

BEAVER RIVER BASIN

03102500 LITTLE SHENANGO RIVER AT GREENVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°25'19", long 80°22'35", Mercer County, Hydrologic Unit 05030102, on left bank 1,700 ft downstream from Williamson Crossing bridge, 1 mi northeast of Greenville, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--104 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1913 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1914, 1922-23, 1926-29. WSP 1335: 1923 (m).

GAGE.--Water-stage recorder. Datum of gage is 953.46 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 4, 1915, nonrecording gage; Nov. 4, 1915, to Sept. 30, 1918, water-stage recorder; Nov. 7, 1919, to Aug. 31, 1923, and Nov. 19, 1925, to June 20, 1934, nonrecording gage at site 1 mi downstream at datum 8.96 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
July 22	1000	*3,730	*9.76	No other peak greater than base discharge.			

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	14	26	e34	621	e74	e136	166	51	939	33	105	73
2	11	27	e30	604	e80	e133	174	78	424	29	86	286
3	9.8	27	e30	e357	e83	e123	146	75	232	38	216	203
4	9.1	26	e30	e233	e238	e118	155	61	190	73	292	111
5	7.9	26	e25	e185	e511	e112	1020	68	160	108	237	87
6	8.4	33	e27	e153	e297	e108	977	113	135	82	607	69
7	7.8	35	e22	e122	e195	e103	436	141	112	166	266	59
8	7.1	41	e22	e118	e147	e110	528	127	124	94	146	53
9	6.8	36	e20	128	e112	e631	362	142	302	118	118	48
10	7.6	32	e22	179	e107	e401	275	247	177	214	679	43
11	7.5	126	e20	139	e99	e214	218	231	164	435	824	39
12	7.4	111	e27	e105	e96	e192	173	182	284	196	288	34
13	7.4	66	e39	e90	e96	e256	137	294	501	95	165	32
14	9.1	47	e124	e86	e93	444	113	249	346	67	120	32
15	9.0	38	299	e82	e99	368	100	162	202	51	99	46
16	12	39	160	e78	e96	419	90	133	135	43	85	75
17	18	54	112	e76	e101	426	81	111	105	37	77	53
18	18	80	87	e76	e99	332	77	92	102	34	67	42
19	20	73	77	e69	e99	259	71	79	103	34	57	193
20	22	72	240	e67	e96	204	67	80	108	30	51	301
21	21	65	e193	e67	e99	219	152	296	90	1170	46	125
22	18	60	e143	e63	e139	308	203	218	78	3450	43	117
23	16	72	e100	e58	e358	236	149	125	67	1950	39	582
24	15	64	e79	e53	e240	177	112	437	57	e1370	35	385
25	14	56	e73	e52	e176	145	94	306	50	e802	32	203
26	29	50	e69	e57	e163	245	82	177	44	e563	39	153
27	42	46	e69	e58	e155	234	72	128	41	e428	78	520
28	31	41	e67	e59	e147	165	64	113	42	e667	53	732
29	25	38	e65	e62	---	192	58	103	37	e511	42	326
30	25	38	e62	e70	---	287	54	88	35	e292	60	226
31	26	---	360	e72	---	193	---	391	---	127	59	---
TOTAL	481.9	1545	2727	4239	4295	7490	6406	5098	5386	13307	5111	5248
MEAN	15.5	51.5	88.0	137	153	242	214	164	180	429	165	175
MAX	42	126	360	621	511	631	1020	437	939	3450	824	732
MIN	6.8	26	20	52	74	103	54	51	35	29	32	32
CFSM	0.15	0.50	0.85	1.31	1.47	2.32	2.05	1.58	1.73	4.13	1.59	1.68
IN.	0.17	0.55	0.98	1.52	1.54	2.68	2.29	1.82	1.93	4.76	1.83	1.88

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2003, BY WATER YEAR (WY)

MEAN	58.8	121	175	205	222	293	233	156	93.6	63.8	43.2	42.0
MAX	343	639	521	773	553	659	506	511	395	457	284	316
(WY)	1927	1986	1928	1937	1976	1963	1957	1929	1989	1958	1980	1926
MIN	5.19	6.31	16.8	21.3	36.0	66.5	16.7	21.8	11.9	5.91	5.33	5.90
(WY)	1964	1931	1961	1977	1963	1915	1915	1934	1934	1934	1930	1930

e Estimated.

