



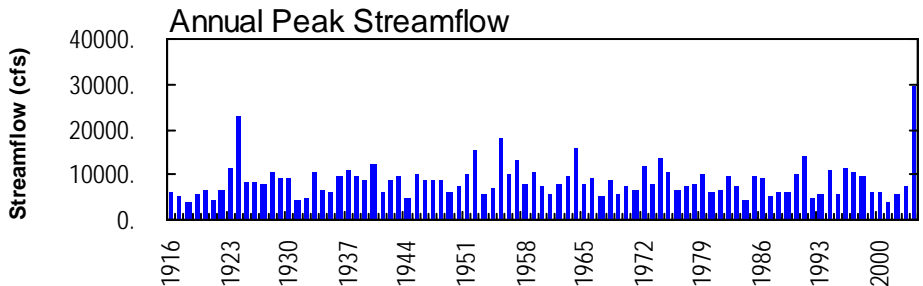
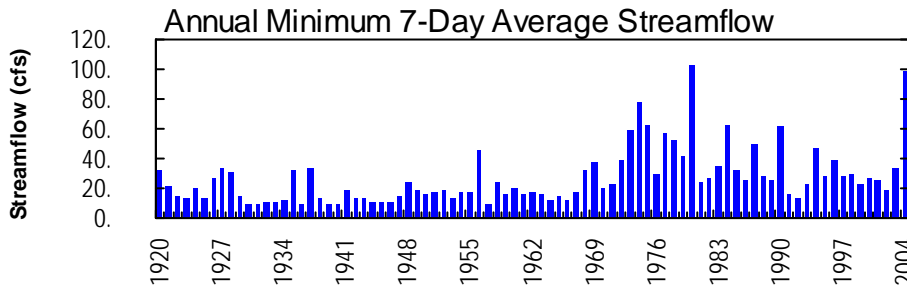
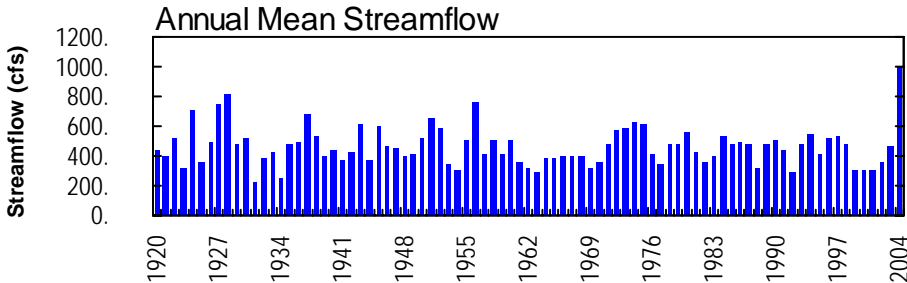
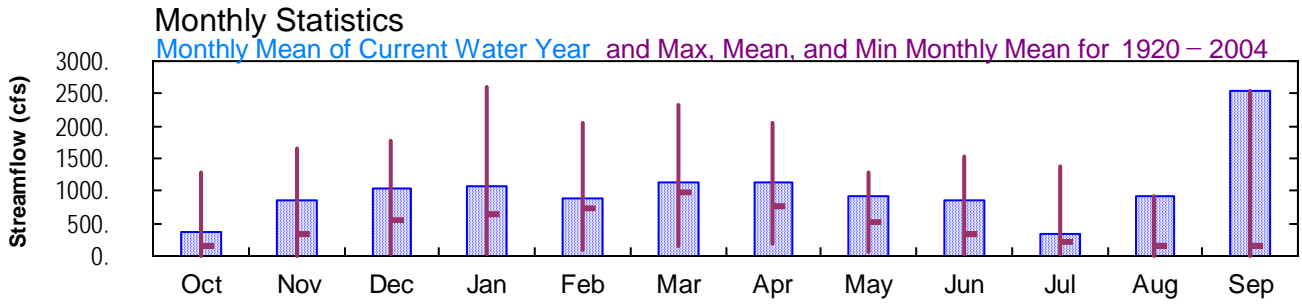
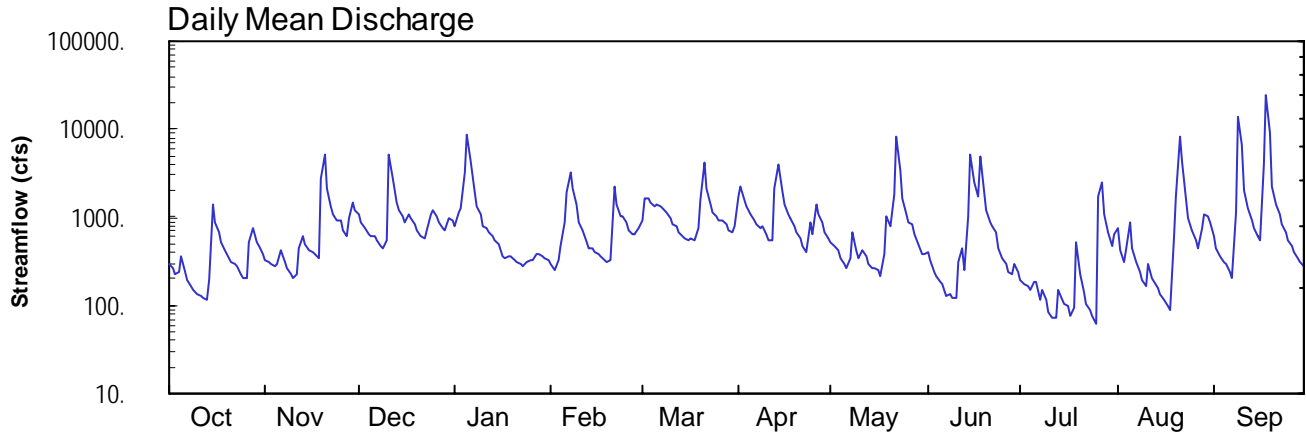
2004 Water Year BEAVER RIVER BASIN

