

## 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 2002 TO SEPTEMBER 2003  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	83	83	193	182	191	196	138	288	71	494	134
2	87	83	84	176	184	195	196	114	304	71	568	137
3	87	83	84	169	185	195	194	79	343	71	474	130
4	87	82	85	198	227	192	214	75	343	85	519	132
5	87	82	85	196	209	213	346	78	343	81	582	132
6	87	83	84	196	198	212	210	89	339	73	578	132
7	87	82	83	191	196	195	213	80	339	73	576	132
8	87	81	83	194	193	210	220	78	339	72	571	132
9	87	81	83	199	193	269	250	86	340	78	568	132
10	87	81	83	200	193	171	270	102	341	81	568	132
11	86	91	83	191	191	122	266	88	339	86	567	132
12	86	85	86	186	187	122	266	168	345	72	562	132
13	85	82	89	183	189	141	262	220	405	69	558	132
14	85	81	111	182	188	140	262	208	355	67	556	133
15	85	81	100	182	186	147	262	204	346	67	554	134
16	85	81	93	182	183	156	262	204	445	54	552	135
17	85	82	90	185	183	144	262	202	504	73	550	229
18	85	83	88	193	185	131	262	200	506	122	506	272
19	85	83	119	193	185	126	262	156	509	121	175	161
20	85	84	169	193	184	125	262	134	506	120	125	147
21	85	85	150	193	184	141	239	143	504	496	125	140
22	85	86	145	193	189	152	215	135	503	199	125	148
23	85	85	144	191	243	131	213	134	499	156	125	171
24	85	85	142	193	215	126	209	198	496	363	125	197
25	78	85	140	192	200	153	181	190	496	510	128	222
26	85	83	141	193	194	212	141	208	239	495	130	219
27	85	85	141	193	192	200	140	204	122	460	130	285
28	83	84	140	193	193	196	138	223	123	423	130	241
29	83	85	141	193	---	212	138	235	124	504	130	266
30	83	85	142	193	---	206	138	232	91	566	130	294
31	83	---	209	190	---	197	---	328	---	593	130	---
TOTAL	2642	2502	3500	5899	5431	5323	6689	4933	10776	6372	11611	5115
MEAN	85.2	83.4	113	190	194	172	223	159	359	206	375	170
MAX	87	91	209	200	243	269	346	328	509	593	582	294
MIN	78	81	83	169	182	122	138	75	91	54	125	130
CFSM	0.51	0.50	0.68	1.14	1.16	1.03	1.34	0.95	2.15	1.23	2.24	1.02
IN.	0.59	0.56	0.78	1.31	1.21	1.19	1.49	1.10	2.40	1.42	2.59	1.14

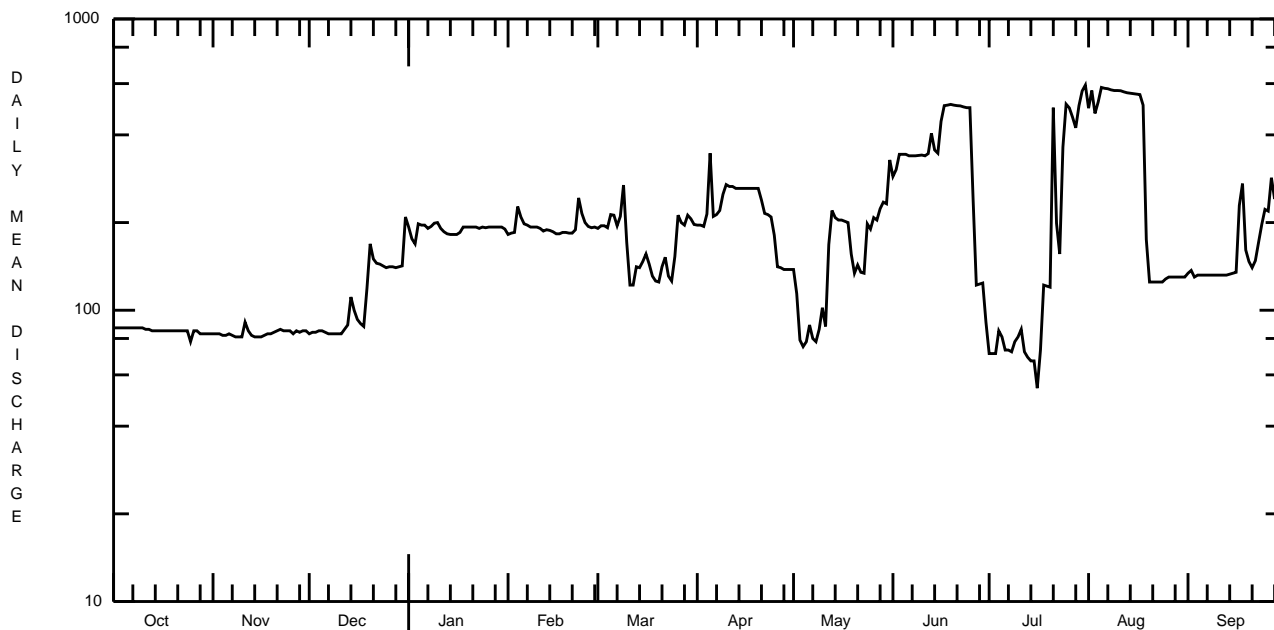
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2003, BY WATER YEAR (WY)

