41
2	46.98	47.47	47.99	46.98	44.38	42.50	41.79	41.31	41.97	43.71	46.08	47.34
3	46.89	47.62	47.99	46.90	44.25	42.44	41.81	41.30	42.01	43.81	46.02	47.46
4	46.93	47.85	47.62	46.77	44.11	42.60	41.63	41.39	42.18	43.78	46.09	47.51
5	46.94	47.94	47.46	46.73	43.76	42.81	41.64	41.50	42.22	43.91	46.16	47.52
6	47.00	47.86	47.48	46.49	43.98	42.92	41.68	41.46	42.51	44.09	46.23	47.52
7	47.14	47.57	47.65	46.33	44.00	42.87	41.77	41.39	42.85	44.09	46.38	47.44
8	47.21	47.29	47.73	46.10	43.94	42.84	41.70	41.21	42.88	44.04	46.46	47.51
9	47.20	47.29	47.67	46.08	43.99	42.53	41.58	40.96	43.01	44.02	46.46	---
10	47.20	47.49	47.55	46.22	44.01	42.64	41.62	40.94	43.03	44.16	46.33	---
11	47.31	47.55	47.70	46.12	43.94	42.73	41.76	40.82	43.08	44.24	46.36	---
12	47.33	47.63	47.67	46.13	43.43	42.71	41.84	40.87	43.02	44.34	46.64	---
13	47.29	47.65	47.50	45.97	43.62	42.76	41.76	41.05	42.85	44.44	46.72	---
14	47.25	47.38	47.58	46.05	43.79	42.52	41.51	40.98	42.67	44.49	46.70	---
15	47.38	47.45	47.60	45.89	43.95	42.64	41.35	41.03	42.72	44.56	46.72	---
16	47.38	47.64	47.51	45.24	43.88	42.74	41.36	40.90	42.81	44.54	46.86	---
17	47.41	47.72	47.39	45.30	43.69	42.78	41.47	40.88	---	44.45	46.89	---
18	47.37	47.72	47.48	45.31	42.95	42.61	41.69	40.91	---	44.71	46.94	---
19	47.34	47.62	47.42	45.27	43.04	42.26	41.67	40.81	42.95	44.81	47.19	---
20	47.39	48.22	47.44	45.20	43.04	41.99	41.59	40.77	42.89	44.86	47.27	---
21	47.49	48.24	47.64	45.25	43.10	41.82	41.66	40.79	43.06	44.95	47.23	---
22	47.55	48.40	47.64	45.28	43.22	41.83	41.63	41.10	43.23	44.95	47.22	---
23	47.60	48.49	47.34	45.23	43.15	41.99	41.48	41.24	43.19	44.97	47.21	---
24	47.61	48.80	47.49	44.61	42.50	42.24	41.42	41.33	43.22	45.25	47.10	---
25	47.65	48.82	47.24	44.83	42.80	42.40	41.63	41.27	43.25	45.38	47.18	---
26	47.72	48.50	47.24	44.90	42.84	42.28	41.72	41.43	43.15	45.40	47.28	---
27	47.34	48.93	47.19	44.86	42.79	41.88	41.83	41.70	43.12	45.43	47.36	---
28	47.70	48.93	47.22	44.44	42.66	41.80	42.06	41.79	43.44	45.39	47.34	---
29	47.71	48.50	47.21	44.12	---	41.77	41.96	41.77	43.45	45.59	47.26	---
30	47.75	48.10	46.77	44.07	---	41.79	41.75	41.84	43.26	45.66	47.34	---
31	47.71	---	47.31	44.32	---	41.78	---	41.84	---	45.91	47.37	---
MEAN	47.35	47.94	47.50	45.63	43.54	42.39	41.67	41.23	42.85	44.62	46.79	47.46
MAX	47.75	48.93	47.99	47.39	44.38	42.92	42.06	41.84	43.45	45.91	47.37	47.52
MIN	46.89	47.29	46.77	44.07	42.50	41.77	41.35	40.77	41.83	43.44	46.02	47.34

WTR YR 1998: HIGHEST 40.77, MAY 20; LOWEST 48.93, NOVEMBER 27, 28.



BUCKS COUNTY

401157075032001. Local number, BK 1020

LOCATION.--Lat 40°11'57", long 75°03'20", Hydrologic Unit 02040201, at Naval Air Development Center in Warminster Township.

Owner: United States Navy.

AQUIFER.--Sandstone and shale of Stockton Formation of Late Triassic age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 400 ft, cased to 57 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 370 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 1.9 ft above land-surface datum.

REMARKS.--Operated by Bucks County Planning Commission September 1975 to March 1988. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

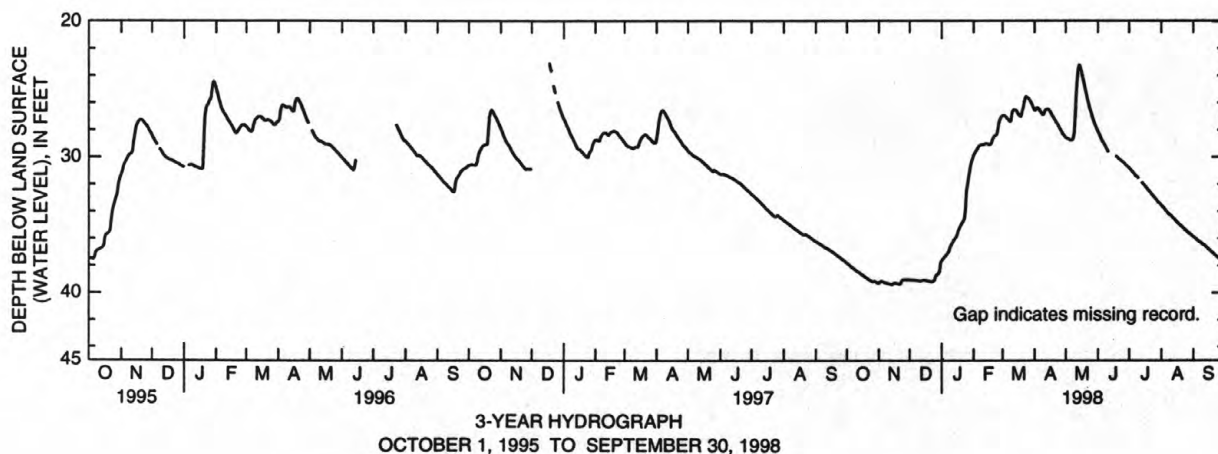
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 23.05 ft below land-surface datum, Dec. 18, 1996; lowest, 41.36 ft below land-surface datum, Sept. 26, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.80	39.30	39.04	37.62	29.87	26.96	26.58	28.57	28.13	30.81	33.57	35.89
2	37.87	39.22	39.06	37.51	29.71	26.94	26.56	28.63	28.29	30.91	33.65	35.93
3	37.92	39.12	39.06	37.44	29.57	26.96	26.40	28.65	28.47	30.99	33.73	36.00
4	38.01	39.14	39.06	37.34	29.47	27.04	26.39	28.69	28.64	31.07	33.83	36.07
5	38.06	39.18	39.06	37.26	29.35	27.14	26.48	28.75	28.81	31.17	33.93	36.15
6	38.12	39.22	39.06	37.16	29.19	27.22	26.59	28.77	28.93	31.27	34.01	36.21
7	38.18	39.26	39.08	37.06	29.15	27.32	26.71	28.77	29.05	31.37	34.11	36.27
8	38.24	39.28	39.10	36.94	29.11	27.38	26.83	28.71	29.21	31.43	34.19	36.29
9	38.30	39.30	39.10	36.65	29.09	27.38	26.89	28.26	29.35	31.47	34.27	36.37
10	38.36	39.30	39.12	36.50	29.09	26.73	26.86	26.99	29.51	31.57	34.31	36.43
11	38.42	39.32	39.12	36.36	29.09	26.57	26.59	25.57	29.63	---	34.37	36.47
12	38.46	39.36	39.12	36.24	29.05	26.51	26.50	24.29	---	---	34.47	36.53
13	38.52	39.38	39.09	36.12	28.99	26.54	26.48	23.47	---	31.85	34.55	36.61
14	38.58	39.38	39.08	36.00	29.03	26.58	26.48	23.22	---	31.93	34.61	36.67
15	38.62	39.35	39.08	35.88	29.07	26.70	26.57	23.39	---	32.03	34.71	36.75
16	38.70	39.28	39.08	35.71	29.09	26.84	26.67	23.69	---	32.11	34.79	36.82
17	38.74	39.28	39.10	35.42	29.09	26.94	26.81	24.03	---	32.21	34.86	36.87
18	38.80	39.30	39.12	35.26	29.00	27.02	26.97	24.37	29.93	32.29	34.93	36.95
19	38.84	39.32	39.12	35.11	28.71	27.03	27.08	24.71	29.97	32.41	35.00	37.01
20	38.90	39.34	39.14	34.96	28.59	26.60	27.21	25.07	30.05	32.49	35.07	37.09
21	38.94	39.36	39.16	34.83	28.46	26.38	27.33	25.41	30.13	32.57	35.15	37.17
22	39.00	39.36	39.18	34.71	28.41	25.94	27.47	25.77	30.19	32.67	35.23	37.23
23	39.06	39.12	39.18	34.59	28.37	25.64	27.59	26.09	30.25	32.77	35.27	37.29
24	39.10	39.06	39.12	33.77	28.19	25.54	27.73	26.39	30.31	32.86	35.37	37.35
25	39.12	39.04	39.10	32.52	27.58	25.62	27.87	26.63	30.39	32.95	35.43	37.43
26	39.17	39.04	38.79	31.99	27.30	25.66	27.99	26.89	30.43	33.03	35.51	37.48
27	39.17	39.04	38.68	31.53	27.13	25.78	28.15	27.15	30.53	33.13	35.57	37.56
28	39.12	39.04	38.64	31.09	27.02	25.90	28.29	27.37	30.61	33.23	35.61	37.64
29	39.18	39.04	38.56	30.66	---	26.08	28.39	27.59	30.67	33.34	35.69	37.72
30	39.24	39.04	38.41	30.32	---	26.24	28.49	27.79	30.73	33.39	35.75	37.78
31	39.28	---	37.78	30.06	---	26.44	---	27.97	---	33.47	35.81	---
MEAN	38.64	39.23	38.98	34.99	28.78	26.57	27.10	26.50	29.68	32.17	34.75	36.80
MAX	39.28	39.38	39.18	37.62	29.87	27.38	28.49	28.77	30.73	33.47	35.81	37.78
MIN	37.80	39.04	37.78	30.06	27.02	25.54	26.39	23.22	28.13	30.81	33.57	35.89

WTR YR 1998: HIGHEST 23.22, MAY 14; LOWEST 39.38, NOVEMBER 13, 14.



CARBON COUNTY

410123075425401. Local number, CB 104.

LOCATION.--Lat 41°01'23", long 75°42'54", Hydrologic Unit 02040106, at Hickory Run State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Shale of Lower Member of Mauch Chunk Formation of Late Mississippian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 125 ft, cased to 20 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,305 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 3.1 ft above land-surface datum. Prior to May 28, 1980, top of casing 3.00 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--September 1969 to current year.

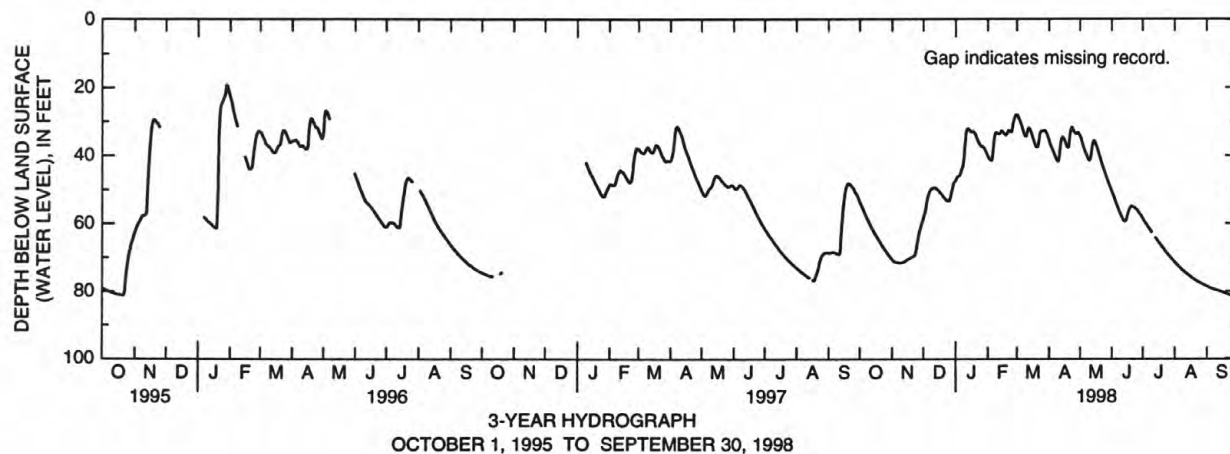
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 18.44 ft below land-surface datum, Apr. 17, 1983; lowest, 90.58 ft below land-surface datum, Jan. 31, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53.75	70.60	58.34	47.40	40.23	28.03	35.60	34.26	50.59	58.57	71.49	78.59
2	54.37	71.01	57.49	46.65	40.77	28.40	36.58	35.14	51.28	59.10	71.82	78.75
3	55.06	71.25	55.90	46.32	41.23	29.14	37.32	36.17	52.18	59.57	72.13	78.87
4	55.75	71.42	54.03	46.05	41.45	29.96	38.08	37.15	52.99	60.00	72.46	79.03
5	56.46	71.50	52.51	45.86	41.45	30.88	38.79	38.05	53.81	60.50	72.76	79.15
6	57.17	71.56	51.36	44.91	38.58	31.79	39.57	38.91	54.67	60.93	73.07	79.27
7	57.90	71.57	50.51	43.92	35.19	32.84	40.34	39.64	55.45	61.36	73.37	79.40
8	58.56	71.60	50.09	43.06	33.61	33.77	41.06	40.41	56.23	61.79	73.66	79.52
9	59.15	71.64	49.74	41.02	33.19	34.44	41.71	41.18	56.96	62.25	73.91	79.60
10	59.84	71.65	49.47	36.56	33.44	34.42	41.73	41.48	57.67	62.71	74.17	79.67
11	60.45	71.56	49.50	33.52	33.60	32.92	39.81	41.32	58.33	---	74.47	79.75
12	61.04	71.42	49.50	32.30	33.67	31.92	36.58	39.61	58.91	---	74.74	79.86
13	61.58	71.27	49.64	32.11	33.47	32.07	35.12	37.32	59.39	64.05	74.97	79.96
14	62.19	70.98	50.01	32.44	32.74	32.69	34.57	35.86	59.43	64.48	75.20	80.07
15	62.77	70.79	50.24	32.67	32.92	33.56	34.93	35.62	58.93	64.90	75.46	80.17
16	63.29	70.57	50.45	33.15	33.34	34.48	35.43	36.17	57.74	65.31	75.70	80.29
17	63.81	70.46	50.86	33.16	33.68	35.46	36.32	37.01	56.68	65.77	75.92	80.42
18	64.31	70.32	51.21	32.98	33.95	36.43	37.18	37.90	55.82	66.22	76.16	80.53
19	64.74	70.12	51.56	33.20	33.89	37.30	37.68	38.86	55.24	66.60	76.37	80.65
20	65.34	69.90	52.01	33.82	33.26	37.54	37.56	39.91	54.90	67.05	76.57	80.77
21	65.77	69.77	52.50	34.52	32.59	37.49	34.40	40.99	54.97	67.41	76.77	80.89
22	66.34	69.50	52.66	35.39	32.89	35.90	32.35	42.05	55.10	67.84	76.95	81.02
23	66.82	69.23	53.10	36.04	33.15	33.73	31.74	43.01	55.28	68.23	77.14	81.14
24	67.27	67.77	53.36	36.62	33.14	32.94	32.16	43.88	55.57	68.65	77.33	81.24
25	67.79	66.12	53.46	37.10	30.97	32.89	32.83	44.76	55.81	69.01	77.50	81.35
26	68.09	64.24	53.39	37.31	29.54	32.77	33.48	45.69	56.09	69.38	77.67	81.46
27	68.61	62.65	52.41	37.38	28.59	32.61	33.64	46.54	56.61	69.74	77.83	81.58
28	69.10	61.54	50.87	37.64	27.91	32.68	33.50	47.36	57.05	70.08	77.97	81.69
29	69.53	60.33	49.73	38.07	---	33.22	33.27	48.16	57.47	70.46	78.13	81.79
30	69.94	59.35	48.12	38.77	---	33.83	33.69	48.98	57.93	70.79	78.29	81.89
31	70.29	---	47.79	39.58	---	34.66	---	49.71	---	71.18	78.44	---
MEAN	62.81	69.06	51.67	38.05	34.37	33.25	36.23	40.75	55.97	65.31	75.43	80.28
MAX	70.29	71.65	58.34	47.40	41.45	37.54	41.73	49.71	59.43	71.18	78.44	81.89
MIN	53.75	59.35	47.79	32.11	27.91	28.03	31.74	34.26	50.59	58.57	71.49	78.59

WTR YR 1998: HIGHEST 27.91, FEBRUARY 28; LOWEST 81.89, SEPTEMBER 30.



CHESTER COUNTY

395450075485401. Local number, CH 10.

LOCATION.--Lat 39°54'50", long 75°48'54", Hydrologic Unit 02040205, near intersection of SR 82 and 841, at Doe Run.

Owner: Robert J. Kieberg, Jr.

AQUIFER.--Cockeysville Marble of Paleozoic age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 34 ft, casing information not available.

INSTRUMENTATION.--Data collection platform with 60-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 300 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 5.2 ft above land-surface datum. Prior to June 24, 1981, top of casing 1.00 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--August 1951 to April 1965, instantaneous water levels obtained several times per month.

February 1966 to current year.

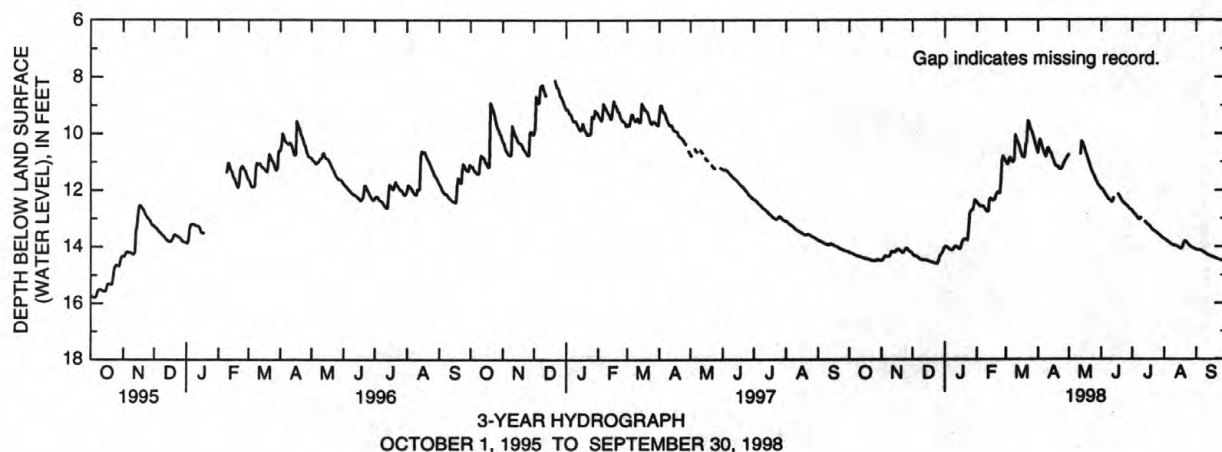
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 7.77 ft below land-surface datum, Mar. 25, 1993; lowest, 16.22 ft below land-surface datum, Nov. 3, 1963.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.19	14.49	14.25	14.01	12.43	11.01	10.68	10.73	11.95	12.74	13.74	14.11
2	14.22	14.47	14.30	13.99	12.48	11.08	10.34	---	11.96	12.79	13.75	14.12
3	14.23	14.40	14.32	14.00	12.53	11.09	10.20	---	12.03	12.84	13.79	14.12
4	14.24	14.34	14.33	14.03	12.57	10.88	10.31	---	12.08	12.87	13.81	14.12
5	14.25	14.34	14.35	14.07	12.57	10.85	10.46	---	12.14	12.93	13.84	14.14
6	14.28	14.35	14.37	14.10	12.57	10.92	10.59	---	12.20	12.96	13.87	14.14
7	14.30	14.35	14.40	14.13	12.57	11.00	10.69	---	12.25	13.02	13.90	14.16
8	14.31	14.35	14.44	14.13	12.62	11.02	10.78	---	12.31	13.04	13.92	14.19
9	14.33	14.32	14.45	14.11	12.68	10.91	10.82	---	12.34	12.98	13.94	14.21
10	14.34	14.22	14.46	14.03	12.73	10.04	10.54	---	12.38	12.97	13.96	14.24
11	14.35	14.17	14.47	13.99	12.77	10.16	10.50	---	12.42	---	13.96	14.26
12	14.35	14.16	14.47	13.99	12.76	10.28	10.60	10.75	12.42	---	13.97	14.28
13	14.38	14.19	14.47	14.01	12.36	10.34	10.67	10.27	12.25	13.10	13.99	14.30
14	14.39	14.19	14.47	14.05	12.29	10.46	10.73	10.31	---	13.14	14.01	14.32
15	14.40	14.15	14.49	14.08	12.33	10.61	10.86	10.42	---	13.18	14.03	14.33
16	14.41	14.10	14.50	14.08	12.37	10.73	10.95	10.53	---	13.22	14.05	14.35
17	14.43	14.09	14.51	13.92	12.37	10.82	11.06	10.67	12.12	13.25	14.07	14.37
18	14.43	14.11	14.53	13.81	12.34	10.85	11.14	10.77	12.18	13.29	14.05	14.38
19	14.43	14.14	14.54	13.77	12.21	10.85	11.17	10.88	12.24	13.33	13.93	14.39
20	14.44	14.17	14.55	13.74	12.13	10.39	11.15	10.99	12.31	13.38	13.82	14.41
21	14.46	14.21	14.55	13.74	12.07	10.32	11.21	11.11	12.37	13.42	13.81	14.43
22	14.48	14.21	14.58	13.77	12.10	9.55	11.27	11.24	12.43	13.44	13.83	14.44
23	14.49	14.14	14.58	13.78	12.11	9.59	11.26	11.32	12.46	13.46	13.87	14.45
24	14.50	14.09	14.59	13.34	11.78	9.74	11.22	11.42	12.50	13.50	13.91	14.47
25	14.50	14.06	14.59	12.83	10.98	9.87	11.13	11.48	12.53	13.52	13.95	14.48
26	14.50	14.07	14.48	12.74	10.80	9.92	11.05	11.58	12.56	13.55	13.99	14.49
27	14.50	14.13	14.35	12.71	10.86	10.07	10.97	11.66	12.59	13.59	14.01	14.50
28	14.45	14.16	14.28	12.70	10.93	10.19	10.90	11.72	12.65	13.62	14.03	14.52
29	14.46	14.19	14.24	12.52	---	10.35	10.84	11.80	12.68	13.65	14.04	14.54
30	14.48	14.20	14.17	12.35	---	10.47	10.77	11.85	12.69	13.69	14.07	14.57
31	14.49	---	14.08	12.37	---	10.62	---	11.90	---	13.71	14.09	---
MEAN	14.39	14.22	14.42	13.64	12.19	10.48	10.83	11.11	12.33	13.25	13.94	14.33
MAX	14.50	14.49	14.59	14.13	12.77	11.09	11.27	11.90	12.69	13.71	14.09	14.57
MIN	14.19	14.06	14.08	12.35	10.80	9.55	10.20	10.27	11.95	12.74	13.74	14.11

WTR YR 1998: HIGHEST 9.55, MARCH 22; LOWEST 14.59, DECEMBER 24, 25.