03106000 Connoquenessing Creek near Zelenople, PA

Latitude: 40° 49 ' 01"
Beaver County

Longitude: 080° 14 ' 33"
Datum: 852.31 feet

Hydrologic Unit Code: 05030105
Drainage Area: 356. mi²



BEAVER RIVER BASIN

**03106000 CONNOQUENESSING CREEK NEAR ZELIENOPLE, PA
(Pennsylvania Water-Quality Network Station)**

LOCATION.--Lat 40°49'01", long 80°14'33", Beaver County, Hydrologic Unit 05030105, on right bank at downstream side of highway bridge at Hazen, 0.3 mi upstream from Brush Creek, 4 mi southeast of Ellwood City, and 6.0 mi west of Zelenople.

DRAINAGE AREA.--356 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1919 to current year. Monthly discharge only for some periods, published in WSP 1305. June 1915 to September 1919 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania. Published as "at Hazen" 1915-16, 1929-63, and as "near Hazen" 1917-28.

REVISED RECORDS.--WSP 743: Drainage area. WSP 893: 1937-38, 1939 (M). WSP 1305: 1922-26, 1928. WSP 1335: 1920-21, 1924 (M). WSP 1385: 1952.

GAGE.--Water-stage recorder. Datum of gage is 852.31 ft above National Geodetic Vertical Datum of 1929. Prior to June 23, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by mills upstream of station. 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 5,000 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	7,770	10.19	June 15	1215	6,390	9.04
Dec. 11	1045	6,760	9.35	June 18	0945	6,270	8.94
Jan. 5	1115	9,920	11.75	July 26	2200	5,090	7.80
Mar. 21	0445	5,350	8.12	Aug. 21	1715	10,600	12.13
Apr. 14	0215	5,540	8.29	Sept. 9	1115	16,400	14.75
May 22	1615	10,600	12.13	Sept. 18	1230	*29,400	*a18.17

a From floodmarks.

