



2005 Water Year
WEST BRANCH SUSQUEHANNA RIVER BASIN
01541000 West Branch Susquehanna River at Bower, PA

Latitude: 40° 53 ' 49"

Longitude: 078° 40 ' 38"

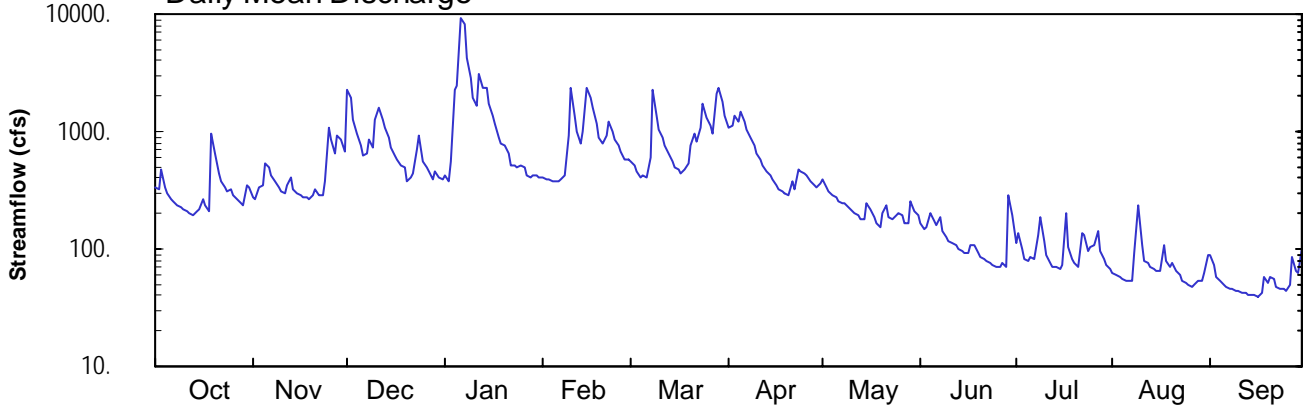
Hydrologic Unit Code: 02050201

Clearfield County

Datum: 1207.14 feet

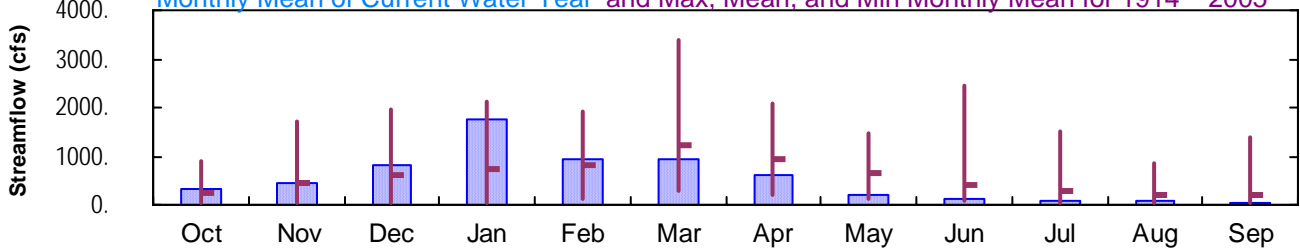
Drainage Area: 315. mi²

Daily Mean Discharge

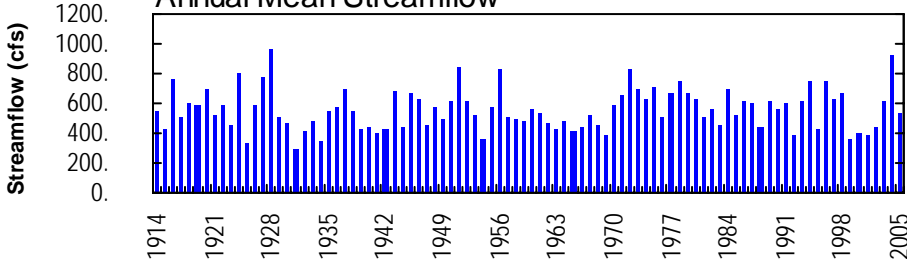


Monthly Statistics

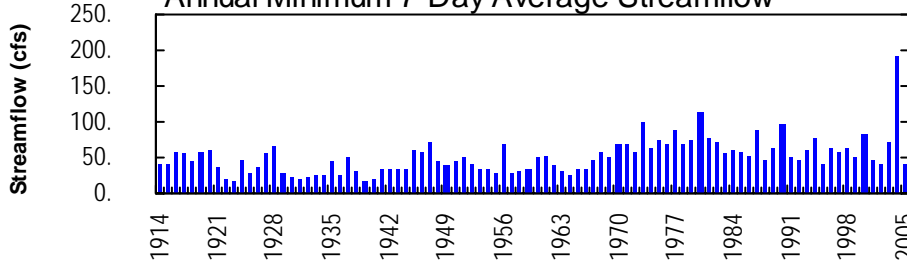
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1914 – 2005



