

## 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 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD.**--October 1982 to current year.

**GAGE.**--Water-stage recorder and crest-stage gage. Datum of gage is 108.62 ft above National Geodetic Vertical Datum of 1929.

**REMARKS.**--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Satellite telemetry at station. Intermittent pumpage from quarry upstream.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than base discharge of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)	Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)
June 6	2100	*576	*6.40	(No peaks above base discharge.)			

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.4	11	11	16	11	18	18	15	12	8.8	31
2	11	8.9	10	11	14	12	15	90	14	12	8.6	15
3	10	9.7	11	11	14	67	15	34	13	12	8.4	11
4	10	9.2	10	11	13	16	15	18	13	11	10	10
5	9.9	8.9	10	11	11	14	15	17	17	11	9.0	9.8
6	11	8.9	10	30	11	13	14	14	86	11	8.6	9.3
7	10	8.6	10	27	13	13	14	15	57	11	8.5	9.4
8	10	8.8	19	15	12	12	14	15	18	11	8.2	9.4
9	9.7	8.8	31	13	12	12	14	30	17	11	8.4	9.2
10	9.9	9.1	13	14	12	15	15	16	16	18	8.4	9.0
11	9.9	8.9	12	36	13	12	13	15	15	11	8.3	8.7
12	9.8	8.9	12	17	11	12	12	26	15	11	8.2	9.1
13	9.9	9.2	12	14	10	16	12	56	15	10	8.1	9.4
14	9.3	9.3	22	13	10	13	16	47	32	11	7.8	9.3
15	16	8.8	14	13	11	12	16	20	18	11	7.9	11
16	9.9	8.7	12	12	11	12	14	17	16	10	7.8	16
17	9.8	8.8	12	12	11	13	12	17	15	9.9	7.5	9.7
18	9.4	9.2	25	12	11	30	11	143	23	9.7	7.6	9.5
19	9.2	8.6	13	12	11	16	13	27	22	18	7.5	9.4
20	9.5	9.2	12	13	12	75	15	22	15	15	8.6	9.2
21	9.1	8.7	12	12	16	27	14	19	14	10	7.6	9.2
22	9.1	9.2	11	13	12	18	23	18	14	10	7.7	9.0
23	8.8	9.2	11	14	11	16	14	18	13	9.7	9.7	9.0
24	9.0	9.2	25	76	11	16	13	17	16	10	15	8.9
25	9.1	26	13	22	11	15	15	16	14	9.8	14	9.0
26	9.2	18	12	16	11	20	14	16	13	9.7	9.0	26
27	9.5	11	12	14	11	50	13	17	30	9.9	8.6	76
28	9.1	10	11	14	11	18	48	16	24	10	9.0	41
29	9.3	11	11	12	---	17	18	15	14	9.4	58	12
30	9.3	11	11	13	---	16	18	15	13	9.1	12	11
31	9.4	---	11	24	---	17	---	15	---	8.9	10	---
TOTAL	307.1	303.2	421	538	333	626	473	839	617	343.1	326.8	435.5
MEAN	9.91	10.1	13.6	17.4	11.9	20.2	15.8	27.1	20.6	11.1	10.5	14.5
MAX	16	26	31	76	16	75	48	143	86	18	58	76
MIN	8.8	8.6	10	11	10	11	11	14	13	8.9	7.5	8.7
CFSM	0.48	0.49	0.65	0.83	0.57	0.97	0.76	1.30	0.99	0.53	0.51	0.70
IN.	0.55	0.54	0.75	0.96	0.60	1.12	0.85	1.50	1.10	0.61	0.58	0.78

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2002, BY WATER YEAR (WY)

