

## BEAVER RIVER BASIN

03106500 SLIPPERY ROCK CREEK AT WURTEMBERG, PA  
(Pennsylvania Water-Quality Network Station)

**LOCATION.**--Lat 40°53'02", long 80°14'02", Lawrence County, Hydrologic Unit 05030105, on left bank at downstream side of highway bridge at Camp Allegheny, 2 mi north of Wurtemburg, and 2.8 mi upstream from mouth.

**DRAINAGE AREA.**--398 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD.**--October 1911 to current year. Monthly discharge only for some periods, published in WSP 1305.

**REVISED RECORDS.**--WSP 743: Drainage area. WSP 1305: 1914-18, 1920-22, 1923-24 (M), 1925-28, 1930. WSP 1385: 1932, 1935, 1936 (M), 1937-39. WSP 1625: 1955.

**GAGE.**--Water-stage recorder. Datum of gage is 832.06 ft above National Geodetic Vertical Datum of 1929. Jan. 1, 1912 to Sept. 30, 1922, nonrecording gage at site 1.5 mi downstream at datum 13.77 ft lower and Oct. 1, 1922 to Sept. 30, 1940, nonrecording gage at site 2 mi downstream at datum 18.92 ft lower.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Some regulation since May 1969 by Lake Arthur (station 03106280) 13 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 3,500 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)
Jan. 1	2300	4,530	5.49	July 28	0800	6,580	6.92
Feb. 23	1500	Unknown	Ice jam	Sept. 2	0800	*6,740	*7.03
July 24	1900	3,550	4.79	Sept. 4	1600	3,710	4.91

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	82	102	194	2510	e361	e560	431	236	1980	171	807	1000
2	69	96	184	3530	e361	e492	431	458	1060	153	595	5500
3	63	89	e183	2350	e478	e483	398	515	698	138	628	4800
4	61	87	e179	1600	e964	e449	379	368	659	277	751	3840
5	60	85	e179	1130	e2430	e449	1360	368	548	602	599	2090
6	62	96	e179	843	e1770	e1310	1460	636	467	606	623	1400
7	60	123	e171	675	e1360	e938	1020	539	418	1560	523	1040
8	58	144	e163	620	e1220	e918	936	475	449	1200	828	797
9	54	119	e167	720	e1100	e1650	802	563	585	1230	1010	625
10	53	111	e167	e700	e988	e1310	668	1750	493	875	1610	530
11	52	212	e175	e589	e953	e999	565	1410	399	871	1260	450
12	52	474	e183	e508	e883	e857	501	991	456	624	761	394
13	54	278	e252	e406	e849	e1350	433	1170	1260	427	523	351
14	56	183	e681	e369	e779	e1710	383	1070	1990	335	368	331
15	56	146	e1220	e361	e733	e2020	354	761	1730	283	313	354
16	69	146	e960	e361	e687	e1670	328	606	1280	289	304	430
17	102	266	640	e361	e629	e1370	307	505	947	286	548	358
18	113	460	446	e354	e582	e1170	287	403	890	197	371	295
19	97	367	371	e339	e606	e978	273	350	799	179	278	1150
20	116	387	993	e354	e571	e841	266	357	622	164	217	1570
21	128	354	1230	e354	e606	e755	371	1720	449	172	186	812
22	94	283	797	e332	e733	e703	467	1340	398	1430	172	627
23	78	272	606	e347	e1750	e652	373	877	352	3040	161	1720
24	69	260	486	e332	e3060	e600	318	1100	297	2730	151	1220
25	68	225	427	e317	e2410	540	278	958	241	2070	141	797
26	132	247	399	e332	e1980	533	256	681	218	1200	455	614
27	266	224	356	e339	e1200	547	238	535	198	932	1240	660
28	160	208	322	e339	e818	472	222	485	181	5730	642	1230
29	110	192	340	e354	---	446	222	447	166	4100	393	829
30	98	185	323	e339	---	517	243	396	166	1730	1790	580
31	100	---	734	e347	---	454	---	711	---	1120	1400	---
TOTAL	2692	6421	13707	22412	30861	27743	14570	22781	20396	34721	19648	36394
MEAN	86.8	214	442	723	1102	895	486	735	680	1120	634	1213
MAX	266	474	1230	3530	3060	2020	1460	1750	1990	5730	1790	5500
MIN	52	85	163	317	361	446	222	236	166	138	141	295
CFSM	0.22	0.54	1.11	1.82	2.77	2.25	1.22	1.85	1.71	2.81	1.59	3.05
IN.	0.25	0.60	1.28	2.09	2.88	2.59	1.36	2.13	1.91	3.25	1.84	3.40

e Estimated.