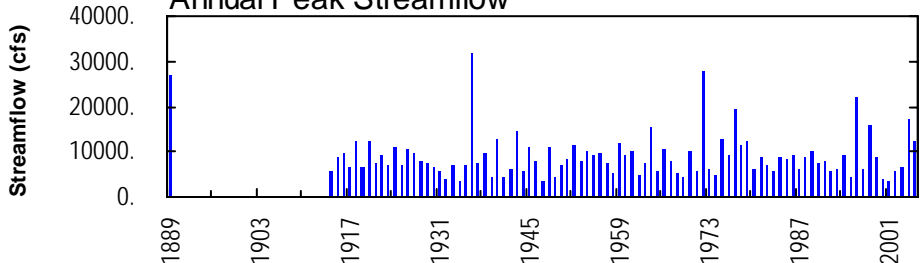
Annual Mean Streamflow



Annual Minimum 7-Day Average Streamflow



Annual Peak Streamflow



WEST BRANCH SUSQUEHANNA RIVER BASIN

01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°53'49", long 78°40'38", Clearfield County, Hydrologic Unit 02050201, on right bank at downstream side of highway bridge on Township Route 418 at Bower, and 4.6 mi downstream from Chest Creek and Mahaffey.

DRAINAGE AREA.--315 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1913 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1302: 1914-17, 1918(M), 1922-23, 1924(M), 1925-29, 1930-31(M), 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 1,207.14 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1929, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1913, about 18.5 ft, May 13, 1889, discharge, about 27,000 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,400 ft³/s and maximum (*):

Date	Time	Discharge ft ³ /s	Gage Height (ft)	Date	Time	Discharge ft ³ /s	Gage Height (ft)
Jan. 6	2100	*12,300	*13.91	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	335	279	2280	421	e400	561	1100	391	167	115	63	88
2	321	262	1920	383	e390	509	1130	341	146	136	60	72
3	475	340	1280	557	e390	450	1350	314	152	102	57	58
4	341	343	952	2310	e380	402	1210	292	201	83	55	53
5	295	541	763	2450	e380	431	1490	273	171	80	54	50
6	269	487	637	9330	e380	405	1200	259	161	84	54	48
7	253	421	656	8310	e390	603	1020	249	189	81	54	47
8	239	379	864	4200	e430	2310	887	242	144	132	91	45
9	227	340	728	2900	e920	1370	748	225	126	183	238	44
10	219	309	1250	1980	2390	1040	648	212	116	118	107	44
11	210	295	1580	1640	1360	875	572	199	111	88	e80	43
12	201	343	1280	3120	991	761	510	191	106	77	e75	42
13	196	412	1090	2360	792	645	462	178	100	71	e70	41
14	206	327	895	2320	988	548	422	180	97	69	e68	41
15	217	295	728	1740	2390	493	386	249	94	69	e66	40
16	264	283	615	1370	1940	471	350	222	94	73	66	40
17	234	275	575	1150	1570	445	325	185	108	203	107	42
18	207	271	507	886	1170	480	312	167	107	103	78	59
19	962	263	496	e790	880	530	298	155	93	82	69	51
20	640	288	376	e760	803	752	289	198	86	75	77	58
21	443	323	e400	e650	917	976	372	233	82	69	65	55
22	377	288	438	e510	1230	817	325	186	80	135	59	47
23	334	288	703	e520	983	1080	485	178	77	130	53	46
24	314	381	908	e500	843	1730	450	196	73	95	51	45
25	317	1100	e550	e520	759	1310	447	201	71	106	49	44
26	289	870	e500	e500	683	1110	429	197	71	107	48	49
27	265	661	e460	e430	580	968	379	164	75	143	49	87
28	249	928	e390	e410	584	2060	352	167	70	97	54	66
29	239	851	462	e420	---	2380	339	260	289	81	53	63
30	355	677	409	e420	---	1810	360	209	191	72	63	101
31	334	---	397	e400	---	1370	---	196	---	66	87	---
TOTAL	9827	13120	25089	54257	25913	29692	18647	6909	3648	3125	2220	1609
MEAN	317	437	809	1750	925	958	622	223	122	101	71.6	53.6
MAX	962	1100	2280	9330	2390	2380	1490	391	289	203	238	101
MIN	196	262	376	383	380	402	289	155	70	66	48	40
CFSM	1.01	1.39	2.57	5.56	2.94	3.04	1.97	0.71	0.39	0.32	0.23	0.17
IN.	1.16	1.55	2.96	6.41	3.06	3.51	2.20	0.82	0.43	0.37	0.26	0.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2005, BY WATER YEAR (WY)