CHESTER COUNTY

400650075514001. Local number, CH 2.

LOCATION.--Lat 40°06'55", long 75°51'20", Hydrologic Unit 02040205, at Morgantown Road, near Strubel Lake, Honeybrook Township.
Owner: Mr. Don Brown.

AQUIFER.--Felsic and intermediate gneiss, granulite facies.

WELL CHARACTERISTICS.--Dug unused observation well, diameter 36 in., depth 15 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 640 ft above sea level, from topographic map. Measuring point: Top of hole in concrete porch, 0.5 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 7.01 ft below land-surface datum, Mar. 23; lowest, 12.66 ft below land-surface datum, Dec. 22.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.50 ft below land-surface datum, Mar. 11, 1952; lowest, 13.53 ft below land-surface datum, Nov. 20, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	12.24	DEC 22	12.66	FEB 24	7.78	APR 21	7.80	JUN 23	8.24	AUG 21	9.73
NOV 21	12.21	JAN 20	10.75	MAR 23	7.01	MAY 21	7.41	JUL 20	9.04	SEP 24	10.77

395717075392301. Local number, CH 12.

LOCATION.--Lat 39°57'17", long 75°39'23", Hydrologic Unit 02040205, at Deborah's Rock Farm at State Highway 162, at Copesville.
Owner: Mr. Thomas Harney.

AQUIFER.--Felsic and intermediate gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Dug unused observation well, diameter 29 in., depth 38.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 248 ft above sea level, from topographic map. Measuring point: Top of wooden cover, 2.0 ft above land surface datum.

REMARKS.--Well is dry at 38.50 ft. Measuring point changed Dec. 26, 1990.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 33.25 ft below land-surface datum, May 21; lowest, 38.50 ft below land-surface datum, Oct. 17, Nov. 24, Dec. 23, Jan. 20, Feb. 24.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.98 ft below land-surface datum, Apr. 20, 1993; lowest, 39.13 ft below land-surface datum, Oct. 18, 1951.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	38.50	DEC 23	38.50	FEB 24	38.50	APR 21	34.85	JUN 23	34.48	AUG 20	36.55
NOV 24	38.50	JAN 20	38.50	MAR 23	36.92	MAY 21	33.25	JUL 22	35.71	SEP 25	36.23

395222075423201. Local number, CH 28.

LOCATION.--Lat 39°52'22", long 75°42'32", Hydrologic Unit 02040205, at State Highway 926 and 82, at Willowdale.
Owner: Mr. Clifton Edgar.

AQUIFER.--Cockeysville marble.

WELL CHARACTERISTICS.--Dug unused observation well, diameter 54 in., depth 24.8 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 366 ft above sea level, from topographic map. Measuring point: Top of casing, 0.7 ft above land surface datum.

REMARKS.--Well is dry at 24.80 ft.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 11.33 ft below land-surface datum, Mar. 23; lowest, 24.26 ft below land-surface datum, Oct. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.73 ft below land-surface datum, Dec 19, 1996; lowest, 24.80 ft below land-surface datum, July 13, 1995, Aug. 22, 1995, Sept. 14, 1995, Oct. 17, 1995, and Nov. 21, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	24.26	DEC 22	21.30	FEB 24	15.34	APR 21	14.64	JUN 22	16.55	AUG 21	19.40
NOV 21	22.40	JAN 20	19.25	MAR 23	11.33	MAY 21	14.70	JUL 20	17.88	SEP 24	20.48

CHESTER COUNTY

394846075444901. Local number, CH 38.

LOCATION.--Lat 39 48'46", long 75 44'49", Hydrologic Unit 02040205, at New Garden Road and State Highway 41 at New Garden.

Owner: Mr. G. Jones.

AQUIFER.--Wissahickon Formation.

WELL CHARACTERISTICS.--Dug observation well, diameter 46 in., depth 18.5 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 440 ft above sea level, from topographic map. Measuring point: Top of concrete cover, 0.5 ft above land surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 2.89 ft below land-surface datum, Mar. 23; lowest, 14.91 ft below land-surface datum, Dec. 22.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.00 ft below land-surface datum, July 21, 1989; lowest, 15.26 ft below land-surface datum, Jan. 22, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	13.85	DEC 22	14.91	FEB 24	7.97	APR 21	5.30	JUN 22	6.67	AUG 21	9.28
NOV 21	14.30	JAN 20	13.41	MAR 23	2.89	MAY 20	4.80	JUL 20	7.92	SEP 24	11.18

400400075314401. Local number, CH 89.

LOCATION.--Lat 40°04'00", long 75°31'44", Hydrologic Unit 02040203, at quarry on Yellow Springs Road, near Devault.

Owner: U.S. Geological Survey/Warner Co.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 265 ft, cased to 112 ft.

INSTRUMENTATION.--Monthly measurement with electric tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 365 ft above sea level, from topographic map. Measuring point: Top of casing, 3.62 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 151.05 ft below land-surface datum, May 22; lowest, 161.81 ft below land-surface datum, Dec. 22.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 150.49 ft below land-surface datum, Dec. 18, 1996; lowest, 183.77 ft below land-surface datum, Feb. 21, 1989.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	160.03	DEC 22	161.81	FEB 25	157.88	APR 20	152.05	JUN 22	152.33	AUG 20	155.52
NOV 21	160.35	JAN 20	160.60	MAR 23	155.13	MAY 22	151.05	JUL 21	153.38	SEP 24	157.58

400453075255601. Local number, CH 210.

LOCATION.--Lat 40°04'53", long 75°25'56", Hydrologic Unit 02040203, at Red Coat Lane, near Valley Forge Park.

Owner: Mr. Pete Heaton.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 12 in., depth 600 ft, cased to 26 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 150 ft above sea level, from topographic map. Measuring point: Top of casing, 1.4 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 17.21 ft below land-surface datum, Mar. 23; lowest, 25.50 ft below land-surface datum, Sept. 24.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.00 ft below land-surface datum, Feb. 26, 1979; lowest, 26.86 ft below land-surface datum, Jan. 22, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	19.92	DEC 22	23.35	FEB 24	18.85	APR 20	18.50	JUN 22	20.81	AUG 20	23.58
NOV 21	23.30	JAN 20	21.00	MAR 23	17.21	MAY 21	18.48	JUL 21	22.03	SEP 24	25.50

CHESTER COUNTY

400103075390101. Local number, CH 249.

LOCATION.--Lat 40°01'03", long 75°39'16", Hydrologic Unit 02040205, at Creamery Way at Oaklands Corporate Center, near Exton.

Owner: Oaklands Business Parks, Inc.

AQUIFER.--Ledger dolomite.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 8 in., depth 600 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 317 ft above sea level, from topographic map. Measuring point: Top of casing, 1.2 ft above land-surface datum.

PERIOD OF RECORD.--November 1987 to current year.

EXTREMES FOR CURRENT YEAR.--Highest water level, 16.93 ft below land-surface datum, Mar. 23; lowest, 23.27 ft below land-surface datum, Oct. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.26 ft below land-surface datum, May 20, 1988; lowest, 24.50 ft below land-surface datum, Sept. 18, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	23.27	DEC 23	22.60	FEB 24	17.90	APR 20	17.57	JUN 23	18.35	AUG 20	21.16
NOV 24	21.12	JAN 20	19.93	MAR 23	16.93	MAY 21	17.44	JUL 22	19.50	SEP 25	22.90

394457075581601. Local number, CH 254.

LOCATION.--Lat 39°44'57", long 75°58'16", Hydrologic Unit 02060002, at Mt. Pleasant Road, near Oxford.

Owner: Mr. Benueel Fisher.

AQUIFER.--Wissahickon Formation.

WELL CHARACTERISTICS.--Drilled unused domestic well, diameter 6 in., depth 250 ft, cased to 102 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 517 ft above sea level, from topographic map. Measuring point: Top of casing, 2.35 ft above land-surface datum.

PERIOD OF RECORD.--January 1987 to current year.

EXTREMES FOR CURRENT YEAR.--Highest water level, 18.22 ft below land-surface datum, June 22; lowest, 23.75 ft below land-surface datum, Jan. 20.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.16 ft below land-surface datum, April 21, 1997; lowest, 27.75 ft below land-surface datum, Nov. 21, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	21.74	DEC 22	23.29	FEB 24	22.55	APR 21	19.12	JUN 22	18.22	AUG 21	19.74
NOV 21	22.66	JAN 20	23.75	MAR 23	20.60	MAY 21	18.40	JUL 20	18.73	SEP 24	20.95

395701075561601. Local number, CH 1201.

LOCATION.--Lat 39°57'01", long 75°56'46", Hydrologic Unit 02050306, at State Highway 372, near Atglen.

Owner: A Duie Pyle Inc.

AQUIFER.--Conestoga limestone.

WELL CHARACTERISTICS.--Drilled withdrawal commercial well, diameter 6 in., depth 83 ft, cased to 33 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 502 ft above sea level, from topographic map. Measuring point: Top of casing, 1.5 ft above land-surface datum.

PERIOD OF RECORD.--October 1973 to current year.

EXTREMES FOR CURRENT YEAR.--Highest water level, 4.20 ft below land-surface datum, Mar. 23, Apr. 21; lowest, 6.77 ft below land-surface datum, Dec. 22.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.80 ft below land-surface datum, Dec. 19, 1996; lowest, 8.49 ft below land-surface datum, Sept. 18, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	6.65	DEC 22	6.77	FEB 24	4.86	APR 21	4.20	JUN 22	4.88	AUG 21	5.70
NOV 21	6.55	JAN 20	5.90	MAR 23	4.20	MAY 21	4.40	JUL 20	5.38	SEP 24	6.19

CHESTER COUNTY

400412075404301. Local number, CH 1229.

LOCATION.--Lat 40°04'12", long 75°40'43", Hydrologic Unit 02040205, State Highway 100 and Pennsylvania Turnpike, near Eagle.

AQUIFER.--Graphitic felsic gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 165 ft, cased to 31 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 540 ft above sea level, from topographic map. Measuring point: Top of casing, 0.5 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 31.48 ft below land-surface datum, May 21; lowest, 41.62 ft below land-surface datum, Dec. 23.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.15 ft below land-surface datum, April 21, 1952; lowest, 44.09 ft below land-surface datum, Aug. 20, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	40.53	DEC 23	41.62	FEB 24	37.05	APR 20	32.50	JUN 23	34.18	AUG 20	37.40
NOV 24	41.20	JAN 20	40.60	MAR 23	32.75	MAY 21	31.48	JUL 22	35.86	SEP 25	38.95

400645075411501. Local number, CH 1247.

LOCATION.--Lat 40°06'45", long 75°41'15", Hydrologic Unit 020402053, at State Highway 401 and 100, at Ludwigs Corner.

Owner: Dwire.

AQUIFER.--Felsic and intermediate gneiss, granulite facies.

WELL CHARACTERISTICS.--Dug unused observation well, diameter 4 ft., depth 75 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 610 ft above sea level, from topographic map. Measuring point: Top of casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.--December 1973 to current year.

EXTREMES FOR CURRENT YEAR.--Highest water level, 27.02 ft below land-surface datum, May 22; lowest, 33.72 ft below land-surface datum, Jan. 20.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 25.61 ft below land-surface datum, April 21, 1983; lowest, 36.14 ft below land-surface datum, Jan. 22, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	31.80	DEC 23	32.96	FEB 24	30.18	APR 20	27.24	JUN 23	28.28	AUG 20	30.30
NOV 24	32.85	JAN 20	33.72	MAR 23	27.71	MAY 22	27.02	JUL 22	29.56	SEP 25	31.30

395540075332601. Local number, CH 1387.

LOCATION.--Lat 39°55'40", long 75°33'26", Hydrologic Unit 02040202, at State Highway 926 and Northgate Road, near Westtown.

Owner: Gowen.

AQUIFER.--Felsic and intermediate gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 5 in., depth 159 ft, cased to 41 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 329 ft above sea level, from topographic map. Measuring point: Top of casing, 1.0 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 31.82 ft below land-surface datum, Apr. 21; lowest, 36.34 ft below land-surface datum, Dec. 22.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.28 ft below land-surface datum, Dec. 19, 1996; lowest, 39.45 ft below land-surface datum, Oct. 21, 1977

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	35.93	DEC 22	36.34	FEB 24	33.53	APR 21	31.82	JUN 22	32.95	AUG 21	34.24
NOV 21	35.64	JAN 20	36.13	MAR 23	32.27	MAY 21	31.93	JUL 20	33.74	SEP 24	36.05

CHESTER COUNTY

400956075391501. Local number, CH 1571.

LOCATION.--Lat 40°09'56", long 75°39'15", Hydrologic Unit 02040203, at Pughtown Road and Bertolet School Road, near Pughtown, East Vincent Township.
Owner: Nancy Schaffner.

AQUIFER.--Stockton Formation.

WELL CHARACTERISTICS.--Dug unused observation well, diameter unknown, depth 16 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 282 ft above sea level, from topographic map. Measuring point: Top of casing, 0.2 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 5.20 ft below land-surface datum, Feb. 24; lowest, 11.16 ft below land-surface datum, Oct. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.86 ft below land-surface datum, May 20, 1988; lowest, 11.51 ft below land-surface datum, Sept. 13, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	11.16	DEC 23	10.00	FEB 24	5.20	APR 20	5.69	JUN 23	6.74	AUG 20	10.20
NOV 24	10.56	JAN 20	6.60	MAR 23	5.39	MAY 22	6.00	JUL 22	8.50	SEP 25	10.75

394757075432101. Local number, CH 1921.

LOCATION.--Lat 39°47'57", long 75°43'21", Hydrologic Unit 02040205, at Ewart Road, at Kaolin.
Owner: Minshall.

AQUIFER.--Wissahickon Formation.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 65 ft, cased to 24 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 405 ft above sea level, from topographic map. Measuring point: Top of casing, 1.3 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 41.01 ft below land-surface datum, May. 20; lowest, 46.06 ft below land-surface datum, Jan. 20.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.93 ft below land-surface datum, April 21, 1997; lowest, 60.96 ft below land-surface datum, Jan. 21, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	42.41	DEC 22	44.65	FEB 24	44.56	APR 21	42.09	JUN 22	41.17	AUG 21	42.81
NOV 21	43.64	JAN 20	46.06	MAR 23	42.85	MAY 20	41.01	JUL 20	41.60	SEP 24	44.32

400242075484301. Local number, CH 2273.

LOCATION.--Lat 40°02'42", long 75°48'43", Hydrologic Unit 02040205, at Culbertson Run Road and State Highway 82, West Brandywine Township.

Owner: U. S. Geological Survey.

AQUIFER.--Felsic gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Drilled unused artesian observation well, diameter 6 in., depth 298 ft, cased to 45 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 590 ft above sea level, from topographic map. Measuring point: Top of recorder platform, 4.55 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 3.42 ft above land-surface datum, May 21; lowest, 2.98 ft below land-surface datum, Dec. 22.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.49 ft above land-surface datum, Dec. 19, 1996; lowest, 4.43 ft below land-surface datum, Nov. 20, 1991.

DEPTH ABOVE (-) OR BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	2.73	DEC 22	2.98	FEB 24	- .27	APR 21	-3.19	JUN 23	-2.29	AUG 21	- .60
NOV 21	2.52	JAN 20	1.95	MAR 23	-1.96	MAY 21	-3.42	JUL 22	-1.74	SEP 24	.83

CHESTER COUNTY

400325075332501. Local number, CH 2313.

LOCATION.--Lat 40°03'25", long 75°33'25", Hydrologic Unit 02040203, at Moores Road and Sidley Road, East Whiteland Township.

Owner: Philadelphia Suburban Water Co.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused artesian observation well, diameter 8 to 20 in., depth 507 ft, cased to 22 ft with 20 in. diameter casing.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 330 ft above sea level, from topographic map. Measuring point: Top of inner casing, 2.4 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 2.30 ft below land-surface datum, Apr. 20; lowest, 12.88 ft below land-surface datum, Dec. 22.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.50 ft above land-surface datum, April 21, 1983; lowest, 16.06 ft below land-surface datum, Nov. 19, 1992.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	11.77	DEC 22	12.88	FEB 24	7.62	APR 20	2.30	JUN 22	4.28	AUG 20	8.67
NOV 21	12.25	JAN 20	11.49	MAR 23	3.48	MAY 21	2.38	JUL 20	6.19	SEP 24	10.79

400847075414701. Local number, CH 2328.

LOCATION.--Lat 40°08'47", long 75°41'47", Hydrologic Unit 02040203, at Prizer Road, near Coventryville.

Owner: U.S. Geological Survey and V. Guest.

AQUIFER.--Graphitic felsic gneiss, granulite facies.

WELL CHARACTERISTICS.--Drilled unused artesian observation well, diameter 6 in., depth 323 ft, cased to 98 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 452 ft above sea level, from topographic map. Measuring point: Top of casing, 3.5 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, .57 ft below land-surface datum, Apr. 20; lowest, 5.29 ft below land-surface datum, Oct. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, .30 ft above land-surface datum, Dec. 18, 1996; lowest, 5.80 ft below land-surface datum, Sept. 20, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	5.29	DEC 23	5.03	FEB 24	1.92	APR 20	.57	JUN 23	1.47	AUG 20	2.91
NOV 24	4.45	JAN 20	3.64	MAR 23	.63	MAY 22	.68	JUL 22	2.26	SEP 25	3.85

400133075450001. Local number, CH 2456.

LOCATION.--Lat 40°01'33", long 75°45'00", Hydrologic Unit 02040205, at State Highway 322, at Guthriesville.

Owner: East Brandywine Baptist Church.

AQUIFER.--Felsic gneiss, amphibolite facies.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 225 ft, cased to 33 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 560 ft above sea level, from topographic map. Measuring point: Top of casing, 1.9 ft above land-surface datum.

PERIOD OF RECORD.--February 1982 to current year.

EXTREMES FOR CURRENT YEAR.--Highest water level, 18.34 ft below land-surface datum, Mar. 23; lowest, 20.42 ft below land-surface datum, Oct. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.00 ft below land-surface datum, Jan. 22, 1996; lowest, 22.00 ft below land-surface datum, Jan. 21, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	20.42	DEC 22	19.92	FEB 24	18.82	APR 21	18.71	JUN 23	19.23	AUG 21	19.42
NOV 21	19.66	JAN 20	19.32	MAR 23	18.34	MAY 21	18.78	JUL 20	19.44	SEP 24	20.08

CHESTER COUNTY

400039075335201. Local number, CH 2457.

LOCATION.--Lat 40°00'39", long 75°33'52", Hydrologic Unit 02040202, at Upton Circle and Green Hill Road, at Hershey Mill.

Owner: Philadelphia Suburban Water Co.

AQUIFER.--Wissachickon Formation.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 285 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 470 ft above sea level, from topographic map. Measuring point: Top of casing, 1.5 ft above land-surface datum.

PERIOD OF RECORD.--February 1982 to current year.

EXTREMES FOR CURRENT YEAR.--Highest water level, 13.68 ft below land-surface datum, Mar. 23; lowest, 22.65 ft below land-surface datum, Oct. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.35 ft below land-surface datum, Dec. 18, 1996; lowest, 26.08 ft below land-surface datum, Oct. 20, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	22.65	DEC 22	22.14	FEB 24	17.22	APR 21	13.73	JUN 22	18.15	AUG 21	21.60
NOV 21	22.20	JAN 20	20.72	MAR 23	13.68	MAY 21	15.50	JUL 20	20.01	SEP 24	22.64

400456075320301. Local number, CH 2561.

LOCATION.--Lat 40°04'27", long 75°32'03", Hydrologic Unit 02040203, at Yellow Springs Road and State Highway 29, at Devault.

Owner: Paul Norcini.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 240 ft, cased to 229 ft.

INSTRUMENTATION.--Monthly measurement with electric tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 338 ft above sea level, from topographic map. Measuring point: Top of casing, 0.90 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 142.76 ft below land-surface datum, May 22; lowest, 156.41 ft below land-surface datum, Dec. 22.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 122.66 ft below land-surface datum, June 21, 1984; lowest, 178.32 ft below land-surface datum, Sept. 21, 1992.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	153.17	DEC 22	156.41	FEB 25	152.94	APR 20	144.65	JUN 22	144.43	AUG 20	150.46
NOV 21	154.46	JAN 20	155.98	MAR 23	148.96	MAY 22	142.76	JUL 21	146.26	SEP 24	154.18

394624075444001. Local number, CH 2663.

LOCATION.--Lat 39°46'24", long 75°44'40", Hydrologic Unit 02040205, at Broad Run Road and Newark Road, New Garden Township.

Owner: Leon Wilkinson.

AQUIFER.--Cockeysville marble.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 150 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 220 ft above sea level, from topographic map. Measuring point: Top of casing, 1.30 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 8.85 ft below land-surface datum, Mar. 23; lowest, 10.94 ft below land-surface datum, Oct. 17.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.94 ft below land-surface datum, July 21, 1989; lowest, 11.67 ft below land-surface datum, July 18, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	10.94	DEC 22	10.75	FEB 24	9.06	APR 21	9.87	JUN 22	10.30
NOV 21	10.72	JAN 20	10.43	MAR 23	8.85	MAY 20	9.78	SEP 24	10.92

CHESTER COUNTY

400358075311301. Local number, CH 3289.

LOCATION.--Lat 40°03'58", long 75°31'13", Hydrologic Unit 02040203, at Church Road, near Cedar Hollow.
 Owner: Warner Co.

AQUIFER.--Elbrook limestone.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 8 in., depth 202 ft, cased to 40 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface datum is 240 ft above sea level, from topographic map. Measuring point: Top of casing, 1.5 ft above land-surface datum.

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

EXTREMES FOR CURRENT YEAR.--Highest water level, 11.78 ft below land-surface datum, Mar. 23; lowest, 30.20 ft below land-surface datum, Sept. 24.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.44 ft below land-surface datum, Dec. 18, 1996; lowest, 31.07 ft below land-surface datum, Sept. 13, 1995.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
 INSTANTANEOUS VALUES

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	29.43	DEC 22	24.58	FEB 24	17.00	APR 20	17.49	JUN 22	22.03	AUG 20	27.30
NOV 21	25.66	JAN 20	20.83	MAR 23	11.78	MAY 21	17.66	JUL 21	24.02	SEP 24	30.20

DELAWARE COUNTY

395040075341801. Local number, DE 3.

LOCATION.--Lat 39°50'40", long 75°34'18", Hydrologic Unit 02040205, at Birmingham Township.

Owner: Mrs. Hope W. Ebert.

AQUIFER.--Oligoclase-mica schist of Wissahickon Formation (age uncertain, Early Paleozoic to Precambrian).

WELL CHARACTERISTICS.--Dug unused water-table well, diameter 42 in., depth 18.4 ft, (formerly reported as 22 ft), cased with stone.

INSTRUMENTATION.--Once daily observer readings with chalked steel tape.

DATUM.--Elevation of land-surface datum is 280 ft above sea level, from topographic map. Measuring point: Top of concrete base, 1.8 ft above land-surface datum.

REMARKS.--Well is dry at 18.3 feet.

