



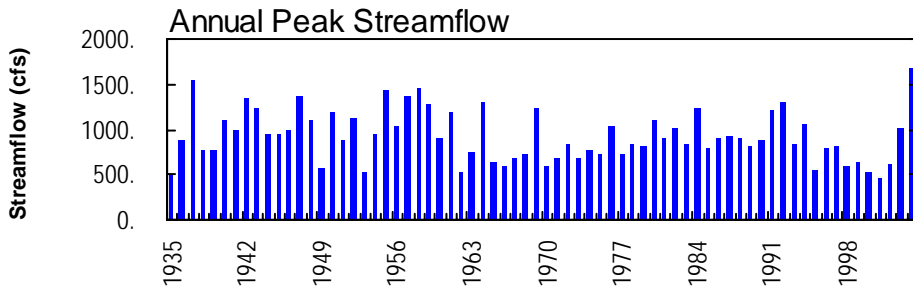
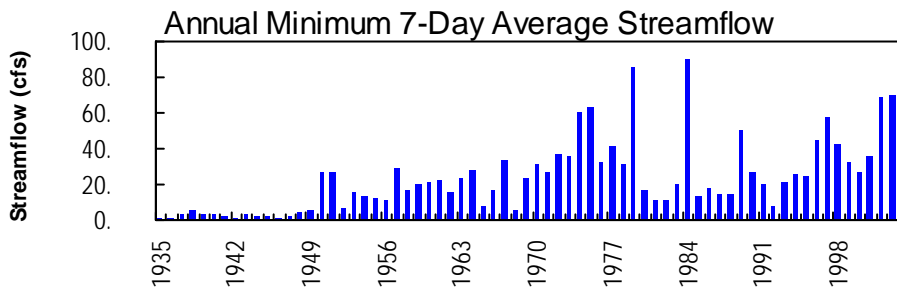
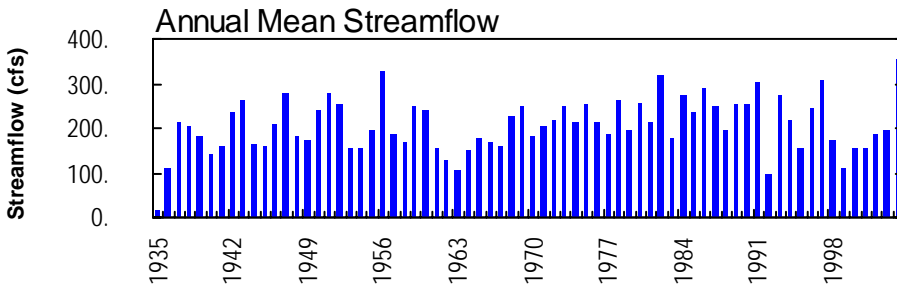
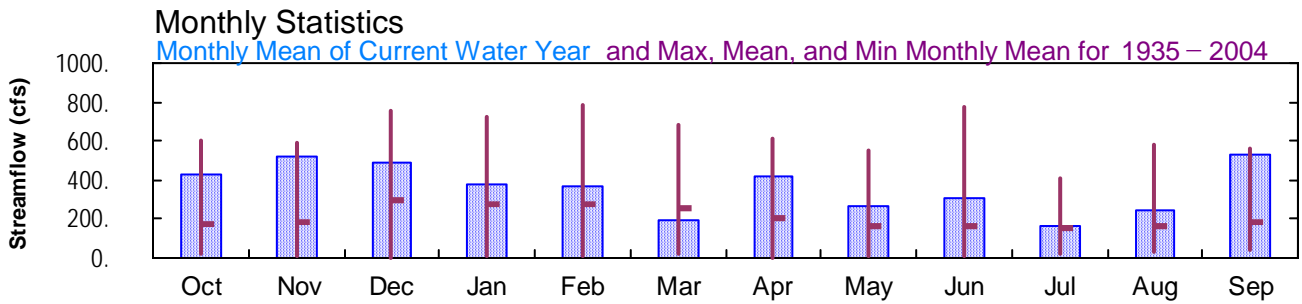
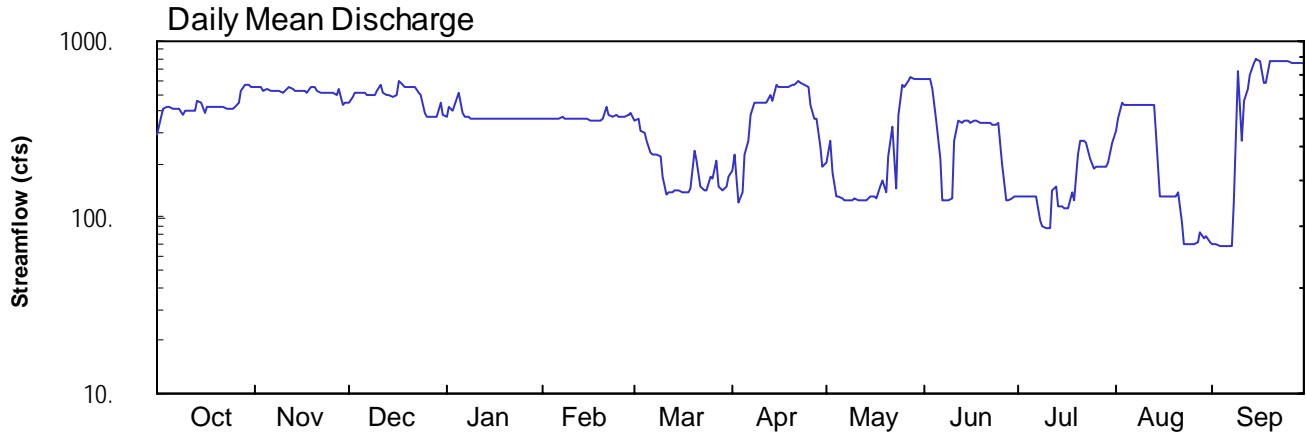
# 2004 Water Year BEAVER RIVER BASIN