**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	295	328	1060	773	e296	945	1700	525	399	191	754	603
2	263	313	878	1160	e251	1660	2240	466	319	174	433	455
3	233	294	734	1260	e326	e1630	1530	430	237	170	306	362
4	239	274	636	3220	e477	1510	1310	341	e215	146	421	314
5	355	289	603	8860	e883	1350	1090	290	184	183	870	288
6	237	420	620	4460	e1910	1430	920	268	175	180	453	237
7	191	310	550	1960	e3210	1300	823	348	e130	118	311	208
8	166	264	469	1320	e2180	1250	768	671	136	150	242	1130
9	148	228	442	1070	e1410	1110	775	419	124	115	196	14000
10	138	209	562	811	e883	962	632	345	121	83	167	6640
11	128	225	5220	741	e703	841	557	419	303	73	301	1980
12	119	453	2740	686	e525	805	547	354	455	73	207	1270
13	114	621	1510	625	e457	692	2110	290	248	152	185	947
14	193	504	1170	537	e447	609	4040	261	1050	113	158	755
15	1370	427	1030	484	e405	591	2000	264	5040	105	134	622
16	877	395	865	e355	e384	552	1370	254	e2510	97	113	559
17	662	378	1080	e344	e363	584	1110	210	1730	75	100	3950
18	511	337	988	e367	e332	550	953	391	4780	95	90	24500
19	426	2730	831	e367	e311	733	802	1030	1970	524	593	8930
20	348	5280	726	e329	e332	1520	e675	787	1210	232	1770	2240
21	302	2160	621	e314	2260	4270	e565	1780	878	146	8320	1410
22	290	1360	577	e291	1440	2160	e473	8210	789	105	4460	1060
23	277	1070	702	e275	1040	1400	e403	3470	669	87	1540	834
24	232	905	1110	e306	1020	1140	885	1600	453	74	991	660
25	202	907	1200	e321	858	1020	656	1100	339	63	714	552
26	201	702	1020	e329	731	933	1420	861	295	1690	556	466
27	525	606	881	e375	636	938	1100	820	242	2510	450	394
28	753	982	763	e383	649	837	884	633	232	1080	754	345
29	533	1460	697	e357	749	724	692	483	302	687	1090	316
30	468	1190	962	e342	---	681	567	377	239	482	1050	276
31	375	---	936	e322	---	793	---	382	---	628	892	---
TOTAL	11171	25621	32183	33344	25468	35520	33597	28079	25774	10601	28621	76303
MEAN	360	854	1038	1076	878	1146	1120	906	859	342	923	2543
MAX	1370	5280	5220	8860	3210	4270	4040	8210	5040	2510	8320	24500
MIN	114	209	442	275	251	550	403	210	121	63	90	208
CFSM	1.01	2.40	2.92	3.02	2.47	3.22	3.15	2.54	2.41	0.96	2.59	7.14
IN.	1.17	2.68	3.36	3.48	2.66	3.71	3.51	2.93	2.69	1.11	2.99	7.97

e Estimated.

BEAVER RIVER BASIN

03106000 CONNOQUENESSING CREEK NEAR ZELIENOPE, PA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 2004, BY WATER YEAR (WY)

MEAN	162	335	559	655	749	970	773	520	334	206	159	166
MAX	1290	1648	1778	2607	2048	2324	2054	1283	1518	1373	923	2543
(WY)	1955	1986	1928	1937	1956	1945	1940	1983	1989	1928	2004	2004
MIN	11.3	12.3	22.3	16.4	97.7	154	182	62.3	24.4	20.5	11.2	11.4
(WY)	1931	1931	1961	1931	1934	1969	1946	1934	1934	1936	1930	1930