## BEAVER RIVER BASIN

## 03106500 SLIPPERY ROCK CREEK AT WURTEMBERG, PA--Continued

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY) (SINCE REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	258	522	772	679	872	1022	952	637	527	347	266	261
MAX (WY)	1976	1822	1576	1369	1949	1972	1608	1400	2075	1120	1323	1213
MIN (WY)	1976	1986	1978	1999	1981	1972	1987	1983	1989	2003	1980	2003
MIN (WY)	56.5	82.2	178	153	289	243	345	215	112	84.8	51.1	53.0
(WY)	1992	1992	1990	1977	1987	1969	1971	1976	1992	1998	2001	1999

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1969 - 2003	
ANNUAL TOTAL	165051		252346			
ANNUAL MEAN	452		691		591	
HIGHEST ANNUAL MEAN					813	
LOWEST ANNUAL MEAN					317	
HIGHEST DAILY MEAN	4360	Apr 15	5730	Jul 28	8620	Jun 24 1972
LOWEST DAILY MEAN	36	Sep 14	52	Oct 11,12	36	Sep 14 2002
ANNUAL SEVEN-DAY MINIMUM	41	Sep 9	54	Oct 9	39	Aug 13 2001
MAXIMUM PEAK FLOW			6740	Sep 2	9090	Jun 24 1972
MAXIMUM PEAK STAGE			7.03	Sep 2	8.09	Jun 24 1972
INSTANTANEOUS LOW FLOW			51	Oct 11,12	36	Sep 13-15 2002
ANNUAL RUNOFF (CFSM)	1.14		1.74		1.49	
ANNUAL RUNOFF (INCHES)	15.43		23.59		20.18	
10 PERCENT EXCEEDS	973		1420		1350	
50 PERCENT EXCEEDS	278		458		360	
90 PERCENT EXCEEDS	60		126		91	

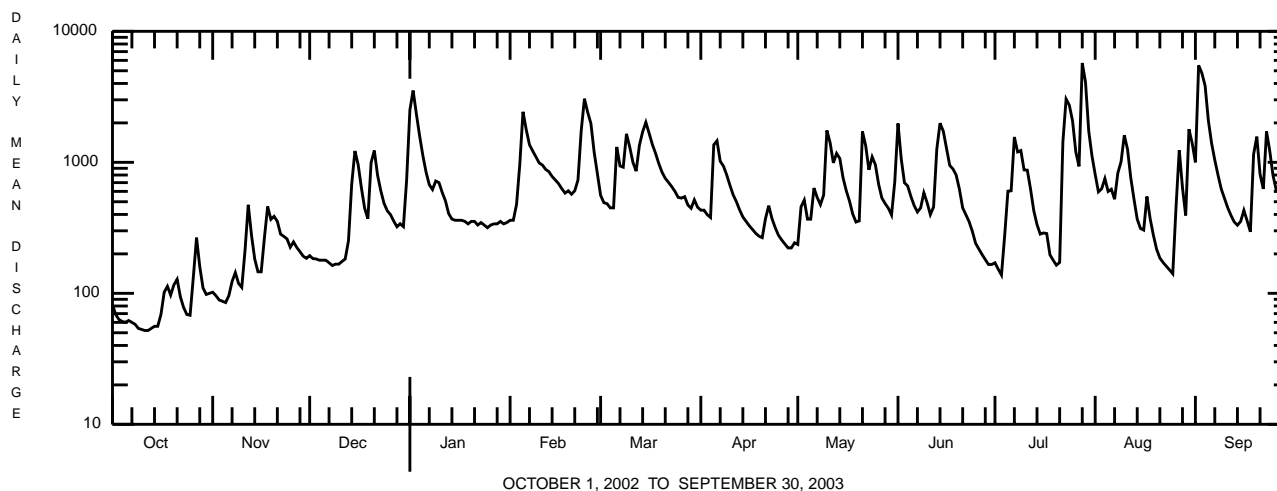
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1968, BY WATER YEAR (WY) (PRIOR TO REGULATION)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	237	379	589	839	856	1203	911	653	386	237	191	160
MAX (WY)	1391	1329	2088	3161	2089	2728	1974	1472	1559	1307	905	1675
(WY)	1912	1922	1928	1937	1956	1913	1940	1924	1956	1958	1956	1926
MIN (WY)	37.7	43.0	58.5	56.3	94.7	291	238	94.3	79.3	54.8	35.3	38.2
(WY)	1964	1931	1931	1931	1934	1931	1925	1934	1936	1944	1930	1944

