

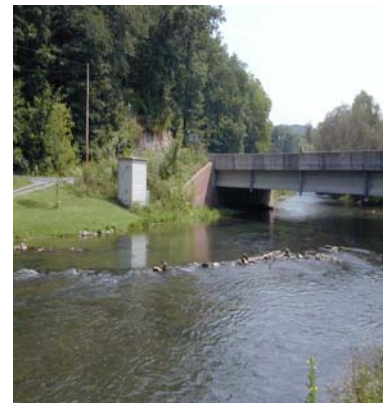
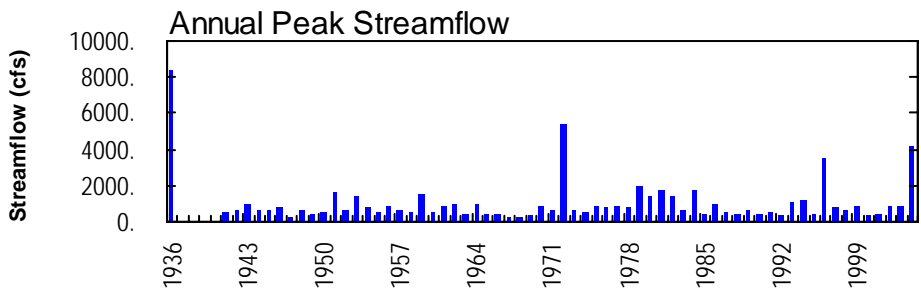
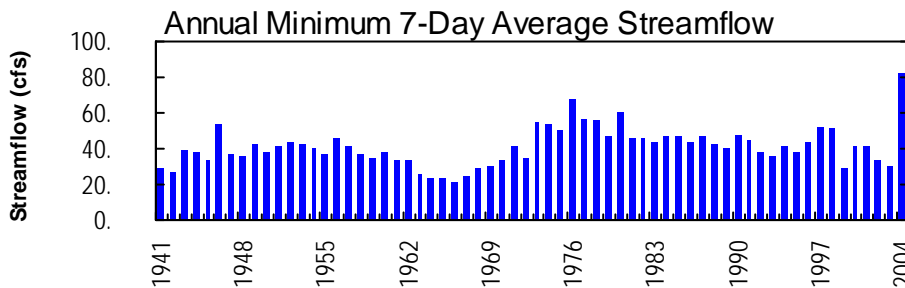
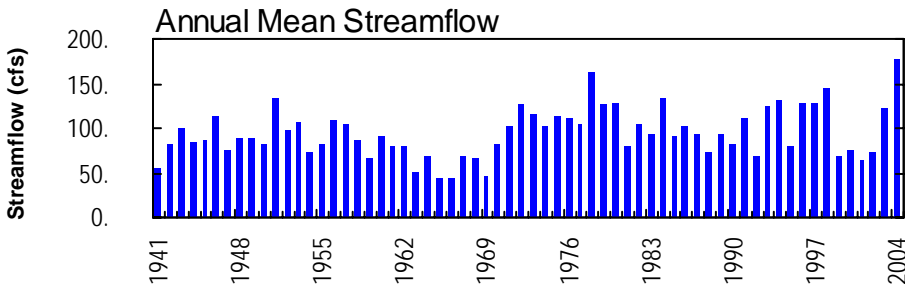
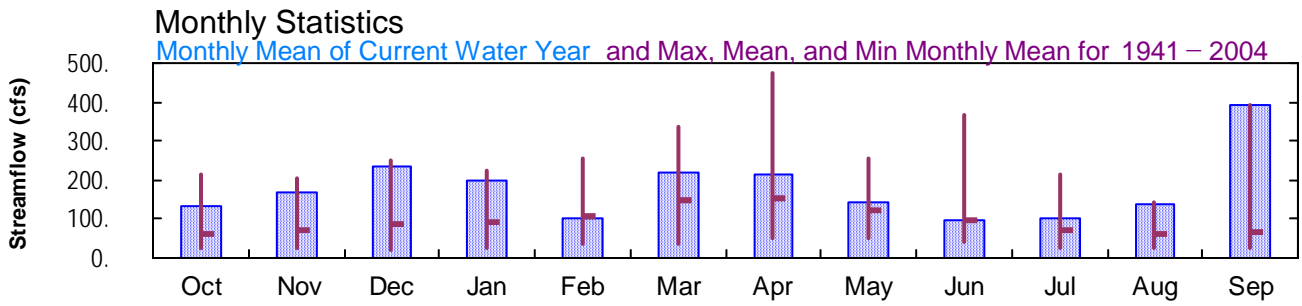
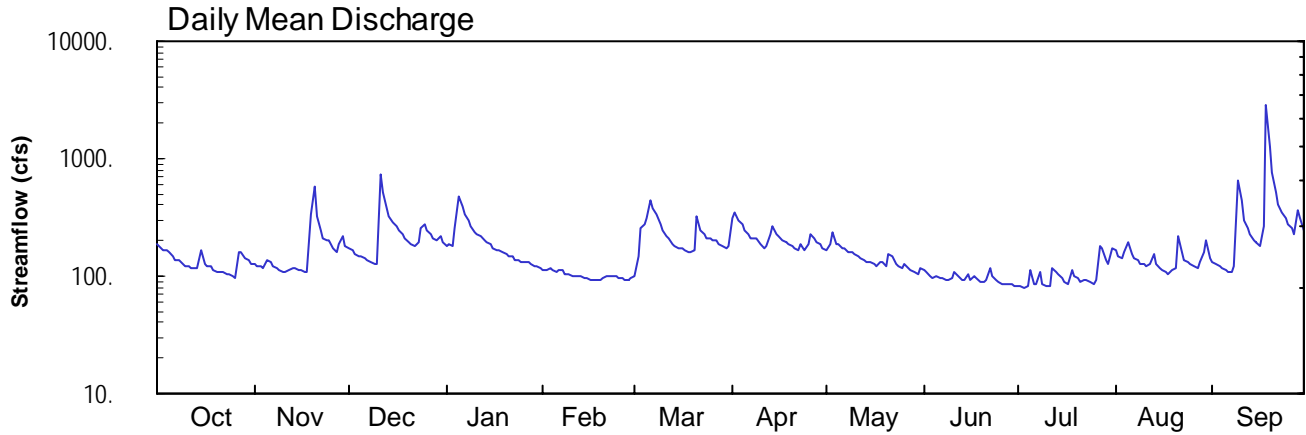