## 03101500 Shenango River at Pymatuning Dam, PA

Latitude: 41° 29 ' 53"  
Crawford County

Longitude: 080° 27 ' 37"  
Datum: 970.00 feet

Hydrologic Unit Code: 05030102  
Drainage Area: 167. mi<sup>2</sup>



**BEAVER RIVER BASIN**

**03101500 SHENANGO RIVER AT PYMATUNING DAM, PA  
(Pennsylvania Water-Quality Network Station)**

**LOCATION.**--Lat 41°29'53", long 80°27'37", Crawford County, Hydrologic Unit 05030102, on left bank 500 ft downstream from Sugar Run, 900 ft downstream from Pymatuning Dam, 1.5 mi northwest of Jamestown, at mile 84.9.

**DRAINAGE AREA.**--167 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

**PERIOD OF RECORD.**--June 1934 to current year.

**REVISED RECORDS.**--WSP 823: 1934-36. WSP 1083: 1936 (M), 1937, 1940 (M), 1941-45. WSP 1335: 1940.

**GAGE.**--Water-stage recorder and concrete dam control. Datum of gage is 970.00 ft above National Geodetic Vertical Datum of 1929.

**REMARKS.**--No estimated daily discharges. Records good. Flow regulated since December 1933 by Pymatuning Reservoir (station 03100500). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

**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	294	555	446	372	361	353	184	202	610	130	310	71
2	369	552	482	427	359	360	226	270	611	130	365	70
3	411	543	506	407	362	308	121	179	607	130	442	69
4	427	528	504	436	366	301	139	132	530	131	440	69
5	425	531	504	508	363	271	229	130	352	132	440	69
6	418	528	504	388	365	233	276	127	215	131	437	69
7	414	521	500	371	375	224	382	125	125	130	436	69
8	411	516	496	370	367	227	452	125	125	95	436	123
9	386	516	494	367	366	224	450	125	125	89	436	677
10	406	513	526	363	361	170	448	128	127	87	436	269
11	406	517	567	361	361	136	447	125	276	87	435	455
12	406	546	506	361	361	138	446	125	351	142	433	530
13	406	534	493	361	361	139	498	125	343	151	435	651
14	457	525	492	361	361	141	461	125	351	114	294	749
15	449	516	489	364	359	141	569	133	352	115	130	791
16	395	516	493	366	357	137	556	131	344	111	130	778
17	425	516	588	366	357	138	554	126	353	112	130	583
18	421	512	558	366	357	138	552	148	355	139	130	572
19	420	544	553	366	357	144	549	162	345	123	130	773
20	420	546	549	366	361	238	558	139	343	226	131	774
21	420	516	544	363	424	208	558	223	343	273	137	768
22	420	507	547	361	385	148	593	325	342	271	94	766
23	417	504	502	361	376	142	579	148	339	269	71	765
24	413	504	493	361	379	143	561	385	339	216	71	765
25	412	504	390	361	370	171	555	557	341	191	71	763
26	425	503	376	361	368	164	434	550	197	194	71	759
27	442	501	371	361	370	208	366	592	124	195	73	757
28	515	537	370	361	380	151	366	620	125	193	82	756
29	568	435	370	361	395	141	253	614	127	193	76	750
30	560	447	443	361	---	150	196	611	130	206	78	748
31	556	---	382	361	---	172	---	609	---	264	73	---
TOTAL	13314	15533	15038	11620	10684	5959	12558	8116	9247	4970	7453	15808
MEAN	429	518	485	375	368	192	419	262	308	160	240	527
MAX	568	555	588	508	424	360	593	620	611	273	442	791
MIN	294	435	370	361	357	136	121	125	124	87	71	69
CFSM	2.57	3.10	2.90	2.24	2.21	1.15	2.51	1.57	1.85	0.96	1.44	3.16
IN.	2.97	3.46	3.35	2.59	2.38	1.33	2.80	1.81	2.06	1.11	1.66	3.52