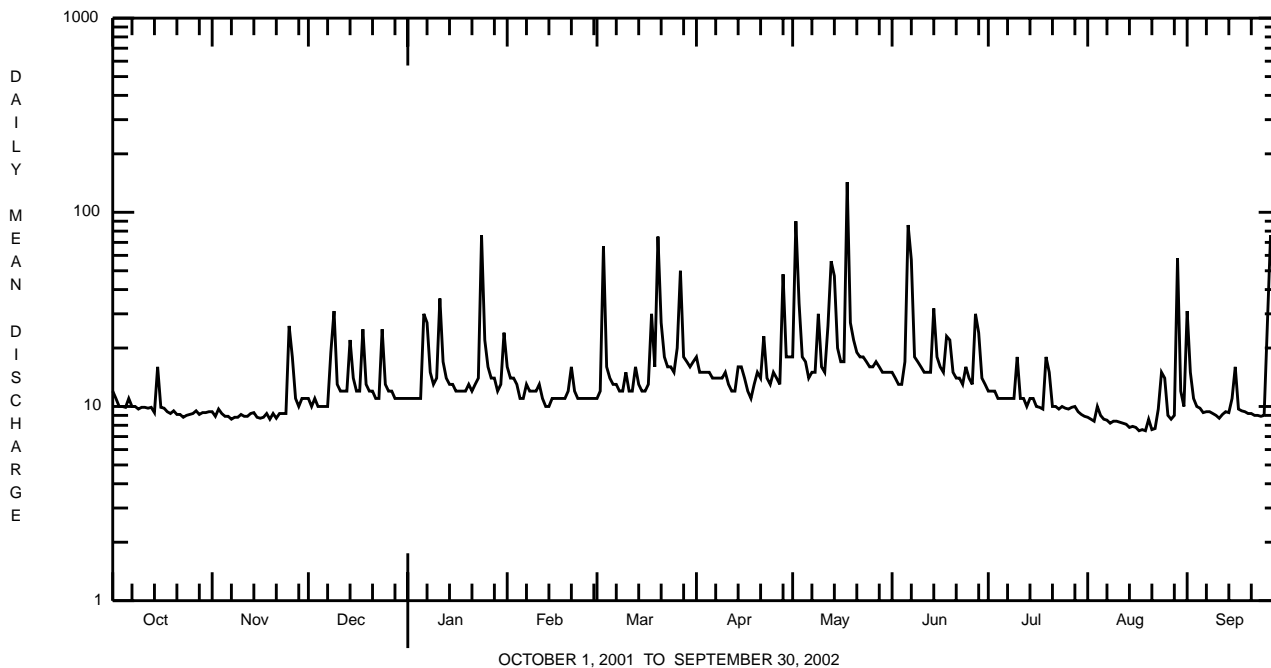
MEAN	22.6	26.8	31.7	33.3	32.4	43.9	43.0	36.8	28.0	26.2	22.5	28.1
MAX	61.8	48.8	103	95.8	53.5	85.9	98.8	77.5	49.9	53.1	36.6	95.5
(WY)	1997	1987	1997	1996	1984	1994	1983	1984	1984	1996	1996	1999
MIN	9.91	10.1	12.7	16.8	11.9	17.9	15.8	19.5	15.1	11.1	10.5	14.5
(WY)	2002	2002	1999	1985	2002	1985	2002	1995	1995	2002	2002	2002

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SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1983 - 2002	
ANNUAL TOTAL	9041.7		5562.7		31.3	
ANNUAL MEAN	24.8		15.2		47.7	
HIGHEST ANNUAL MEAN					1996	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	282	Mar 30	143	May 18	2020	Sep 16 1999
LOWEST DAILY MEAN	7.9	Sep 10	7.5	Aug 17	7.4	Jul 13 1999
ANNUAL SEVEN-DAY MINIMUM	8.3	Sep 7	7.7	Aug 13	7.7	Aug 13 2002
MAXIMUM PEAK FLOW			576	Jun 6	<b>a</b> 6280	Sep 16 1999
MAXIMUM PEAK STAGE			6.40	Jun 6	<b>b</b> 14.75	Sep 16 1999
INSTANTANEOUS LOW FLOW			6.6	Aug 8	6.4	Jul 29 1999
ANNUAL RUNOFF (CFSM)	1.19		0.73		1.50	
ANNUAL RUNOFF (INCHES)	16.17		9.95		20.44	
10 PERCENT EXCEEDS	42		22		51	
50 PERCENT EXCEEDS	18		12		23	
90 PERCENT EXCEEDS	9.2		8.9		14	

**a** From rating curve extended above 3,690 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.  
**b** From outside highwater mark.