2004 Water Year
WEST BRANCH SUSQUEHANNA RIVER BASIN
01546500 Spring Creek near Axemann, PA

Latitude: 40° 53 ' 23"
Centre County

Longitude: 077° 47 ' 40"
Datum: 788.81 feet

Hydrologic Unit Code: 02050204
Drainage Area: 87.2 mi²



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 mi².

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.--No estimated daily discharges. Records fair. 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 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Nov. 20	0115	807	4.09	Aug. 30	0000	522	3.61
Dec. 11	1445	1,050	4.42	Sept. 9	1645	883	4.20
Jan. 5	1300	516	3.60	Sept. 18	0730	*4,190	*6.81

**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	189	125	174	183	114	101	311	167	111	81	169	131
2	175	122	165	186	112	147	344	190	106	81	148	125
3	166	120	156	183	117	258	299	238	102	80	141	120
4	164	119	150	252	111	273	277	190	98	81	161	116
5	157	135	147	468	107	312	249	184	101	114	193	112
6	146	129	144	397	115	444	227	176	98	86	152	108
7	139	121	137	329	111	374	214	171	96	85	144	106
8	134	115	131	293	105	329	212	161	94	108	135	124
9	128	110	127	268	103	272	207	158	93	85	128	660
10	123	109	128	239	102	243	184	155	95	83	125	436
11	120	107	721	223	101	221	174	148	107	82	123	303
12	118	111	519	216	99	208	178	144	100	115	126	255
13	116	116	376	204	98	190	231	137	94	108	156	225
14	116	115	325	192	97	180	263	134	92	102	128	204
15	165	114	292	186	95	174	229	129	102	96	119	192
16	127	111	260	173	93	170	215	125	92	89	115	179
17	120	108	247	168	92	165	204	122	100	86	108	260
18	120	107	228	167	91	158	194	130	95	111	105	2840
19	115	338	209	160	92	162	185	132	91	99	111	1260
20	110	572	196	153	94	167	176	122	89	94	117	747
21	108	322	184	148	100	319	171	153	92	90	216	525
22	107	250	179	146	101	248	163	149	116	91	159	414
23	105	210	195	139	100	227	186	129	100	92	139	347
24	102	202	259	136	100	212	169	121	92	88	132	306
25	98	198	273	131	97	209	184	116	88	85	126	277
26	98	170	243	132	95	198	227	129	87	92	121	251
27	162	158	226	131	94	198	207	116	85	178	117	231
28	159	189	213	128	94	188	196	112	86	175	132	356
29	142	221	203	123	95	179	184	107	85	136	157	311
30	135	183	218	121	---	173	175	104	83	126	200	249
31	128	---	196	117	---	179	---	115	---	174	140	---
TOTAL	4092	5107	7221	6092	2925	6878	6435	4464	2870	3193	4343	11770
MEAN	132	170	233	197	101	222	214	144	95.7	103	140	392
MAX	189	572	721	468	117	444	344	238	116	178	216	2840
MIN	98	107	127	117	91	101	163	104	83	80	105	106
CFSM	1.51	1.95	2.67	2.25	1.16	2.54	2.46	1.65	1.10	1.18	1.61	4.50
IN.	1.75	2.18	3.08	2.60	1.25	2.93	2.75	1.90	1.22	1.36	1.85	5.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2004, BY WATER YEAR (WY)

