



2004 Water Year

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 Sinnemahoning Creek at Sinnemahoning, PA

Latitude: 41° 19' 02"

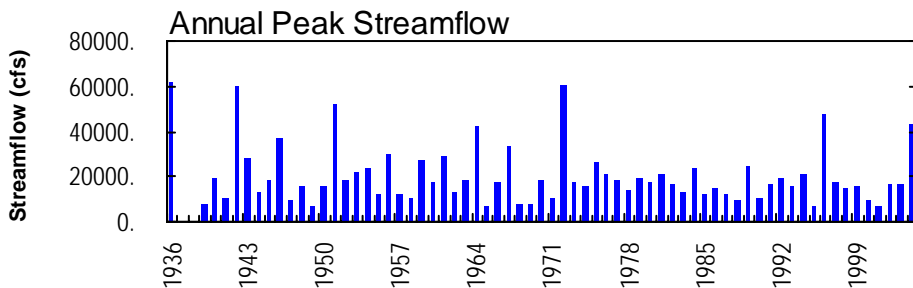
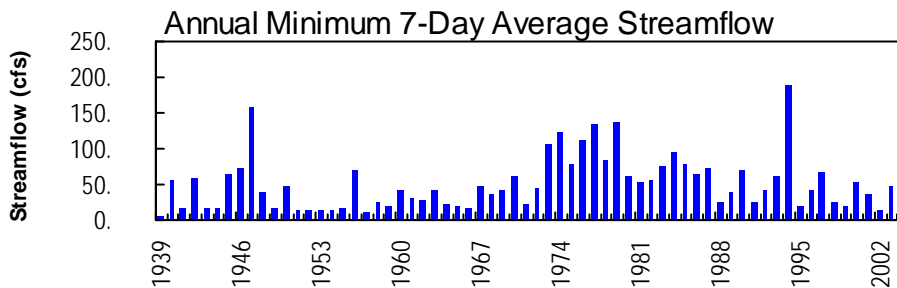
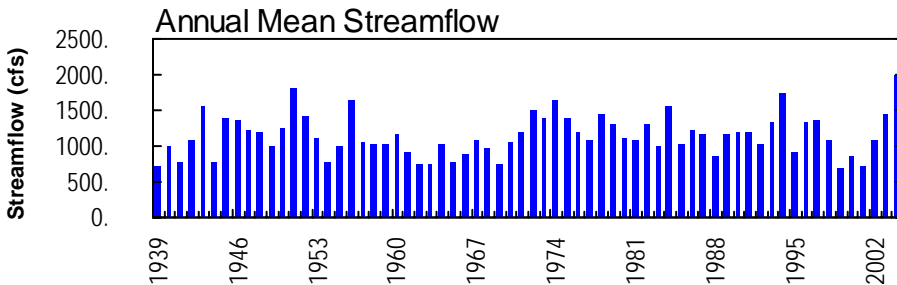
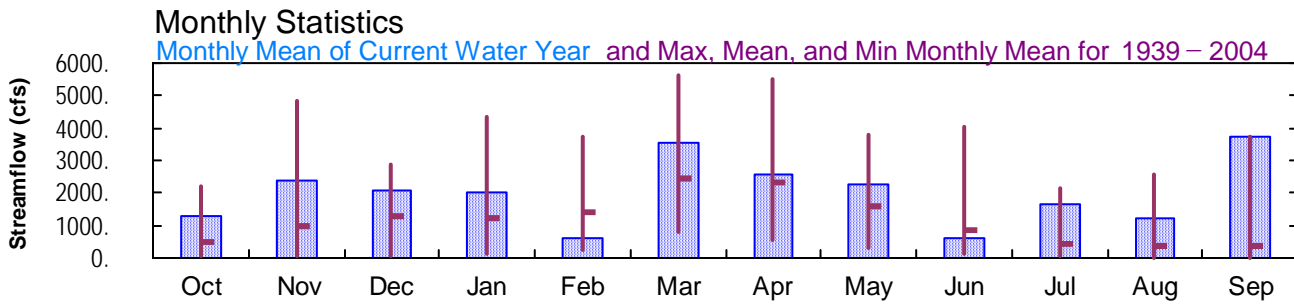
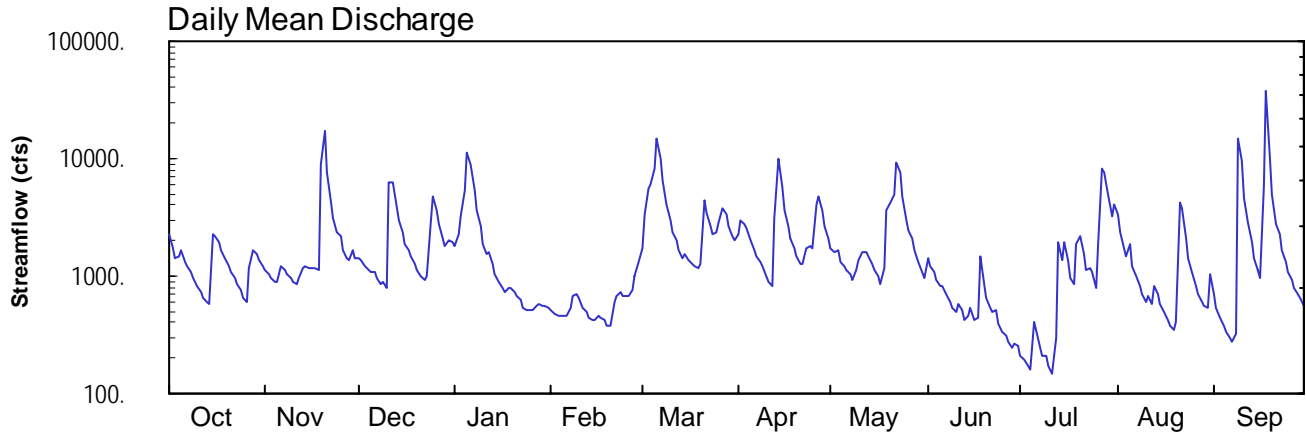
Longitude: 078° 06' 12"

