

SCHUYLKILL RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERNE, PA
(Pennsylvania Water-Quality Network Station)

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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1947 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 310.65 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. 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 and landline 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)
Mar. 21	0500	7,560	9.49	June 21	0700	*11,300	*10.93
June 1	1130	7,510	9.47	Sept. 23	1300	7,280	9.37
June 7	2030	4,530	8.08				

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	269	721	641	1190	375	576	1740	565	5520	838	537	404
2	230	665	583	2680	383	729	1650	575	4270	760	585	527
3	208	599	540	2310	367	1050	1460	595	2980	689	486	788
4	209	545	497	1980	539	752	1320	530	3470	623	1130	775
5	241	511	501	1630	629	728	1300	511	2930	572	1800	618
6	208	690	505	1430	436	1080	1170	500	2390	531	1890	515
7	185	603	e440	1260	414	920	1080	482	2780	522	1720	456
8	169	533	e460	1160	380	812	1050	575	3280	623	1390	420
9	158	499	e470	1180	e370	978	1070	496	2640	484	1150	395
10	163	485	e430	1220	e340	1040	1140	471	2120	475	1100	370
11	880	492	e600	1070	e350	836	1570	453	1750	507	1290	350
12	1900	534	2730	963	e340	759	2300	446	2020	468	1840	340
13	1050	835	2030	887	e320	890	2000	419	2830	410	1430	363
14	716	667	3170	819	e310	1300	1700	397	2130	379	1810	584
15	543	641	3120	766	e300	1150	1490	376	1740	361	1260	639
16	1390	718	2440	e650	e290	1410	1340	373	1420	344	1050	1300
17	2150	1490	1860	e570	e280	2080	1180	424	1200	323	1040	844
18	1260	2000	1500	e520	e310	3000	1050	389	1440	330	836	671
19	918	1690	1300	e460	e350	3150	989	369	1210	514	718	997
20	743	1400	1920	e550	e400	3170	906	349	1800	347	634	860
21	607	1200	1950	e490	e500	6410	846	366	8820	427	582	723
22	522	1220	1710	e450	572	4550	856	355	5130	2030	548	656
23	457	1220	1520	e420	1590	3420	771	335	3630	1210	534	4470
24	409	1020	1330	e380	1300	2700	694	418	2740	2860	472	3420
25	393	936	1340	e420	909	2180	642	476	2130	1490	440	2270
26	859	864	1280	e500	745	1890	761	1100	1730	1020	418	1770
27	710	851	1080	e410	663	1810	820	1190	1440	820	414	1430
28	592	772	966	e360	617	1490	662	1160	1230	848	396	1600
29	544	712	914	e400	---	1480	617	1250	1070	663	368	1270
30	651	678	847	e420	---	1880	600	1040	952	565	489	1030
31	784	---	813	388	---	1870	---	994	---	512	439	---
TOTAL	20118	25791	39487	27933	14379	56090	34774	17979	78792	22545	28796	30855
MEAN	649	860	1274	901	514	1809	1159	580	2626	727	929	1028
MAX	2150	2000	3170	2680	1590	6410	2300	1250	8820	2860	1890	4470
MIN	158	485	430	360	280	576	600	335	952	323	368	340
CFSM	1.83	2.42	3.59	2.54	1.45	5.10	3.27	1.63	7.40	2.05	2.62	2.90
IN.	2.11	2.70	4.14	2.93	1.51	5.88	3.64	1.88	8.26	2.36	3.02	3.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2003, BY WATER YEAR (WY)

MEAN	421	685	921	814	874	1187	1124	870	597	377	344	365
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	274	462	424	314	148	104	105	94.6
(WY)	1964	1965	1981	1981	2002	1985	1985	1999	1965	1999	2002	1964

