



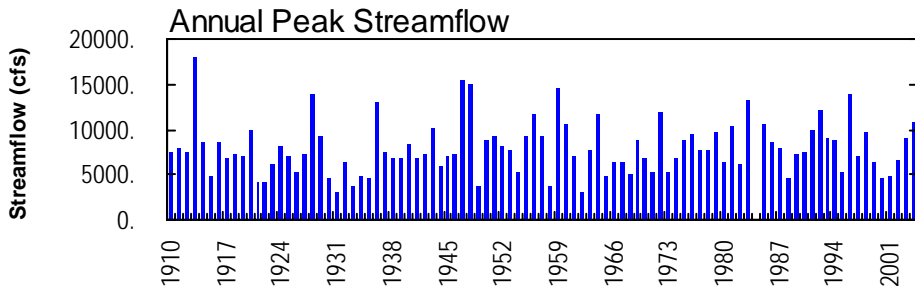
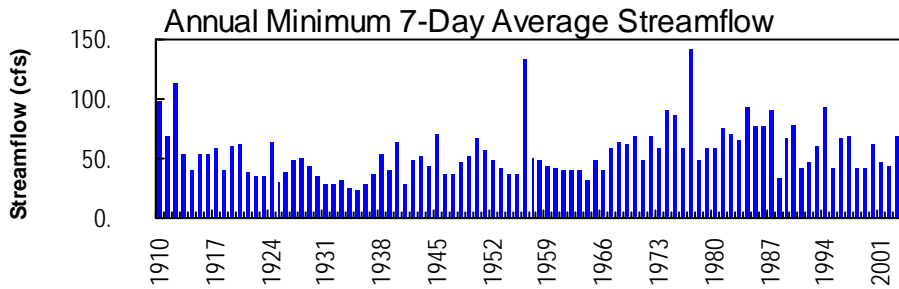
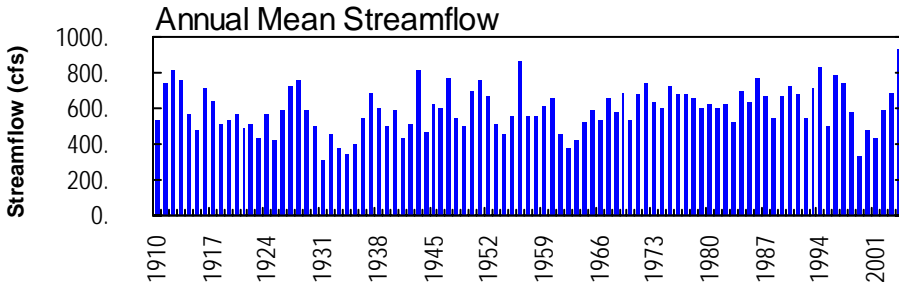
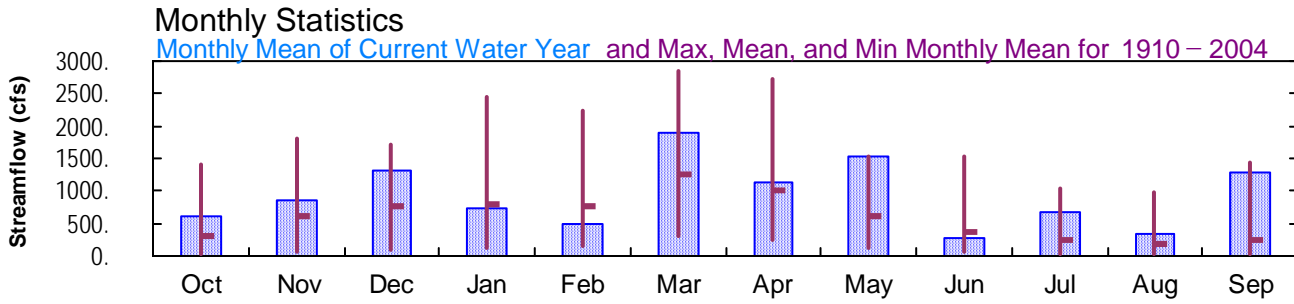
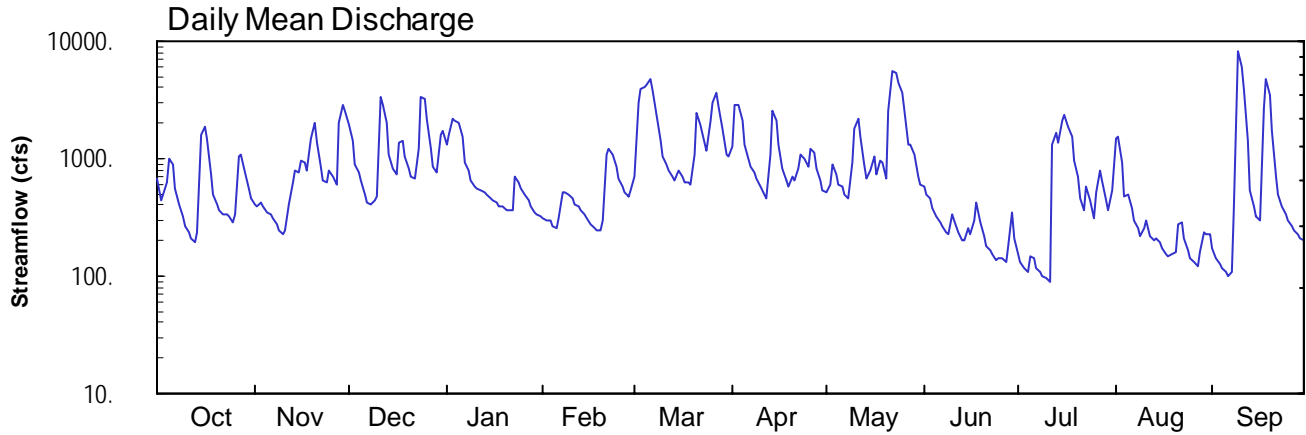
2004 Water Year
BROKENSTRAW CREEK BASIN

