



2004 Water Year SCHUYLKILL RIVER BASIN

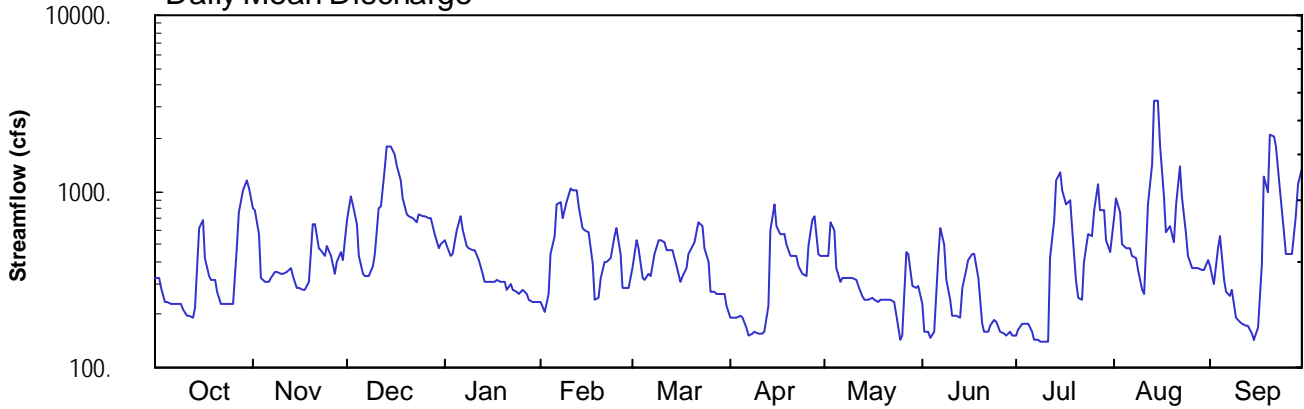
01471000 Tulpehocken Creek near Reading, PA

Latitude: 40° 22 ' 08"
Berks County

Longitude: 075° 58 ' 46"
Datum: 216.60 feet

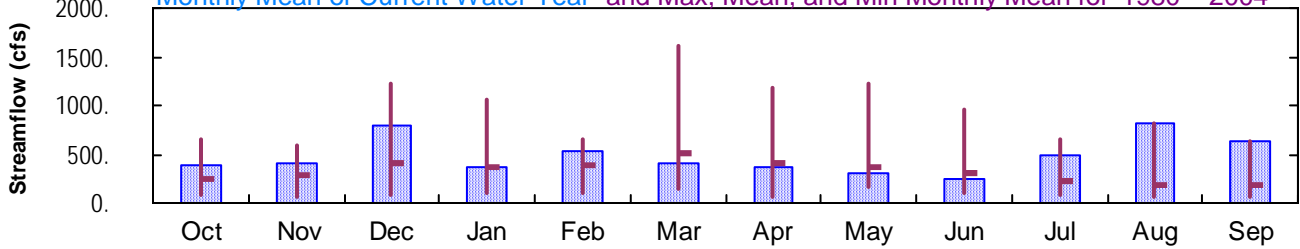
Hydrologic Unit Code: 02040203
Drainage Area: 211. mi²

Daily Mean Discharge

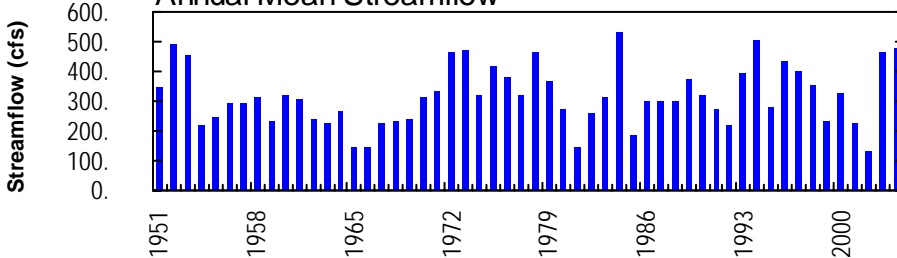


Monthly Statistics

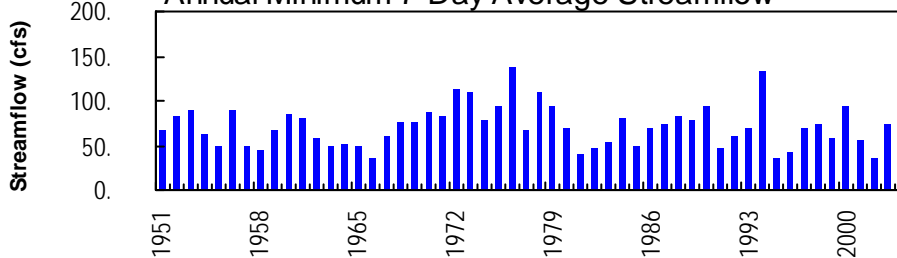
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1980 – 2004



