

## WEST BRANCH SUSQUEHANNA RIVER BASIN

01546500 SPRING CREEK NEAR AXEMANN, PA  
(Pennsylvania Water-Quality Network Station)

**LOCATION.**--Lat 40°53'23", long 77°47'40", Centre County, Hydrologic Unit 02050204, on right bank at upstream side of bridge on SR 3001, 1.6 mi west of Axemann, 1.8 mi southwest of Bellefonte, and 2.5 mi upstream from Logan Branch.

**DRAINAGE AREA.**--87.2 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD.**--October 1940 to current year.

**GAGE.**--Water-stage recorder. Datum of gage is 788.81 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 19, 1940, nonrecording gage at same site and datum. Nonrecording gage Mar. 6 to Sept. 30, 1995.

**REMARKS.**--Records good except those for estimated daily discharges, which are poor. Occasional regulation at low flow by fish hatchery and Rockview Penitentiary. Several measurements of water temperature were made during the year. Satellite telemetry at station.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Flood of March 1936 reached a stage of 8.6 ft, from information by local residents, discharge not determined.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 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)
Mar. 20	2245	532	3.65	Sept. 23	0715	553	3.69
Aug. 3	0415	*876	*4.19				

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	37	57	68	187	78	82	150	102	167	107	127	257
2	33	60	67	317	76	82	151	102	153	104	99	229
3	32	55	65	248	74	81	146	98	157	99	539	227
4	32	53	63	212	106	78	143	93	202	95	222	228
5	32	52	64	190	90	80	195	99	179	92	179	198
6	31	68	61	176	79	117	176	96	166	90	159	182
7	30	57	58	163	78	91	179	92	187	108	148	169
8	29	53	58	157	74	86	177	100	185	96	138	156
9	29	53	55	164	72	167	176	108	184	92	133	147
10	28	52	55	164	73	142	174	101	167	92	152	139
11	41	61	64	151	71	113	198	101	155	185	162	133
12	136	61	80	140	70	161	214	98	162	113	158	130
13	60	64	75	136	68	295	199	95	149	101	136	133
14	49	59	125	130	67	248	190	91	141	95	129	128
15	42	59	143	124	66	202	180	88	137	91	122	136
16	73	68	140	119	65	204	172	115	130	93	122	137
17	69	148	126	118	e66	249	159	106	124	86	130	119
18	59	154	113	111	68	285	149	101	184	87	116	116
19	53	131	107	109	64	281	141	98	155	95	109	201
20	50	115	151	106	63	323	136	96	150	82	105	193
21	46	105	153	101	64	445	134	94	160	86	103	162
22	47	108	139	97	85	351	137	90	152	131	101	157
23	43	99	131	94	157	284	124	87	145	106	95	432
24	41	89	120	91	138	244	121	94	139	95	94	297
25	42	82	120	88	108	212	118	87	132	88	91	244
26	63	78	110	87	95	194	118	90	126	84	121	209
27	47	78	102	84	90	180	113	85	122	83	135	196
28	44	72	98	83	85	166	107	84	117	96	112	311
29	43	70	94	82	---	163	112	97	113	82	101	221
30	57	71	90	79	---	162	106	84	110	79	200	197
31	57	---	91	78	---	155	---	106	---	76	153	---
TOTAL	1475	2332	2986	4186	2290	5923	4595	2978	4550	3009	4491	5784
MEAN	47.6	77.7	96.3	135	81.8	191	153	96.1	152	97.1	145	193
MAX	136	154	153	317	157	445	214	115	202	185	539	432
MIN	28	52	55	78	63	78	106	84	110	76	91	116
CFSM	0.55	0.89	1.10	1.55	0.94	2.19	1.76	1.10	1.74	1.11	1.66	2.21
IN.	0.63	0.99	1.27	1.79	0.98	2.53	1.96	1.27	1.94	1.28	1.92	2.47

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

MEAN	59.3	69.0	83.6	91.8	107	149	154	121	99.3	71.1	61.4	59.2
MAX	216	206	251	224	257	335	475	257	369	216	145	208
(WY)	1997	1978	1997	1996	1984	1994	1993	1978	1972	1972	2003	1996
MIN	26.1	26.0	22.8	23.3	38.1	36.5	49.6	50.5	41.1	28.0	24.4	24.9
(WY)	1964	1966	1966	1966	1963	1969	1969	1969	1965	1965	1966	1965

e Estimated.