03015500 Brokenstraw Creek at Youngsville, PA

Latitude: 41° 51' 09"
Warren County

Longitude: 079° 19' 03"
Datum: 1186.92 feet

Hydrologic Unit Code: 05010001
Drainage Area: 321. mi²



BROKENSTRAW CREEK BASIN

**03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, PA
(Pennsylvania Water-Quality Network Station)**

LOCATION.--Lat 41°51'09", long 79°19'03", Warren County, Hydrologic Unit 05010001, on right bank 150 ft downstream from bridge on Main Street at Youngsville, 500 ft upstream from Matthews Run, and 3.7 mi upstream from mouth. Records include flow of Matthews Run.

DRAINAGE AREA.--321 mi², including that of Matthews Run.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1909 to current year. Monthly discharge only for some periods, published in WSP 1305. Flow of Matthews Run included in records since October 1938.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1083: 1913 (M). WSP 1275: 1920, 1932, 1936. WSP 1305: 1910-15, 1928-29.

GAGE.--Water-stage recorder. Datum of gage is 1,186.92 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1933, nonrecording gage at site 150 ft upstream at datum 2.00 ft higher. Oct. 1, 1933 to June 15, 1939, nonrecording gage at site 150 ft upstream, and June 16, 1939 to Sept. 30, 1961, water-stage recorder at present site, both at datum 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. 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 4,500 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Mar. 5	2300	5,060	7.75	Sept. 9	0900	*10,800	*11.12
May 22	1730	7,000	9.10	Sept. 18	0100	6,390	8.70
July 12	2145	5,560	8.12				