MEAN	253	446	624	720	803	1206	936	647	397	273	208	208
MAX	915	1707	1958	2136	1924	3369	2080	1480	2446	1522	850	1375
(WY)	1928	1998	1924	1937	1918	1936	1940	1919	1972	1977	2003	2004
MIN	22.5	27.2	51.0	32.9	120	271	202	116	82.0	49.7	25.7	24.1
(WY)	1931	1931	1931	1931	1934	1969	1925	1926	1949	1965	1930	1939

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

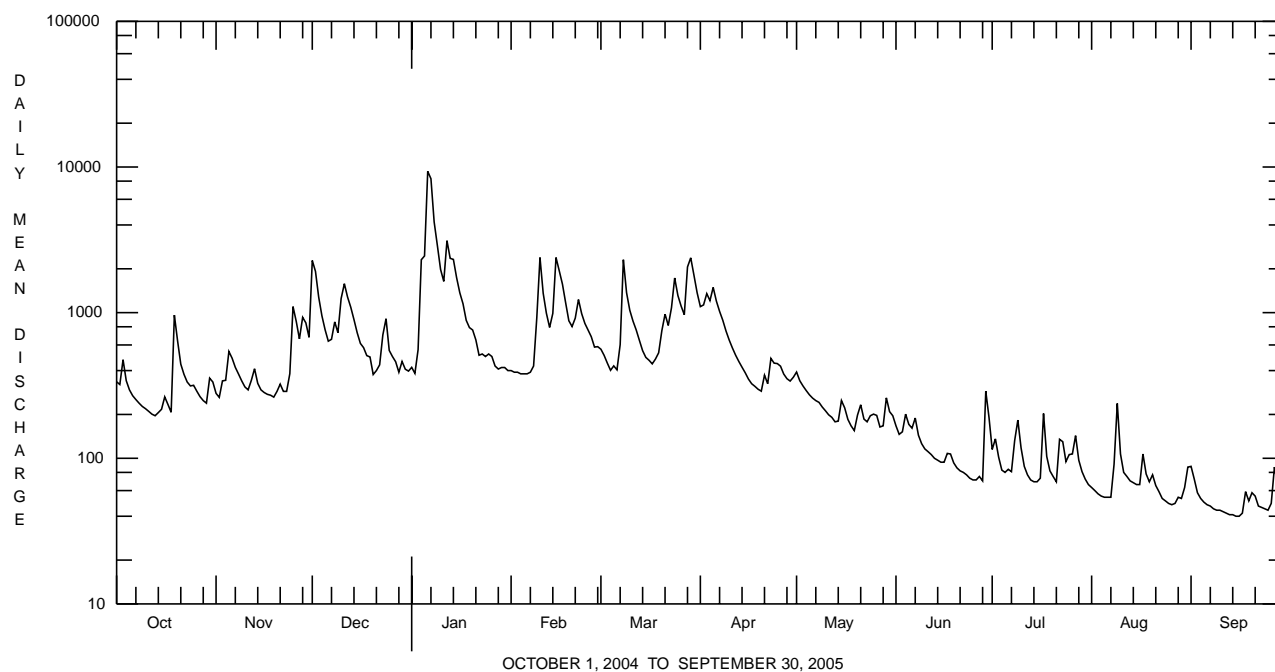
01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA--Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1914 - 2005	
ANNUAL TOTAL	310351		194056			
ANNUAL MEAN	848		532		559	
HIGHEST ANNUAL MEAN					955	1928
LOWEST ANNUAL MEAN					294	1931
HIGHEST DAILY MEAN	15300	Sep 18	9330	Jan 6	23200	Jun 23 1972
LOWEST DAILY MEAN	156	Sep 7	40	Sep 15,16	16	Aug 29 1939 ^a
ANNUAL SEVEN-DAY MINIMUM	192	Sep 1	41	Sep 11	17	Aug 28 1939
MAXIMUM PEAK FLOW			^b 12300	Jan 6	^b 31500	Mar 18 1936
MAXIMUM PEAK STAGE			13.91	Jan 6	^c 19.74	Mar 18 1936
INSTANTANEOUS LOW FLOW					14	Aug 29 1939
ANNUAL RUNOFF (CFSM)	2.69		1.69		1.78	
ANNUAL RUNOFF (INCHES)	36.65		22.92		24.12	
10 PERCENT EXCEEDS	1570		1200		1300	
50 PERCENT EXCEEDS	469		312		290	
90 PERCENT EXCEEDS	250		59		62	