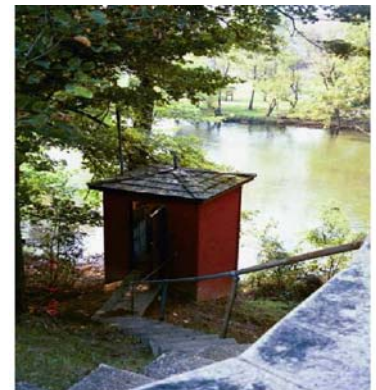
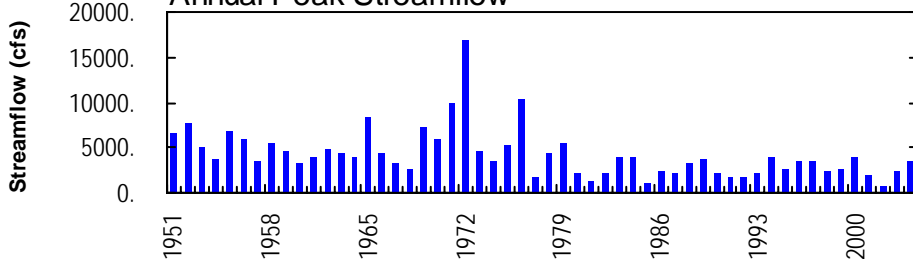
Annual Mean Streamflow



Annual Minimum 7-Day Average Streamflow



Annual Peak Streamflow



01471000--Tulpehocken Creek near Reading

SCHUYLKILL RIVER BASIN

**01471000 TULPEHOCKEN CREEK NEAR READING, PA
(Pennsylvania Water-Quality Network Station)**

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.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	327	804	686	523	234	368	193	427	231	151	695	375
2	321	790	946	491	208	532	194	425	160	166	903	298
3	281	577	848	432	260	472	190	665	159	179	759	479
4	237	325	649	441	441	320	197	604	147	179	504	560
5	234	304	432	597	551	317	190	367	161	179	479	314
6	231	307	338	719	842	338	170	308	430	161	474	270
7	231	323	332	606	863	329	153	324	625	145	426	255
8	231	350	328	485	709	446	156	322	496	145	417	278
9	229	348	377	478	874	532	159	319	318	141	360	193
10	210	343	438	466	1040	526	155	320	242	139	278	181
11	197	343	801	463	1020	510	154	313	199	139	259	176
12	196	351	832	411	1000	466	161	287	194	413	850	173
13	194	369	1340	341	817	464	224	254	191	689	1430	172
14	217	334	1790	310	610	458	609	245	281	1170	3230	156
15	612	282	1800	309	600	377	849	245	354	1290	3240	143
16	686	281	1620	303	590	308	636	252	403	1010	1790	167
17	414	279	1380	305	392	333	576	245	445	853	944	383
18	327	279	1140	313	245	364	565	234	445	884	582	1220
19	317	309	919	306	248	439	499	242	319	612	629	983
20	317	659	733	302	324	494	434	241	176	310	511	2120
21	267	657	713	279	394	509	427	240	160	247	841	2030
22	228	473	703	298	392	666	425	240	161	241	1400	1800
23	228	465	669	279	420	627	380	238	172	402	949	1040
24	227	429	738	266	556	480	338	197	187	565	569	580
25	229	484	726	263	611	397	332	144	180	559	425	446
26	233	430	716	273	442	269	489	152	161	788	372	442
27	490	343	706	263	284	267	694	446	154	1090	368	438
28	759	400	697	239	284	264	716	438	152	785	364	720
29	1000	448	574	236	284	261	439	287	159	784	360	1100
30	1140	410	472	235	---	260	434	284	152	534	361	1340
31	1040	---	497	234	---	224	---	291	---	453	410	---
TOTAL	11850	12496	24940	11466	15535	12617	11138	9596	7614	15403	25179	18832
MEAN	382	417	805	370	536	407	371	310	254	497	812	628
MAX	1140	804	1800	719	1040	666	849	665	625	1290	3240	2120
MIN	194	279	328	234	208	224	153	144	147	139	259	143

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2004, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	245	282	409	362	391	515	400	357	307	224	174	188
MAX	651	589	1220	1069	663	1604	1191	1226	968	661	812	628
(WY)	1997	1997	1997	1996	1986	1994	1983	1989	2003	1984	2004	2004
MIN	78.3	67.6	80.1	99.8	94.5	134	64.2	155	98.8	80.2	63.1	63.0
(WY)	1996	2002	1999	1981	2002	2002	1985	1999	1999	2002	1981	1983