**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	666	405	1960	1330	e311	e695	1250	520	579	156	1470	171
2	444	398	1410	1580	e303	2980	2820	604	491	133	1520	140
3	498	421	e900	2200	e300	3980	2840	890	454	116	920	124
4	627	393	e750	2110	e266	4060	2080	733	377	108	477	115
5	1010	355	e650	1990	e253	4250	1310	600	319	148	498	109
6	880	340	e495	e1540	e309	4760	984	579	292	142	383	100
7	566	308	e430	e942	e522	3720	855	502	263	117	296	108
8	403	279	e405	e780	e517	2330	753	464	236	108	251	369
9	318	250	e440	e656	e491	1420	664	935	231	101	216	8360
10	270	229	e480	e589	e457	1030	580	1770	333	96	259	6130
11	235	245	3380	e557	e413	878	500	2200	294	91	293	3750
12	211	408	2880	e544	e385	805	464	1530	232	1320	221	1420
13	194	626	2010	e520	e356	698	1080	905	201	1680	201	545
14	237	802	1090	e495	e336	649	2520	668	201	1380	209	392
15	1620	751	824	e461	e313	e806	2120	776	259	2110	196	316
16	1900	948	732	433	e279	e708	1300	1040	230	2350	173	296
17	1500	913	1340	e420	e253	e638	809	739	299	1870	156	2640
18	723	799	1430	e395	e241	e638	658	950	431	1540	149	4730
19	503	1460	1040	e386	e243	e592	574	938	283	951	156	3460
20	415	2030	836	e370	301	1090	713	689	217	696	159	1720
21	357	1390	716	e360	e1070	2500	659	2520	179	466	274	695
22	330	855	687	e365	e1230	1920	818	5600	163	361	292	491
23	339	656	1220	e691	e1070	1350	1080	5420	153	572	211	396
24	324	627	3330	e619	e864	1150	996	4450	137	448	165	332
25	288	806	3200	e547	e672	2120	854	3690	140	312	145	298
26	333	696	2140	e486	e579	3010	1210	2610	145	506	131	265
27	1040	604	1190	e443	e510	3610	1140	1330	129	794	124	241
28	1090	2020	862	e386	e480	2810	822	1320	182	646	162	225
29	764	2850	775	e351	e543	1770	645	1060	345	444	236	209
30	561	2500	1570	e332	---	1070	537	714	211	363	227	198
31	454	---	1750	e319	---	1040	---	596	---	530	228	---
TOTAL	19100	25364	40922	23197	13867	59077	33635	47342	8006	20655	10398	38345
MEAN	616	845	1320	748	478	1906	1121	1527	267	666	335	1278
MAX	1900	2850	3380	2200	1230	4760	2840	5600	579	2350	1520	8360
MIN	194	229	405	319	241	592	464	464	129	91	124	100
CFSM	1.92	2.63	4.11	2.33	1.49	5.94	3.49	4.76	0.83	2.08	1.04	3.98
IN.	2.21	2.94	4.74	2.69	1.61	6.85	3.90	5.49	0.93	2.39	1.21	4.44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2004, BY WATER YEAR (WY)

MEAN	315	621	758	785	768	1244	1021	614	379	237	181	236
MAX	1413	1817	1724	2459	2248	2851	2715	1528	1535	1039	994	1428
(WY)	1991	1986	1978	1913	1976	1936	1947	1943	1928	1986	1956	1977
MIN	31.7	57.3	85.9	124	161	297	251	135	62.0	37.8	32.3	31.6
(WY)	1932	1931	1961	1918	1987	1915	1946	1934	1934	1934	1934	1936

e Estimated.

BROKENSTRAW CREEK BASIN

03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1910 - 2004	
ANNUAL TOTAL	286509		339908			
ANNUAL MEAN	785		929		596	
HIGHEST ANNUAL MEAN					929	
LOWEST ANNUAL MEAN					307	
HIGHEST DAILY MEAN	6310	Jul 22	8360	Sep 9	14000	Mar 25 1913
LOWEST DAILY MEAN	113	Jul 3	91	Jul 11	19	Oct 14 1934
ANNUAL SEVEN-DAY MINIMUM	130	Jun 28	115	Jul 5	24	Oct 11 1934
MAXIMUM PEAK FLOW			10800	Sep 9	ab18000	Mar 25 1913
MAXIMUM PEAK STAGE			11.12	Sep 9	14.20	Mar 25 1913
INSTANTANEOUS LOW FLOW			86	Jul 12	c19	Oct 14 1934
ANNUAL RUNOFF (CFSM)	2.45		2.89		1.86	
ANNUAL RUNOFF (INCHES)	33.20		39.39		25.22	
10 PERCENT EXCEEDS	1790		2130		1440	
50 PERCENT EXCEEDS	471		573		308	
90 PERCENT EXCEEDS	187		190		67	

a From rating curve extended above 9,400 ft³/s.

b About.

c Minimum observed.

