

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	589	353	465	231	352	482	312	551	356	202	148
2	66	459	272	1150	231	407	476	290	634	351	202	226
3	66	448	152	1470	231	899	421	286	835	323	200	224
4	67	325	148	1300	259	914	374	285	1160	294	203	219
5	69	198	152	1250	295	470	375	269	1210	291	204	180
6	67	296	178	940	293	735	366	251	912	290	400	149
7	106	302	222	569	259	854	368	249	811	292	400	148
8	166	241	221	473	253	667	368	251	796	292	227	140
9	164	243	218	476	251	740	356	248	950	290	229	122
10	169	243	217	502	251	847	324	247	1060	291	228	107
11	311	243	284	524	235	873	454	247	896	279	228	105
12	268	264	780	515	207	652	481	244	756	268	245	104
13	233	361	1130	449	193	557	443	226	763	263	216	112
14	222	339	1250	377	183	876	635	206	747	226	159	113
15	374	312	1210	373	170	1070	836	204	735	184	169	606
16	902	399	1210	328	168	1070	821	206	497	183	174	1050
17	1250	565	1270	309	170	946	808	208	271	182	174	1300
18	1110	893	1050	313	169	794	591	206	254	183	208	794
19	928	1140	657	311	284	716	418	204	280	186	232	403
20	905	974	536	309	750	743	412	202	625	182	193	348
21	591	678	508	306	668	1360	409	211	718	202	170	342
22	195	528	500	303	373	2240	406	205	835	554	159	229
23	142	511	588	271	484	2080	399	202	1700	931	146	618
24	160	503	669	237	780	1190	334	209	2330	1260	144	529
25	215	417	737	238	1080	277	273	207	2290	907	143	644
26	281	329	670	237	794	221	292	273	2280	537	143	568
27	255	352	542	255	455	217	282	395	1590	531	148	491
28	276	364	480	268	356	295	298	600	984	363	146	485
29	307	362	473	269	---	438	358	613	955	204	144	396
30	425	358	415	254	---	481	365	497	625	203	146	328
31	623	---	371	237	---	487	---	400	---	202	145	---
TOTAL	10980	13236	17463	15278	10073	24468	13225	8653	29050	11100	6127	11228
MEAN	354	441	563	493	360	789	441	279	968	358	198	374
MAX	1250	1140	1270	1470	1080	2240	836	613	2330	1260	400	1300
MIN	66	198	148	237	168	217	273	202	254	182	143	104

SCHUYLKILL RIVER BASIN

01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	240	277	393	362	384	520	401	359	310	213	148	169
MAX (WY)	1997	1997	1997	1996	1986	1994	1983	1989	2003	1984	1994	1987
MIN (WY)	1996	2002	1999	1981	2002	2002	1985	1999	1999	2002	1981	1983

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1980 - 2003

ANNUAL TOTAL	80806	170881	
ANNUAL MEAN	221	468	314
HIGHEST ANNUAL MEAN			531
LOWEST ANNUAL MEAN			133
HIGHEST DAILY MEAN	1270	Dec 17	2330
LOWEST DAILY MEAN	37	Jan 1	66
ANNUAL SEVEN-DAY MINIMUM	52	Feb 20	73
MAXIMUM PEAK FLOW			2400
MAXIMUM PEAK STAGE			4.25
10 PERCENT EXCEEDS	509		942
50 PERCENT EXCEEDS	128		329
90 PERCENT EXCEEDS	62		169

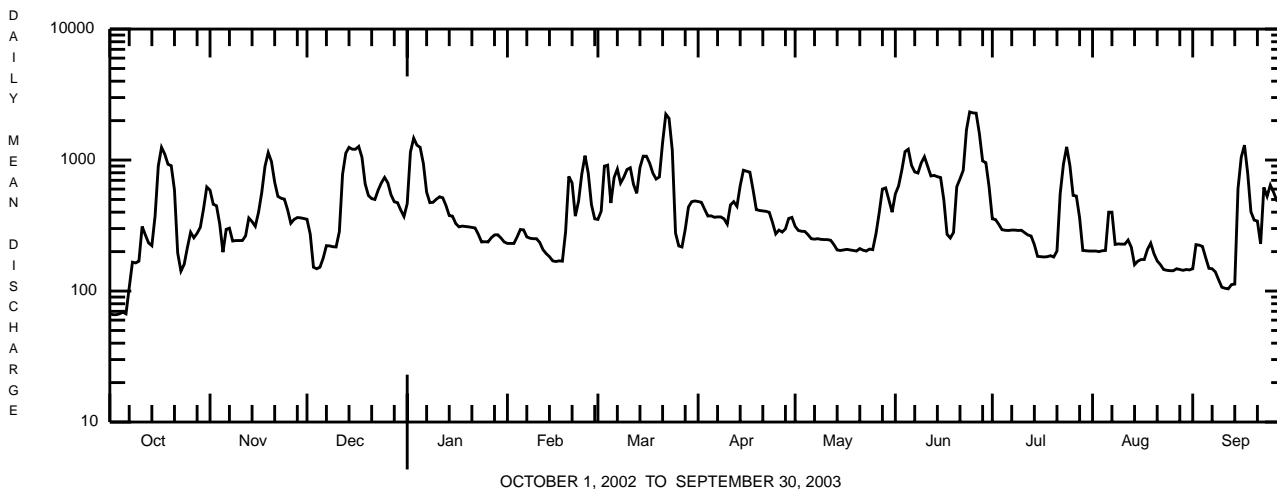
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1979, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	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 (WY)	1977	1973	1978	1979	1971	1978	1970	1953	1972	1969	1955	1975
MIN (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
MAXIMUM PEAK FLOW	a17000
MAXIMUM 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.