Hydrologic Unit Code: 02050202

Cameron County

Datum: 769.36 feet

Drainage Area: 685. mi<sup>2</sup>



**WEST BRANCH SUSQUEHANNA RIVER BASIN**

**01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA  
(Pennsylvania Water-Quality Network Station)**

**LOCATION.**--Lat 41°19'02", long 78°06'12", Cameron County, Hydrologic Unit 02050202, on left bank 0.2 mi upstream from Grove Run, and 0.7 mi upstream from Penn Central Railroad bridge at Sinnemahoning.

**DRAINAGE AREA.**--685 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

**PERIOD OF RECORD.**--July 1938 to current year. Prior to October 1938 monthly discharge only, published in WSP 1302.

**GAGE.**--Water-stage recorder. Datum of gage is 769.36 ft above National Geodetic Vertical Datum of 1929.

**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, 21.94 ft, Mar. 18, 1936, from floodmark, discharge, 61,200 ft<sup>3</sup>/s, from rating curve extended above 31,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 21.58 ft.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 8,400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)	Date	Time	Discharge ft <sup>3</sup> /s	Gage Height (ft)
Nov. 19	2345	25,600	13.08	Apr. 14	0130	12,100	8.58
Dec. 11	1315	9,140	7.42	May 22	1815	10,500	7.98
Jan. 5	1115	12,600	8.77	July 27	2045	9,590	7.60
Mar. 2	2115	11,400	8.31	Sept. 9	1430	20,100	11.37
Mar. 6	1130	16,100	10.00	Sept. 18	0400	*42,900	*17.78