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1920 - 2004	
ANNUAL TOTAL	223729		366282			
ANNUAL MEAN	613		1001		464	
HIGHEST ANNUAL MEAN					1001	
LOWEST ANNUAL MEAN					221	
HIGHEST DAILY MEAN	5280	Nov 20	24500	Sep 18	24500	Sep 18 2004
LOWEST DAILY MEAN	59	Aug 25	63	Jul 25	6.5	Jul 21 1936
ANNUAL SEVEN-DAY MINIMUM	87	Aug 20	98	Jul 11	8.7	Oct 13 1939
MAXIMUM PEAK FLOW			b 29400		b 29400	
MAXIMUM PEAK STAGE			a 18.17		a 18.17	
INSTANTANEOUS LOW FLOW			56		6.0	
ANNUAL RUNOFF (CFSM)	1.72		2.81		1.30	
ANNUAL RUNOFF (INCHES)	23.38		38.27		17.71	
10 PERCENT EXCEEDS	1210		1770		1100	
50 PERCENT EXCEEDS	420		566		214	
90 PERCENT EXCEEDS	169		175		33	

a From floodmarks.

b From rating curve extended above 17,100 ft³/s.

BEAVER RIVER BASIN

03106000 CONNOQUENESSING CREEK NEAR ZELIENOPLE, 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 unfl lab, µS/cm 25 degC (90095)	Specif. conductance, wat unfl lab, µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, unfltrd recover -able, mg/L (00916)	Magnesium, water, unfltrd recover -able, mg/L (00927)
OCT 2003 09...	0930	1028	9813	147	10.8	7.1	7.8	480	473	11.0	160	43.3	11.8
DEC 08...	1500	1028	9813	437	12.2	6.3	7.6	601	620	1.0	140	39.2	10.2
FEB 2004 11...	0920	1028	9813	E703	12.0	6.4	7.5	418	421	1.2	100	29.6	7.5
APR 19...	0920	1028	9813	812	9.8	7.6	7.6	347	346	15.0	110	30.9	7.9
JUN 01...	1210	1028	9813	424	9.0	7.7	7.9	451	441	19.0	150	43.6	10.0
AUG 02...	1105	1028	9813	441	8.1	7.5	7.5	384	383	22.5	120	34.0	8.3

Date	ANC, wat unflxed 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 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 09...	67	69.9	346	4	<.020	1.34	<.200	.01	.019	1.7	2.6	<200	<10
DEC 08...	47	58.6	410	10	<.020	2.05	<.200	.02	.024	2.1	2.0	<200	<10
FEB 2004 11...	32	47.5	302	<2	.060	1.99	<.200	.03	.032	2.3	1.8	300	<10
APR 19...	37	52.8	226	24	<.020	1.51	<.040	.02	.025	1.7	1.8	<200	<10
JUN 01...	57	68.1	354	<2	<.020	1.49	<.040	.02	.038	1.5	2.3	<200	<10
AUG 02...	58	46.0	270	24	.030	1.42	<.040	.03	.057	1.7	3.1	500	<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 09...	390	<1.0	70	<50	<10
DEC 08...	330	<1.0	140	<50	<10
FEB 2004 11...	700	<1.0	120	<50	10
APR 19...	380	<1.0	70	<50	<10
JUN 01...	440	<1.0	100	<50	<10
AUG 02...	1080	1.2	100	<50	<10

BEAVER RIVER BASIN

03106000 CONNOQUENESSING CREEK NEAR ZELIENOPE, 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	10/02/03
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nematoda (NEMATODES)	1
Mollusca	
Bivalvia (CLAMS)	
Veneroidea	
Corbiculidae	
<i>Corbicula fluminea</i>	2
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	1
Tubificida	
Tubificidae	4
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	1
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<i>Gammarus</i>	1
Insecta	
Ephemeroptera (MAYFLIES)	
Heptageniidae	
<i>Stenacron</i>	2
<i>Stenonema</i>	15
Isonychiidae	
<i>Isonychia</i>	2
Plecoptera (STONEFLIES)	
Taeniopterygidae	
<i>Taeniopteryx</i>	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<i>Cheumatopsyche</i>	27
<i>Hydropsyche</i>	26
Lepidoptera (MOTHS AND BUTTERFLIES)	
Pyralidae	
<i>Petrophila</i>	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i>	1
<i>Stenelmis</i>	30
Diptera (TRUE FLIES)	
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	1
Chironomidae (MIDGES)	
Tipulidae (CRANE FLIES)	13
<i>Antocha</i>	1
Total Organisms	
	131
Total Taxa	
	19