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2004, BY WATER YEAR (WY)**

MEAN	169	184	295	278	278	255	201	166	164	150	164	186
MAX	601	588	753	728	783	682	608	548	773	408	587	558
(WY)	1982	1997	1987	1943	1952	1956	1950	1956	1947	1987	1956	1956
MIN	17.3	6.27	3.79	10.4	13.2	17.0	2.78	5.78	5.37	20.0	31.6	40.2
(WY)	1935	1935	1945	1936	1935	1992	1935	1935	1935	1968	1935	1935

**BEAVER RIVER BASIN**

**03101500 SHENANGO RIVER AT PYMATUNING DAM, PA--Continued**

<b>SUMMARY STATISTICS</b>	<b>FOR 2003 CALENDAR YEAR</b>		<b>FOR 2004 WATER YEAR</b>		<b>WATER YEARS 1935 - 2004</b>	
ANNUAL TOTAL	106034		130300			
ANNUAL MEAN	291		356		207	
HIGHEST ANNUAL MEAN					356	2004
LOWEST ANNUAL MEAN					16.6	1935
HIGHEST DAILY MEAN	593	Jul 31	791	Sep 15	1240	Jan 28 1937
LOWEST DAILY MEAN	54	Jul 16	69	Sep 3-7	0.40	Aug 25 1935
ANNUAL SEVEN-DAY MINIMUM	70	Jul 11	69	Sep 1	0.73	Jun 6 1935
MAXIMUM PEAK FLOW			1660	Sep 9	1660	Sep 9 2004
MAXIMUM PEAK STAGE			9.81	Sep 9	9.81	Sep 9 2004
ANNUAL RUNOFF (CFSM)	1.74		2.13		1.24	
ANNUAL RUNOFF (INCHES)	23.62		29.02		16.84	
10 PERCENT EXCEEDS	528		558		547	
50 PERCENT EXCEEDS	212		366		137	
90 PERCENT EXCEEDS	125		125		26	

BEAVER RIVER BASIN

03101500 SHENANGO RIVER AT PYMATUNING DAM, 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	21...	1028	9813	420	10.6	7.3	7.2	170	170	12.5	67	19.3	4.6
DEC	15...	1028	9813	492	14.6	7.0	7.6	167	169	2.0	66	19.4	4.2
FEB 2004	23...	1028	9813	375	12.3	7.1	7.1	179	182	2.5	69	20.1	4.5
APR	13...	1028	9813	481	12.2	7.8	7.6	164	165	7.0	63	18.6	4.1
JUN	15...	1028	9813	352	8.6	7.4	7.6	166	167	21.5	62	17.9	4.3
AUG	17...	1028	9813	130	7.9	7.5	7.2	168	167	22.5	63	18.2	4.2

Date	ANC, wat unfltrd fixed end pt, lab, mg/L as CaCO3 (00417)	Fluoride, water, unfltrd mg/L (00951)	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)
OCT 2003	50	<.2	12.4	114	4	.040	.06	<.040	.03	.056	.94	6.0	<200
DEC	51	<.2	12.6	110	<2	.120	.20	<.040	.02	.031	.80	6.0	<200
FEB 2004	53	<.2	13.0	124	<2	.140	.36	<.040	.01	.033	.94	6.0	<200
APR	46	<.2	12.3	110	<2	<.020	.37	<.040	.03	.043	1.2	5.6	<200
JUN	52	<.2	11.9	132	4	.150	.18	<.040	.01	1.73	1.1	5.9	<200
AUG	51	<.2	11.2	118	18	<.020	<.04	<.040	.02	.051	.79	4.9	<200

Date	Copper, water, unfltrd recover-able, μg/L (01042)	Cyanide amenable to chlorination wat unfltrd mg/L (00722)	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)	Phenolic compounds, water, unfltrd μg/L (32730)
OCT 2003	10	<1.00	330	<1.0	110	<50	70	<5
DEC	<10	<1.00	250	<1.0	30	<50	<10	<5
FEB 2004	<10	<1.00	170	<1.0	60	<50	<10	<5
APR	<10	<1.00	300	<1.0	60	<50	20	<5
JUN	<10	<1.00	180	<1.0	200	<50	50	<5
AUG	<10	<1.00	310	<1.0	150	<50	40	48

BEAVER RIVER BASIN

03101500 SHENANGO RIVER AT PYMATUNING DAM, 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	09/04/03
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	10
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	5
Tubificidae	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	4
Crustacea	
Amphipoda (SCUDS)	
Crangonyctidae	
<i>Crangonyx</i>	1
Insecta	
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<i>Cheumatopsyche</i>	8
Polycentropodidae	
<i>Neureclipsis</i>	2
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Promoresia</i>	1
<i>Stenelmis</i>	5
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	263
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	5
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	11
Total Organisms	316
Total Taxa	12