



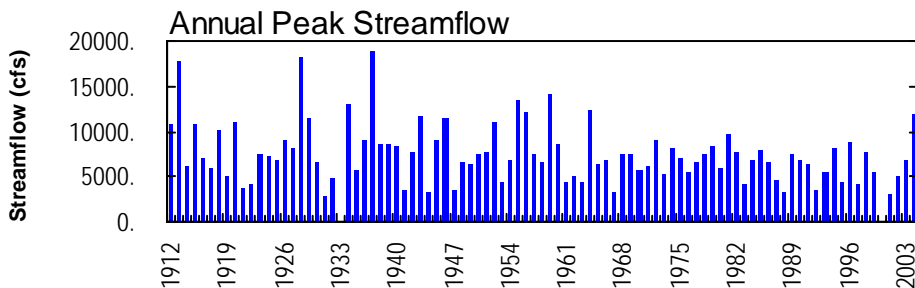
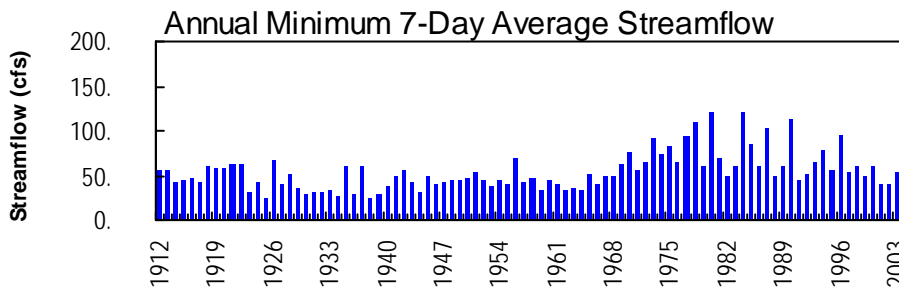
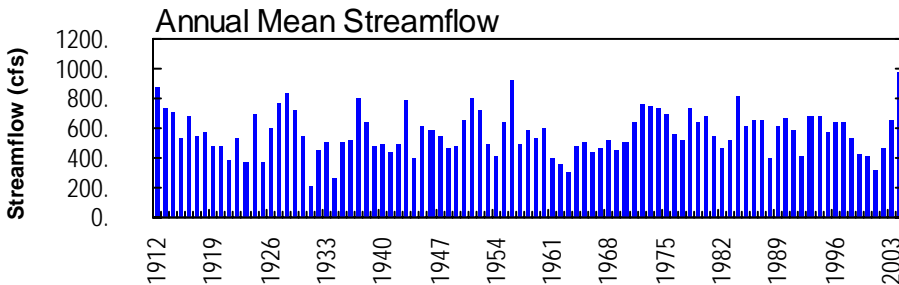
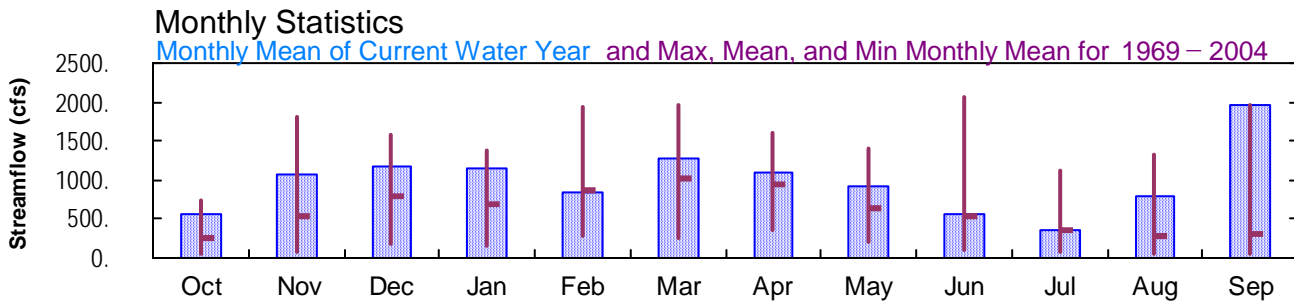
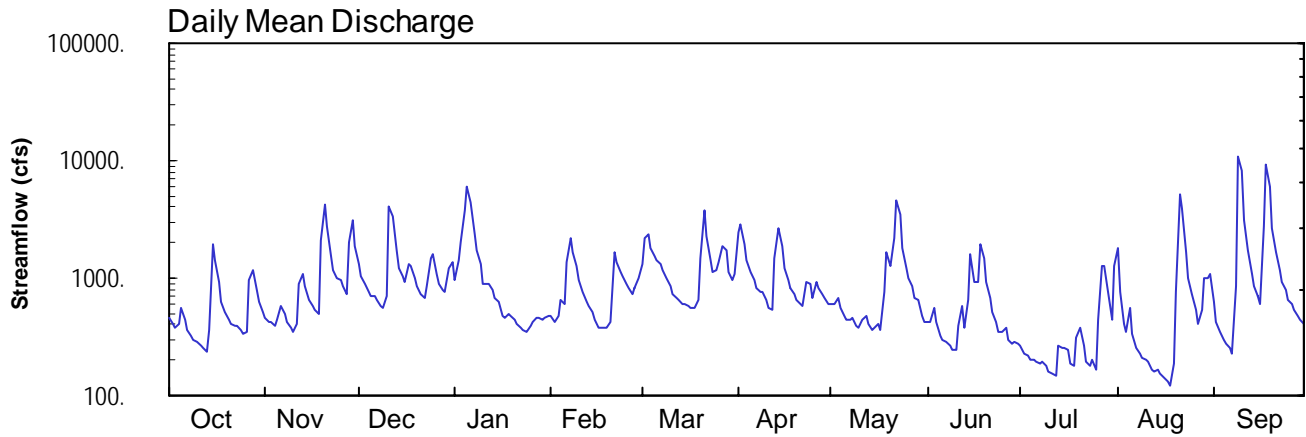
# 2004 Water Year BEAVER RIVER BASIN