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.

REMARKS.--Other data for the Water-Quality Network can be found on pages 430-470.

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 2002 TO SEPTEMBER 2003

Date	Time	Agency col-lecting sample, code (00027)	Agency ana-lyzing sample, code (00028)	Instan-taneous dis-charge, cfs (00061)	Sam-pling method, code (82398)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unfltrd 25 degC (00095)	Temper-ature, deg C (00010)	Hard-ness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, unfltrd recover -able, mg/L (00916)	Magnes-ium, water, unfltrd recover -able, mg/L (00927)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)
NOV 2002 12...	1230	1028	9813	251	40	10.5	7.8	370	10.0	150	44.0	10.7	112
JAN 2003 16...	1250	1028	9813	299	40	15.4	7.9	388	2.2	170	49.7	12.0	--
MAR 20...	1250	1028	9813	674	40	11.4	7.4	326	4.6	140	40.2	10.1	97
MAY 06...	1320	1028	9813	251	40	10.0	8.1	329	12.6	150	41.5	10.9	108
JUL 09...	1310	1028	9813	290	40	9.4	8.0	338	20.3	170	48.3	11.7	118
SEP 04...	1310	1028	9813	219	40	7.8	7.6	427	20.6	190	51.4	14.5	139

Date	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC, sus-pended, mg/L (00515)	Residue total at 105 deg. C, unfltrd, 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-phos-phate, water, unfltrd, mg/L as P (70507)	Phos-phorus, water, unfltrd, mg/L (00665)	Total nitro-gen, water, unfltrd, mg/L (00600)	Organic carbon, water, unfltrd, mg/L (00680)	Alum-inum, water, unfltrd recover -able, mg/L (01105)	Copper, water, unfltrd recover -able, mg/L (01042)	Iron, water, unfltrd recover -able, mg/L (01045)
NOV 2002 12...	25.0	264	8	.070	4.41	.070	.02	.050	5.8	3.1	<200	<10	100
JAN 2003 16...	88.6	250	<2	.030	1.32	<.040	<.01	.054	1.5	1.9	<200	<10	120
MAR 20...	19.3	<2	<2	.290	5.37	.060	.11	.141	6.3	3.5	500	<10	440
MAY 06...	21.4	234	4	<.020	5.06	<.040	.02	.050	5.8	2.2	<200	<10	100
JUL 09...	20.3	242	12	<.020	5.62	.100	.03	.048	5.9	2.5	<200	10	90
SEP 04...	22.1	320	6	.100	4.79	.090	.05	.074	5.1	2.6	<200	<10	180

Date	Lead, water, unfltrd recover -able, mg/L (01051)	Mangan-ese, water, unfltrd recover -able, mg/L (01055)	Nickel, water, unfltrd recover -able, mg/L (01067)	Zinc, water, unfltrd recover -able, mg/L (01092)
NOV 2002 12...	<1.0	40	<50	20
JAN 2003 16...	<1.0	30	<50	<10
MAR 20...	<1.0	50	<50	60
MAY 06...	<1.0	40	<50	100
JUL 09...	<1.0	40	<50	190
SEP 04...	<1.0	90	<50	<10

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01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

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

Date	8/21/02
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	5
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<u>Ferrissia</u> sp	1
Physidae	
<u>Physa</u> sp	2
Planorbidae	
<u>Planorbella</u> sp	1
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
<u>Corbicula fluminea</u>	2
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Enchytraeidae	1
Naididae	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	4
Crustacea	
Amphipoda (SCUDS)	
Crangonyctidae	
<u>Crangonyx</u> sp	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	3
<u>Acentrella</u> sp	27
<u>Baetis</u> sp	16
Ephemerellidae	
<u>Serratella</u> sp	14
Heptageniidae	
<u>Stenonema</u> sp	2
Tricorythidae	
<u>Tricorythodes</u> sp	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	3
<u>Cheumatopsyche</u> sp	50
<u>Hydropsyche</u> sp	12
Hydroptilidae	
<u>Hydroptila</u> sp	9
<u>Leucotrichia</u> sp	4
Leptoceridae	
<u>Oecetis</u> sp	1
Polycentropodidae	1

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01471000 TULPEHOCKEN CREEK NEAR READING, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	8/21/02
Benthic Macroinvertebrate	Count
Lepidoptera (MOTHS AND BUTTERFLIES)	
Pyralidae	
<u>Petrophila</u> sp	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Stenelmis</u> sp	13
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	57
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	4
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	1
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	1
Total Organisms	239