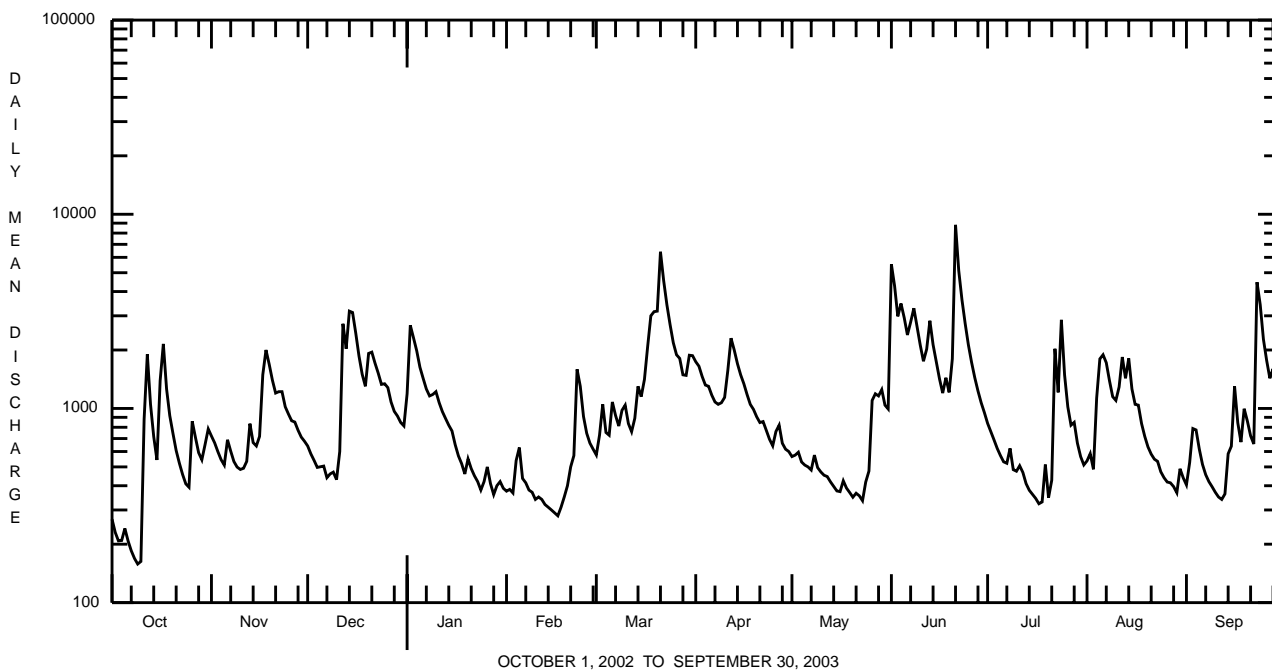
e Estimated.

SCHUYLKILL RIVER BASIN

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SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1947 - 2003	
ANNUAL TOTAL	213108		397539			
ANNUAL MEAN	584		1089		714	
HIGHEST ANNUAL MEAN					1182	1952
LOWEST ANNUAL MEAN					321	1965
HIGHEST DAILY MEAN	3170	Dec 14	8820	Jun 21	26000	Jun 23 1972
LOWEST DAILY MEAN	75	Sep 13	158	Oct 9	40	Sep 2 1949
ANNUAL SEVEN-DAY MINIMUM	80	Sep 8	190	Oct 4	52	Aug 30 1999
MAXIMUM PEAK FLOW			11300	Jun 21	a 42800	Jun 22 1972
MAXIMUM PEAK STAGE			10.93	Jun 21	b 19.00	Jun 22 1972
INSTANTANEOUS LOW FLOW			155	Oct 9,10	31	Sep 2 1949
ANNUAL RUNOFF (CFSM)	1.64		3.07		2.01	
ANNUAL RUNOFF (INCHES)	22.33		41.66		27.33	
10 PERCENT EXCEEDS	1330		2120		1480	
50 PERCENT EXCEEDS	409		766		450	
90 PERCENT EXCEEDS	112		370		158	

a From rating curve extended above 20,800 ft³/s.
b From floodmark in gage shelter.