## SUMMARY STATISTICS WATER YEARS 1912 - 1968

ANNUAL MEAN	552		
HIGHEST ANNUAL MEAN	917	1956	
LOWEST ANNUAL MEAN	216	1931	
HIGHEST DAILY MEAN	16700	Mar 26 1913	
LOWEST DAILY MEAN	20	Sep 11 1938	
ANNUAL SEVEN-DAY MINIMUM	24	Sep 6 1938	
MAXIMUM PEAK FLOW	a19000	Jan 25 1937	
MAXIMUM PEAK STAGE	b12.05	Jan 25 1937	
INSTANTANEOUS LOW FLOW	c16	Sep 13 1932	
ANNUAL RUNOFF (CFSM)	1.39		
ANNUAL RUNOFF (INCHES)	18.85		
10 PERCENT EXCEEDS	1390		
50 PERCENT EXCEEDS	248		
90 PERCENT EXCEEDS	58		

- a From rating curve extended above 14,000 ft<sup>3</sup>/s.  
b From floodmark, site and datum then in use.  
c Minimum observed.



## BEAVER RIVER BASIN

03106500 SLIPPERY ROCK CREEK AT WURTEMBERG, 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 242-289.

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 $\mu$ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, unfltrd recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00927)	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)
NOV 2002 12...	0830	1028	9813	556	40	11.5	7.7	482	9.5	210	62.4	12.3	86
JAN 2003 22...	1100	1028	9813	E332	40	15.9	7.8	402	.0	170	47.9	13.0	63
MAR 11...	0900	1028	9813	E1000	40	15.5	7.6	286	.0	110	31.9	8.0	36
MAY 27...	1400	1028	9813	523	40	10.5	8.1	323	16.0	130	35.5	9.6	49
JUL 24...	1155	1028	9813	2310	40	9.3	7.6	251	--	95	27.3	6.5	50
SEP 25...	0830	1028	9813	812	40	9.7	7.5	308	16.0	130	37.5	8.9	62

Date	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC, wat flt 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, $\mu$ g/L (01105)	Copper, water, unfltrd recover -able, $\mu$ g/L (01042)	Iron, water, unfltrd recover -able, $\mu$ g/L (01045)
NOV 2002 12...	105	354	38	.050	.85	<.040	.06	.143	1.7	4.8	500	<10	1360
JAN 2003 22...	91.2	282	2	.040	.92	<.040	.03	.018	1.1	2.7	400	<10	580
MAR 11...	63.0	208	14	.050	.90	<.040	.04	.034	1.2	3.6	400	<10	820
MAY 27...	76.3	232	12	.020	.42	<.040	.03	.033	.69	3.8	400	<10	810
JUL 24...	43.8	260	34	.020	.50	<.040	.07	.100	1.2	8.2	1900	<10	2900
SEP 25...	66.8	210	22	<.020	.50	<.040	.03	.038	.70	5.3	400	<10	990

Date	Lead, water, unfltrd recover -able, $\mu$ g/L (01051)	Manganese, water, unfltrd recover -able, $\mu$ g/L (01055)	Nickel, water, unfltrd recover -able, $\mu$ g/L (01067)	Zinc, water, unfltrd recover -able, $\mu$ g/L (01092)
NOV 2002 12...	1.4	420	<50	<10
JAN 2003 22...	<1.0	320	<50	10
MAR 11...	1.1	400	<50	60
MAY 27...	<1.0	240	<50	10
JUL 24...	3.2	450	<50	20
SEP 25...	<1.0	200	<50	<10

## BEAVER RIVER BASIN

## 03106500 SLIPPERY ROCK CREEK AT WURTEMBERG, 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	9/24/02
Benthic Macroinvertebrate	Count
Nematoda (NEMATODES)	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<u>Ferrissia</u> sp	1
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	8
Caenidae	
<u>Caenis</u> sp	4
Heptageniidae	
<u>Stenonema</u> sp	19
Isonychiidae	
<u>Isonychia</u> sp	27
Tricorythidae	
<u>Tricorythodes</u> sp	7
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<u>Argia</u> sp	1
Gomphidae	1
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<u>Nigronia</u> sp	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	19
<u>Hydropsyche</u> sp	100
<u>Macrostemum</u> sp	2
Hydroptilidae	
<u>Leucotrichia</u> sp	3
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	16
<u>Stenelmis</u> sp	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	11
Total Organisms	222