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR	FOR 2004 WATER YEAR	WATER YEARS 1980 - 2004
ANNUAL TOTAL	178488	176666	
ANNUAL MEAN	489	483	321
HIGHEST ANNUAL MEAN			531
LOWEST ANNUAL MEAN			133
HIGHEST DAILY MEAN	2330	Jun 24	3240
LOWEST DAILY MEAN	104	Sep 12	139
ANNUAL SEVEN-DAY MINIMUM	115	Sep 8	150
MAXIMUM PEAK FLOW			3530
MAXIMUM PEAK STAGE			5.22
10 PERCENT EXCEEDS	942		866
50 PERCENT EXCEEDS	348		370
90 PERCENT EXCEEDS	185		178

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	1952
LOWEST ANNUAL MEAN	144	1966
HIGHEST DAILY MEAN	12000	Jun 23 1972
LOWEST DAILY MEAN	33	Sep 1 1966
ANNUAL SEVEN-DAY MINIMUM	35	Aug 28 1966
MAXIMUM PEAK FLOW	a17000	Jun 23 1972
MAXIMUM PEAK STAGE	b15.65	Jun 23 1972
INSTANTANEOUS LOW FLOW	23	Dec 1 1964
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.

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unfltrd lab, µS/cm 25 degC (90095)	Specif. conductance, wat unfltrd lab, µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00927)
OCT 2003 02...	1330	1028	9813	322	9.8	8.1	8.1	359	358	17.5	170	46.5	13.1
DEC 08...	1030	1028	9813	327	12.4	8.0	8.1	400	402	3.9	180	50.1	13.0
FEB 2004 05...	1145	1028	9813	550	14.2	8.3	8.2	441	432	2.4	200	58.0	13.5
APR 05...	1230	1028	9813	190	10.0	8.5	8.4	395	382	6.9	170	45.2	13.1
JUN 22...	1000	1028	9813	146	7.5	7.8	8.0	422	399	18.8	170	46.9	13.2
AUG 10...	1145	1028	9813	259	8.6	7.7	8.0	399	403	19.5	170	47.9	12.3

Date	ANC, wat unfltrd end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat fltrd, mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Ortho-phosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recover -able, µg/L (01105)	Copper, water, unfltrd recover -able, µg/L (01042)
OCT 2003 02...	121	22.0	304	<2	.030	4.96	.060	.04	.061	5.4	2.9	<200	<10
DEC 08...	129	22.1	314	6	<.020	5.92	<.040	.04	.053	6.4	2.2	<200	<10
FEB 2004 05...	135	23.9	316	10	<.020	7.92	<.040	.03	.037	8.3	1.6	<200	<10
APR 05...	116	22.0	290	2	<.020	5.36	.040	.04	.052	5.9	2.5	<200	<10
JUN 22...	130	22.9	274	4	.020	5.11	.060	.07	.079	5.5	2.4	<200	30
AUG 10...	128	19.8	298	<2	.030	4.75	.120	.03	.037	5.0	2.5	<200	<10

Date	Iron, water, unfltrd recover -able, µg/L (01045)	Lead, water, unfltrd recover -able, µg/L (01051)	Manganese, water, unfltrd recover -able, µg/L (01055)	Nickel, water, unfltrd recover -able, µg/L (01067)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT 2003 02...	70	<1.0	30	<50	<10
DEC 08...	80	<1.0	20	<50	<10
FEB 2004 05...	60	<1.0	20	<50	<10
APR 05...	80	<1.0	30	<50	<10
JUN 22...	100	<1.0	40	<50	100
AUG 10...	80	<1.0	40	<50	<10

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 (approximate) subsamples.

Date	09/04/03
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	7
Nematoda (NEMATODES)	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<i>Ferrissia</i>	3
Hydrobiidae	
<i>Ammicola</i>	1
Physidae	
<i>Physa</i>	11
Planorbidae	
<i>Planorbella</i>	1
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
<i>Corbicula fluminea</i>	6
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbricina	2
Tubificida	
Naididae	4
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	3
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	1
<i>Baetis</i>	5
<i>Plauditus</i>	17
Ephemerellidae	
<i>Serratella</i>	2
Heptageniidae	
<i>Stenacron</i>	1
Tricorythidae	
<i>Tricorythodes</i>	3
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<i>Cheumatopsyche</i>	38
<i>Hydropsyche</i>	9
Hydroptilidae	
<i>Hydroptila</i>	1
<i>Leucotrichia</i>	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Stenelmis</i>	1

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	09/04/03
Benthic Macroinvertebrate	Count
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	31
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	3
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	2
Total Organisms	154
Total Taxa	24

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	09/04/03
Benthic Macroinvertebrate	Count
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	31
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	3
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	2
Total Organisms	154
Total Taxa	24

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	09/04/03
Benthic Macroinvertebrate	Count
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	31
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	3
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	2
Total Organisms	154
Total Taxa	24