## 03106500 Slippery Rock Creek at Wurtemberg, PA

Latitude: 40° 53 ' 02"  
Lawrence County

Longitude: 080° 14 ' 02"  
Datum: 832.06 feet

Hydrologic Unit Code: 05030105  
Drainage Area: 398. mi<sup>2</sup>



**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)
Nov. 19	2200	4,750	5.65	May 2	0500	5,490	6.18
Nov. 28	1800	3,670	4.88	Aug. 21	1000	6,070	6.58
Dec. 11	0700	4,610	5.55	Sept. 9	2300	*11,800	*9.48
Jan. 5	0700	6,290	6.73	Sept. 18	1700	9,580	8.53
Mar. 21	0300	4,300	5.33				

**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	452	449	1320	951	e471	1340	2410	592	417	261	1780	629
2	403	428	1040	1410	e429	2180	2890	609	420	230	769	419
3	374	423	877	2010	e479	2360	1950	664	561	215	406	351
4	413	399	752	3720	e660	1790	1450	549	417	205	353	304
5	550	434	705	6020	e614	1510	1130	470	325	200	549	273
6	439	568	702	4480	e1390	1420	948	440	303	197	339	257
7	366	497	663	2370	e2180	1330	837	442	287	188	260	230
8	324	426	572	1710	e1690	1160	771	452	268	192	228	845
9	299	374	560	1330	e1280	1010	747	397	244	179	210	10700
10	284	347	715	895	e969	842	639	382	249	161	200	8210
11	268	400	4020	902	e760	732	562	436	395	152	191	3160
12	251	894	3300	879	e636	687	545	478	570	149	168	1700
13	236	1070	1750	783	e576	653	1470	400	377	268	162	1100
14	356	845	1230	676	e519	603	2690	358	644	253	168	852
15	1970	660	1030	614	e449	592	1870	379	1610	255	156	710
16	1420	583	942	470	e374	572	1220	415	935	244	142	597
17	929	543	1330	464	e379	568	948	366	942	187	129	2730
18	633	504	1280	e496	e379	566	822	756	1980	183	123	9220
19	510	2130	1000	e470	e381	639	718	1640	1480	305	187	6080
20	449	4170	863	e440	e430	1470	653	1280	927	374	750	2650
21	408	2710	730	e407	e1670	3730	610	2160	670	269	5150	1670
22	391	1630	679	e384	e1380	2230	585	4580	518	196	3960	1170
23	387	1170	842	e365	e1120	1420	936	3430	416	178	1670	941
24	359	986	1490	e344	e1050	1120	895	1760	342	202	1010	778
25	331	968	1600	e391	e895	1170	677	1210	355	164	735	662
26	352	847	1100	e429	811	1360	909	998	374	443	539	600
27	975	734	904	e459	741	1870	825	852	300	1260	408	526
28	1150	2050	784	e455	821	1720	733	667	274	1260	530	471
29	787	3100	754	e436	1020	1130	666	645	285	748	983	437
30	629	1890	1190	e450	---	948	592	476	280	444	1010	408
31	510	---	1370	e471	---	1090	---	427	---	1250	1060	---
TOTAL	17205	32229	36094	35681	24553	39812	32698	28710	17165	10812	24325	58680
MEAN	555	1074	1164	1151	847	1284	1090	926	572	349	785	1956
MAX	1970	4170	4020	6020	2180	3730	2890	4580	1980	1260	5150	10700
MIN	236	347	560	344	374	566	545	358	244	149	123	230
CFSM	1.39	2.70	2.93	2.89	2.13	3.23	2.74	2.33	1.44	0.88	1.97	4.91
IN.	1.61	3.01	3.37	3.34	2.29	3.72	3.06	2.68	1.60	1.01	2.27	5.48

e Estimated.