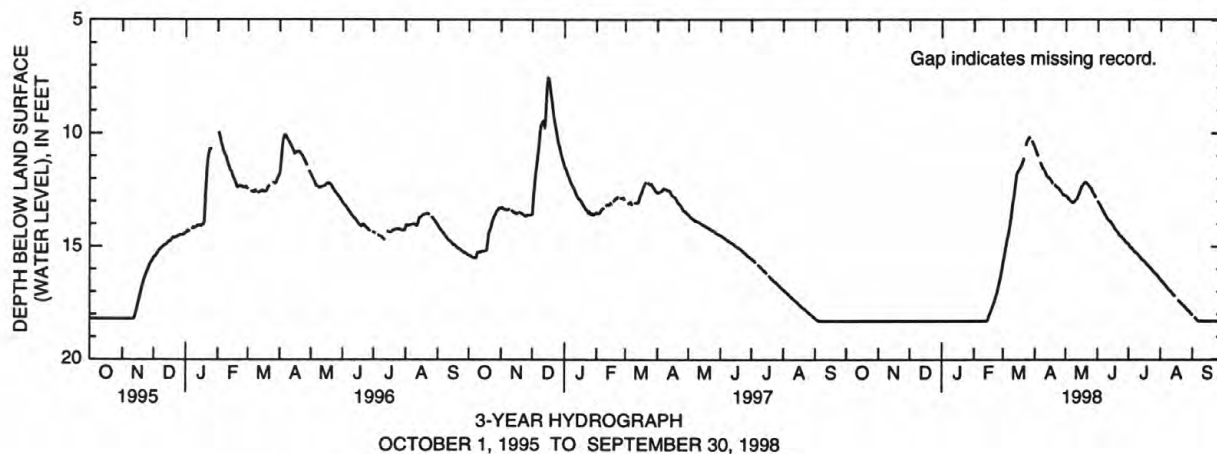
PERIOD OF RECORD.--June 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.53 ft below land-surface datum, Dec. 16, 1996; lowest measured, dry many times since 1964.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.30	18.30	18.30	18.30	18.30	15.70	10.68	12.76	12.98	14.89	16.47	18.04
2	18.30	18.30	18.30	18.30	18.30	15.46	10.78	12.78	13.07	14.99	16.52	---
3	18.30	18.30	18.30	18.30	18.30	15.18	10.93	12.84	13.13	15.04	16.56	18.13
4	18.30	18.30	18.30	18.30	18.30	14.93	11.01	12.90	13.24	15.07	16.62	18.18
5	18.30	18.30	18.30	18.30	18.30	14.66	---	12.96	13.31	15.12	16.67	18.23
6	18.30	18.30	18.30	18.30	18.30	14.49	11.28	13.00	13.40	15.18	16.73	18.28
7	18.30	18.30	18.30	18.30	18.30	14.20	11.40	13.04	13.49	15.23	16.78	18.30
8	18.30	18.30	18.30	18.30	18.30	13.96	11.50	13.05	13.58	15.26	16.84	18.30
9	18.30	18.30	18.30	18.30	18.30	13.62	11.57	13.04	13.66	15.30	16.90	18.30
10	18.30	18.30	18.30	18.30	18.30	13.19	11.62	12.96	13.73	15.34	16.94	18.30
11	18.30	18.30	18.30	18.30	18.30	12.91	11.75	12.93	13.80	15.41	16.98	18.30
12	18.30	18.30	18.30	18.30	18.30	12.58	11.85	12.88	13.84	15.46	17.04	18.30
13	18.30	18.30	18.30	18.30	18.30	12.18	11.92	12.74	13.88	15.51	17.11	18.30
14	18.30	18.30	18.30	18.30	18.28	11.82	11.93	12.66	13.93	15.56	17.16	18.30
15	18.30	18.30	18.30	18.30	18.12	11.70	11.98	12.50	14.01	15.60	17.20	18.30
16	18.30	18.30	18.30	18.30	18.00	11.63	12.06	12.39	14.07	15.64	---	18.30
17	18.30	18.30	18.30	18.30	17.89	11.56	12.10	12.30	14.16	15.67	---	18.30
18	18.30	18.30	18.30	18.30	17.74	11.47	12.22	12.24	14.23	15.74	17.35	18.30
19	18.30	18.30	18.30	18.30	17.63	11.38	---	12.19	14.29	15.80	17.42	18.30
20	18.30	18.30	18.30	18.30	17.52	11.24	12.26	12.15	14.33	15.83	17.46	18.30
21	18.30	18.30	18.30	18.30	17.36	11.09	12.33	12.17	14.40	15.89	17.51	18.30
22	18.30	18.30	18.30	18.30	17.21	---	12.37	12.23	14.49	15.92	17.55	18.30
23	18.30	18.30	18.30	18.30	17.06	10.54	12.39	12.29	14.52	15.98	17.60	18.30
24	18.30	18.30	18.30	18.30	16.84	10.36	12.43	12.35	14.56	16.03	17.64	18.30
25	18.30	18.30	18.30	18.30	16.65	10.29	12.50	12.39	14.62	16.10	17.69	18.30
26	18.30	18.30	18.30	18.30	16.46	10.20	12.55	12.47	14.66	16.15	17.75	18.30
27	18.30	18.30	18.30	18.30	16.21	10.16	12.62	12.58	14.70	16.19	17.80	18.30
28	18.30	18.30	18.30	18.30	15.96	---	12.69	12.66	14.79	16.23	17.84	18.30
29	18.30	18.30	18.30	18.30	---	10.32	12.73	12.74	14.84	16.28	17.89	18.30
30	18.30	18.30	18.30	18.30	---	10.45	12.74	12.83	14.83	16.35	17.95	18.30
31	18.30	---	18.30	18.30	---	10.55	---	---	---	16.40	18.00	---
MEAN	18.30	18.30	18.30	18.30	17.74	12.34	11.94	12.63	14.02	15.65	17.24	18.28
MAX	18.30	18.30	18.30	18.30	18.30	15.70	12.74	13.05	14.84	16.40	18.00	18.30
MIN	18.30	18.30	18.30	18.30	15.96	10.16	10.68	12.15	12.98	14.89	16.47	18.04

WTR YR 1998: HIGHEST 10.16, MARCH 16; LOWEST 18.30 (dry), OCTOBER 1 TO FEBRUARY 13, SEPTEMBER 7-30.



DELAWARE COUNTY

395512075293701, Local number, DE 723.

LOCATION.--Lat 39°55'12", long 75°29'37", Hydrologic Unit 02040203, at Glen Mills School, in Thornbury Township.
Owner: Glen Mills School.

AQUIFER.--Felsic Hornblende bearing Gneiss of Precambrian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 300 ft, casing information not available.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land-surface datum is 280 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 2.7 ft above land-surface datum. Prior to May 11, 1984, top of plywood shelf 1.20 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

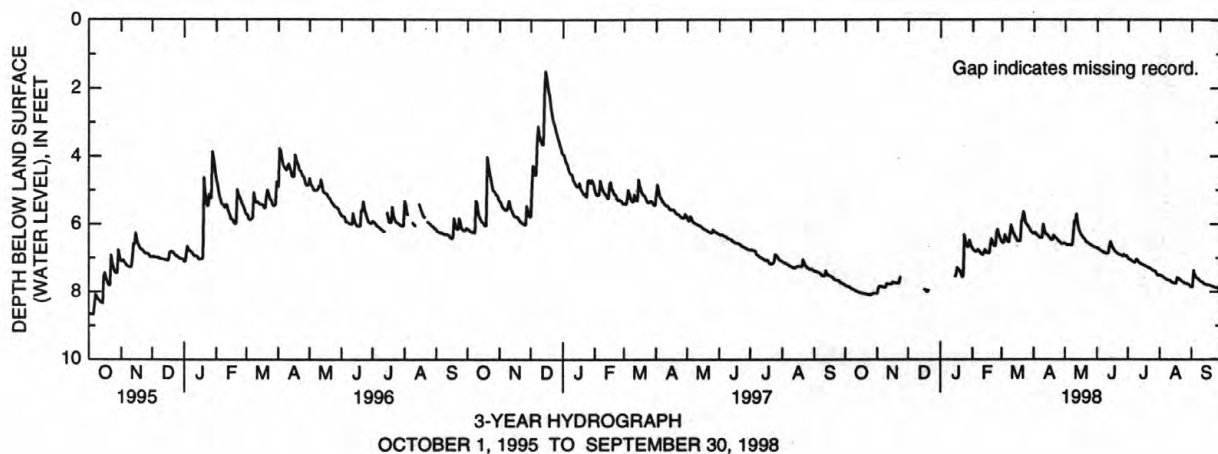
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 1.50 ft below land-surface datum, Dec. 15, 1996; lowest, 9.95 ft below land-surface datum, Aug. 3, 1983.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.82	8.05	---	---	6.73	6.53	6.29	6.57	6.71	7.00	7.50	7.86
2	7.82	7.89	---	---	6.77	6.56	6.25	6.59	6.71	7.04	7.52	7.86
3	7.84	7.84	---	---	6.81	6.56	6.28	6.62	6.75	7.04	7.53	7.37
4	7.85	7.84	---	---	6.81	6.32	6.32	6.62	6.77	7.06	7.55	7.49
5	7.86	7.84	---	---	6.81	6.40	6.35	6.60	6.79	7.09	7.58	7.55
6	7.89	7.85	---	---	6.76	6.47	6.38	6.62	6.81	7.11	7.60	7.59
7	7.91	7.87	---	---	6.78	6.52	6.40	6.62	6.83	7.13	7.63	7.61
8	7.92	7.88	---	---	6.83	6.54	6.41	6.62	6.85	7.13	7.64	7.63
9	7.93	7.88	---	---	6.87	6.25	6.41	6.26	6.86	7.04	7.65	7.67
10	7.95	7.77	---	---	6.90	6.03	6.00	5.92	6.87	7.05	7.66	7.70
11	7.98	7.77	---	---	6.90	6.16	6.16	5.92	6.87	7.10	7.66	7.70
12	7.99	7.77	---	---	6.84	6.26	6.26	5.71	6.87	7.14	7.70	7.72
13	8.00	7.78	---	---	6.76	6.31	6.30	5.95	6.61	7.16	7.72	7.76
14	8.02	7.78	---	---	6.82	6.38	6.31	6.10	6.52	7.18	7.72	7.78
15	8.02	7.78	---	7.56	6.85	6.44	6.36	6.20	6.60	7.19	7.74	7.78
16	8.03	7.72	7.92	7.51	6.86	6.49	6.39	6.28	6.69	7.20	7.75	7.80
17	8.04	7.72	7.94	7.29	6.87	6.50	6.45	6.34	6.74	7.22	7.75	7.80
18	8.05	7.73	7.94	7.31	6.60	6.50	6.47	6.38	6.79	7.24	7.58	7.80
19	8.04	7.74	8.01	7.35	6.44	6.50	6.47	6.42	6.82	7.25	7.59	7.80
20	8.07	7.74	7.96	7.40	6.51	5.93	6.33	6.44	6.85	7.27	7.62	7.82
21	8.07	7.75	7.98	7.48	6.60	5.84	6.37	6.50	6.88	7.28	7.65	7.84
22	8.08	7.75	---	7.57	6.65	5.64	6.41	6.54	6.89	7.30	7.68	7.84
23	8.08	7.58	---	7.54	6.66	5.78	6.43	6.55	6.90	7.31	7.69	7.86
24	8.09	7.58	---	6.32	6.27	5.95	6.47	6.58	6.91	7.34	7.71	7.88
25	8.09	---	---	6.51	6.16	6.01	6.51	6.59	6.93	7.36	7.74	7.88
26	8.09	---	---	6.62	6.29	6.03	6.52	6.62	6.95	7.38	7.76	7.87
27	8.06	---	---	6.68	6.39	6.09	6.57	6.64	6.89	7.38	7.76	7.90
28	8.05	---	---	6.68	6.46	6.14	6.59	6.66	6.94	7.42	7.76	7.96
29	8.05	---	---	6.48	---	6.21	6.57	6.67	6.94	7.47	7.78	7.98
30	8.05	---	---	6.59	---	6.24	6.57	6.69	6.94	7.51	7.81	7.98
31	8.05	---	---	6.68	---	6.27	---	6.69	---	7.50	7.84	---
MEAN	7.99	7.79	7.96	7.03	6.68	6.25	6.39	6.44	6.82	7.22	7.67	7.77
MAX	8.09	8.05	8.01	7.57	6.90	6.56	6.59	6.69	6.95	7.51	7.84	7.98
MIN	7.82	7.58	7.92	6.32	6.16	5.64	6.00	5.71	6.52	7.00	7.50	7.37

WTR YR 1998: HIGHEST 5.64, MARCH 22; LOWEST 8.09, OCTOBER 24-26.



LEBANON COUNTY

402207076180801. Local number, LB 372.

LOCATION.--Lat 40°22'07", long 76°18'08", Hydrologic Unit 02040203, at Myerstown.

Owner: Kohl Brothers, Inc.

AQUIFER.--Dolomite of Ontelaunee Formation of Middle Ordovician age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 80 ft, casing information not available, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 444 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 2.7 ft above land-surface datum. Prior to Apr. 22, 1981, measuring point was 3.50 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--July 1973 to current year.

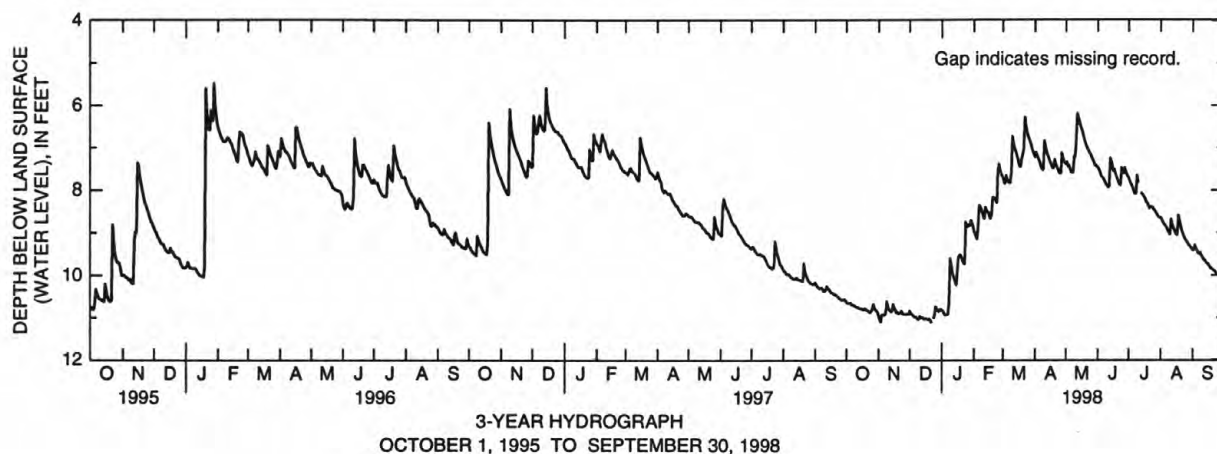
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 4.02 ft below land-surface datum, Jan. 27, 1976; lowest, 11.32 ft below land-surface datum, Jan. 23, 30, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.63	10.96	10.84	10.82	8.97	7.71	7.23	7.39	7.46	7.71	8.65	9.42
2	10.66	11.05	10.90	10.84	9.03	7.83	7.11	7.33	7.51	7.79	8.69	9.42
3	10.66	11.10	10.92	10.89	9.10	7.85	7.19	7.45	7.57	7.85	8.75	9.29
4	10.66	10.94	10.94	10.94	9.15	7.65	7.25	7.42	7.65	7.89	8.79	9.36
5	10.65	10.92	10.98	10.93	8.82	7.75	7.31	7.49	7.69	7.97	8.82	9.41
6	10.70	10.94	10.98	10.93	8.36	7.81	7.39	7.57	7.71	8.03	8.85	9.47
7	10.70	10.94	10.98	10.92	8.39	7.83	7.47	7.59	7.76	8.09	8.90	9.50
8	10.70	10.84	11.02	10.63	8.44	7.83	7.51	7.59	7.81	8.09	8.96	9.46
9	10.72	10.62	11.04	9.60	8.53	7.57	7.53	7.21	7.87	7.65	9.00	9.51
10	10.74	10.74	11.04	9.76	8.63	6.73	6.83	7.21	7.89	7.83	9.04	9.56
11	10.75	10.80	10.96	9.91	8.67	6.89	6.97	6.85	7.93	---	8.68	9.60
12	10.75	10.83	11.00	10.00	8.40	7.01	7.07	6.19	7.92	---	8.80	9.64
13	10.78	10.86	11.00	10.08	8.47	7.08	7.17	6.28	7.25	8.06	8.88	9.66
14	10.78	10.85	11.00	10.16	8.51	7.15	7.23	6.38	7.31	8.09	8.92	9.70
15	10.78	10.68	11.04	10.23	8.53	7.25	7.31	6.47	7.42	8.13	9.00	9.72
16	10.80	10.75	11.02	9.91	8.63	7.35	7.37	6.55	7.55	8.17	9.04	9.74
17	10.80	10.80	11.02	9.56	8.67	7.44	7.43	6.62	7.51	8.21	9.06	9.78
18	10.80	10.88	11.04	9.54	8.55	7.45	7.48	6.73	7.61	8.28	8.59	9.82
19	10.78	10.86	11.04	9.51	8.17	7.26	7.48	6.81	7.68	8.30	8.70	9.84
20	10.82	10.90	11.03	9.58	8.17	7.16	7.28	6.89	7.75	8.36	8.82	9.86
21	10.82	10.90	11.06	9.66	8.21	7.04	7.39	6.97	7.81	8.43	8.92	9.88
22	10.84	10.88	11.12	9.71	8.24	6.28	7.45	7.03	7.87	8.39	9.00	9.90
23	10.87	10.84	---	9.73	8.30	6.47	7.51	7.07	7.89	8.40	9.06	9.92
24	10.88	10.90	11.02	8.75	7.54	6.61	7.57	7.13	7.47	8.40	9.12	9.96
25	10.83	10.92	10.94	8.83	7.39	6.71	7.61	7.16	7.52	8.45	9.16	9.98
26	10.78	10.92	10.74	8.87	7.51	6.77	7.61	7.23	7.61	8.47	9.20	9.98
27	10.68	10.92	10.78	8.81	7.61	6.85	7.13	7.28	7.47	8.51	9.24	10.00
28	10.78	10.91	10.82	8.83	7.66	6.91	7.25	7.33	7.55	8.56	9.28	10.04
29	10.82	10.92	10.86	8.71	---	7.03	7.31	7.41	7.62	8.59	9.31	10.06
30	10.84	10.92	10.83	8.77	---	7.09	7.37	7.41	7.67	8.64	9.34	10.06
31	10.87	---	10.80	8.85	---	7.18	---	7.46	---	8.64	9.38	---
MEAN	10.76	10.88	10.96	9.81	8.38	7.21	7.33	7.08	7.64	8.21	8.97	9.72
MAX	10.88	11.10	11.12	10.94	9.15	7.85	7.61	7.59	7.93	8.64	9.38	10.06
MIN	10.63	10.62	10.74	8.71	7.39	6.28	6.83	6.19	7.25	7.65	8.59	9.29

WTR YR 1998: HIGHEST 6.19, MAY 12; LOWEST 11.12, DECEMBER 22.



LEHIGH COUNTY

403429075392401. Local number, LE 644.

LOCATION.--Lat 40°34'29", long 75°39'24", Hydrologic Unit 02040106, at Haafsville.

Owner: Charles J. Haaf.

AQUIFER.--Beekmantown Group of Middle Ordovician age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 10 in., depth 184 ft, cased to 63 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 470 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 2.6 ft above land-surface datum. Prior to Mar. 18, 1981, top of casing, 1.45 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, and water-quality records for 1973-75 are also available from the District Office.

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

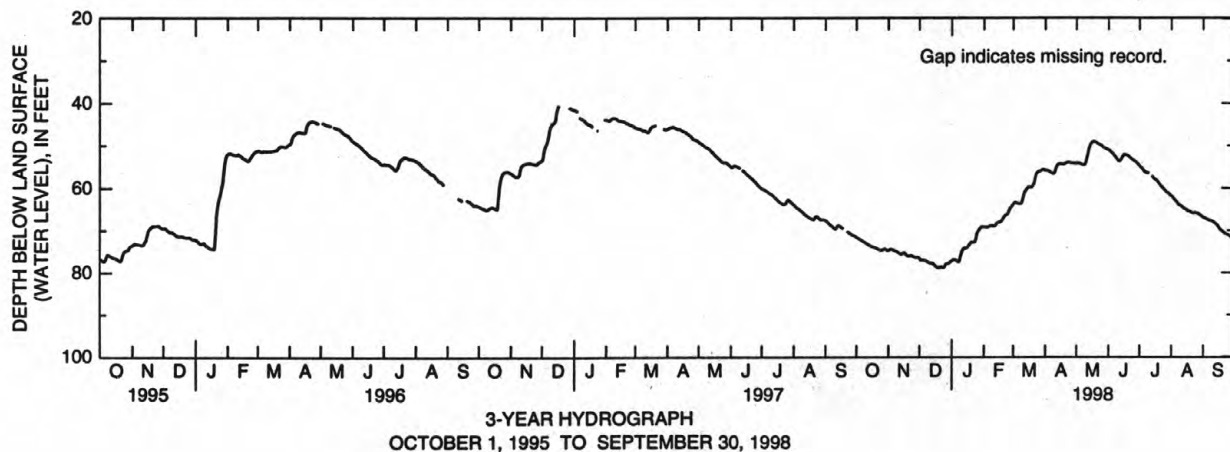
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 33.72 ft below land-surface datum, Apr. 3, 1994; lowest, 93.42 ft below land-surface datum, Feb. 6, 1971.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71.64	74.78	76.60	77.19	69.15	63.78	55.83	54.16	51.02	54.77	61.75	66.85
2	71.77	74.63	77.05	77.05	69.17	63.43	55.85	54.08	51.12	55.06	61.98	67.03
3	71.89	74.42	77.08	76.98	69.28	63.32	55.83	54.08	51.40	55.22	62.36	67.02
4	72.04	74.48	77.01	76.89	69.28	63.44	55.93	54.18	51.64	55.51	62.66	67.19
5	72.20	74.62	77.03	77.04	69.20	63.57	56.09	54.27	51.87	55.88	62.96	67.40
6	72.37	74.73	77.12	77.18	68.96	63.64	56.26	54.36	52.15	56.13	63.23	67.45
7	72.53	74.84	77.21	77.41	68.88	63.67	56.39	54.51	52.43	56.31	63.53	67.62
8	72.65	74.91	77.35	77.41	68.86	63.69	56.55	54.57	52.76	56.43	63.95	67.64
9	72.81	75.00	77.51	76.48	68.87	63.52	56.57	54.45	53.11	56.33	63.95	67.68
10	72.98	75.12	77.62	75.45	68.92	62.65	56.33	53.91	53.34	56.45	64.11	67.80
11	73.14	75.32	77.76	74.81	68.91	61.58	55.52	52.90	53.64	---	64.26	67.95
12	73.27	75.49	77.76	74.41	68.73	60.82	54.81	51.86	53.62	---	64.52	68.13
13	73.42	75.68	77.82	74.15	68.30	60.54	54.49	50.66	53.34	57.05	64.76	68.33
14	73.63	75.68	77.82	74.18	68.11	60.11	54.31	50.00	52.83	57.41	64.81	68.56
15	73.77	75.42	78.11	74.20	68.02	59.88	54.28	49.54	52.43	57.70	64.90	68.80
16	73.88	75.24	78.38	74.05	68.00	59.66	54.27	49.22	52.13	57.90	65.16	69.25
17	73.97	75.38	78.60	73.57	67.89	59.80	54.36	49.04	52.15	57.95	65.38	69.65
18	74.01	75.75	78.75	73.30	67.64	59.82	54.40	49.05	52.18	58.27	65.39	69.85
19	74.02	75.98	78.80	72.98	67.22	59.71	54.38	49.13	52.23	58.53	65.44	70.09
20	74.18	76.09	78.72	72.75	66.81	59.23	54.10	49.23	52.38	58.89	65.60	70.12
21	74.27	76.07	78.70	72.79	66.47	58.82	54.05	49.43	52.63	59.24	65.75	70.48
22	74.44	75.96	78.64	72.80	66.32	57.83	53.98	49.57	52.88	59.51	65.89	70.56
23	74.54	75.91	78.70	72.77	66.22	56.70	53.90	49.69	53.05	59.73	65.89	70.78
24	74.71	76.13	78.79	72.14	65.88	56.37	53.93	49.82	53.26	60.08	65.69	70.91
25	74.71	76.22	78.64	70.81	65.20	56.22	54.04	49.93	53.42	60.28	65.82	71.04
26	74.66	76.33	78.07	70.27	64.67	56.06	54.10	50.19	53.61	60.54	65.85	71.10
27	74.51	76.42	77.93	69.90	64.45	56.02	54.07	50.41	53.74	60.89	65.95	71.20
28	74.34	76.42	77.83	69.57	64.09	55.86	54.13	50.53	53.95	61.06	66.10	71.47
29	74.44	76.41	77.83	69.24	---	55.66	54.08	50.73	54.17	61.12	66.30	71.73
30	74.63	76.42	77.66	69.10	---	55.60	54.17	50.77	54.48	61.45	66.50	71.79
31	74.78	---	77.32	69.13	---	55.72	---	50.79	---	61.67	66.66	---
MEAN	73.55	75.53	77.88	73.74	67.63	59.89	54.90	51.45	52.77	58.18	64.75	69.18
MAX	74.78	76.42	78.80	77.41	69.28	63.78	56.57	54.57	54.48	61.67	66.66	71.79
MIN	71.64	74.42	76.60	69.10	64.09	55.60	53.90	49.04	51.02	54.77	61.75	66.85

WTR YR 1998: HIGHEST 49.04, MAY 17; LOWEST 78.80, DECEMBER 19.