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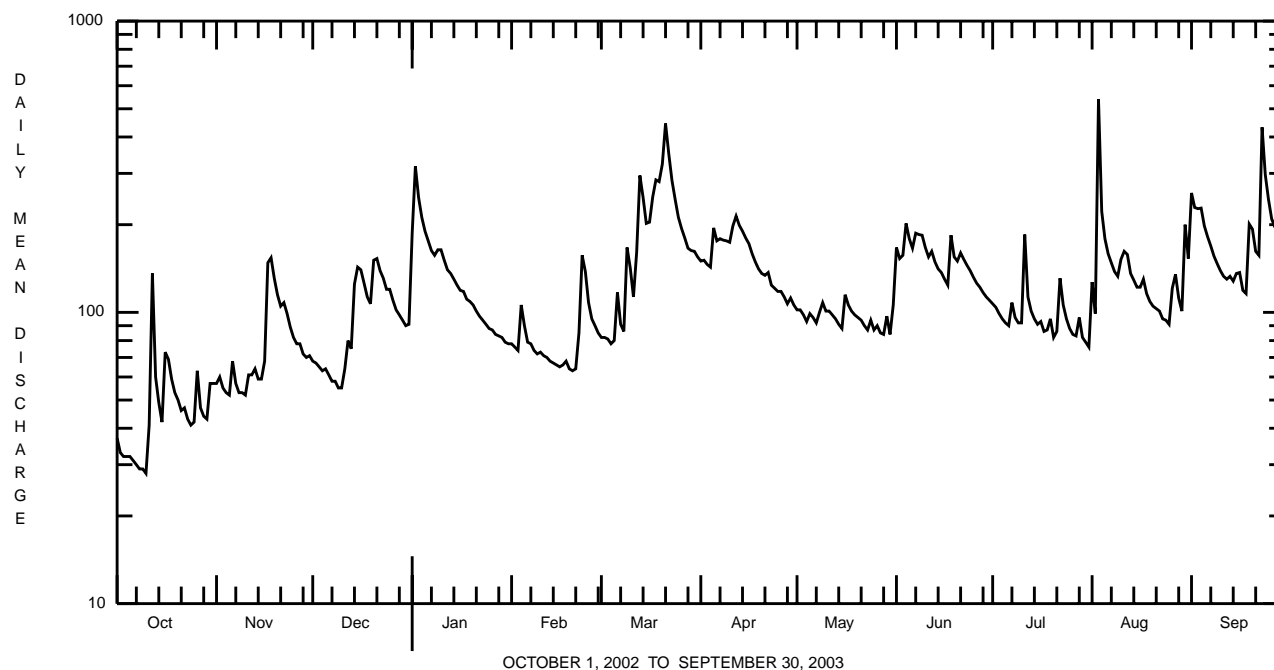
## 01546500 SPRING CREEK NEAR AXEMANN, PA--Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	30005		44599			
ANNUAL MEAN	82.2		122		93.7	
HIGHEST ANNUAL MEAN					161	1978
LOWEST ANNUAL MEAN					43.5	1965
HIGHEST DAILY MEAN	661	Jun 7	539	Aug 3	2910	Jun 23 1972
LOWEST DAILY MEAN	28	Oct 10	28	Oct 10	20	Dec 20,30 1963 <sup>a</sup>
ANNUAL SEVEN-DAY MINIMUM	30	Oct 4	30	Oct 4	21	Jan 28 1966
MAXIMUM PEAK FLOW			876	Aug 3	<sup>b</sup> 5410	Jun 23 1972
MAXIMUM PEAK STAGE			4.19	Aug 3	<sup>c</sup> 7.47	Jun 23 1972
ANNUAL RUNOFF (CFSM)	0.94		1.40		1.07	
ANNUAL RUNOFF (INCHES)	12.80		19.03		14.59	
10 PERCENT EXCEEDS	147		196		165	
50 PERCENT EXCEEDS	61		107		72	
90 PERCENT EXCEEDS	39		58		40	

<sup>a</sup> Also Jan 28, 29, 31, 1966.

<sup>b</sup> From rating curve extended above 1,400 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow.

<sup>c</sup> In gage; 8.75 ft from outside floodmark.



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01546500 SPRING CREEK NEAR AXEMANN, PA--Continued  
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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 368-434.

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)	
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	06...	35.3	392	14	<.020	5.34	<.040	.02	.031	6.0	1.7	<200	<10	180
JAN 2003	08...	31.4	368	<2	<.020	3.86	<.040	.02	.028	4.4	1.4	<200	<10	150
MAR	12...	23.2	382	12	<.020	3.67	<.200	.02	.035	4.1	2.5	<200	<10	140
MAY	27...	21.2	342	<2	.020	3.34	<.040	.03	.033	3.8	2.0	<200	<10	230
JUL	23...	22.2	370	14	.030	3.45	<.040	.03	.041	3.8	2.5	300	<10	350
SEP	17...	29.9	444	<2	.020	4.36	<.040	.02	.032	4.7	1.9	<200	<10	90
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	06...	<1.0	<10	<50	<10									
JAN 2003	08...	<1.0	<10	<50	<10									
MAR	12...	<1.0	<10	<50	10									
MAY	27...	<1.0	10	<50	<10									
JUL	23...	<1.0	10	<50	10									
SEP	17...	<1.0	10	<50	<10									

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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	8/14/02
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	24
Nematoda (NEMATODES)	2
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	8
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	7
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<u>Gammarus</u> sp	1
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
<u>Lirceus</u> sp	125
Podocopa (SEED SHRIMP)	
	1
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	41
Heptageniidae	
<u>Stenacron</u> sp	1
Tricorythidae	
<u>Tricorythodes</u> sp	7
Trichoptera (CADDISFLIES)	
Brachycentridae	
<u>Micrasema</u> sp	6
Hydropsychidae	
<u>Hydropsyche</u> sp	23
Hydroptilidae	
<u>Hydroptila</u> sp	2
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	19
<u>Stenelmis</u> sp	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
	55
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	20
Tipulidae (CRANE FLIES)	
<u>Antocha</u> sp	1
	9
Total Organisms	
	387