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(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--Some values for "dissolved" parameters exceed values for the corresponding "total" parameter. These results are within the limits of analytical precision and methods. 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 collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd μ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, unfltrd mg/L (00915)	Calcium recoverable, unfltrd mg/L (00916)	Magnesium, water, unfltrd mg/L (00925)
NOV 2002 12...	1020	1028	9813	480	40	10.2	7.6	285	11.2	110	23.0	23.3	12.9
JAN 2003 16...	1030	1028	9813	E650	40	15.3	6.9	307	.3	120	23.3	24.0	13.4
MAR 20...	1100	1028	9813	2680	40	11.5	6.3	161	5.8	52	11.1	11.1	5.8
MAY 06...	1030	1028	9813	509	40	9.8	6.9	301	12.0	120	24.3	25.0	14.7
JUL 09...	1030	1028	9813	485	40	8.7	7.6	316	23.0	150	27.4	29.2	16.5
SEP 04...	0920	1028	9813	802	40	9.6	6.8	352	17.7	140	26.7	27.2	17.7
Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	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)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)
NOV 2002 12...	13.2	22	.0	85.7	220	6	.100	1.35	<.040	<.01	<.010	1.9	1.9
JAN 2003 16...	13.8	109	.0	88.5	<2	<2	.100	1.32	<.040	<.01	.010	7.4	.5
MAR 20...	6.0	11	.0	37.6	134	12	.040	.88	<.040	.02	.028	1.0	.6
MAY 06...	14.9	23	.0	104	248	<2	<.020	.66	<.040	.01	.022	.97	1.2
JUL 09...	17.7	23	.0	116	212	8	<.020	.81	<.040	.01	.022	.98	1.5
SEP 04...	18.0	30	.0	10.8	298	<2	.070	.97	<.040	.02	.030	1.2	1.3
Date	Aluminum, water, unfltrd recoverable, μ g/L (01106)	Aluminum, water, unfltrd, μ g/L (01105)	Copper, water, unfltrd, μ g/L (01040)	Copper, water, unfltrd recoverable, μ g/L (01042)	Iron, water, unfltrd, μ g/L (01046)	Iron, water, unfltrd recoverable, μ g/L (01045)	Lead, water, unfltrd recoverable, μ g/L (01049)	Lead, water, unfltrd recoverable, μ g/L (01051)	Manganese, water, unfltrd, μ g/L (01056)	Manganese, water, unfltrd recoverable, μ g/L (01055)	Nickel, water, unfltrd, μ g/L (01065)	Nickel, water, unfltrd recoverable, μ g/L (01067)	Zinc, water, unfltrd, μ g/L (01090)
NOV 2002 12...	22	55	<4	<4	30	170	<1.0	<1.0	330	350	11.3	11.6	30
JAN 2003 16...	24	73	<4	<4	<20	280	<1.0	<1.0	670	670	21.4	21.3	60
MAR 20...	27	300	<4	<4	20	940	<1.0	1.2	320	440	9.3	10.9	30
MAY 06...	12	69	<4	<4	50	270	<1.0	<1.0	520	600	13.4	16.5	20
JUL 09...	19	77	<4	<4	40	270	<1.0	<1.0	280	340	12.7	14.6	10
SEP 04...	<10	200	<4	<4	30	560	<1.0	1.3	240	400	8.2	11.0	10
Date	Zinc, water, unfltrd recoverable, μ g/L (01092)												
NOV 2002 12...	30												
JAN 2003 16...	60												
MAR 20...	40												
MAY 06...	20												
JUL 09...	20												
SEP 04...	20												

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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	08/21/02
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	7
Nematoda (NEMATODES)	5
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Physidae	
<u>Physa</u> sp	1
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
<u>Corbicula fluminea</u>	10
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	3
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	2
<u>Baetis</u> sp	10
<u>Heterocloeon</u> sp	1
<u>Plauditus</u> sp	10
Tricorythidae	
<u>Tricorythodes</u> sp	3
Odonata	
Coenagrionidae (DAMSELFLIES)	
<u>Argia</u> sp	1
Trichoptera (CADDISFLIES)	
Glossosomatidae	
<u>Protophila</u> sp	2
Hydropsychidae	
<u>Cheumatopsyche</u> sp	6
<u>Hydropsyche</u> sp	6
<u>Macrostemum</u> sp	4
Hydroptilidae	
<u>Hydroptila</u> sp	1
<u>Leucotrichia</u> sp	1
Philopotamidae	
<u>Chimarra</u> sp	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	17
Total Organisms	91