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## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1984, 1999 to current year.

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

Date	Time	AGENCY	AGENCY	DIS-		PH	SPE-		CALCIUM	MAGNE-	POTAS-		ANC
		ANA-	COL-	CHARGE,		WATER	CIFIC		DIS-	SIUM,	SIUM,	SODIUM,	WATER
		LYZING	LECTING	INST.	OXYGEN,	WHOLE	CON-	TEMPER-	SOLVED	DIS-	DIS-	DIS-	UNFLTRD
		SAMPLE	SAMPLE	FEET	DIS-	FIELD	DUCT-	ATURE	(MG/L	SOLVED	SOLVED	SOLVED	IT
		(CODE	(CODE	PER	SOLVED	(STAND-	ANCE	WATER	AS CA)	(MG/L	(MG/L	(MG/L	FIELD
		NUMBER)	NUMBER)	SECOND	(MG/L)	ARD	(µS/CM)	(DEG C)	AS CA)	AS MG)	AS K)	AS NA)	(MG/L AS
		(00028)	(00027)	(00061)	(00300)	UNITS)	(00095)	(00010)	(00915)	(00925)	(00935)	(00930)	CACO3)
													(00419)
OCT 2001													
10...	0830	80020	1028	10	11.0	8.3	685	9.0	55.2	31.6	3.31	34.3	207
		CHLO-	SILICA,			NITRO-	NITRO-	NITRO-	ORTHO-				
		RIDE,	DIS-	SULFATE	AMMONIA	GEN,	GEN,	GEN,	PHOS-	BORON,	IRON,		
		DIS-	SOLVED	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-		
		SOLVED	(MG/L	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED		
		(MG/L	AS	(MG/L	(MG/L	(MG/L	(MG/L	(MG/L	(MG/L	(µG/L	(µG/L		
		AS CL)	AS	AS SO4)	AS N)	AS N)	AS N)	AS N)	AS P)	AS B)	AS FE)		
		(00940)	(00955)	(00945)	(00608)	(00631)	(00613)	(00671)	(01020)	(01046)			
OCT 2001													
10...		67.9	6.9	28.6	<.04	1.78	E.005	E.01	60	<10			

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BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATESREMARKS.--Samples were collected using a Hess sampler with a mesh size of 500  $\mu\text{m}$ . Each sample covered a total area of 3.2  $\text{m}^2$ .

Date	10/10/01
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	44
Nematoda (NEMATODES)	13
Nemertea (PROBOSAS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<u>Prostoma</u> sp	22
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	4
Tubificida	
Naididae	47
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	117
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<u>Gammarus</u> sp	16
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	25
<u>Pseudocloeon</u> sp	3
Ephemerellidae	
<u>Eurylophella</u> sp	31
<u>Serratella</u> sp	103
Plecoptera (STONEFLIES)	
Taeniopterygidae	
<u>Taeniopteryx</u> sp	1
Trichoptera (CADDISFLIES)	
Glossosomatidae	
<u>Glossosoma</u> sp	3
Hydropsychidae	
<u>Cheumatopsyche</u> sp	137
<u>Hydropsyche</u> sp	450
Hydroptilidae	
<u>Hydroptila</u> sp	1
Philopotamidae	
<u>Chimarra</u> sp	24

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BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATES--Continued

Date	10/10/01
Benthic Macroinvertebrate	Count
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	517
<u>Oulimnius</u> sp	90
<u>Stenelmis</u> sp	38
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	6
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
Chironomidae (MIDGES)	439
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	4
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	64
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	90
<u>Tipula</u> sp	2
Total organisms	2291
Total number of taxa	26