^a Also Aug. 31 to Sept. 2, 1939.

^b From rating curve extended above 7,200 ft³/s on basis of slope-area measurement of peak flow.

^c From floodmark in gage.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, 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 2004 TO SEPTEMBER 2005

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)	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)
NOV 2004 17...	1310	1028	9813	273	30	12.8	7.7	7.2	364	354	5.3	147	37.9
JAN 2005 04...	1245	1028	9813	2600	30	11.1	6.9	7.4	192	190	7.1	73	18.9
MAR 22...	1015	1028	9813	816	30	11.6	7.3	7.0	260	260	2.7	97	25.4
MAY 19...	1100	1028	9813	154	30	9.3	8.0	7.9	463	469	13.4	190	49.2
JUL 05...	1440	1028	9813	80	30	7.5	8.2	8.2	506	503	24.2	270	81.3
SEP 13...	1100	1028	9813	41	30	8.0	8.1	8.2	697	725	19.0	280	73.6

Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unfltrd 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 as N, mg/L (00610)	Nitrate water, unfltrd as N, mg/L (00620)	Nitrite water, unfltrd as N, mg/L (00615)	Orthophosphate, water, unfltrd as P, mg/L (70507)	Phosphorus, water, unfltrd as P, mg/L (00665)	Total nitrogen, water, unfltrd as N, mg/L (00600)	Organic carbon, water, unfltrd as C, mg/L (00680)	Aluminum, water, unfltrd recoverable, mg/L (01105)
NOV 2004 17...	12.8	44	107	296	18	<.020	.51	<.040	<.01	<.010	.60	1.2	<200
JAN 2005 04...	6.3	22	49.8	120	124	.040	.65	<.040	.01	.097	1.2	3.7	3500
MAR 22...	8.2	27	72.4	296	<2	.030	.80	<.040	.01	.011	.85	1.4	460
MAY 19...	17.2	61	158	346	4	<.020	.23	<.040	<.01	<.010	.26	--	<200
JUL 05...	16.5	68	176	370	<2	.020	.23	<.040	<.01	.017	.31	--	<200
SEP 13...	23.9	94	253	528	<2	.040	.05	<.040	<.01	<.010	.11	--	<200

Date	Copper, water, unfltrd recoverable, µg/L (01042)	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)
NOV 2004 17...	<10	320	<1.0	290	<50	<10
JAN 2005 04...	<10	8050	4.1	500	<50	60
MAR 22...	10	830	<1.0	240	<50	10
MAY 19...	<10	250	<1.0	110	<50	<10
JUL 05...	<10	160	<1.0	50	<50	20
SEP 13...	<10	100	<1.0	20	<50	<10

WEST BRANCH SUSQUEHANNA RIVER BASIN

01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, 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	10/21/04
Benthic macroinvertebrate	Count
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	1
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Baetis</i>	3
Caenidae	
<i>Caenis</i>	5
Heptageniidae	
<i>Stenonema</i>	20
Isonychiidae	
<i>Isonychia</i>	8
Plecoptera (STONEFLIES)	
Chloroperlidae	
<i>Sweltsa</i>	1
Perlidae	
<i>Acroneuria</i>	1
Taeniopterygidae	
<i>Taeniopteryx</i>	42
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<i>Corydalus</i>	1
Trichoptera (CADDISFLIES)	
Brachycentridae	
<i>Brachycentrus</i>	1
Hydropsychidae	
<i>Cheumatopsyche</i>	1
<i>Diplectrona</i>	1
<i>Hydropsyche</i>	20
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<i>Optioservus</i>	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	6
Empididae (DANCE FLIES)	
<i>Hemerodromia</i>	1
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	2
Total Organisms	120
Total Taxa	18