MONROE COUNTY

411223075234901. Local number, MO 190.

LOCATION.--Lat 41°12'23", long 75°23'49", Hydrologic Unit 02040106, at Tobyhanna State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Sandstone of Catskill Formation of Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 98 ft, cased to 59 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,990 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 3.0 ft above land-surface datum. Prior to Mar. 28, 1980, top of plywood shelf, 2.6 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

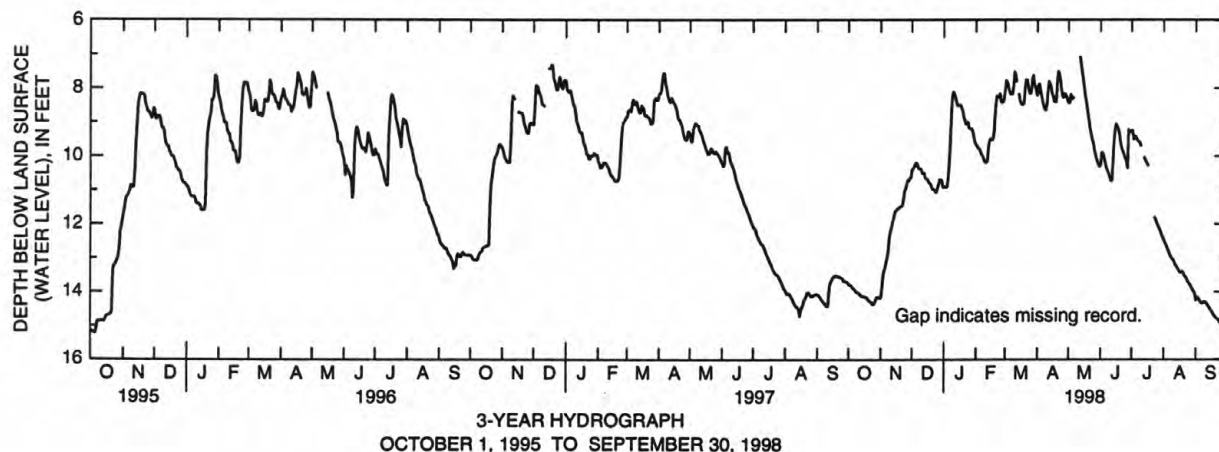
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 6.62 ft below land-surface datum, Apr. 13,14, 1994; lowest, 16.87 ft below land-surface datum, Oct. 24, 25, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.78	14.18	10.44	10.93	9.67	8.06	8.22	8.44	10.27	9.24	12.47	14.25
2	13.80	13.96	10.38	10.91	9.71	7.77	7.91	8.44	9.90	9.26	12.55	14.18
3	13.80	13.57	10.35	10.91	9.78	7.81	7.87	8.18	9.90	9.51	12.61	14.17
4	13.85	13.40	10.25	10.91	9.78	7.94	8.10	8.27	9.99	9.43	12.69	14.22
5	13.89	13.30	10.20	10.70	9.85	8.09	8.26	8.32	10.13	9.43	12.77	14.28
6	13.92	13.16	10.21	10.25	9.95	8.18	8.43	8.26	10.28	9.51	12.84	14.32
7	13.94	13.00	10.34	9.62	9.98	8.18	8.55	---	10.38	9.56	12.92	14.35
8	13.99	12.85	10.38	8.79	10.06	8.18	8.63	---	10.47	9.58	12.98	14.32
9	14.01	12.52	10.38	8.26	10.15	7.92	8.66	---	10.56	9.60	13.02	14.29
10	14.03	12.24	10.39	8.11	10.19	7.51	8.49	---	10.65	9.72	13.05	14.30
11	14.06	12.18	10.51	8.18	10.19	7.61	8.10	---	10.73	---	13.11	14.33
12	14.08	11.99	10.51	8.26	10.10	7.82	7.80	7.06	10.73	---	13.20	14.38
13	14.12	11.89	10.51	8.42	9.73	---	7.85	7.26	10.12	10.02	13.24	14.42
14	14.14	11.74	10.65	8.52	9.53	8.16	7.95	7.50	9.57	10.09	13.29	14.47
15	14.14	11.62	10.68	8.52	9.51	8.37	8.17	7.72	9.20	10.17	13.34	14.52
16	14.14	11.62	10.68	8.50	9.53	8.45	8.24	7.97	9.06	10.22	13.40	14.56
17	14.16	11.56	10.75	8.49	9.53	8.48	8.40	8.22	9.12	10.30	13.43	14.61
18	14.17	11.56	10.80	8.59	9.37	8.48	8.41	8.40	9.20	---	13.41	14.67
19	14.18	11.52	10.81	8.66	8.86	8.45	8.42	8.59	9.33	---	13.40	14.71
20	14.26	11.49	10.89	8.84	8.48	7.98	7.76	8.80	9.57	---	13.46	14.75
21	14.27	11.49	10.98	8.93	8.23	7.74	7.50	9.03	9.72	---	13.53	14.78
22	14.30	11.45	10.98	9.06	8.28	7.75	7.61	9.24	9.84	---	13.56	14.80
23	14.31	11.22	11.00	9.06	8.25	7.92	7.78	9.39	9.89	11.79	13.61	14.82
24	14.38	11.01	11.07	8.99	8.16	8.11	8.04	9.54	10.00	11.86	13.68	14.89
25	14.38	10.97	11.06	9.15	8.42	8.16	8.24	9.63	10.08	11.95	13.74	14.91
26	14.33	10.83	10.92	9.20	8.42	8.14	8.28	9.83	10.18	12.03	13.77	14.93
27	14.25	10.73	10.82	9.20	8.42	7.73	8.16	9.94	10.36	12.10	13.83	14.97
28	14.17	10.73	10.70	9.20	8.30	7.62	8.18	10.08	9.22	12.15	13.90	15.01
29	14.17	10.65	10.70	9.32	---	7.88	8.25	10.17	9.30	12.24	13.94	15.05
30	14.18	10.65	10.72	9.47	---	7.96	8.37	10.26	9.30	12.33	13.99	15.08
31	14.18	---	10.91	9.63	---	8.15	---	10.31	---	12.41	14.06	---
MEAN	14.11	11.97	10.64	9.21	9.30	8.02	8.15	8.80	9.90	10.60	13.32	14.58
MAX	14.38	14.18	11.07	10.93	10.19	8.48	8.66	10.31	10.73	12.41	14.06	15.08
MIN	13.78	10.65	10.20	8.11	8.16	7.51	7.50	7.06	9.06	9.24	12.47	14.17

WTR YR 1998: HIGHEST RECORDED 7.06, MAY 12; LOWEST 15.08, SEPTEMBER 30.



MONTGOMERY COUNTY

400808075210401. Local number, MG 225.

LOCATION.--Lat 40°08'08", long 75°21'04", Hydrologic Unit 02040203, at Willow and Locust Streets, Norristown.

Owner: Norristown State Hospital.

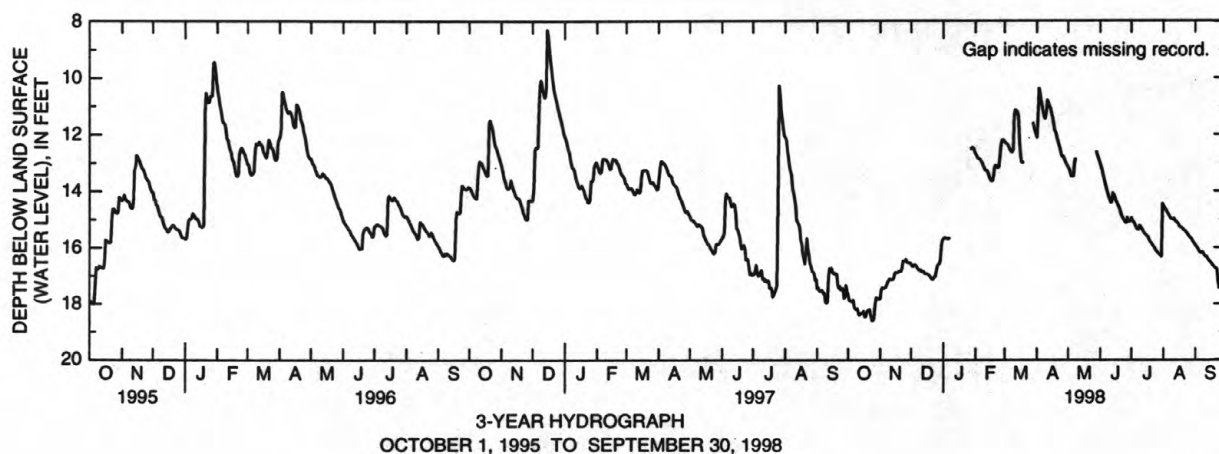
AQUIFER.--Sandstone of Stockton Formation of Late Triassic age.**WELL CHARACTERISTICS.**--Drilled unused artesian well, diameter 12 in., depth 486 ft (previously reported as 300 ft), casing information not available.**INSTRUMENTATION.**--Electronic data logger with 60-minute recording interval.**DATUM.**--Elevation of land-surface datum is 165 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 2.4 ft above land-surface datum. Prior to Mar. 17, 1981, top of casing 0.8 ft above land-surface datum.**REMARKS.**--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office. Records for period Oct. 1 to May 27 are poor.**PERIOD OF RECORD.**--September 1956 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, 8.28 ft below land-surface datum, Dec. 15, 1996; lowest, 60.25 ft below land-surface datum, Nov. 5, 6, 1963.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.66	17.82	16.60	15.69	12.70	12.27	12.11	13.17	13.06	14.95	14.52	15.92
2	17.88	17.50	16.66	15.65	12.77	12.31	11.40	13.23	13.16	15.04	14.58	15.96
3	17.88	17.42	16.67	15.65	12.85	12.33	10.37	13.38	13.33	15.10	14.64	16.02
4	17.92	17.44	16.61	15.68	12.86	12.38	10.56	13.48	13.49	15.14	14.71	16.07
5	17.92	17.45	16.61	15.69	12.86	12.47	10.81	13.45	13.64	15.25	14.78	16.16
6	17.87	17.44	16.65	15.69	12.94	12.56	11.03	13.47	13.80	15.32	14.84	16.17
7	18.12	17.35	16.73	15.65	12.99	12.62	11.24	12.99	13.94	15.36	14.91	16.19
8	18.18	17.26	16.79	---	13.09	12.63	11.41	12.84	14.08	15.37	14.97	16.15
9	18.21	17.18	16.81	---	13.18	12.54	11.45	---	14.20	15.23	14.99	16.23
10	18.17	17.12	16.78	---	13.27	11.34	11.19	---	14.30	15.27	15.01	16.28
11	18.35	17.13	16.86	---	13.27	11.14	10.79	---	14.41	15.34	14.97	16.32
12	18.41	17.15	16.85	---	13.27	11.18	10.90	---	14.40	15.41	15.04	16.33
13	18.36	17.14	16.85	---	13.38	11.21	11.01	---	14.07	15.47	15.08	16.41
14	18.33	17.10	16.92	---	13.51	11.36	11.09	---	14.14	15.52	15.11	16.46
15	18.32	16.93	16.93	---	13.60	12.28	11.29	---	14.22	15.56	15.15	16.50
16	18.26	16.88	16.93	---	13.64	12.75	11.43	---	14.36	15.59	15.23	16.54
17	18.47	16.89	16.95	---	13.65	12.98	11.67	---	14.42	15.62	15.28	16.58
18	18.47	16.90	16.98	---	13.45	12.99	11.87	---	14.52	15.72	15.28	16.64
19	18.30	16.85	17.01	---	13.17	12.98	11.94	---	14.58	15.80	15.31	16.67
20	18.23	16.83	17.08	---	13.09	---	12.11	---	14.69	15.83	15.36	16.72
21	18.24	16.85	17.13	---	13.11	---	12.25	---	14.82	15.90	15.38	16.74
22	18.20	16.76	17.13	---	13.18	---	12.37	---	14.92	15.95	15.42	16.77
23	18.44	16.47	17.04	---	13.16	---	12.50	---	14.98	15.99	15.45	17.18
24	18.60	16.48	17.05	---	12.88	---	12.68	---	15.05	16.06	15.50	17.44
25	18.60	16.48	16.86	---	12.43	---	12.79	---	15.12	16.13	15.56	17.41
26	18.52	16.42	16.67	---	12.23	---	12.77	---	15.13	16.17	15.61	17.36
27	18.03	16.53	16.60	12.52	12.18	---	12.84	---	14.94	16.21	15.66	17.33
28	17.79	16.53	16.58	12.50	12.21	11.59	12.95	12.59	15.06	16.24	15.68	17.38
29	17.79	16.54	16.47	12.44	---	11.76	13.04	12.71	15.09	16.28	15.75	17.43
30	17.84	16.54	15.95	12.50	---	11.88	13.10	12.84	15.07	16.33	15.81	17.44
31	17.84	---	15.74	12.62	---	12.00	---	12.93	---	14.45	15.87	---
MEAN	18.17	16.98	16.76	14.36	13.03	12.15	11.77	13.09	14.37	15.60	15.21	16.63
MAX	18.60	17.82	17.13	15.69	13.65	12.99	13.10	13.48	15.13	16.33	15.87	17.44
MIN	17.66	16.42	15.74	12.44	12.18	11.14	10.37	12.59	13.06	14.45	14.52	15.92

WTR YR 1998: HIGHEST 10.37, APRIL 3; LOWEST 18.60, OCTOBER 24, 25.



LOCATION.--Lat 40°17'33", long 75°17'14", Hydrologic Unit 02040201, at North Penn Water Authority at Lansdale.
Owner: North Penn Water Authority.

AQUIFER.--Shale of Brunswick Formation of Lake Triassic Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 8 in, depth 500 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Electronic data logger with 60-minute recording interval.

DATUM.--Elevation of land-surface datum is 350 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 3.4 ft above land-surface datum.

REMARKS.--In addition to the daily mean water level table shown below, daily maximum and minimum water levels, are also available from the District Office.

PERIOD OF RECORD.--August 1997 to current year.

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

Highest water level, 7.30 ft below land-surface datum, May 15, 1998; lowest, 11.41 ft below land-surface datum, Oct. 26, 1997.

[illegible]

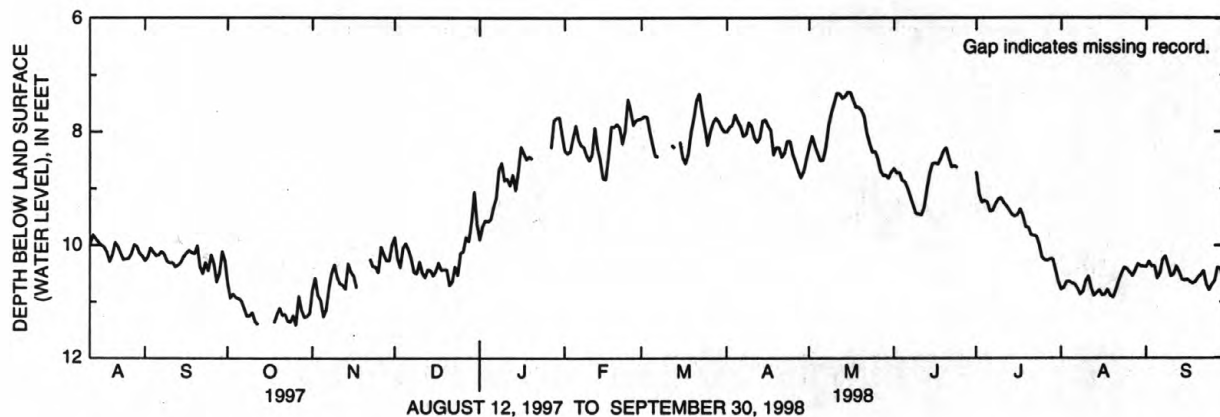
MONTGOMERY COUNTY

401733075171401. Local number, MG 917--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.67	10.78	9.86	9.90	8.34	7.77	8.00	8.27	8.65	8.71	10.78	10.38
2	10.93	10.58	10.23	9.67	8.39	7.73	7.92	8.08	8.73	9.09	10.75	10.28
3	10.86	10.89	10.39	9.56	8.35	7.74	7.88	8.24	8.72	9.24	10.64	10.37
4	10.92	10.97	10.05	9.58	8.11	8.00	7.70	8.38	8.86	9.21	10.64	10.36
5	10.94	11.26	9.97	9.54	7.89	8.23	7.82	8.51	8.88	9.24	10.67	10.58
6	10.98	11.14	10.08	9.33	8.14	8.43	7.91	8.50	9.00	9.40	10.69	10.49
7	11.11	10.75	10.24	9.17	8.25	8.44	8.08	8.28	9.15	9.39	10.76	10.24
8	11.25	10.48	10.48	8.67	8.27	---	8.05	7.89	9.30	9.27	10.87	10.19
9	11.25	10.34	10.50	8.55	8.42	---	7.84	7.67	9.44	9.19	10.82	10.37
10	11.19	10.56	10.29	8.86	8.51	---	7.90	7.50	9.45	9.16	10.63	10.54
11	11.35	10.68	10.49	8.83	8.41	---	8.11	7.32	9.47	9.25	10.55	10.51
12	11.40	10.70	10.57	8.95	7.93	8.24	8.19	7.33	9.32	9.31	10.75	10.37
13	---	10.77	10.43	8.76	8.29	8.29	8.11	7.41	9.00	9.38	10.89	10.47
14	---	10.32	10.44	9.03	8.50	---	7.81	7.38	8.73	9.46	10.84	10.60
15	---	10.47	10.54	8.70	8.82	8.18	7.79	7.30	8.56	9.49	10.79	10.62
16	---	10.54	10.46	8.27	8.84	8.46	7.90	7.31	8.55	9.46	10.88	10.60
17	---	10.75	10.31	8.38	8.44	8.56	7.98	7.45	8.57	9.36	10.87	10.64
18	11.37	---	10.44	8.49	7.91	8.39	8.41	7.57	8.47	9.49	10.78	10.67
19	11.22	---	10.43	8.44	7.92	8.01	8.28	7.57	8.34	9.68	10.89	10.64
20	11.11	---	10.43	8.48	7.87	7.76	8.28	7.62	8.29	9.69	10.92	10.57
21	11.24	---	10.71	---	7.93	7.45	8.45	7.73	8.47	9.82	10.78	10.52
22	11.22	10.24	10.65	---	8.21	7.33	8.38	8.03	8.62	9.83	10.63	10.45
23	11.34	10.37	10.38	---	7.99	7.67	8.17	8.21	8.60	9.84	10.50	10.69
24	11.36	10.38	10.53	---	7.43	7.92	8.17	8.36	8.63	9.99	10.39	10.79
25	11.24	10.48	10.14	---	7.63	8.24	8.40	8.35	---	10.21	10.42	10.69
26	11.41	10.03	10.11	---	7.88	8.00	8.53	8.48	---	10.26	10.48	10.62
27	10.90	10.16	9.86	8.29	7.80	7.83	8.69	8.69	---	10.27	10.54	10.39
28	11.14	10.27	9.93	7.80	7.78	7.76	8.81	8.77	---	10.24	10.44	10.40
29	11.27	10.27	9.58	7.76	---	7.82	8.70	8.77	---	10.24	10.33	10.57
30	11.26	9.99	9.06	7.75	---	7.93	8.48	8.82	---	10.45	10.37	10.47
31	11.20	---	9.63	8.05	---	8.00	---	8.71	---	10.65	10.37	---
MEAN	11.16	10.55	10.23	8.75	8.15	8.01	8.16	8.02	8.82	9.62	10.67	10.50
MAX	11.41	11.26	10.71	9.90	8.84	8.56	8.81	8.82	9.47	10.65	10.92	10.79
MIN	10.67	9.99	9.06	7.75	7.43	7.33	7.70	7.30	8.29	8.71	10.33	10.19

WTR YR 1998: HIGHEST 7.30, MAY 15; LOWEST 11.41, OCTOBER 26.



PHILADELPHIA COUNTY

395342075102101. Local number, PH 12.

LOCATION.--Lat 39°53'42", long 75°10'21", Hydrologic Unit 02040202, at Barracks and East Fourth Streets, Philadelphia.

Owner: U.S. Naval Base.

AQUIFER.--Middle Sand Unit of Potomac-Raritan-Magothy aquifer system of Late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 8 in., depth 101 ft, cased to 93 ft, screened from 93-101 ft.

INSTRUMENTATION.--Data collection platform. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 8.6 ft above sea level. Measuring point: Top of casing, 1.8 ft above land-surface datum; 3.3 ft above land-surface datum since May 27, 1998.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office. Mean daily fluctuation caused by tidal loading, 0.20 ft.