**BEAVER RIVER BASIN**

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

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2004, BY WATER YEAR (WY) (SINCE REGULATION)**

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	266	538	783	691	860	1028	955	645	528	347	281	309
MAX (WY)	741	1822	1576	1369	1949	1972	1608	1400	2075	1120	1323	1956
MIN (WY)	1976	1986	1978	1999	1981	1972	1987	1983	1989	2003	1980	2004
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 2003 CALENDAR YEAR FOR 2004 WATER YEAR WATER YEARS 1969 - 2004**

ANNUAL TOTAL		300121		357964								
ANNUAL MEAN		822		978					601			
HIGHEST ANNUAL MEAN									978			2004
LOWEST ANNUAL MEAN									317			2001
HIGHEST DAILY MEAN				5730	Jul 28		10700	Sep 9	10700	Sep 9		2004
LOWEST DAILY MEAN				138	Jul 3		123	Aug 18	36	Sep 14		2002
ANNUAL SEVEN-DAY MINIMUM				168	Jun 27		150	Aug 12	39	Aug 13		2001
MAXIMUM PEAK FLOW							11800	Sep 9	11800	Sep 9		2004
MAXIMUM PEAK STAGE							9.48	Sep 9	9.48	Sep 9		2004
INSTANTANEOUS LOW FLOW							120	Aug 18	36	Sep 13		2002
ANNUAL RUNOFF (CFSM)				2.07			2.46					1.51
ANNUAL RUNOFF (INCHES)				28.05			33.46					20.51
10 PERCENT EXCEEDS				1620			1880		1360			
50 PERCENT EXCEEDS				580			642		370			
90 PERCENT EXCEEDS				269			254		92			

**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
MIN (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.

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, 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	06...	1028	9813	425	12.6	7.9	8.2	365	371	10.0	160	45.2	12.0
DEC	02...	1028	9813	1020	11.0	7.5	7.8	276	280	3.5	110	31.7	8.0
FEB 2004	11...	1028	9813	E760	15.5	6.7	7.8	330	332	.0	120	34.6	8.8
APR	06...	1028	9813	933	12.7	7.7	7.4	314	312	6.5	120	34.9	8.8
JUN	01...	1028	9813	420	9.3	8.2	8.2	365	352	19.0	160	44.4	10.8
AUG	02...	1028	9813	670	8.6	7.9	7.5	267	268	22.0	100	29.9	7.2

Date	ANC, wat unfltrd fixed 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	06...	70	84.9	304	<2	<.020	.57	<.040	.02	.028	.81	3.8	<200	<10
DEC	02...	47	66.1	196	<2	<.020	.66	<.040	.02	.022	.86	3.5	200	<10
FEB 2004	11...	47	72.7	250	6	.060	.76	<.040	.02	.031	1.1	2.7	<200	<10
APR	06...	45	77.4	164	2	<.020	.65	<.040	.02	.022	.88	2.3	<200	<10
JUN	01...	70	83.1	278	32	<.020	.64	<.040	.02	.040	.76	3.6	400	<10
AUG	02...	60	47.7	220	38	.030	.44	<.040	.04	.104	.93	6.6	600	<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	06...	380	<1.0	130	<50	10
DEC	02...	480	<1.0	170	<50	<10
FEB 2004	11...	500	<1.0	330	<50	10
APR	06...	370	<1.0	210	<50	<10
JUN	01...	790	<1.0	240	<50	<10
AUG	02...	1440	1.7	330	<50	<10

BEAVER RIVER BASIN

03106500 SLIPPERY ROCK CREEK AT WURTEMBERG, 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 animal (approximate) subsamples.

Date	10/03/03
Benthic Macroinvertebrate	Count
Nematoda (NEMATODES)	2
Mollusca	
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
<i>Pisidium</i>	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Acentrella</i>	2
<i>Baetis</i>	6
Caenidae	
<i>Caenis</i>	7
Ephemerellidae	
<i>Serratella</i>	1
Heptageniidae	
<i>Stenonema</i>	11
Siphonuridae	
<i>Ameletus</i>	1
Plecoptera (STONEFLIES)	
Perlidae	
<i>Acroneuria</i>	1
<i>Agnetina</i>	1
Trichoptera (CADDISFLIES)	
Glossosomatidae	
<i>Protoptila</i>	1
Hydropsychidae	
<i>Cheumatopsyche</i>	8
<i>Hydropsyche</i>	24
<i>Macrostemum</i>	1
<i>Potamyia</i>	2
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i>	7
<i>Stenelmis</i>	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	23
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	2
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	8
Total Organisms	112
Total Taxa	21