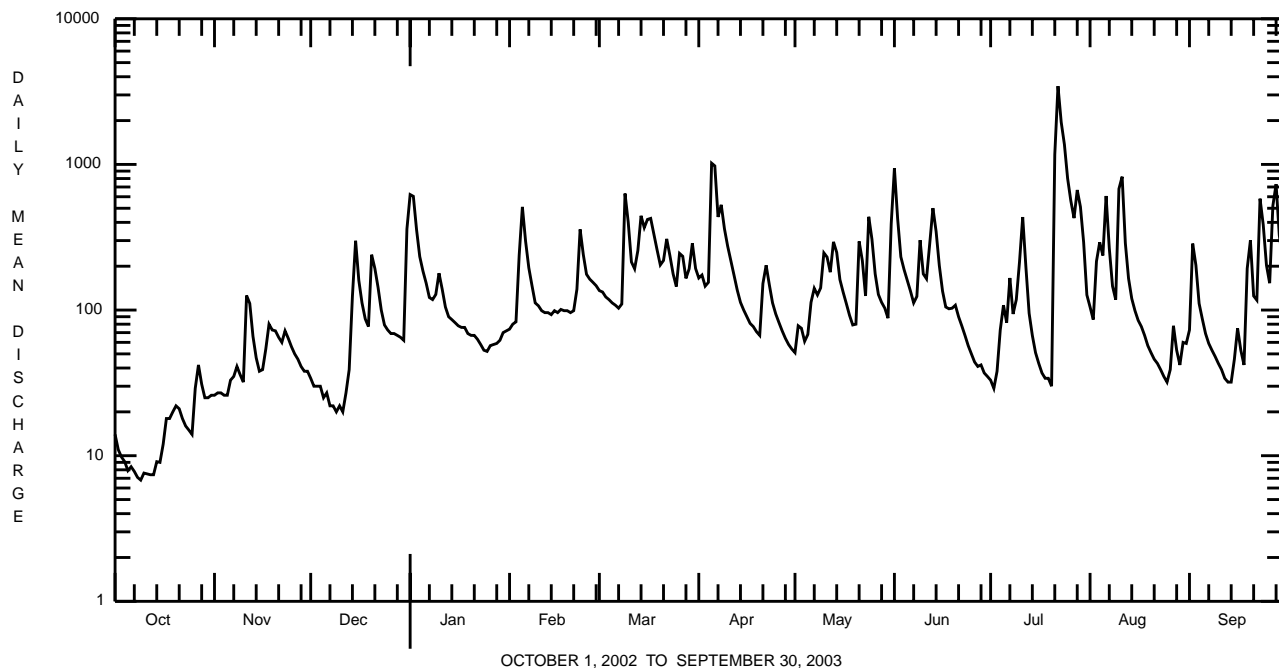
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SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1914 - 2003	
ANNUAL TOTAL	42494.8		61333.9			
ANNUAL MEAN	116		168		142	
HIGHEST ANNUAL MEAN					218	1956
LOWEST ANNUAL MEAN					65.6	1931
HIGHEST DAILY MEAN	1760	May 14	3450	Jul 22	5980	Jan 22 1959
LOWEST DAILY MEAN	3.7	Sep 13	6.8	Oct 9	2.8	Aug 16 2001
ANNUAL SEVEN-DAY MINIMUM	5.2	Sep 8	7.4	Oct 7	3.3	Sep 7 2001
MAXIMUM PEAK FLOW			a3730	Jul 22	a8540	Jan 22 1959
MAXIMUM PEAK STAGE			9.76	Jul 22	14.30	Jan 22 1959
INSTANTANEOUS LOW FLOW			6.5	Oct 9	2.4	Aug 16 2001 ^b
ANNUAL RUNOFF (CFSM)	1.12		1.62		1.36	
ANNUAL RUNOFF (INCHES)	15.20		21.94		18.52	
10 PERCENT EXCEEDS	279		361		326	
50 PERCENT EXCEEDS	64		96		66	
90 PERCENT EXCEEDS	8.7		26		13	

^a From rating curve extended above 3,200 ft³/s on basis of slope-area measurement at gage height 12.26 ft.

^b Also Sept. 13.



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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 μ 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 19...	0945	1028	9813	71	40	10.4	7.6	283	4.4	130	39.5	7.4	84
JAN 2003 14...	1100	1028	9813	E86	40	14.4	7.7	279	.0	98	28.4	6.5	60
MAR 18...	1030	1028	9813	337	40	12.5	7.2	164	6.2	60	17.3	4.0	32
JUN 04...	1230	1028	9813	190	40	9.8	7.7	194	13.5	76	22.5	4.8	56
JUL 29...	1105	1028	9813	E510	40	7.4	6.5	174	19.2	69	20.4	4.3	53
SEP 23...	1145	1028	9813	656	40	8.3	6.9	157	16.5	68	19.2	4.8	48

Date	Sulfate water, unfltrd, mg/L (00945)	Residue on evap. at 105degC, 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, μ g/L (01105)	Copper, water, unfltrd recover -able, μ g/L (01042)	Iron, water, unfltrd recover -able, μ g/L (01045)
NOV 2002 19...	35.3	208	14	<.020	.62	<.040	.01	.023	1.3	5.5	<200	<10	500
JAN 2003 14...	27.5	186	6	.040	1.41	<.040	.01	.016	1.7	4.4	<200	<10	460
MAR 18...	18.2	66	44	.030	1.04	<.040	.03	.032	1.4	4.3	900	<10	1410
JUN 04...	14.7	146	26	.070	.73	<.040	.04	.059	1.4	6.8	900	<10	1780
JUL 29...	12.1	132	100	.060	.52	<.040	.07	.133	1.3	9.7	2300	<10	4220
SEP 23...	10.7	394	204	.020	.43	<.040	.16	.206	1.2	9.1	5900	<10	7800

Date	Lead, water, unfltrd recover -able, μ g/L (01051)	Manganese, water, unfltrd recover -able, μ g/L (01055)	Nickel, water, unfltrd recover -able, μ g/L (01067)	Zinc, water, unfltrd recover -able, μ g/L (01092)
NOV 2002 19...	<1.0	40	<50	<10
JAN 2003 14...	<1.0	80	<50	<10
MAR 18...	1.1	80	<50	40
JUN 04...	1.3	130	<50	230
JUL 29...	3.1	190	<50	20
SEP 23...	5.2	330	<50	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	9/25/02
Benthic Macroinvertebrate	Count
Nematoda (NEMATODES)	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Hydrobiidae	
<u>Amnicola</u> sp	1
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
<u>Sphaerium</u> sp	8
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	6
Caenidae	
<u>Caenis</u> sp	11
Heptageniidae	
<u>Stenonema</u> sp	4
Trichoptera (CADDISFLIES)	
Helicopsychidae	
<u>Helicopsyche</u> sp	1
Hydropsychidae	
<u>Cheumatopsyche</u> sp	14
<u>Hydropsyche</u> sp	5
Philopotamidae	
<u>Chimarra</u> sp	25
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	5
<u>Stenelmis</u> sp	2
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	29
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	2
Total Organisms	116