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

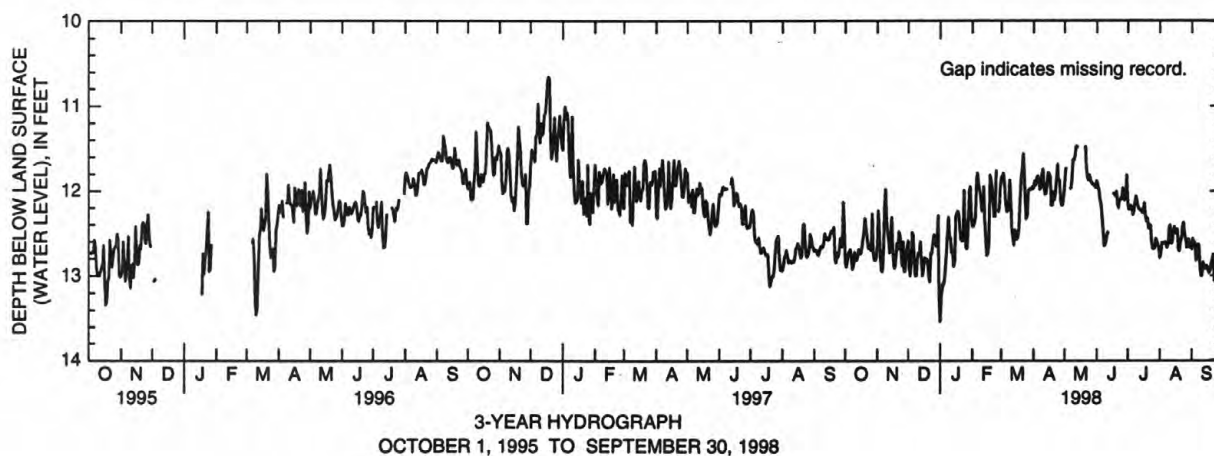
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 10.65 ft below land-surface datum, Dec. 17, 18, 1996; lowest, 39.60 ft below land-surface datum, July 20, 1955.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.85	12.64	12.59	13.53	12.42	11.84	11.97	11.95	11.88	12.15	12.79	12.69
2	12.90	12.23	12.92	13.24	12.42	11.83	11.88	11.73	11.95	12.22	12.73	12.56
3	12.81	12.49	13.00	13.16	12.38	11.79	11.93	11.74	11.99	12.22	12.61	12.62
4	12.73	12.79	12.84	13.08	12.31	11.92	11.85	---	12.11	12.17	12.62	12.61
5	12.72	12.95	12.49	13.09	11.86	12.13	11.82	---	12.15	12.22	12.62	12.82
6	12.69	12.95	12.52	12.91	11.79	12.24	11.87	11.97	12.30	12.28	12.60	12.79
7	12.82	12.70	12.84	12.75	11.93	12.24	11.98	11.97	12.45	12.23	12.64	12.63
8	12.92	12.19	13.00	12.50	11.99	12.21	11.96	11.87	12.65	12.12	12.67	12.64
9	12.87	11.98	13.00	12.31	12.08	11.87	11.81	11.63	12.64	12.06	12.62	12.91
10	12.72	12.35	12.80	12.55	12.23	12.07	11.74	11.64	12.58	12.14	12.43	13.00
11	12.82	12.49	12.73	12.55	12.24	12.44	11.94	11.59	12.51	12.19	12.40	13.00
12	12.82	12.59	12.73	12.73	11.95	12.53	12.04	11.47	12.48	12.22	12.62	12.84
13	12.77	12.73	12.60	12.71	12.34	12.64	12.03	11.48	---	12.23	12.61	12.90
14	12.69	12.50	12.85	12.89	12.59	12.46	11.91	11.48	---	12.22	12.49	12.92
15	12.74	12.31	13.00	12.83	12.76	12.51	11.78	---	---	12.26	12.42	12.88
16	12.74	12.68	12.90	12.31	12.73	12.57	11.80	---	---	12.24	12.50	12.89
17	12.68	12.88	12.79	12.26	12.61	12.55	11.83	---	12.02	12.14	12.48	12.95
18	12.57	12.91	12.84	12.24	11.81	12.43	12.17	---	12.04	12.29	12.45	12.97
19	12.49	12.79	12.80	12.27	11.87	12.11	12.17	---	12.06	12.36	12.69	12.94
20	12.32	12.62	12.84	12.46	11.94	11.84	12.01	---	12.00	12.32	12.71	12.85
21	12.45	12.69	13.01	12.57	12.15	11.75	12.11	11.47	12.15	12.44	12.61	12.81
22	12.53	12.48	13.07	12.59	12.30	11.56	12.02	11.72	12.20	12.44	12.55	12.75
23	12.67	12.53	12.73	12.59	12.30	11.78	11.84	11.84	12.10	12.40	12.42	13.05
24	12.68	12.74	12.74	11.99	11.75	12.11	11.68	11.87	12.09	12.61	12.37	13.07
25	12.63	12.88	12.60	12.50	---	12.33	11.86	11.81	12.10	12.68	12.51	12.97
26	12.70	12.60	12.52	12.68	12.25	12.29	11.87	11.88	11.96	12.68	12.57	12.95
27	12.27	12.95	12.53	12.68	12.20	11.99	12.10	11.90	12.09	12.68	12.67	12.80
28	12.72	12.95	12.65	12.41	11.94	11.99	12.17	11.92	12.11	12.56	12.58	12.77
29	12.81	12.73	12.65	11.99	---	11.97	12.17	11.92	12.01	12.59	12.57	12.90
30	12.82	12.65	12.29	11.95	---	11.98	12.06	11.94	11.81	12.64	12.67	12.81
31	12.80	---	13.24	12.31	---	11.94	---	11.96	---	12.68	12.67	---
MEAN	12.70	12.63	12.78	12.60	12.19	12.13	11.95	11.77	12.17	12.34	12.58	12.84
MAX	12.92	12.95	13.24	13.53	12.76	12.64	12.17	11.97	12.65	12.68	12.79	13.07
MIN	12.27	11.98	12.29	11.95	11.75	11.56	11.68	11.47	11.81	12.06	12.37	12.56

WTR YR 1998: HIGHEST RECORDED 11.47, MAY 12, 21; LOWEST 13.53, JANUARY 1.



PIKE COUNTY

410940074583401. Local number, PI 200.

LOCATION.--Lat 41°09'40", long 74°58'34", Hydrologic Unit 02040104, at Pocono Mountain Lake Estates.

Owner: Pocono Mountain Lake Estates.

AQUIFER.--Sandstone and siltstone of Towamensing Member of Catskill Formation of Late Devonian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 799 ft, cased to 86 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,180 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 3.3 ft above land-surface datum. Prior to October 1983, published as 1.4 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

PERIOD OF RECORD.--July 1981 to current year.

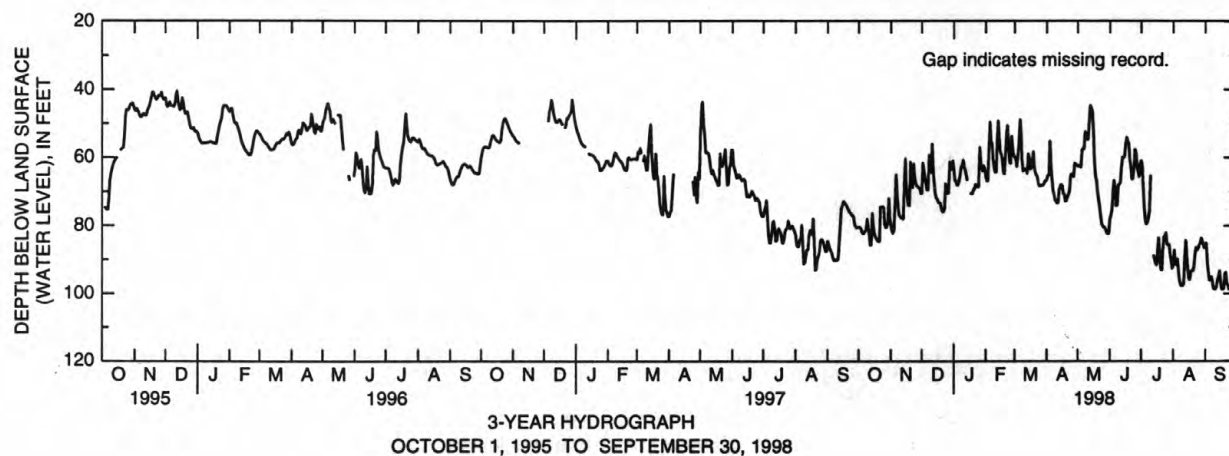
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 24.30 ft below land-surface datum, June 1, 1984; lowest recorded, 98.67 ft below land-surface datum, Sept. 10, 26-29, 1998. Maximum depth below land surface was actually lower than 98.67 ft on Sept. 10, 17, 18, 24-30 transducer limit was exceeded.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80.47	80.23	70.60	63.63	65.75	59.64	66.40	62.57	77.83	60.91	91.76	85.83
2	80.47	81.65	61.61	66.66	66.82	60.74	65.17	62.52	77.12	62.24	87.28	85.09
3	80.79	82.29	63.80	66.90	66.80	62.61	65.20	62.29	75.09	69.21	91.17	90.43
4	82.00	81.27	65.85	68.07	57.92	59.59	55.20	62.94	69.46	74.91	91.59	93.21
5	82.36	72.70	67.72	68.07	49.61	55.31	62.89	57.85	66.73	78.77	89.78	95.97
6	82.29	65.10	69.50	66.95	55.15	48.98	66.25	57.40	69.22	79.47	93.43	96.06
7	81.52	71.53	69.50	65.41	56.20	52.80	69.74	57.50	74.15	79.01	96.10	95.00
8	81.40	74.53	59.34	62.60	60.66	60.74	70.84	52.45	74.11	77.61	97.34	96.41
9	78.11	76.90	64.07	62.55	63.18	64.01	72.57	53.01	67.99	75.76	97.68	98.39
10	80.37	77.40	64.48	60.78	64.24	63.77	72.59	54.61	67.89	65.14	97.69	98.67
11	82.51	77.74	56.06	62.82	64.25	63.27	73.39	54.76	67.30	---	96.96	98.66
12	85.66	77.88	63.76	63.58	54.59	63.46	73.37	49.00	63.16	---	89.15	97.90
13	85.67	78.04	67.42	65.23	49.27	64.61	69.65	44.62	59.87	88.66	84.37	95.76
14	76.42	65.51	70.71	66.74	54.50	58.99	68.45	45.66	60.14	89.83	88.95	94.94
15	79.93	60.39	71.93	---	58.66	60.29	67.91	46.45	59.74	91.13	93.32	93.28
16	82.32	68.58	72.19	---	59.10	63.38	68.19	52.46	56.14	91.63	95.63	96.82
17	83.21	72.35	73.14	70.38	60.96	63.25	70.61	61.01	54.08	86.85	95.92	98.66
18	83.92	74.06	73.37	70.68	64.50	61.97	70.76	65.42	55.43	83.58	93.40	98.66
19	84.38	74.16	73.37	70.68	64.73	58.30	72.82	66.62	55.97	89.85	93.19	98.57
20	84.62	61.37	75.04	69.48	59.31	63.05	72.75	70.01	60.52	92.83	93.31	94.24
21	84.63	67.68	75.90	69.37	52.90	64.58	71.50	72.45	62.55	93.07	91.77	93.63
22	74.51	68.91	76.01	67.87	50.70	65.15	70.90	74.14	66.34	86.74	88.14	96.91
23	74.57	61.89	74.99	68.52	57.94	65.90	69.87	77.15	66.31	83.30	86.38	97.49
24	74.38	65.67	67.68	68.64	61.18	67.88	65.36	79.32	62.76	83.31	87.09	98.66
25	74.73	67.39	70.29	68.64	61.77	68.39	64.88	80.18	57.60	82.17	86.71	98.66
26	79.69	68.37	70.57	57.00	53.78	68.39	64.93	80.50	58.90	85.49	85.52	98.67
27	80.56	68.47	70.30	61.13	57.74	68.11	65.61	80.69	62.88	85.75	85.07	98.67
28	80.42	68.95	61.41	63.08	59.76	68.19	61.69	81.17	64.20	85.57	83.63	98.67
29	78.66	69.03	63.44	64.00	---	67.91	62.22	82.20	65.62	88.49	84.57	98.67
30	72.05	70.52	63.35	62.43	---	66.96	62.07	82.37	62.02	90.60	85.79	98.66
31	77.50	---	61.03	63.19	---	66.86	---	82.39	---	92.56	86.52	---
MEAN	80.33	71.69	68.01	65.69	59.00	62.81	67.79	64.89	64.70	82.57	90.62	96.04
MAX	85.67	82.29	76.01	70.68	66.82	68.39	73.39	82.39	77.83	93.07	97.69	98.67
MIN	72.05	60.39	56.06	57.00	49.27	48.98	55.20	44.62	54.08	60.91	83.63	85.09

WTR YR 1998: HIGHEST 44.62, MAY 13; LOWEST RECORDED 98.67, SEPTEMBER 10, 26-29.



SCHUYLKILL COUNTY

404708076070701. Local number, SC 296.

LOCATION.--Lat 40°47'08", long 76°07'07", Hydrologic Unit 02040203, at Locust Lake State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Mauch Chunk Formation of Early Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 242 ft, cased to 40 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,290 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 2.8 ft above land-surface datum. Prior to June 26, 1980, top of casing 2.3 ft above land-surface datum.

REMARKS.--In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

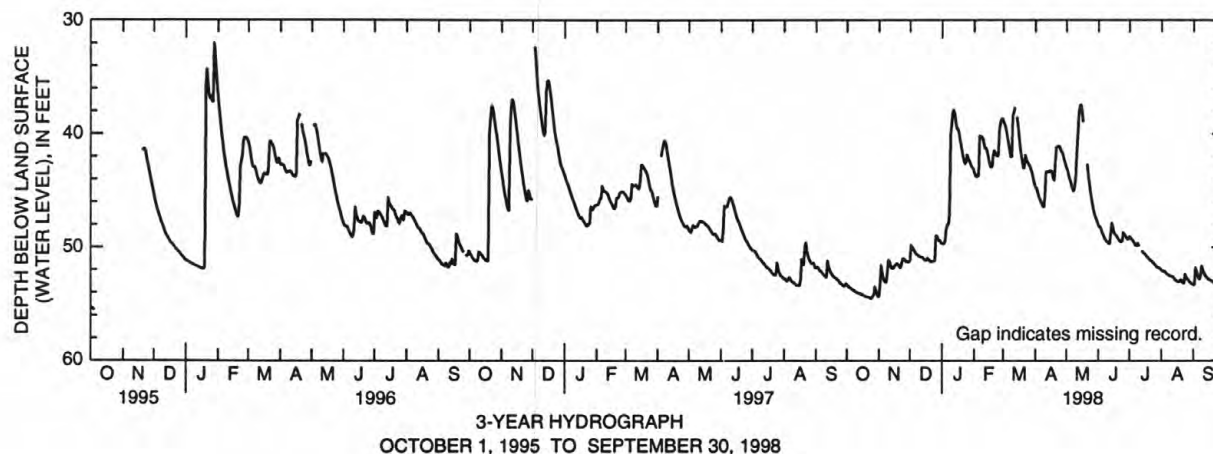
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 26.27 ft below land-surface datum, May 18, 1989; lowest, 56.00 ft below land-surface datum, Sept. 3, 4, 1993.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53.36	54.36	51.13	49.69	43.44	38.84	44.73	43.03	48.09	49.07	52.04	53.32
2	53.42	53.41	49.83	49.70	43.68	39.15	44.80	43.27	48.22	49.17	52.10	53.34
3	53.53	51.60	49.96	49.69	43.81	39.36	45.19	43.70	48.27	49.28	52.07	51.82
4	53.61	52.22	50.15	49.41	43.78	39.85	45.50	44.00	48.54	49.40	52.16	52.08
5	53.68	52.72	50.29	48.42	43.66	40.41	45.76	44.28	48.80	49.53	52.22	52.47
6	53.73	52.99	50.47	48.05	40.18	40.97	45.96	44.65	49.01	49.70	52.33	52.70
7	53.76	53.07	50.62	48.03	40.23	41.59	46.20	44.97	49.25	49.83	52.42	52.83
8	53.85	53.10	50.65	47.17	40.28	42.02	46.39	45.06	49.37	49.89	52.45	52.45
9	53.93	52.35	50.73	40.22	40.41	42.02	46.46	44.58	49.51	49.63	52.53	51.64
10	53.98	51.15	50.84	39.16	40.79	38.44	45.45	43.61	49.59	49.91	52.58	52.00
11	54.03	51.21	50.85	38.13	41.26	38.04	43.35	41.63	49.69	---	52.58	52.23
12	54.04	51.58	50.89	37.92	41.26	37.68	43.41	39.77	49.69	---	52.59	52.43
13	54.11	51.82	50.87	38.23	41.43	---	43.35	38.20	48.60	50.30	52.73	52.58
14	54.08	51.89	51.02	38.92	41.88	38.53	43.36	37.52	47.87	50.44	52.85	52.68
15	54.18	51.85	51.10	39.54	42.40	39.36	43.25	37.43	48.32	50.54	52.95	52.81
16	54.22	51.66	51.16	39.55	42.81	40.23	43.26	38.11	48.68	50.61	52.99	52.84
17	54.26	51.57	51.13	39.86	42.95	41.10	43.52	38.96	48.91	50.73	53.06	52.92
18	54.31	51.48	50.96	40.47	42.90	41.84	43.94	---	48.94	50.85	53.06	52.95
19	54.36	51.47	51.14	40.94	41.95	42.41	44.11	---	49.10	50.94	52.92	52.98
20	54.39	51.60	51.15	41.48	41.48	42.99	42.60	---	49.25	51.05	52.87	53.03
21	54.41	51.77	51.29	41.97	41.67	43.02	41.18	42.68	49.37	51.14	53.06	53.16
22	54.44	51.80	51.27	42.39	41.90	41.88	41.18	43.47	49.50	51.19	53.17	53.24
23	54.45	51.38	51.24	42.66	41.96	42.20	41.09	44.27	49.55	51.28	53.17	53.26
24	54.52	51.00	51.26	42.48	41.93	42.44	41.08	44.98	49.47	51.37	52.37	53.32
25	54.52	51.00	51.16	41.85	39.74	42.65	41.37	45.58	48.74	51.47	52.71	53.35
26	54.32	51.09	48.98	42.21	39.07	42.79	41.61	46.14	48.85	51.57	52.79	53.39
27	54.20	51.27	48.98	42.35	38.71	43.03	41.66	46.59	48.97	51.69	52.88	53.48
28	53.50	51.28	49.28	42.58	38.65	43.28	42.10	47.01	49.14	51.77	53.03	53.54
29	53.89	51.27	49.43	42.84	---	43.68	42.42	47.35	49.28	51.80	53.14	53.54
30	54.14	51.31	49.41	42.97	---	44.09	42.74	47.51	49.30	51.85	53.22	53.59
31	54.34	---	49.63	43.09	---	44.50	---	47.81	---	51.92	53.27	---
MEAN	54.05	51.88	50.54	42.97	41.58	41.28	43.57	43.43	49.00	50.62	52.72	52.87
MAX	54.52	54.36	51.29	49.70	43.81	44.50	46.46	47.81	49.69	51.92	53.27	53.59
MIN	53.36	51.00	48.98	37.92	38.65	37.68	41.08	37.43	47.87	49.07	52.04	51.64

WTR YR 1998: HIGHEST 37.43, MAY 15; LOWEST 54.52, OCTOBER 24, 25.



WAYNE COUNTY

414333075153201. Local number, WN 64.

LOCATION.--Lat 41°43'33", long 75°15'32", Hydrologic Unit 02040103, at State Game Land Number 159.

Owner: U.S. Geological Survey.

AQUIFER.--Sand and gravel of Glacial Outwash of Quaternary age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 52 ft, cased to 52 ft, open hole.

INSTRUMENTATION.--Data collection platform with 30-minute recording interval. Satellite telemetry at station.

DATUM.--Elevation of land-surface datum is 1,350 ft above sea level, from topographic map. Measuring point: Top of plywood shelf, 3.9 ft above land-surface datum. Prior to May 7, 1987, top of plywood cover, measuring point above land-surface datum varied.

REMARKS.--Daily maximum water-level data collected prior to May 7, 1987 were referenced to an uncertain datum elevation that cannot be related to any datum after that date. In addition to the daily maximum water level table shown below, daily minimum and mean water levels, since October 1994, are also available from the District Office.

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

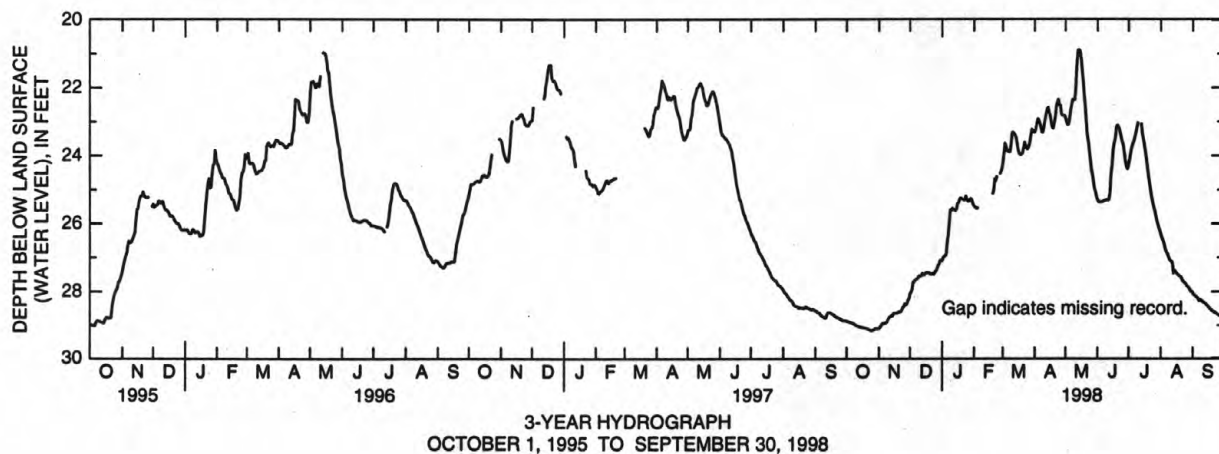
EXTREMES FOR PERIOD OF RECORD.--The extremes shown are extremes of the daily maximum depth below land surface for the period of record indicated above.

Highest water level, 7.88 ft below land-surface datum, Nov. 17, 1972; lowest, 32.98 ft below land-surface datum, Nov. 9, 10, 11, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.88	29.10	28.06	27.10	25.48	24.22	23.31	22.90	25.30	24.23	26.33	28.05
2	28.88	29.06	28.02	27.00	25.52	23.92	23.25	23.02	25.36	24.10	26.43	28.09
3	28.90	29.00	27.94	26.97	25.54	23.64	23.05	23.10	25.36	23.88	26.50	28.11
4	28.90	28.96	27.72	26.96	25.54	23.72	22.91	23.08	25.36	23.75	26.60	28.15
5	28.92	28.94	27.72	26.89	25.54	23.86	22.95	22.88	25.36	23.63	26.74	28.17
6	28.92	28.94	27.66	26.55	---	23.88	23.05	22.66	25.35	23.58	26.84	28.21
7	28.94	28.93	27.64	26.33	---	23.89	23.16	22.48	25.33	23.44	26.88	28.27
8	28.96	28.92	27.64	25.91	---	23.89	23.30	22.34	25.32	23.31	26.94	28.23
9	28.98	28.88	27.58	25.59	---	23.64	23.32	22.36	25.30	23.17	27.06	28.26
10	29.00	28.80	27.54	25.62	---	23.31	23.16	22.36	25.30	23.01	27.09	28.29
11	29.02	28.76	27.56	25.55	---	23.31	22.96	21.91	25.30	---	27.11	28.31
12	29.02	28.74	27.54	25.58	---	23.37	22.79	21.24	25.30	---	27.15	28.33
13	29.04	28.72	27.47	25.60	---	23.41	22.65	20.90	25.08	23.05	27.47	28.35
14	29.06	28.72	27.52	25.62	---	23.49	22.58	20.88	24.53	23.31	27.38	28.39
15	29.06	28.64	27.52	25.56	---	23.71	22.74	20.92	24.24	23.51	27.41	28.41
16	29.06	28.64	27.46	25.40	---	23.87	22.82	21.16	23.83	23.67	27.47	28.45
17	29.08	28.64	27.44	25.38	---	23.95	23.03	21.48	23.61	23.89	27.49	28.49
18	29.08	28.64	27.46	25.27	---	23.97	23.16	21.84	23.52	24.09	27.53	28.51
19	29.08	28.63	27.44	25.24	25.13	23.97	23.20	22.24	23.17	24.37	27.55	28.55
20	29.10	28.60	27.46	25.26	25.02	23.93	23.05	22.52	23.10	24.61	27.57	28.57
21	29.10	28.60	27.50	25.28	24.68	23.80	22.86	23.01	23.13	24.81	27.62	28.59
22	29.12	28.59	27.48	25.30	24.74	23.60	22.56	23.40	23.23	25.02	27.69	28.61
23	29.14	28.54	27.48	25.30	24.59	23.71	22.43	23.58	23.35	25.21	27.71	28.63
24	29.16	28.46	27.50	25.18	---	23.79	22.34	23.85	23.50	25.35	27.75	28.65
25	29.16	28.45	27.42	25.30	---	23.81	22.52	24.14	23.61	25.51	27.77	28.67
26	29.16	28.36	27.40	25.34	24.54	23.75	22.52	24.41	23.73	25.61	27.83	28.69
27	29.14	28.40	27.35	25.34	24.47	23.63	22.78	24.54	23.99	25.77	27.87	28.71
28	29.10	28.34	27.24	25.27	24.38	23.44	22.82	24.76	24.19	25.91	27.88	28.71
29	29.10	28.26	27.21	25.26	---	23.23	22.82	24.96	24.35	26.02	27.95	28.71
30	29.10	28.20	27.08	25.33	---	23.25	22.82	25.06	24.39	26.15	27.99	28.71
31	29.10	---	27.10	25.44	---	23.31	---	25.20	---	26.21	27.99	---
MEAN	29.04	28.68	27.52	25.73	25.01	23.69	22.90	22.88	24.42	24.42	27.34	28.43
MAX	29.16	29.10	28.06	27.10	25.54	24.22	23.32	25.20	25.36	26.21	27.99	28.71
MIN	28.88	28.20	27.08	25.18	24.38	23.23	22.34	20.88	23.10	23.01	26.33	28.05

WTR YR 1998: HIGHEST 20.88, MAY 14; LOWEST 29.16, OCTOBER 24-26.



GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
 HYDROGEOLOGIC FRAMEWORK AND SAMPLING DESIGN
 AGRICULTURAL LAND USE--GROUND-WATER QUALITY IN WELLS

TABLE 4.--PESTICIDE SCHEDULE FOR GROUND-WATER WELLS.

REMARKS.--Water from each of 20 wells in this study was tested for pesticides by the Pennsylvania Department of Environmental Protection (DEP) Laboratory in Harrisburg, Pa. The table below lists the 9 pesticides analyzed, the unit of measure (micrograms per liter, $\mu\text{g/L}$), the associated U.S. Geological Survey National Water Information System parameter code, and the method reporting level. This schedule includes selected pesticides and metabolites that are efficiently partitioned from a water sample by solid-phase extraction and are sufficiently volatile and thermally stable for analysis by gas chromatography. A summary of the results of the pesticides analyzed by the Pennsylvania DEP laboratory is listed in the water-quality table on page 393.

ALACHLOR ($\mu\text{G/L}$) (77825)	ATRAZINE ($\mu\text{G/L}$) (39630)	CHLORO- THALONIL ($\mu\text{G/L}$) (70314)	CHLOR- PYRIFOS ($\mu\text{G/L}$) (39832)	CYANAZINE ($\mu\text{G/L}$) (81757)	METOLACHLOR ($\mu\text{G/L}$) (82612)
0.1	0.1	0.1	0.1	0.1	0.1
METRIBUZIN ($\mu\text{G/L}$) (82611)	PENDI- METHALIN ($\mu\text{G/L}$) (79190)	SIMAZINE ($\mu\text{G/L}$) (39055)			
0.1	0.1	0.1			

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

HYDROGEOLOGIC FRAMEWORK AND SAMPLING DESIGN--Continued

AGRICULTURAL LAND USE--GROUND-WATER QUALITY IN WELLS

REMARKS.--The following tables contain water-level and water-quality data from a network of privately-owned wells used to supply water to rural homes and businesses throughout the state of Pennsylvania. The network was established as part of a U.S. Geological Survey hydrogeologic framework and sampling design project done in cooperation with the Pennsylvania Department of Agriculture. Water samples were analyzed for nutrients, bacteria, and pesticides as part of the Pennsylvania Pesticides and Ground Water Strategy. Analyses were performed by the Pennsylvania Department of Environmental Protection Laboratory in Harrisburg, Pa. and/or the U.S. Geological Survey National Water-Quality Laboratory in Arvada, Colorado. Data collected as part of this study are being used to help assess the ground-water quality of the State and to develop guidelines for prioritizing a sampling plan to assess areas of the State which have not been adequately characterized.

Additional data collected as part of this study can be found in Water Data Reports PA-98-2 and PA-98-3.

Explanation of column headings--SITE IDENTIFIER: 15-digit unique identifier based on site latitude (first six digits), longitude (digits seven through thirteen), and a 2-digit sequence number suffix; ELEVATION OF LAND SURFACE: Land surface at well site in feet above sea level, from topographic map; G/M: gallons per minute; μ S/CM: microsiemens per centimeter at 25 degrees Celsius; DEG.C: degrees Celsius; MG/L: milligrams per liter; μ G/L: micrograms per liter; COL/100 ML: colonies per 100 milliliters.

WATER QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

SITE IDENTIFIER	LOCAL WELL NUMBER	LOCATION	DATE	TIME	AGENCY ANALYZING SAMPLE (CODE NUMBER)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
					(00028)	(72019)	(72008)	(72000)
402817075555101	BE 1630	Shoemakersville	07-21-98	1430	9813	52.30	197.00	450
403803075402501	LE 1417	New Tripoli	07-23-98	1130	9813	38.00	180.00	470
413237075171801	WN 208	Honesdale	08-19-98	1100	9813	31.80	260.00	1350

LOCAL WELL NUMBER	FLOW RATE (G/M) (00059)	SPECIFIC CONDUCTANCE (μS/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COLI-FORM, CON-FIRMED (MPN) (31505)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	E. COLI ONPG-MUG, AUTO AN (COLO-NIES/ 100 ML) (50468)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)
BE 1630	1.5	141	7.4	14.6	1.7	--	3	--	0	<.010
LE 1417	2.7	305	6.5	13.4	7.2	--	1	--	0	<.010
WN 208	1.0	349	7.2	10.3	3.3	3	0	<1	0	<.010

LOCAL WELL NUMBER	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)	ALA-CHLOR TOTAL RECOVER (μG/L) (77825)	ATRA-ZINE WATER UNFLTRD REC (μG/L) (39630)	CHLOR-OTHAL-ONIL WATER WHOLE REC (μG/L) (70314)	CHLOR-PYRIFOS TOTAL RECOVER (μG/L) (38932)	CYAN-AZINE TOTAL (μG/L) (81757)	METOLA-CHLOR WATER WHOLE TOT.REC (μG/L) (82612)	METRI-BUZIN WATER WHOLE TOT.REC (μG/L) (82611)	PENDI-METH-ALIN TOTAL (μG/L) (79190)	SIMA-ZINE TOTAL (μG/L) (39055)
BE 1630	.790	<.100	<.100	<.10	<.100	<.100	<.100	<.100	<.10	<.100
LE 1417	6.18	<.100	<.100	<.10	<.100	<.100	<.100	<.100	<.10	<.100
WN 208	2.91	<.100	<.100	<.10	<.100	<.100	<.100	<.100	<.10	<.100

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
PESTICIDES IN GROUND WATERS OF PENNSYLVANIA - QUALITY-ASSURANCE PROJECT
GROUND-WATER LEVELS IN WELLS

The following tables contain ground-water level records and results of analyses for pesticides in ground water from privately-owned wells used to supply water to rural homes and businesses. The wells were sampled as part of a project in cooperation with the Pennsylvania Department of Agriculture to provide quality assurance for pesticide analyses as part of the Pennsylvania Pesticides and Ground Water Strategy. The wells were in areas of agricultural land use and were completed in carbonate bedrock of Cambrian and Ordovician age in the Ridge and Valley Physiographic Province, Great Valley Section.

Explanation of Column Headings--SITE IDENTIFIER: 15-digit unique identifier based on site latitude (first six digits), longitude (digits seven through thirteen), and a 2-digit sequence number suffix. ELEVATION OF LAND SURFACE: land-surface at well site, in feet above sea level, from topographic map. ELEVATION ACCURACY: Error estimated as one half the contour interval on topographic map. AQUIFER CODE: Abbreviation of carbonate rock geologic unit where well is completed. Middle Ordovician: 364BKMN, Beekmantown Group; 364HRSY, Hershey Formation; 364JKBG, Jacksonburg Formation; 364MRSN, Myerstown Formation; 364ONLN, Ontelaunee Formation. Lower Ordovician: 367EPLR, Epler Formation; 367RCKB, Rickenbach Formation; 367SNNG, Stonehenge Formation. Upper Cambrian: 371ALNN, Allentown Formation; 371MDCK, Maiden Creek Member of Allentown Formation; 371RCLD, Richland Formation; 371SZCK, Snitz Creek Formation. WATER-LEVEL METHOD: S, steel tape.

LOCAL ID	SITE IDENTIFIER	LOCATION MAP NAME	ELEVATION OF LAND SURFACE (FEET)	ELEVATION ACCURACY (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL, IN FEET BELOW LAND SURFACE	WATER-LEVEL METHOD
BERKS COUNTY								
BE 1036	402923075472901	FLEETWOOD	400	10	371MDCK	--	--	--
BE 1618	402327076143601	STRAUSSTOWN	475	10	364HRSY	10-21-97	8.1	S
BE 1619	402934075481801	FLEETWOOD	400	10	371MDCK	11-13-97	37.7	S
BE 1620	402907075513901	FLEETWOOD	424	10	367RCKB	12-04-97	83.7	S
BE 1621	402032075452401	BIRDSBORO	310	10	371RCLD	12-04-97	10.7	S
BE 1622	403232075413901	TOPTON	480	5	367RCKB	11-03-97	80.6	S
BE 1624	402645075543501	TEMPLE	320	10	367SNNG	11-04-97	42.9	S
BE 1625	402432075575701	TEMPLE	270	10	367EPLR	11-04-97	46.1	S
BE 1626	402311075444001	MANATAWNY	320	10	371ALNN	12-04-97	19.3	S
BE 1627	403005075475201	KUTZTOWN	430	10	364ONLN	11-13-97	56.8	S
LEBANON COUNTY								
LB 545	402103076164701	RICHLAND	480	10	367EPLR	10-21-97	69.0	S
LB 1168	401933076142801	WOMELSDORF	520	10	371SZCK	10-21-97	27.3	S
LB 1169	402243076162501	BETHEL	470	10	364MRSN	10-16-97	59.7	S
LEHIGH COUNTY								
LE 1412	403148075365201	ALLENTOWN WEST	395	5	371ALNN	12-09-97	14.5	S
LE 1413	403409075352901	ALLENTOWN WEST	438	5	364BKMN	--	--	--
LE 1414	403352075352501	ALLENTOWN WEST	428	5	364BKMN	12-17-97	39.8	S
LE 1415	403900075330501	CEMENTON	430	5	364BKMN	12-17-97	117.0	S
NORTHAMPTON COUNTY								
NP 803	404054075273001	CATASAUQUA	360	5	367EPLR	--	--	--
NP 804	404028075242201	CATASAUQUA	400	5	367EPLR	01-14-98	100.8	S
NP 805	404144075241501	CATASAUQUA	400	5	367EPLR	01-14-98	78.5	S
NP 806	404233075214201	NAZARETH	370	5	367EPLR	12-29-97	34.5	S
NP 807	404852075061001	BELVIDERE	370	10	364JKBG	01-27-98	136.1	S

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

PESTICIDES IN GROUND WATERS OF PENNSYLVANIA - QUALITY-ASSURANCE PROJECT--Continued

GROUND-WATER QUALITY IN WELLS

402923075472901. Local number, BE 1036

REMARKS.--Concentrations of pesticides and degradation products in well water (replicate 1) and a spiked replicate of the well water (replicate 2); "<" = less than; less-than values were set equal to zero for calculations; E = estimated value.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Concentration, in micrograms per liter					
Laboratory results					
Parameter code	Constituent	Replicate 1	Replicate 2	a	Recovery in percent [(B-A)/C] x 100
		(not spiked) (11/13/97 @ 1230) A	(spiked) (11/13/97 @ 1232) B	Calculated concentration added to replicate 2 C	
49260	Acetochlor	<0.002	0.469	0.46	102.
46342	Alachlor	<0.002	0.463	0.46	101.
34253	Alpha BHC	<0.002	0.663	0.414	160.
39632	Atrazine	0.234	0.713	0.46	104.
82673	Benfluralin	<0.002	0.266	0.46	57.8
04028	Butylate	<0.002	0.397	0.414	95.8
82680	Carbaryl	<0.003	E0.167	0.46	36.3
82674	Carbofuran	<0.003	E0.364	0.414	87.8
38933	Chlorpyrifos	<0.004	0.390	0.46	84.7
04041	Cyanazine	<0.004	0.254	0.414	61.3
82682	DCPA	<0.002	0.429	0.46	93.2
04040	Desethyl Atrazine	E0.077	E0.182	0.46	22.8
39572	Diazinon	<0.002	0.442	0.414	107.
39381	Dieldrin	<0.001	0.352	0.414	84.5
82660	2,6-Diethyl Aniline	<0.003	0.430	0.414	104.
82677	Disulfoton	<0.017	0.406	0.46	88.2
82668	EPTC	<0.002	0.429	0.414	104.
82663	Ethalfuralin	<0.004	0.283	0.46	61.5
82672	Ethoprop	<0.003	0.347	0.414	83.7
04095	Fonofos	<0.003	0.494	0.46	107.
39341	Lindane	<0.004	0.632	0.46	137.
82666	Linuron	<0.002	0.474	0.46	103.
39532	Malathion	<0.005	0.315	0.46	68.4
82686	Methyl Azinphos	<0.001	E0.287	0.46	62.3
82667	Methyl Parathion	<0.006	0.407	0.46	88.4
39415	Metolachlor	0.004	0.443	0.46	95.4
82630	Metribuzin	<0.004	0.309	0.414	74.6
82671	Molinate	<0.004	0.428	0.414	103.
82684	Napropamide	<0.003	0.366	0.46	79.5
34653	P, P' DDE	<0.006	E0.182	0.46	39.5
39542	Parathion	<0.004	0.362	0.46	78.6
82669	Pebulate	<0.004	0.428	0.414	103.
82683	Pendimethalin	<0.004	0.235	0.46	51.0
82687	Permethrin	<0.005	0.031	0.14	22.7
82664	Phorate	<0.002	0.433	0.414	105.
04037	Prometon	E0.010	0.419	0.46	88.9
82676	Pronamide	<0.003	0.413	0.46	89.7
04024	Propachlor	<0.007	0.453	0.46	98.4
82679	Propanil	<0.004	0.471	0.414	114.
82685	Propargite	<0.013	0.214	0.414	51.6
04035	Simazine	0.011	0.433	0.46	91.7
82670	Tebuthiuron	<0.010	0.393	0.46	85.4
82665	Terbacil	<0.007	E0.164	0.414	39.6
82675	Turbufos	<0.013	0.305	0.46	66.2
82681	Thiobencarb	<0.002	0.501	0.46	109.
82678	Triallate	<0.001	0.457	0.414	110.
82661	Trifluralin	<0.002	0.285	0.414	68.8
Surrogate Recovery, in percent					
91063	Diazinon D10 Surrogate	97.2	99.1		
91064	Terbutylazine Surrogate	101	107		
91065	HCH Alpha D6 Surrogate	80.9	86.5		

a Calculated concentration of spike from manufacturers lot number LA66096 added to sample (replicate 2) equals the concentration of the spike solution, in micrograms per milliliter of solvent x amount of spike added, in milliliters of solvent, divided by the volume of the spiked sample, in liters. The error in preparing the spiked sample is estimated to equal +/- 0.01 micrograms per liter.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES
PESTICIDES IN GROUND WATERS OF PENNSYLVANIA - QUALITY-ASSURANCE PROJECT--Continued
GROUND-WATER QUALITY IN WELLS

402934075481801. Local number, BE 1619

REMARKS.--Concentrations of pesticides and herbicides in spiked replicate from wells, and calculated recoveries, in percent; "<" = less than; less-than values were set equal to zero for calculations; E = estimated value.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

		Concentration, in micrograms per liter			
		Laboratory results			Recovery in percent [(B-A)/C] x 100
Parameter code	Constituent	Replicate 1 (not spiked) (11/13/97 @ 1100) A	Replicate 2 (spiked) (11/13/97 @ 1102) B	^a Calculated concentration added to replicate 2 C	
49260	Acetochlor	<0.002	0.523	0.51	102.
46342	Alachlor	<0.002	0.527	0.51	103.
34253	Alpha BHC	<0.002	0.697	0.51	136.
39632	Atrazine	0.259	0.802	0.51	106.
82673	Benfluralin	<0.002	0.313	0.51	61.0
04028	Butylate	<0.002	0.446	0.46	96.6
82680	Carbaryl	<0.003	E0.273	0.51	53.2
82674	Carbofuran	<0.003	E0.442	0.51	86.1
38933	Chlorpyrifos	<0.004	0.454	0.51	88.4
04041	Cyanazine	<0.004	0.308	0.51	60.0
82682	DCPA	<0.002	0.487	0.46	105.
04040	Desethyl Atrazine	E0.080	E0.182	0.51	20.0
39572	Diazinon	<0.002	0.516	0.51	101.
39381	Dieldrin	<0.001	0.406	0.46	87.9
82660	2,6-Diethyl Aniline	<0.003	0.467	0.51	91.0
82677	Disulfoton	<0.017	0.499	0.46	108.
82668	EPTC	<0.002	0.472	0.46	102.
82663	Ethalfuralin	<0.004	0.333	0.46	72.1
82672	Ethoprop	<0.003	0.397	0.46	85.9
04095	Fonofos	<0.003	0.560	0.51	109.
39341	Lindane	<0.004	0.733	0.46	159.
82666	Linuron	<0.002	0.567	0.46	123.
39532	Malathion	<0.005	0.449	0.51	87.5
82686	Methyl Azinphos	<0.001	E0.351	0.51	68.4
82667	Methyl Parathion	<0.006	0.474	0.51	92.4
39415	Metolachlor	0.007	0.569	0.46	122.
82630	Metribuzin	<0.004	0.341	0.51	66.4
82671	Molinate	<0.004	0.500	0.51	97.4
82684	Napropamide	<0.003	0.425	0.51	82.8
34653	P, P' DDE	<0.006	E0.207	0.51	40.3
39542	Parathion	<0.004	0.436	0.51	84.9
82669	Pebulate	<0.004	0.482	0.46	104.
82683	Pendimethalin	<0.004	0.288	0.51	56.1
82687	Permethrin	<0.005	0.033	0.153	21.4
82664	Phorate	<0.002	0.476	0.51	92.7
04037	Prometon	E0.009	0.479	0.51	91.5
82676	Pronamide	<0.003	0.483	0.51	94.1
04024	Propachlor	<0.007	0.537	0.51	105.
82679	Propanil	<0.004	0.539	0.51	105.
82685	Propargite	<0.013	0.255	0.46	55.2
04035	Simazine	0.012	0.485	0.51	92.3
82670	Tebuthiuron	<0.010	0.458	0.51	89.2
82665	Terbacil	<0.007	E0.181	0.51	35.3
82675	Turbufos	<0.013	0.359	0.51	69.9
82681	Thiobencarb	<0.002	0.583	0.51	114.
82678	Triallate	<0.001	0.508	0.51	99.0
82661	Trifluralin	<0.002	0.336	0.51	65.5
<u>Surrogate Recovery, in percent</u>					
91063	Diazinon D10 Surrogate	104	106		
91064	Terbutylazine Surrogate	98.1	99.1		
91065	HCH Alpha D6 Surrogate	82.3	82.3		

a Calculated concentration of spike from manufacturers lot number LA62435 added to sample (replicate 2) equals the concentration of the spike solution, in micrograms per milliliter of solvent x amount of spike added, in milliliters of solvent, divided by the volume of the spiked sample, in liters. The error in preparing the spiked sample is estimated to equal +/- 0.01 micrograms per liter.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

PESTICIDES IN GROUND WATERS OF PENNSYLVANIA - QUALITY-ASSURANCE PROJECT--Continued

GROUND-WATER QUALITY IN WELLS

402243076162501. Local number, LB 1169

REMARKS.--Concentrations of pesticides and degradation products in well water (replicate 1) and a spiked replicate of the well water (replicate 2); "<" = less than; less-than values were set equal to zero for calculations; E = estimated value.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Parameter code	Constituent	Concentration, in micrograms per liter			
		Laboratory results		a Calculated concentration added to replicate 2 C	Recovery in percent [(B-A)/C] x 100
		Replicate 1 (not spiked) (10/16/97 @ 1230) A	Replicate 2 (spiked) (10/16/97 @ 1232) B		
49260	Acetochlor	<0.002	0.546	0.51	107.
46342	Alachlor	<0.002	0.612	0.51	120.
34253	Alpha BHC	<0.002	0.438	0.51	85.8
39632	Atrazine	0.242	0.753	0.51	100.
82673	Benfluralin	<0.002	0.315	0.51	61.7
04028	Butylate	<0.002	0.404	0.46	87.9
82680	Carbaryl	<0.003	E0.480	0.51	94.0
82674	Carbofuran	<0.003	E0.471	0.51	92.3
38933	Chlorpyrifos	<0.004	0.478	0.51	93.6
04041	Cyanazine	<0.004	0.350	0.51	68.6
82682	DCPA	<0.002	0.520	0.46	113.
04040	Desethyl Atrazine	E0.041	E0.153	0.51	22.0
39572	Diazinon	<0.002	0.543	0.51	106.
39381	Dieldrin	<0.001	0.420	0.46	91.4
82660	2,6-Diethyl Aniline	<0.003	0.372	0.51	72.9
82677	Disulfoton	<0.017	0.483	0.46	105.
82668	EPTC	<0.002	0.408	0.46	88.8
82663	Ethalfuralin	<0.004	0.288	0.46	62.7
82672	Ethoprop	<0.003	0.487	0.46	106.
04095	Fonofos	<0.003	0.472	0.51	92.5
39341	Lindane	<0.004	0.450	0.46	98.0
82666	Linuron	<0.002	0.562	0.46	122.
39532	Malathion	<0.005	0.458	0.51	89.7
82686	Methyl Azinphos	<0.001	E0.384	0.51	75.2
82667	Methyl Parathion	<0.006	0.329	0.51	64.5
39415	Metolachlor	0.029	0.617	0.46	128.
82630	Metribuzin	<0.004	0.319	0.51	62.5
82671	Molinate	<0.004	0.430	0.51	84.2
82684	Napropamide	<0.003	0.456	0.51	89.3
34653	P, P' DDE	<0.006	0.275	0.51	53.9
39542	Parathion	<0.004	0.329	0.51	64.5
82669	Pebulate	<0.004	0.411	0.46	89.5
82683	Pendimethalin	<0.004	0.292	0.51	57.2
82687	Permethrin	<0.005	0.049	0.153	32.0
82664	Phorate	<0.002	0.456	0.51	89.3
04037	Prometon	0.031	0.615	0.51	114.
82676	Pronamide	<0.003	0.487	0.51	95.4
04024	Propachlor	<0.007	0.481	0.51	94.2
82679	Propanil	<0.004	0.583	0.51	114.
82685	Propargite	<0.013	0.416	0.46	90.6
04035	Simazine	0.008	0.475	0.51	91.5
82670	Tebuthiuron	<0.010	E0.373	0.51	73.1
82665	Terbacil	<0.007	E0.234	0.51	45.8
82675	Turbufos	<0.013	0.429	0.51	84.0
82681	Thiobencarb	<0.002	0.552	0.51	108.
82678	Triallate	<0.001	0.505	0.51	98.9
82661	Trifluralin	<0.002	0.309	0.51	60.5
<u>Surrogate Recovery, in percent</u>					
91063	Diazinon D10 Surrogate	92.3	142		
91064	Terbutylazine Surrogate	120	129		
91065	HCH Alpha D6 Surrogate	92.4	105		

a Calculated concentration of spike from manufacturers lot number LA62435 added to sample (replicate 2) equals the concentration of the spike solution, in micrograms per milliliter of solvent x amount of spike added, in milliliters of solvent, divided by the volume of the spiked sample, in liters. The error in preparing the spiked sample is estimated to equal +/- 0.01 micrograms per liter.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

PESTICIDES IN GROUND WATERS OF PENNSYLVANIA - QUALITY-ASSURANCE PROJECT--Continued

GROUND-WATER QUALITY IN WELLS

403409075352901. Local number, LE 1413

REMARKS.--Concentrations of pesticides and degradation products in well water (replicate 1) and a spiked replicate of the well water (replicate 2); "<" = less than; less-than values were set equal to zero for calculations; E = estimated value.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

Parameter code	Constituent	Concentration, in micrograms per liter			
		Laboratory results		a Calculated concentration added to replicate 2 C	Recovery in percent [(B-A)/C] x 100
		Replicate 1 (not spiked) (12/22/97 @ 1300) A	Replicate 2 (spiked) (12/22/97 @ 1302) B		
49260	Acetochlor	<0.002	0.306	0.31	98.6
46342	Alachlor	<0.002	0.314	0.31	101.
34253	Alpha BHC	<0.002	0.262	0.28	93.8
39632	Atrazine	0.105	0.453	0.31	112.
82673	Benfluralin	<0.002	0.189	0.31	60.9
04028	Butylate	<0.002	0.281	0.28	101.
82680	Carbaryl	<0.003	E0.297	0.31	95.7
82674	Carbofuran	<0.003	E0.317	0.28	113.
38933	Chlorpyrifos	<0.004	0.239	0.31	77.0
04041	Cyanazine	<0.004	0.303	0.28	108.
82682	DCPA	<0.002	0.312	0.31	100.
04040	Desethyl Atrazine	E0.130	E0.311	0.31	58.3
39572	Diazinon	<0.002	0.274	0.28	98.1
39381	Dieldrin	<0.001	0.231	0.28	82.7
82660	2,6-Diethyl Aniline	<0.003	0.273	0.28	97.7
82677	Disulfoton	<0.017	0.192	0.31	61.8
82668	EPTC	<0.002	0.278	0.28	99.5
82663	Ethalfuralin	<0.004	0.186	0.31	59.9
82672	Ethoprop	<0.003	0.309	0.28	111.
04095	Fonofos	<0.003	0.270	0.31	87.0
39341	Lindane	<0.004	0.251	0.31	80.8
82666	Linuron	<0.002	0.286	0.31	92.1
39532	Malathion	<0.005	0.246	0.31	79.2
82686	Methyl Azinphos	<0.001	E0.254	0.31	81.8
82667	Methyl Parathion	<0.006	0.223	0.31	71.8
39415	Metolachlor	0.010	0.322	0.31	100.
82630	Metribuzin	<0.004	0.234	0.28	83.7
82671	Molinate	<0.004	0.293	0.28	105.
82684	Napropamide	<0.003	0.274	0.31	88.2
34653	P, P' DDE	<0.006	0.165	0.31	53.1
39542	Parathion	<0.004	0.228	0.31	73.4
82669	Pebulate	<0.004	0.296	0.28	106.
82683	Pendimethalin	<0.004	0.195	0.31	62.8
82687	Permethrin	<0.005	0.035	0.093	37.1
82664	Phorate	<0.002	0.208	0.28	74.4
04037	Prometon	E0.014	0.322	0.31	99.2
82676	Pronamide	<0.003	0.311	0.31	100.
04024	Propachlor	<0.007	0.328	0.31	106.
82679	Propanil	<0.004	0.326	0.28	117.
82685	Propargite	<0.013	0.224	0.28	80.2
04035	Simazine	0.006	0.332	0.31	105.
82670	Tebuthiuron	<0.010	0.342	0.31	110.
82665	Terbacil	<0.007	E0.292	0.28	104.
82675	Turbufos	<0.013	0.232	0.31	74.7
82681	Thiobencarb	<0.002	0.313	0.31	101.
82678	Triallate	<0.001	0.271	0.28	97.0
82661	Trifluralin	<0.002	0.190	0.28	68.0
<u>Surrogate Recovery, in percent</u>					
91063	Diazinon D10 Surrogate	71.7	87.1		
91064	Terbuthylazine Surrogate	113	121		
91065	HCH Alpha D6 Surrogate	94.3	101		

a Calculated concentration of spike from manufacturers lot number LA66096 added to sample (replicate 2) equals the concentration of the spike solution, in micrograms per milliliter of solvent x amount of spike added, in milliliters of solvent, divided by the volume of the spiked sample, in liters. The error in preparing the spiked sample is estimated to equal +/- 0.01 micrograms per liter.