MEAN	165	179	292	276	276	256	198	165	162	150	162	181
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

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1935 - 2003	
ANNUAL TOTAL	67305		70793			
ANNUAL MEAN	184		194		205	
HIGHEST ANNUAL MEAN					330	1956
LOWEST ANNUAL MEAN					16.6	1935
HIGHEST DAILY MEAN	527	May 30	593	Jul 31	1240	Jan 28 1937
LOWEST DAILY MEAN	66	Jul 6,7	54	Jul 16	0.40	Aug 25 1935
ANNUAL SEVEN-DAY MINIMUM	69	Jul 1	70	Jul 11	0.73	Jun 6 1935
MAXIMUM PEAK FLOW			1010	Jul 21	1540	Sep 4 1937
MAXIMUM PEAK STAGE			7.29	Jul 21	9.20	Sep 4 1937
ANNUAL RUNOFF (CFSM)	1.10		1.16		1.23	
ANNUAL RUNOFF (INCHES)	14.99		15.77		16.67	
10 PERCENT EXCEEDS	481		412		545	
50 PERCENT EXCEEDS	130		161		134	
90 PERCENT EXCEEDS	83		83		26	



OCTOBER 1, 2002 TO SEPTEMBER 30, 2003

## 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.

REMARKS.--Other data for the Water-Quality Network can be found on pages 242-289.

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)	Specif. 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)
NOV 2002 18...	0830	1028	9813	84	40	10.0	7.9	173	6.8	77	23.0	4.8	56
JAN 2003 14...	1230	1028	9813	182	40	15.2	7.8	193	.8	74	21.3	5.1	53
MAR 18...	0900	1028	9813	132	40	12.9	7.3	203	4.0	76	21.8	5.3	53
JUN 04...	1405	1028	9813	343	40	9.4	7.7	186	16.5	72	21.1	4.6	51
JUL 29...	1310	1028	9813	504	40	8.5	6.9	184	--	70	20.2	4.7	55
SEP 23...	1310	1028	9813	165	40	9.1	7.2	178	19.5	69	20.1	4.6	53

Date	Fluoride, water, unfltrd mg/L (00951)	Sulfate water, ftrd, mg/L (00945)	Residue on evap. at 105degC wat ftrd mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia unfltrd mg/L as N (00610)	Nitrate unfltrd mg/L as N (00620)	Nitrite 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)
NOV 2002 18...	--	16.2	142	4	.060	--	--	--	.068	1.2	5.3	<200	<10
JAN 2003 14...	<.2	15.3	132	8	.060	.27	<.040	.02	.042	.92	6.4	<200	<10
MAR 18...	--	16.3	156	8	.220	.68	<.040	.02	.024	1.5	6.0	<200	<10
JUN 04...	<.2	14.7	122	30	.290	.14	<.040	.06	.062	1.5	6.0	1000	<10
JUL 29...	<.2	13.0	128	4	.180	.15	<.040	.02	.036	.99	6.5	<200	<10
SEP 23...	<.2	12.8	112	14	.030	.16	<.040	.04	.049	.78	6.7	400	<10

Date	Cyanide amenable to chlorination recover wat unfltrd mg/L (00722)	Iron, water, unfltrd recover -able, $\mu$ g/L (01045)	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)	Phenolic compounds, water, unfltrd $\mu$ g/L (32730)
NOV 2002 18...	--	200	<1.0	80	<50	<10	--
JAN 2003 14...	--	100	<1.0	50	<50	<10	<5
MAR 18...	--	150	<1.0	290	<50	50	--
JUN 04...	<1.00	1040	<1.0	200	<50	20	<5
JUL 29...	<1.00	240	49.3	110	<50	<10	<5
SEP 23...	<1.00	570	<1.0	130	<50	<10	<5

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

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	9/24/02
Benthic Macroinvertebrate	Count
Nematoda (NEMATODES)	1
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Tubificida	
Naididae	6
Tubificidae	2
Arthropoda	
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
<u>Gammarus</u> sp	1
Isopoda (AQUATIC SOWBUGS)	
Asellidae	
<u>Caecidotea</u> sp	1
Insecta	
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	4
Hydroptilidae	
<u>Hydroptila</u> sp	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Stenelmis</u> sp	1
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	112
Empididae (DANCE FLIES)	
<u>Hemerodromia</u> sp	2
Simuliidae (BLACK FLIES)	
<u>Simulium</u> sp	1
Total Organisms	132