BROKENSTRAW CREEK BASIN

03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, 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 recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00927)
OCT 2003 27...	1315	1028	9813	1250	11.1	7.6	7.2	147	139	8.5	60	17.6	3.9
DEC 30...	1030	1028	9813	1810	12.0	6.7	7.4	113	109	3.2	46	13.4	3.0
FEB 2004 18...	1345	1028	9813	E241	15.1	8.2	8.1	213	217	1.6	91	27.6	5.3
APR 13...	1415	1028	9813	903	11.9	7.6	7.6	142	147	6.4	60	18.0	3.5
JUN 08...	1330	1028	9813	234	12.1	8.8	8.5	223	214	19.9	92	27.9	5.3
AUG 11...	1030	1028	9813	298	10.2	8.2	7.5	206	202	17.4	88	26.9	5.1

Date	ANC, wat unfltrd end pt, lab, mg/L as CaCO3 (00417)	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 as N mg/L (00610)	Nitrate water, unfltrd as N mg/L (00620)	Nitrite water, unfltrd as N mg/L (00615)	Ortho-phosphate, water, unfltrd as P mg/L (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 27...	49	8.6	192	26	.050	.48	<.040	.04	.042	.85	4.7	800	<10
DEC 30...	32	9.1	136	<2	<.020	.60	<.040	.08	.049	.99	2.8	2400	<10
FEB 2004 18...	72	11.1	146	20	<.020	1.06	<.040	.02	.024	1.2	2.0	<200	<10
APR 13...	46	9.2	96	6	<.020	.65	<.040	.03	.027	1.1	2.9	500	<10
JUN 08...	83	10.4	142	<2	<.020	.68	<.040	.01	.017	.97	3.1	<200	<10
AUG 11...	75	9.2	158	<2	<.020	.87	<.040	.02	.036	.96	3.3	200	<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 27...	1440	1.2	100	<50	50
DEC 30...	2920	2.0	90	<50	<10
FEB 2004 18...	340	<1.0	20	<50	<10
APR 13...	720	<1.0	40	<50	<10
JUN 08...	220	<1.0	10	<50	<10
AUG 11...	510	<1.0	30	<50	<10

BROKENSTRAW CREEK BASIN

03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, 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	10/27/03
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nematoda (NEMATODES)	1
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<i>Ferrissia</i>	5
Hydrobiidae	
<i>Amnicola</i>	5
Physidae	
<i>Physa</i>	1
Pleuroceridae	
<i>Leptoxis carinata</i>	1
Bivalvia (CLAMS)	
Veneroida	
Sphaeriidae	
<i>Pisidium</i>	6
<i>Sphaerium</i>	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	6
Tubificida	
Naididae	1
Arthropoda	
Crustacea	
Amphipoda (SCUDS)	
Talitridae	
<i>Hyalolella azteca</i>	4
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
<i>Caecidotea</i>	2
Insecta	
Ephemeroptera (MAYFLIES)	
Caenidae	
<i>Caenis</i>	2
Ephemerellidae	
<i>Ephemerella</i>	10
Heptageniidae	
<i>Leucrocuta</i>	4
<i>Stenacron</i>	2
<i>Stenonema</i>	9
Leptophlebiidae	
<i>Leptophlebia</i>	1
<i>Paraleptophlebia</i>	6
Plecoptera (STONEFLIES)	
Capniidae	
<i>Paracapnia</i>	1
Taeniopterygidae	
<i>Taeniopteryx</i>	3

BROKENSTRAW CREEK BASIN

03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES--Continued

Date	10/27/03
Benthic Macroinvertebrate	Count
Trichoptera (CADDISFLIES)	
Helicopsychidae	
<i>Helicopsyche</i>	1
Hydropsychidae	
<i>Hydropsyche</i>	2
Limnephilidae	
<i>Hydatophylax</i>	1
<i>Pycnopsyche</i>	1
Philopotamidae	
<i>Chimarra</i>	1
Uenoidae	
<i>Neophylax</i>	7
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i>	8
<i>Promoresia</i>	2
<i>Stenelmis</i>	1
Psephenidae (WATER PENNIES)	
<i>Ectopria</i>	1
<i>Psephenus</i>	13
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	32
Total Organisms	142
Total Taxa	33