MEAN	60.5	70.6	85.9	93.4	107	150	155	121	99.2	71.6	62.6	64.4
MAX	216	206	251	224	257	335	475	257	369	216	145	392
(WY)	1997	1978	1997	1996	1984	1994	1993	1978	1972	1972	2003	2004
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

WEST BRANCH SUSQUEHANNA RIVER BASIN

01546500 SPRING CREEK NEAR AXEMANN, PA--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1941 - 2004	
ANNUAL TOTAL	54226		65390			
ANNUAL MEAN	149		179		95.0	
HIGHEST ANNUAL MEAN					179	2004
LOWEST ANNUAL MEAN					43.5	1965
HIGHEST DAILY MEAN	721	Dec 11	2840	Sep 18	2910	Jun 23 1972
LOWEST DAILY MEAN	63	Feb 20	80	Jul 3	20	Dec 20,30 1963 ^a
ANNUAL SEVEN-DAY MINIMUM	b 65	Feb 15	82	Jun 28	21	Jan 28 1966
MAXIMUM PEAK FLOW			c 4190	Sep 18	c 5410	Jun 23 1972
MAXIMUM PEAK STAGE			6.81	Sep 18	d 7.47	Jun 23 1972
ANNUAL RUNOFF (CFSM)	1.70		2.05		1.09	
ANNUAL RUNOFF (INCHES)	23.13		27.90		14.80	
10 PERCENT EXCEEDS	226		272		168	
50 PERCENT EXCEEDS	130		140		73	
90 PERCENT EXCEEDS	84		94		40	

^a Also Jan 28, 29, 31, 1966.

^b Computed using estimated daily discharges.

^c From rating curve extended above 1,400 ft³/s on basis of contracted-opening measurement of peak flow.

^d In gage; 8.75 ft from outside floodmark.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01546500 SPRING CREEK NEAR AXEMANN, 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, field, 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 recoverable, mg/L (00916)	Magnesium, water, unfltrd recoverable, mg/L (00927)
OCT 2003	07...	1028	9813	137	10.0	8.4	8.2	565	542	9.6	240	61.1	22.0
DEC	15...	1028	9813	292	12.3	7.2	8.3	504	474	5.8	230	61.0	18.8
FEB 2004	10...	1028	9813	98	14.1	8.4	8.4	612	620	6.2	270	68.5	24.5
APR	28...	1028	9813	194	10.8	8.2	8.2	505	469	8.4	240	61.6	20.1
JUN	16...	1028	9813	89	10.1	8.1	8.2	600	589	16.8	270	65.9	26.0
AUG	26...	1028	9813	118	10.7	8.2	8.3	586	595	15.6	280	70.5	25.4

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 recoverable, µg/L (01105)	Copper, water, unfltrd recoverable, µg/L (01042)	
OCT 2003	07...	206	22.0	372	8	.030	4.13	<.040	.02	.025	5.1	1.5	<200	<10
DEC	15...	189	21.3	282	32	<.020	3.33	<.040	.02	.029	3.5	1.4	<200	<10
FEB 2004	10...	212	23.9	422	<2	.020	4.78	.050	.02	.029	5.1	2.1	<200	<10
APR	28...	177	24.3	304	18	<.020	3.27	<.040	.02	.027	3.6	1.4	<200	<10
JUN	16...	200	24.9	402	2	.040	4.19	<.040	.03	.040	4.3	1.7	200	<10
AUG	26...	211	23.4	424	8	<.020	3.78	<.040	.01	.023	4.1	1.6	<200	<10

Date	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)	
OCT 2003	07...	80	<1.0	10	<50	260
DEC	15...	200	<1.0	10	<50	<10
FEB 2004	10...	40	<1.0	<10	<50	250
APR	28...	230	<1.0	10	<50	<10
JUN	16...	260	<1.0	20	<50	<10
AUG	26...	230	<1.0	30	<50	<10

WEST BRANCH SUSQUEHANNA RIVER BASIN

01546500 SPRING CREEK NEAR AXEMANN, 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	10/07/03
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	4
Nematoda (NEMATODES)	2
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<i>Ferrissia</i>	1
Hydrobiidae	
<i>Fontigens nickliniana</i>	1
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
<i>Sphaerium</i>	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Tubificidae	2
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<i>Gammarus</i>	6
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
<i>Lirceus</i>	117
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Baetis</i>	27
Ephemerellidae	
<i>Ephemerella</i>	2
Heptageniidae	
<i>Stenonema</i>	2
Trichoptera (CADDISFLIES)	
Brachycentridae	
<i>Micrasema</i>	1
Hydropsychidae	
<i>Hydropsyche</i>	31
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i>	16
<i>Stenelmis</i>	2

WEST BRANCH SUSQUEHANNA RIVER BASIN

01546500 SPRING CREEK NEAR AXEMANN, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/07/03
Benthic Macroinvertebrate	Count
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	28
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	1
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	4
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	12
Total Organisms	261
Total Taxa	20