GROUND-WATER DATA COLLECTED AT SPECIAL-STUDY SITES

PESTICIDES IN GROUND WATERS OF PENNSYLVANIA - QUALITY-ASSURANCE PROJECT--Continued

GROUND-WATER QUALITY IN WELLS

404054075273001. Local number, NP 803

REMARKS.--Concentrations of pesticides and degradation products in well water (replicate 1) and a spiked replicate of the well water (replicate 2); "<" = less than; less-than values were set equal to zero for calculations; E = estimated value.

QUALITY-CONTROL DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

		Concentration, in micrograms per liter			
		Laboratory results			Recovery in percent [(B-A)/C] x 100
Parameter code	Constituent	Replicate 1 (not spiked) (12/22/97 @ 1130) A	Replicate 2 (spiked) (12/22/97 @ 1132) B	^a Calculated concentration added to replicate 2 C	
49260	Acetochlor	<0.002	0.493	0.50	98.6
46342	Alachlor	0.005	0.514	0.50	102.
34253	Alpha BHC	<0.002	0.430	0.45	95.6
39632	Atrazine	0.294	0.871	0.50	115.
82673	Benfluralin	<0.002	0.309	0.50	61.8
04028	Butylate	<0.002	0.447	0.45	99.3
82680	Carbaryl	<0.003	E0.394	0.50	78.8
82674	Carbofuran	<0.003	E0.442	0.45	98.2
38933	Chlorpyrifos	<0.004	0.298	0.50	59.6
04041	Cyanazine	<0.004	0.487	0.45	108.
82682	DCPA	<0.002	0.508	0.50	102.
04040	Desethyl Atrazine	E0.616	E0.869	0.50	50.6
39572	Diazinon	<0.002	0.427	0.45	94.9
39381	Dieldrin	<0.001	0.394	0.45	87.6
82660	2,6-Diethyl Aniline	<0.003	0.358	0.45	79.6
82677	Disulfoton	<0.017	0.372	0.50	74.4
82668	EPTC	<0.002	0.438	0.45	97.3
82663	Ethalfuralin	<0.004	0.280	0.50	56.0
82672	Ethoprop	<0.003	0.443	0.45	98.4
04095	Fonofos	<0.003	0.390	0.50	78.0
39341	Lindane	<0.004	0.405	0.50	81.0
82666	Linuron	<0.002	0.411	0.50	82.2
39532	Malathion	<0.005	0.316	0.50	63.2
82686	Methyl Azinphos	<0.001	E0.355	0.50	71.0
82667	Methyl Parathion	<0.006	0.328	0.50	65.6
39415	Metolachlor	0.034	0.540	0.50	101.
82630	Metribuzin	<0.004	0.384	0.45	85.3
82671	Molinate	<0.004	0.471	0.45	105.
82684	Napropamide	<0.003	0.421	0.50	84.2
34653	P, P' DDE	<0.006	0.262	0.50	52.4
39542	Parathion	<0.004	0.325	0.50	65.0
82669	Pebulate	<0.004	0.462	0.45	103.
82683	Pendimethalin	<0.004	0.309	0.50	61.8
82687	Permethrin	<0.005	0.044	0.15	29.1
82664	Phorate	<0.002	0.345	0.45	76.7
04037	Prometon	0.028	0.515	0.50	97.5
82676	Pronamide	<0.003	0.425	0.50	85.0
04024	Propachlor	<0.007	0.520	0.50	104.
82679	Propanil	<0.004	0.526	0.45	117.
82685	Propargite	<0.013	0.294	0.45	65.0
04035	Simazine	E0.003	0.525	0.50	104.
82670	Tebuthiuron	<0.010	0.425	0.50	85.0
82665	Terbacil	<0.007	E0.436	0.45	96.9
82675	Turbufos	<0.013	0.342	0.50	68.4
82681	Thiobencarb	<0.002	0.504	0.50	101.
82678	Triallate	<0.001	0.442	0.45	98.2
82661	Trifluralin	<0.002	0.310	0.45	68.9
<u>Surrogate Recovery, in percent</u>					
91063	Diazinon D10 Surrogate	68.6	87.5		
91064	Terbuthylazine Surrogate	114	121		
91065	HCH Alpha D6 Surrogate	102	99		

^a Calculated concentration of spike from manufacturers lot number LA66096 added to sample (replicate 2) equals the concentration of the spike solution, in micrograms per milliliter of solvent x amount of spike added, in milliliters of solvent, divided by the volume of the spiked sample, in liters. The error in preparing the spiked sample is estimated to equal +/- 0.01 micrograms per liter.

INDEX

Page	Page
ABBREVIATIONS, EXPLANATION OF PARAMETER CODE... 40,364	BUSH KILL BASIN, GAGING STATIONS IN..... 80-81
ACCESS TO USGS WATER DATA..... 21	CALLICOON, NY, DELAWARE RIVER AT..... 44-47
ACCURACY OF THE RECORDS..... 15	CARBON COUNTY, GROUND-WATER RECORDS IN..... 369
ACID NEUTRALIZING CAPACITY (ANC), DEFINITION OF..... 22	CEDAR HOLLOW, VALLEY CREEK AT CHURCH ROAD BRIDGE AT..... 350-353
ACRE-FOOT, DEFINITION OF..... 22	CELLS/VOLUME, DEFINITION OF..... 23
ADDRESSES, OFFICE..... xix	CFS-DAY, DEFINITION OF..... 23
ADENOSINE TRIPHOSPHATE, DEFINITION OF..... 22	CHADDS FORD, BRANDYWINE CREEK AT..... 318-327
ALDENVILLE, WEST BRANCH LACKAWAXEN RIVER NEAR.. 52-55	BRANDYWINE CREEK NEAR..... 346-349
ALGAE, DEFINITION OF..... 22	CHALFONT, NORTH BRANCH NESHAMINY CREEK AT..... 166-167
ALGAL GROWTH POTENTIAL, DEFINITION OF..... 22	CHAMBERS LAKE RESERVOIR..... 328
ALKALINITY, DEFINITION OF..... 22	CHEMICAL OXYGEN DEMAND (COD), DEFINITION OF.... 23
ALLENTOWN, JORDAN CREEK AT..... 124-125	CHESTER, CHESTER CREEK NEAR..... 246-247
LEHIGH RIVER AT..... 338	DELAWARE RIVER AT..... 248-254
LITTLE LEHIGH CREEK AT TENTH STREET BRIDGE, 120-121	CHESTER COUNTY, GROUND-WATER RECORDS IN..... 370-378
LITTLE LEHIGH CREEK NEAR..... 118-119	CHESTER CREEK BASIN, GAGING STATIONS IN..... 246-247
ANALOMINK, BRODHEAD CREEK NEAR..... 82-83	CHESTER CREEK, NEAR CHESTER..... 246-247
ANALYSES OF SAMPLES COLLECTED AT	EAST BRANCH, AT GREEN HILL..... 342-345
WATER-QUALITY PARTIAL-RECORD STATIONS... 342-353	AT WESTTOWN..... 342-345
ANNUAL RUNOFF, DEFINITION OF..... 22	BELOW GOOSE CREEK NEAR WEST CHESTER..... 342-345
ANNUAL 7-DAY MINIMUM, DEFINITION OF..... 24	GOOSE CREEK TRIBUTARY TO, NEAR WEST CHESTER..... 342-345
AQUASHICOLA CREEK AT PALMERTON..... 114-115	CHESTERVILLE, WEST BRANCH WHITE CLAY CREEK NEAR..... 346-349
AQUIFER, DEFINITION OF..... 22	CHLOROPHYLL, DEFINITION OF..... 23
ARTESIAN, DEFINITION OF..... 22	CHRISTINA RIVER BASIN, GAGING STATIONS IN..... 256-328
ASH MASS, DEFINITION OF..... 23	LAKES AND RESERVOIRS IN..... 328
ARTIFICIAL SUBSTRATE, DEFINITION OF..... 29	CLASSIFICATION OF RECORDS..... 15
AVONDALE, EAST BRANCH WHITE CLAY CREEK AT..... 346-349	COATESVILLE, SUCKER RUN NEAR..... 339
MIDDLE BRANCH WHITE CLAY CREEK NEAR..... 341	WEST BRANCH BRANDYWINE CREEK AT..... 272-275
TROUT RUN AT..... 256-260	CODES, REMARK, EXPLANATION OF..... 40,364
BACTERIA, DEFINITION OF..... 22	COLOR UNIT, DEFINITION OF..... 23
BARRYVILLE, NY, DELAWARE RIVER	CONSTITUENTS, DEFINITION OF..... 40,364
ABOVE LACKAWAXEN RIVER NEAR..... 48-51	CONTENTS, DEFINITION OF..... 23
DELAWARE RIVER AT..... 70-71	CONTINUING-RECORD STATION, DEFINITION OF..... 23
BASE DISCHARGE, DEFINITION OF..... 24	CONTINUOUS-RECORD STATION, DEFINITION OF..... 23
BED LOAD, DEFINITION OF..... 28	CONTROL, DEFINITION OF..... 23
BED LOAD DISCHARGE, DEFINITION OF..... 28	CONTROL STRUCTURE, DEFINITION OF..... 24
BED MATERIAL, DEFINITION OF..... 23	COOPERATION..... 1-2
BELL WATER LEVEL TUNNEL..... 355-362	COVENTRYVILLE, FRENCH CREEK NEAR..... 342-345
BELTZVILLE LAKE..... 138-139	SOUTH BRANCH FRENCH CREEK AT..... 342-345
BELVIDERE, NJ, DELAWARE RIVER AT..... 88-89	CREST-STAGE PARTIAL-RECORD STATIONS, ANNUAL MAXIMUM DISCHARGE AT..... 340-341
BENTHIC INVERTEBRATES, DEFINITION OF..... 23	CRUM CREEK, NEAR NEWTOWN SQUARE..... 242-243
BERKS COUNTY, GROUND-WATER RECORDS IN..... 366	CRUM CREEK BASIN, GAGING STATIONS IN..... 242-243
WATER-QUALITY RECORDS IN..... 393-396	CUBIC FEET PER SECOND PER SQUARE MILE (CFSM), [(ft ³ /s)/mi ²], DEFINITION OF..... 22,24
BERNE, SCHUYLKILL RIVER AT..... 188-189	CUBIC FOOT PER SECOND (CFS), (ft ³ /s), DEFINITION OF..... 24
BERNVILLE, TULPEHOCKEN CREEK NEAR..... 190-193	DATA COLLECTION PLATFORM (DCP), DEFINITION OF..... 24
BETHLEHEM, LEHIGH RIVER AT..... 128-129	DATA LOGGER, DEFINITION OF..... 24
MONOCACY CREEK AT..... 126-127	DEFINITION OF TERMS..... 22-31
BIG ELK CREEK, NEAR LEWISVILLE..... 341	DELAWARE COUNTY, GROUND-WATER RECORDS IN..... 379-380
EAST BRANCH, AT ELKVIEW..... 346-349	DELAWARE RIVER, ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, NY.. 48-51
BIOCHEMICAL OXYGEN DEMAND, DEFINITION OF..... 23	AT BARRYVILLE, NY..... 70-71
BIOMASS, DEFINITION OF..... 23	AT BELVIDERE, NJ..... 88-89
BIRCH RUN NEAR WAGONTOWN..... 268-271	AT BENJAMIN FRANKLIN BRIDGE AT PHILADELPHIA..... 176-182
BLAKESLEE, TOBYHANNA CREEK NEAR..... 96-99	AT CALLICOON, NY..... 44-47
BLUE-GREEN ALGAE, DEFINITION OF..... 27	AT CHESTER..... 248-254
BLUE MARSH LAKE..... 236-237	AT FORT MIFFLIN AT PHILADELPHIA..... 238-241
BOTTOM MATERIAL: SEE BED MATERIAL	AT LUMBERVILLE..... 146-147
BRADSHAW RESERVOIR, DISTRIBUTARY FROM..... 236-237	AT MONTAGUE, NJ..... 76-79
BRANDYWINE CREEK, AT CHADDS FORD..... 318-327	AT POND EDDY, NY..... 72-73
NEAR CHADDS FORD..... 346-349	AT PORT JERVIS, NY..... 74-75
EAST BRANCH, AT WAWASET..... 346-349	AT PORTLAND..... 86-87
BELOW DOWNINGTOWN..... 302-311	AT REEDY ISLAND JETTY, DE..... 330-336
NEAR DOWNINGTOWN..... 300-301	AT RIEGELSVILLE, NJ..... 140-141
WEST BRANCH, AT COATESVILLE..... 272-275	AT TRENTON, NJ..... 148-163
AT MODENA..... 276-285	WEST BRANCH, AT HANCOCK..... 42-43
AT WAWASET..... 346-349	DEVALT, VALLEY CREEK NEAR..... 350-353
NEAR HONEY BROOK..... 266-267	DIATOMS, DEFINITION OF..... 27
BRODHEAD CREEK BASIN, GAGING STATIONS IN..... 82-85	
BRODHEAD CREEK, AT MINISINK HILLS..... 84-85	
NEAR ANALOMINK..... 82-83	
BUCKINGHAM, MILL CREEK NEAR..... 341	
BUCK RUN AT DOE RUN..... 346-349	
BUCKS COUNTY, GROUND WATER-RECORDS IN..... 367-368	
BUSH KILL AT SHOEMAKERS..... 80-81	

INDEX--Continued

Page	Page
DISCHARGE,	
ANNUAL 7-DAY MINIMUM, DEFINITION OF.....	24
AT MISCELLANEOUS SITES.....	340-341
AT PARTIAL-RECORD STATIONS.....	338-339
BASE, DEFINITION OF.....	24
DEFINITION OF.....	24
INSTANTANEOUS, DEFINITION OF.....	24
MEAN, DEFINITION OF.....	24
DISCONTINUED GAGING STATIONS, LIST OF.....	xii-xiv
DISCONTINUED WATER-QUALITY STATIONS, LIST OF.....	xv-xviii
DISSOLVED, DEFINITION OF.....	24
DISSOLVED-SOLIDS CONCENTRATION, DEFINITION OF..	24
DISTRIBUTARY FROM BRADSHAW RESERVOIR.....	236-237
DOE RUN, AT SPRINGDELL.....	346-349
ABOVE TRIBUTARY AT SPRINGDELL.....	286-290
BUCK RUN AT.....	346-349
DOWNINGTOWN,	
EAST BRANCH BRANDYWINE CREEK BELOW.....	302-311
EAST BRANCH BRANDYWINE CREEK NEAR.....	300-301
MARSH CREEK NEAR.....	298-299
MARSH CREEK RESERVOIR NEAR.....	328
VALLEY CREEK, AT MULSTEINS MEADOWS NEAR.....	346-349
DOWNSTREAM ORDER SYSTEM.....	10
DOYLESTOWN, PINE RUN ON RICKERTS ROAD NEAR....	340
DRAINAGE AREA, DEFINITION OF.....	24
DRAINAGE BASIN, DEFINITION OF.....	24
DUBLIN, EAST BRANCH PERKIOMEN CREEK NEAR.....	224-225
DRY MASS, DEFINITION OF.....	23
DYBERRY CREEK, ABOVE RESERVOIR NEAR HONESDALE..	338
NEAR HONESDALE.....	60-61
EAST BRANCH BIG ELK CREEK AT ELKVIEW.....	346-349
EAST BRANCH BRANDYWINE CREEK, AT WAWASET.....	346-349
BELOW DOWNINGTOWN.....	302-311
NEAR DOWNINGTOWN.....	300-301
EAST BRANCH CHESTER CREEK, AT GREEN HILL.....	342-345
AT WESTOWN.....	342-345
BELOW GOOSE CREEK NEAR WEST CHESTER.....	342-345
GOOSE CREEK TRIBUTARY TO,	
NEAR WEST CHESTER.....	342-345
EAST BRANCH PERKIOMEN CREEK, NEAR DUBLIN.....	224-225
NEAR SCHWENKSVILLE.....	226-227
EAST BRANCH RED CLAY CREEK NEAR FIVE POINTS....	346-349
EAST BRANCH WHITE CLAY CREEK AT AVONDALE.....	346-349
EAST GREENVILLE, PERKIOMEN CREEK AT.....	218-220
EAST STERLING, WALLENPAUPACK CREEK NEAR.....	340
EASTON, LEHIGH RIVER AT.....	132-137
ELKVIEW, EAST BRANCH BIG ELK CREEK AT.....	346-349
EQUINUNK CREEK NEAR EQUINUNK.....	340
ESCHRICHTIA COLI, DEFINITION OF.....	22
ESTIMATED DAILY DISCHARGE, IDENTIFYING.....	15
EVANSBURG, SKIPPAK CREEK AT.....	341
EXPLANATION OF THE RECORDS.....	9-21
EXTON, UNNAMED TRIBUTARY TO VALLEY CREEK	
AT HIGHWAY 30 AT.....	312-316
FECAL COLIFORM BACTERIA, DEFINITION OF.....	22
FECAL STREPTOCOCCAL BACTERIA, DEFINITION OF...	22
FIVE POINTS, EAST BRANCH RED CLAY CREEK NEAR....	346-349
FOOTNOTES (also see REMARK CODES).....	40,364
FORT MIFFLIN, DELAWARE RIVER AT.....	238-241
FOUNTAINVILLE, PINE RUN ON SR 313 NEAR.....	340
FRANCIS E. WALTER RESERVOIR.....	138-139
FRANKFORD CREEK AT CASTOR AVENUE, PHILADELPHIA.	174-175
FRANKFORD CREEK BASIN, GAGING STATIONS IN.....	174-175
FRAZER, UNNAMED TRIBUTARY TO VALLEY CREEK NEAR.	350-353
FRENCH CREEK, AT RAILROAD ROAD BRIDGE	
AT PHOENIXVILLE.....	342-345
NEAR COVENTRYVILLE.....	342-345
NEAR PHOENIXVILLE.....	214-217,342-345
NEAR PUGHTOWN.....	342-345
SOUTH BRANCH, AT COVENTRYVILLE.....	342-345
FURNACE CREEK AT ROBESONIA.....	194-195
GAGE HEIGHT (G.H.), DEFINITION OF.....	24
GAGING STATION, DEFINITION OF.....	24
GAGING STATIONS, DISCONTINUED, LIST OF.....	xii-xiv
LIST OF, IN DOWNSTREAM ORDER.....	vii-ix
GENERAL EDGAR JADWIN RESERVOIR.....	68-69
GLENDON, LEHIGH RIVER AT.....	130-131
GLENMOORE, MARSH CREEK NEAR.....	296-297
GOOSE CREEK TRIBUTARY TO EAST BRANCH	
CHESTER CREEK NEAR WEST CHESTER.....	342-345
GRATERFORD, PERKIOMEN CREEK AT.....	228-229
GREEN ALGAE, DEFINITION OF.....	27
GREEN HILL, EAST BRANCH CHESTER CREEK AT.....	342-345
GREEN LANE RESERVOIR.....	236-237
GROUND-WATER LEVEL DATA.....	366-390
GROUND-WATER RECORDS, LIST OF, BY COUNTY.....	x-xi
HANCOCK, WEST BRANCH DELAWARE RIVER AT.....	42-43
HARDNESS, DEFINITION OF.....	24
HAWLEY, LACKAWAXEN RIVER AT.....	64-65
HIGH TIDE, DEFINITION OF.....	24
HILLEGASS, WEST BRANCH PERKIOMEN CREEK AT.....	222-223
HONESDALE, DYBERRY CREEK ABOVE	
RESERVOIR NEAR.....	338
DYBERRY CREEK NEAR.....	60-61
LACKAWAXEN RIVER NEAR.....	62-63
HONEY BROOK, WEST BRANCH BRANDYWINE	
CREEK NEAR.....	266-267
HYDROLOGIC BENCH-MARK NETWORK,	
DEFINITION OF.....	9,25
HYDROLOGIC CONDITIONS, SUMMARY OF.....	3
HYDROLOGIC UNIT, DEFINITIONS OF.....	25
IDENTIFYING ESTIMATED DAILY DISCHARGE.....	15
INCHES (IN), DEFINITION OF.....	22
INSTANTANEOUS DISCHARGE, DEFINITION OF.....	24
INTRODUCTION.....	1
IRON WORKS CREEK NEAR RICHBORO.....	341
JORDAN CREEK, AT ALLENTOWN.....	124-125
NEAR SCHNECKSVILLE.....	122-123
KENNETT SQUARE, RED CLAY CREEK NEAR.....	264-265
WEST BRANCH RED CLAY CREEK AT.....	346-349
KRESGEVILLE, POHOPOCO CREEK AT.....	106-109
LABORATORY MEASUREMENTS.....	17
LACKAWAXEN RIVER, AT HAWLEY.....	64-65
AT ROWLAND.....	340
NEAR HONESDALE.....	62-63
WEST BRANCH, AT PROMPTON.....	56-59
NEAR ALDENVILLE.....	52-55
LACKAWAXEN RIVER BASIN, GAGING STATIONS IN....	52-69
LAKES AND RESERVOIRS IN.....	68-69
LAKE WALLENPAUPACK.....	68-69
LAKES AND RESERVOIRS:	
BELTZVILLE LAKE.....	138-139
BRADSHAW RESERVOIR, DISTRIBUTARY FROM.....	236-237
BLUE MARSH LAKE.....	236-237
CHAMBERS LAKE RESERVOIR.....	328
FRANCIS E. WALTER RESERVOIR.....	138-139
GENERAL EDGAR JADWIN RESERVOIR.....	68-69
GREEN LANE RESERVOIR.....	236-237
LAKE WALLENPAUPACK.....	68-69
MARSH CREEK RESERVOIR.....	328
NOCKAMIXON RESERVOIR.....	142
PENN FOREST RESERVOIR.....	138-139
PROMPTON RESERVOIR.....	68-69
STILL CREEK RESERVOIR.....	236-237
WILD CREEK RESERVOIR.....	138-139
LANDINGVILLE, SCHUYLKILL RIVER AT.....	184-185
LAND-SURFACE DATUM (LSD), DEFINITION OF.....	25
LANGHORNE, NESHAMINY CREEK NEAR.....	168-169
LATITUDE-LONGITUDE SYSTEM, EXPLANATION OF....	10
LEBANON COUNTY, GROUND-WATER RECORDS IN.....	381
WATER-QUALITY RECORDS IN.....	393,394,397
LEHIGH COUNTY, GROUND-WATER RECORDS IN.....	382
WATER-QUALITY RECORDS IN.....	393,394,398
LEHIGH RIVER, AT ALLENTOWN.....	338
AT BETHLEHEM.....	128-129
AT EASTON.....	132-137
AT GLENDON.....	130-131
AT LEHIGHTON.....	104-105
AT STODDARTSVILLE.....	90-93
AT WALNUTPORT.....	116-117
BELOW FRANCIS E. WALTER RESERVOIR NEAR	
WHITE HAVEN.....	100-103