**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	2230	1120	1410	1770	e510	e1700	2260	1750	1400	214	3320	704
2	1760	1050	1350	2230	e480	e3300	2940	1570	1220	191	2390	535
3	1410	981	1210	3290	e450	e5600	2790	1660	1100	175	1740	439
4	1510	899	1120	5350	e460	6060	2510	1320	911	160	1460	383
5	1680	902	1080	11200	e460	8120	2040	1230	834	405	1860	342
6	1340	1230	1090	8840	e460	14500	1680	1140	819	350	1210	301
7	1200	1110	950	5330	e540	9940	1470	1030	710	248	984	273
8	1070	1060	870	3570	e690	6400	1300	929	610	214	832	324
9	946	965	890	2630	e710	4150	1200	1130	531	213	694	14800
10	836	893	784	1840	e640	3000	1010	1360	499	173	600	9620
11	743	868	6350	1540	e540	2370	903	1600	583	149	681	4640
12	664	958	6310	1590	e490	2050	835	1610	511	298	589	2820
13	607	1170	3990	1280	e440	1660	3100	1450	427	1970	828	1920
14	570	1210	2940	1020	e430	1400	9890	1280	451	1340	714	1410
15	2310	1180	2350	e900	e420	1520	5710	1140	534	1930	572	1130
16	2190	1170	1840	e790	e450	1380	3670	991	425	1350	486	963
17	1910	1170	1670	e740	e440	1330	2680	852	433	970	426	5710
18	1650	1120	1480	e800	e420	1210	2100	1160	1490	845	379	e38000
19	1430	8760	1270	e780	e380	1150	1700	3580	866	1850	353	e10000
20	1210	17000	1120	e740	e380	1250	1500	4180	651	2210	405	e5000
21	1070	7510	984	e680	e600	4330	1280	4980	527	1530	4230	e2800
22	975	4430	910	e630	e680	3440	1270	9290	490	1130	3730	2280
23	861	3110	1000	e530	e720	2670	1740	7690	513	1180	2140	1690
24	755	2400	2960	e520	e690	2260	1790	4680	387	1090	1440	1310
25	658	2140	4740	e520	e690	2340	1740	2980	336	793	1080	1080
26	608	1680	3660	e510	e680	2850	4090	2410	309	1830	835	916
27	1170	1440	2730	e550	e760	3710	4710	2080	271	8140	694	782
28	1650	1350	2140	e580	e1000	3360	3630	1680	245	7740	614	701
29	1530	1680	1770	e560	e1300	2680	2650	1310	269	4860	548	648
30	1390	1440	2050	e550	---	2190	2080	1060	252	3250	541	556
31	1210	---	1930	e540	---	2060	---	980	---	4150	1050	---
TOTAL	39143	71996	64948	62400	16910	109980	76268	70102	18604	50948	37425	112077
MEAN	1263	2400	2095	2013	583	3548	2542	2261	620	1643	1207	3736
MAX	2310	17000	6350	11200	1300	14500	9890	9290	1490	8140	4230	38000
MIN	570	868	784	510	380	1150	835	852	245	149	353	273
CFSM	1.84	3.50	3.06	2.94	0.85	5.18	3.71	3.30	0.91	2.40	1.76	5.45
IN.	2.13	3.91	3.53	3.39	0.92	5.97	4.14	3.81	1.01	2.77	2.03	6.09

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2004, BY WATER YEAR (WY)**

MEAN	469	971	1279	1252	1436	2459	2316	1608	851	443	341	386
MAX	2186	4836	2883	4349	3732	5608	5500	3771	4066	2134	2596	3736
(WY)	1991	1951	1973	1952	1976	1945	1940	1953	1972	1992	1994	2004
MIN	31.5	52.0	64.1	91.8	257	771	556	313	97.3	37.9	28.7	29.6
(WY)	1965	1965	1961	1961	1963	1981	1946	1941	1999	1966	1957	1939

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1939 - 2004	
ANNUAL TOTAL	646119		730881			
ANNUAL MEAN	1770		1997		1149	
HIGHEST ANNUAL MEAN					1997	
LOWEST ANNUAL MEAN					705	
HIGHEST DAILY MEAN	17000	Nov 20	e38000	Sep 18	44000	Jun 23 1972
LOWEST DAILY MEAN	118	Jul 18	149	Jul 11	1.4	Sep 3 1939
ANNUAL SEVEN-DAY MINIMUM	144	Jul 15	215	Jun 28	4.2	Aug 29 1939
MAXIMUM PEAK FLOW			a42900	Sep 18	a60800	Jun 23 1972
MAXIMUM PEAK STAGE			17.78	Sep 18	21.78	Jun 23 1972
INSTANTANEOUS LOW FLOW					1.2	Sep 4 1939
ANNUAL RUNOFF (CFSM)	2.58		2.92		1.68	
ANNUAL RUNOFF (INCHES)	35.09		39.69		22.79	
10 PERCENT EXCEEDS	3520		4200		2770	
50 PERCENT EXCEEDS	1230		1190		574	
90 PERCENT EXCEEDS	361		437		71	

a From rating curve extended above 31,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 21.58 ft.

e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, 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													
22...	1530	1028	9813	960	11.4	7.3	6.7	74	69	10.3	25	6.5	2.2
DEC 23...	1030	1028	9813	940	13.3	6.1	6.7	82	86	2.4	28	7.0	2.6
FEB 2004													
17...	1230	1028	9813	E440	14.9	7.2	6.8	109	108	.1	37	9.2	3.4
APR 28...	1330	1028	9813	3530	12.1	6.7	6.6	61	58	8.8	20	5.0	1.7
AUG 19...	1245	1028	9813	350	9.1	7.4	6.8	96	94	21.3	32	8.0	2.9