INDEX--Continued

	Page		Page
LEHIGH RIVER BASIN, GAGING STATIONS IN.....	90-139	NEW PHILADELPHIA, OTTO AIR SHAFT NEAR.....	355-362
LAKES AND RESERVOIRS IN.....	138-139	NEWTOWN SQUARE, CRUM CREEK NEAR.....	242-243
LEWISVILLE, BIG ELK CREEK NEAR.....	341	NOCKAMIXON RESERVOIR NEAR OTTSVILLE.....	142
LEHIGHTON, LEHIGH RIVER AT.....	104-105	NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD)...	26
LINFIELD, SCHUYLKILL RIVER AT VINCENT DAM AT...	210-212	NORTH BRANCH NESHAMINY CREEK, AT CHALFONT.....	166-167
LITTLE BROAD RUN NEAR MARSHALLTON.....	292-295	BELOW LAKE GALENA NEAR NEW BRITAIN.....	164-165
LITTLE LEHIGH CREEK,		NORTHAMPTON COUNTY, WATER-QUALITY RECORDS IN...	394,399
AT TENTH STREET BRIDGE, ALLENTOWN.....	120-121	NUMBERING SYSTEM FOR WELLS AND	
NEAR ALLENTOWN.....	118-119	MISCELLANEOUS SITES.....	10
LITTLE SCHUYLKILL RIVER AT TAMAQUA.....	186-187		
LLEWELLYN, OTTO AIR SHAFT NEAR.....	355-362	ON SITE MEASUREMENTS AND SAMPLE COLLECTION.....	16
LOGGER, DATA, DEFINITION OF.....	24	ORGANIC MASS, DEFINITION OF.....	23
LONG POND, TUNKHANNOCK CREEK NEAR.....	94-95	ORGANISM, DEFINITION OF.....	26
LOW TIDE, DEFINITION OF.....	25	ORGANISM COUNT/AREA, DEFINITION OF.....	26
LUMBERVILLE, DELAWARE RIVER AT.....	146-147	ORGANISMS COUNT/VOLUME, DEFINITION OF.....	26
		OTHER RECORDS AVAILABLE.....	15
MANATAWNY CREEK, NEAR POTTSTOWN.....	206-207	OTTO AIR SHAFT.....	355-362
NEAR SPANGSVILLE.....	204-205	OTTSVILLE, NOCKAMIXON RESERVOIR NEAR.....	142
MARSHALLTON, LITTLE BROAD RUN NEAR.....	292-295		
MARSH CREEK, NEAR DOWNINGTOWN.....	298-299	PALMERTON, AQUASHICOLA CREEK AT.....	114-115
NEAR GLENMOORE.....	296-297	PARAMETER CODE, DEFINITION OF.....	26
MARSH CREEK RESERVOIR NEAR DOWNINGTOWN.....	328	PARRYVILLE, POHOPOCO CREEK BELOW BELTZVILLE	
MEAN CONCENTRATION, DEFINITION OF.....	28	LAKE NEAR.....	110-113
MEAN DISCHARGE (MEAN), DEFINITION OF.....	24	PARTIAL-RECORD STATION, DEFINITION OF.....	26
MEASURING POINT (MP), DEFINITION OF.....	25	DISCHARGE AT.....	338-339
MEDIA, RIDLEY CREEK AT.....	244-245	WATER-QUALITY DATA AT.....	342-353
MEMBRANE FILTER, DEFINITION OF.....	25	PARTICLE SIZE, DEFINITION OF.....	26
MERLIN, PICKERING CREEK AT.....	342-345	PARTICLE-SIZE CLASSIFICATION, DEFINITION OF....	27
METAMORPHIC STAGE, DEFINITION OF.....	25	PENN FOREST RESERVOIR.....	138-139
METHYLENE BLUE ACTIVE SUBSTANCE (MBAS),		PENNYPACK CREEK AT LOWER RHAWN STREET	
DEFINITION OF.....	25	BRIDGE, PHILADELPHIA.....	172-173
MICROGRAMS PER GRAM ($\mu\text{g/g}$), DEFINITION OF.....	25	PENNYPACK CREEK BASIN, GAGING STATIONS IN.....	172-173
MICROGRAMS PER LITER ($\mu\text{g/L}$, $\mu\text{g/L}$),		PERCENT COMPOSITION, DEFINITION OF.....	27
DEFINITION OF.....	25	PERIPHYTON, DEFINITION OF.....	27
MICROSIEMENS PER CENTIMETER, DEFINITION OF.....	25	PERKIOMEN CREEK, AT GRATERFORD.....	228-229
MIDDLE BRANCH WHITE CLAY CREEK,		AT EAST GREENVILLE.....	218-220
AT WICKERTON.....	346-349	EAST BRANCH, NEAR DUBLIN.....	224-225
NEAR AVONDALE.....	341	NEAR SCHWENKSVILLE.....	226-227
MIDDLEPORT, BELL WATER LEVEL TUNNEL NEAR.....	355-362	WEST BRANCH, AT HILLEGASS.....	222-223
MILFORD, VANDERMARK CREEK AT.....	338	PESTICIDES, DEFINITION OF.....	27
MILL CREEK, AT MOUNTAINHOME.....	338	PHILADELPHIA,	
NEAR BUCKINGHAM.....	341	DELAWARE RIVER, AT BENJAMIN FRANKLIN	
NEAR WYCOMBE.....	341	BRIDGE AT.....	176-182
MILLIGRAMS PER LITER (MG/L , mg/L),		AT FORT MIFFLIN AT.....	238-241
DEFINITION OF.....	25	FRANKFORD CREEK AT CASTOR AVENUE.....	174-175
MILL LANE, VALLEY CREEK AT.....	350-353	PENNYPACK CREEK, AT LOWER RHAWN	
VALLEY CREEK AT RT. 202 AT.....	350-353	STREET BRIDGE.....	172-173
MINISINK HILLS, BRODHEAD CREEK AT.....	84-85	POQUESSING CREEK AT GRANT AVENUE.....	170-171
MISCELLANEOUS-RECORD SITE, DEFINITION OF.....	25	SCHUYLKILL RIVER AT.....	234-235
DISCHARGE AT.....	340-341	WISSAHICKON CREEK AT MOUTH.....	232-233
MODENA, WEST BRANCH BRANDYWINE CREEK AT.....	276-285	PHILADELPHIA COUNTY, GROUND-WATER RECORDS IN...	387
MONOCACY CREEK AT BETHLEHEM.....	126-127	PHOENIXVILLE,	
MONROE COUNTY, GROUND-WATER RECORDS IN.....	383	FRENCH CREEK, AT RAILROAD BRIDGE AT.....	342-345
MONTAGUE, NJ, DELAWARE RIVER AT.....	76-79	NEAR.....	214-217, 342-345
MONTGOMERY COUNTY, GROUND-WATER RECORDS IN.....	384-386	PICKERING CREEK NEAR.....	341-345
MOST PROBABLE NUMBER (MPN), DEFINITION OF.....	25	PHYTOPLANKTON, DEFINITION OF.....	27
MOUNTAINHOME, MILL CREEK AT.....	338	PICKERING CREEK, AT MERLIN.....	342-345
MULTIPLE-PLATE SAMPLERS, DEFINITION OF.....	25	NEAR PHOENIXVILLE.....	341-345
		PICOCURIE, DEFINITION OF.....	27
NATIONAL ATMOSPHERIC DEPOSITION PROGRAM,		PIGEON CREEK NEAR SLONAKER.....	342-345
DEFINITION OF.....	9,26	PIKE COUNTY, GROUND-WATER RECORDS IN.....	388
NATIONAL GEODETIC VERTICAL DATUM OF 1929		PINE RUN, ON RICKERTS ROAD NEAR DOYLESTOWN....	340
(NGVD), DEFINITION OF.....	25	ON SR 313 NEAR FOUNTAINVILLE.....	340
NATIONAL STREAM QUALITY ACCOUNTING NETWORK		PIPERVILLE, TOHICKON CREEK NEAR.....	144-145
(NASQAN), DEFINITION OF.....	9,26	PLANKTON, DEFINITION OF.....	27
STATIONS IN.....	148-163	POHOPOCO CREEK, AT KRESGEVILLE.....	106-109
NATIONAL TRENDS NETWORK (NTN), DEFINITION OF...	9,26	BELOW BELTZVILLE LAKE NEAR PARRYVILLE.....	110-113
NATIONAL WATER-QUALITY ASSESSMENT PROGRAM		POLYCHLORINATED BIPHENYLS (PCBs),	
(NAWQA), DEFINITION OF.....	9,26	DEFINITION OF.....	28
NATURAL SUBSTRATE, DEFINITION OF.....	29	POND EDDY, NY, DELAWARE RIVER AT.....	72-73
NESHAMINY CREEK, AT RUSHLAND.....	340	POQUESSING CREEK AT	
NEAR LANGHORNE.....	168-169	GRANT AVENUE, PHILADELPHIA.....	170-171
NORTH BRANCH, AT CHALFONT.....	166-167	POQUESSING CREEK BASIN, GAGING STATIONS IN....	170-171
BELOW LAKE GALENA NEAR NEW BRITAIN.....	164-165	PORT JERVIS, NY, DELAWARE RIVER AT.....	74-75
ON UPPER STATE ROAD NEAR NEW BRITAIN.....	340	PORTLAND, DELAWARE RIVER AT.....	86-87
NESHAMINY CREEK BASIN, GAGING STATIONS IN.....	164-169	POTTSTOWN, SCHUYLKILL RIVER AT.....	208-209
NEW BRITAIN, NESHAMINY CREEK ON UPPER		MANATAWNY CREEK NEAR.....	206-207
STATE ROAD NEAR.....	340	PRIMARY PRODUCTIVITY, DEFINITION OF.....	27
NORTH BRANCH NESHAMINY CREEK BELOW		PROMPTON, WEST BRANCH LACKAWAXEN RIVER AT.....	56-59
LAKE GALENA NEAR.....	164-165	PROMPTON RESERVOIR.....	68-69

INDEX--Continued

Page	Page
PUBLICATIONS ON TECHNIQUES OF WATER- RESOURCES INVESTIGATIONS.....	32-35
PUGHTOWN, FRENCH CREEK NEAR.....	342-345
RADIOCHEMICAL PROGRAM, DEFINITION OF.....	28
READING, SCHUYLKILL RIVER AT.....	202-203
TULPEHOCKEN CREEK, AT BLUE MARSH DAM SITE NEAR.....	196-199
NEAR.....	200-201
RECOVERABLE FROM BOTTOM MATERIAL, DEFINITION OF	28
RECORDS, EXPLANATION OF, STAGE AND WATER DISCHARGE.....	11-15
SURFACE-WATER QUALITY.....	15-19
GROUND-WATER LEVELS.....	19-20
GROUND-WATER QUALITY.....	20-21
RECURRENCE INTERVAL, DEFINITION OF.....	28
RED CLAY CREEK, EAST BRANCH, NEAR FIVE POINTS.....	346-349
NEAR KENNETT SQUARE.....	264-265
WEST BRANCH, AT KENNETT SQUARE.....	346-349
REEDY ISLAND JETTY, DE, DELAWARE RIVER AT.....	330-336
REMARK CODES, EXPLANATION OF.....	18
RESERVOIRS; SEE LAKES AND RESERVOIRS	
RICHBORO, IRON WORKS CREEK NEAR.....	341
RIDLEY CREEK AT MEDIA.....	244-245
RIDLEY CREEK BASIN, GAGING STATIONS IN.....	244-245
RIBBELSVILLE, NJ, DELAWARE RIVER AT.....	140-141
ROBESONIA, FURNACE CREEK AT.....	194-195
ROWLAND, LACKAWAXEN RIVER AT.....	340
RUNOFF, DEFINITION OF: SEE ANNUAL RUNOFF	
RUSHLAND, NESHAMINY CREEK AT.....	340
SCHNECKSVILLE, JORDAN CREEK NEAR.....	122-123
SCHUYLKILL COUNTY, GROUND-WATER RECORDS IN.....	389
SCHUYLKILL RIVER, AT BERNE.....	188-189
AT LANDINGVILLE.....	184-185
AT PHILADELPHIA.....	234-235
AT POTTSTOWN.....	208-209
AT READING.....	202-203
AT VINCENT DAM AT LINFIELD.....	210-212
SCHUYLKILL RIVER BASIN, GAGING STATIONS IN.....	184-237
LAKES AND RESERVOIRS IN.....	236-237
SCHWENKSVILLE, EAST BRANCH PERKIOMEN CREEK NEAR.....	226-227
SEA LEVEL (see also NATIONAL GEODETIC VERTICAL DATUM OF 1929).....	28
SEDIMENT, DEFINITION OF.....	28
7-DAY 10-YEAR LOW FLOW (Q7,10), DEFINITION OF..	29
SHOEMAKERS, BUSH KILL AT.....	80-81
SHOHOLA CREEK NEAR SHOHOLA.....	340
SILVER CREEK MINE TUNNEL.....	355-362
SKIPPAK CREEK AT EVANSBURG.....	341
SLONAKER, PIGEON CREEK NEAR.....	342-345
SODIUM-ADSORPTION-RATIO (SAR), DEFINITION OF...	29
SOLUTE, DEFINITION OF.....	29
SOUTH BRANCH FRENCH CREEK AT COVENTRYVILLE....	342-345
SPANGSVILLE, MANATAWNY CREEK NEAR.....	204-205
SPECIAL NETWORKS AND PROGRAMS.....	9
SPECIAL NOTES, REMARK CODES.....	40-41, 364-365
SPECIAL-STUDY SITES, GROUND-WATER DATA COLLECTED AT.....	392-399
SPECIFIC CONDUCTANCE, DEFINITION OF.....	29
SPRINGDELL, DOE RUN ABOVE TRIBUTARY AT.....	286-290
DOE RUN AT.....	346-349
STAGE AND WATER DISCHARGE RECORDS, EXPLANATION OF.....	11-15
STAGE-DISCHARGE RELATION, DEFINITION OF.....	29
STATION IDENTIFICATION NUMBERS.....	10
STILL CREEK RESERVOIR.....	236-237
STODDARTSVILLE, LEHIGH RIVER AT.....	90-93
STREAMFLOW, DEFINITION OF.....	29
STRICKERSVILLE, WHITE CLAY CREEK NEAR.....	262-263
SUBSTRATE, DEFINITION OF.....	29
SUCKER RUN NEAR COATESVILLE.....	339
SUMMARY OF HYDROLOGIC CONDITIONS.....	3
SURFACE AREA, DEFINITION OF.....	29
SURFICIAL BED MATERIAL, DEFINITION OF.....	29
SUSPENDED, DEFINITION OF.....	29
SUSPENDED, RECOVERABLE, DEFINITION OF.....	29
SUSPENDED, TOTAL, DEFINITION OF.....	29
SUSPENDED SEDIMENT, DEFINITION OF.....	28
SUSPENDED-SEDIMENT CONCENTRATION, DEFINITION OF.....	28
SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), DEFINITION OF.....	28
SUSPENDED-SEDIMENT LOAD, DEFINITION OF.....	28
SWIFTWATER CREEK AT SWIFTWATER.....	340
SYNOPTIC STUDIES, DEFINITION OF.....	30
TAMAQUA, LITTLE SCHUYLKILL RIVER AT.....	186-187
TAXONOMY, DEFINITION OF.....	30
TECHNIQUES OF WATER RESOURCE INVESTIGATIONS, PUBLICATIONS ON.....	32-35
TIME-WEIGHTED AVERAGE, DEFINITION OF.....	30
TOBYHANNA CREEK NEAR BLAKESLEE.....	96-99
TOHICKON CREEK BASIN, GAGING STATIONS IN.....	142-145
RESERVOIR IN.....	142
TOHICKON CREEK NEAR PIPERSVILLE.....	144-145
TONS PER ACRE-FOOT, DEFINITION OF.....	30
TONS PER DAY (T/DAY), DEFINITION OF.....	30
TOTAL, DEFINITION OF.....	30
TOTAL COLIFORM BACTERIA, DEFINITION OF.....	23
TOTAL DISCHARGE, DEFINITION OF.....	30
TOTAL ORGANISM COUNT, DEFINITION OF.....	26
TOTAL RECOVERABLE, DEFINITION OF.....	30
TOTAL-SEDIMENT DISCHARGE (TONS/DAY), DEFINITION OF.....	28
TOTAL-SEDIMENT LOAD, DEFINITION OF.....	28
TRENTON, DELAWARE RIVER AT.....	148-163
TRITIUM NETWORK, DEFINITION OF.....	30
TROUT RUN AT AVONDALE.....	256-260
TULPEHOCKEN CREEK, AT BLUE MARSH DAM SITE NEAR READING.....	196-199
NEAR BERNVILLE.....	190-193
NEAR READING.....	200-201
TUNKHANNOCK CREEK NEAR LONG POND.....	94-95
UNNAMED TRIBUTARY TO VALLEY CREEK, AT HIGHWAY 30 AT EXTON.....	312-316
NEAR FRAZER.....	350-353
USGS WATER DATA, ACCESS TO.....	21
VALLEY CREEK, ABOVE RT. 29 AT VALLEY STORE.....	350-353
AT CHURCH ROAD BRIDGE AT CEDAR HOLLOW.....	350-353
AT MILL LANE.....	350-353
AT MULSTEINS MEADOWS NEAR DOWNINGTOWN.....	346-349
AT PENNSYLVANIA TURNPIKE BRIDGE NEAR VALLEY FORGE.....	230-231
AT RT. 202 AT MILL LANE.....	350-353
AT VALLEY STORE.....	350-353
BELOW RT. 29 AT VALLEY STORE.....	350-353
NEAR DEVALT.....	350-353
NEAR VALLEY STORE.....	350-353
UNNAMED TRIBUTARY TO, AT HIGHWAY 30 AT EXTON.....	312-316
VALLEY FORGE, VALLEY CREEK AT PENNSYLVANIA TURNPIKE BRIDGE NEAR.....	230-231
VALLEY STORE, VALLEY CREEK, AT.....	350-353
ABOVE RT. 29 AT.....	350-353
BELOW RT. 29 AT.....	350-353
NEAR.....	350-353
VANDERMARK CREEK AT MILFORD.....	338
VINCENT DAM, SCHUYLKILL RIVER AT, AT LINFIELD.....	210-212
VOLATILE ORGANIC COMPOUNDS (VOC), DEFINITION OF.....	31
WAGONTOWN, BIRCH RUN NEAR.....	268-271
CHAMBERS LAKE RESERVOIR NEAR.....	328
WALLENPAUPACK CREEK, AT WILSONVILLE.....	66-67
NEAR EAST STERLING.....	340
WALNUTPORT, LEHIGH RIVER AT.....	116-117
WATER TEMPERATURE, EXPLANATION OF.....	16
WATER YEAR, DEFINITION OF.....	31
WATER-QUALITY CONTROL DATA, EXPLANATION OF.....	18-19
WATER-QUALITY RECORDS, EXPLANATION OF.....	15-19
WATER-QUALITY STATIONS, DISCONTINUED, LIST OF.....	xv-xviii

INDEX--Continued

	Page		Page
WAWASET, EAST BRANCH BRANDYWINE CREEK AT.....	346-349	WEST CHESTER,	
WEST BRANCH BRANDYWINE CREEK AT.....	346-349	EAST BRANCH CHESTER CREEK,	
WAYNE COUNTY,		BELOW GOOSE CREEK NEAR.....	342-345
GROUND-WATER RECORDS IN.....	390	GOOSE CREEK TRIBUTARY TO, NEAR.....	342-345
WATER-QUALITY RECORDS IN.....	393	WESTTOWN, EAST BRANCH CHESTER CREEK, AT.....	342-345
WDR (WATER DATA REPORT),		WET MASS, DEFINITION OF.....	23
DEFINITION OF.....	31	WHITE CLAY CREEK,	
WEIGHTED AVERAGE, DEFINITION OF.....	31	NEAR STRICKERSVILLE.....	262-263
WEST BRANCH BRANDYWINE CREEK,		EAST BRANCH, AT AVONDALE.....	346-349
AT COATESVILLE.....	272-275	MIDDLE BRANCH, AT WICKERTON.....	346-349
AT MODENA.....	276-285	NEAR AVONDALE.....	341
AT WAWASET.....	346-349	WEST BRANCH, NEAR CHESTERVILLE.....	346-349
NEAR HONEY BROOK.....	266-267	WHITE HAVEN, LEHIGH RIVER BELOW FRANCIS E.	
WEST BRANCH DELAWARE RIVER AT HANCOCK.....	42-43	WALTER RESERVOIR NEAR.....	100-103
WEST BRANCH LACKAWAXEN RIVER, AT PROMPTON.....	56-59	WICKERTON, MIDDLE BRANCH WHITE CLAY CREEK AT...346-349	
NEAR ALDENVILLE.....	52-55	WILD CREEK RESERVOIR.....	138-139
WEST BRANCH PERKIOMEN CREEK		WILSONVILLE, WALLENPAUPACK CREEK AT.....	66-67
AT HILLEGASS.....	222-223	WISSAHICKON CREEK AT MOUTH, PHILADELPHIA.....	232-233
WEST BRANCH RED CLAY CREEK		WSP (WATER SUPPLY PAPER), DEFINITION OF.....	31
AT KENNETT SQUARE.....	346-349	WYCOMBE, MILL CREEK NEAR.....	341
WEST BRANCH WHITE CLAY CREEK			
NEAR CHESTERVILLE.....	346-349	ZOOPLANKTON, DEFINITION OF.....	27

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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U.S. Geological Survey
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