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 as P 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													
22...	9	17.8	38	<2	<.020	.09	<.040	<.01	<.010	.15	1.0	<200	<10
DEC 23...	7	23.3	--	<2	<.020	.25	<.040	<.01	<.010	.40	.7	<200	<10
FEB 2004													
17...	7	30.0	88	<2	<.020	.36	<.040	<.01	<.010	.39	.5	<200	<10
APR 28...	8	14.5	34	<2	<.020	.30	<.040	.01	.011	.40	.9	<200	<10
AUG 19...	14	22.6	52	<2	.020	.09	<.040	<.01	.011	.12	1.2	<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					
22...	70	<1.0	40	<50	<10
DEC 23...	160	<1.0	110	<50	<10
FEB 2004					
17...	30	<1.0	140	<50	20
APR 28...	200	<1.0	60	<50	<10
AUG 19...	60	<1.0	20	<50	<10

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, 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	10/21/03
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	2
Nematoda (NEMATODES)	2
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<i>Prostoma</i>	7
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<i>Ferrissia</i>	3
Physidae	
<i>Physa</i>	1
Planorbidae	
<i>Planorbella</i>	3
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	7
Tubificida	
Naididae	18
Tubificidae	6
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	3
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Procloeon</i>	2
Caenidae	
<i>Caenis</i>	3
Ephemerellidae	
<i>Eurylophella</i>	33
Heptageniidae	15
<i>Leucrocuta</i>	14
<i>Stenacron</i>	14
<i>Stenonema</i>	8
Isonychiidae	
<i>Isonychia</i>	2
Leptophlebiidae	
<i>Leptophlebia</i>	2
<i>Paraleptophlebia</i>	2
Odonata	
Anisoptera (DRAGONFLIES)	
Macromiidae	
<i>Macromia</i>	1
Zygoptera (DAMSELFLIES)	1

## WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA--Continued

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATEContinued

Date	10/21/03
Benthic Macroinvertebrate	Count
Plecoptera (STONEFLIES)	
Capniidae	1
Leuctridae	
<i>Leuctra</i>	2
Taeniopterygidae	
<i>Taeniopteryx</i>	7
Megaloptera	
Sialidae (ALDERFLIES)	
<i>Sialis</i>	3
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<i>Cheumatopsyche</i>	4
<i>Hydropsyche</i>	2
<i>Macrostemum</i>	1
Hydroptilidae	
<i>Hydroptila</i>	1
Leptoceridae	
<i>Mystacides</i>	2
<i>Oecetis</i>	1
Polycentropodidae	
<i>Neureclipsis</i>	2
Coleoptera (BEETLES)	
Psephenidae (WATER PENNIES)	
<i>Psephenus</i>	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	39
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	1
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	2
Total Organisms	221
Total Taxa	37

WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, 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	10/21/03
Benthic Macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	2
Nematoda (NEMATODES)	2
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
<i>Prostoma</i>	7
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancyliidae	
<i>Ferrissia</i>	3
Physidae	
<i>Physa</i>	1
Planorbidae	
<i>Planorbella</i>	3
Annelida	
Oligochaeta (AQUATIC EARTHWORMS)	
Lumbriculida	
Lumbriculidae	7
Tubificida	
Naididae	18
Tubificidae	6
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	3
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<i>Procloeon</i>	2
Caenidae	
<i>Caenis</i>	3
Ephemerellidae	
<i>Eurylophella</i>	33
Heptageniidae	15
<i>Leucrocuta</i>	14
<i>Stenacron</i>	14
<i>Stenonema</i>	8
Isonychiidae	
<i>Isonychia</i>	2
Leptophlebiidae	
<i>Leptophlebia</i>	2
<i>Paraleptophlebia</i>	2
Odonata	
Anisoptera (DRAGONFLIES)	
Macromiidae	
<i>Macromia</i>	1
Zygoptera (DAMSELFLIES)	1

## WEST BRANCH SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA--Continued

BIOLOGICAL DATA  
BENTHIC MACROINVERTEBRATEContinued

Date	10/21/03
Benthic Macroinvertebrate	Count
Plecoptera (STONEFLIES)	
Capniidae	1
Leuctridae	
<i>Leuctra</i>	2
Taeniopterygidae	
<i>Taeniopteryx</i>	7
Megaloptera	
Sialidae (ALDERFLIES)	
<i>Sialis</i>	3
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<i>Cheumatopsyche</i>	4
<i>Hydropsyche</i>	2
<i>Macrostemum</i>	1
Hydroptilidae	
<i>Hydroptila</i>	1
Leptoceridae	
<i>Mystacides</i>	2
<i>Oecetis</i>	1
Polycentropodidae	
<i>Neureclipsis</i>	2
Coleoptera (BEETLES)	
Psephenidae (WATER PENNIES)	
<i>Psephenus</i>	4
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	39
Simuliidae (BLACK FLIES)	
<i>Simulium</i>	1
Tipulidae (CRANE FLIES)	
<i>Antocha</i>	2
Total Organisms	221
Total Taxa	37