

## WEST BRANCH SUSQUEHANNA RIVER BASIN

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA  
(Pennsylvania Water-Quality Network Station)

**LOCATION.**--Lat 41°19'30", long 76°54'46", Lycoming County, Hydrologic Unit 02050206, on right bank 30 ft downstream from bridge on State Highway 973 at Loyalsockville, 2.5 mi downstream from Wallis Run, and 7.3 mi upstream from mouth.

**DRAINAGE AREA.**--435 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD.**--August 1925 to September 1974, October 1975 to current year. Prior to October 1925, monthly discharge only, published in WSP 1302. Prior to October 1969, published as "at Loyalsock".

**REVISED RECORDS.**--WSP 871: 1938(M). WSP 1051: 1926(M), 1933(M), 1936(M). WSP 1302: 1926-30. WSP 1502: 1932-33, 1935(M), 1937(M). WDR PA-99-2: Drainage area, 1972(M). WDR PA-02-2: 1926-95(M).

**GAGE.**--Water-stage recorder. Datum of gage is 586.33 ft above National Geodetic Vertical Datum of 1929 (revised). August 1925 to Sept. 16, 1926, nonrecording gage, and Sept. 17, 1926, to June 13, 1988, water-stage recorder at site 500 feet downstream on left bank at same 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.**--Flood of Sept. 26, 1975, reached a stage of 14.50 ft, from floodmark, discharge, 46,000 ft<sup>3</sup>/s (revised), from rating curve extended above 16,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.

**PEAK DISCHARGES FOR CURRENT YEAR.**--Peak discharges greater than a base discharge of 6,400 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)
Oct. 12	1315	*14,300	*9.65	June 21	1100	6,850	7.36
Oct. 17	0115	8,320	7.88	Sept. 4	0945	8,630	7.98
Mar. 21	0415	12,300	9.11	Sept. 23	1445	7,150	7.47
June 1	1730	6,850	7.36				

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	320	709	663	942	e260	e640	1410	460	3970	437	509	194
2	247	655	597	2600	e250	e620	1680	440	3480	389	579	1210
3	199	601	e530	1680	e240	e580	2140	419	1900	346	489	e1000
4	172	551	e500	1350	e400	e570	1690	390	1700	309	841	e3500
5	171	516	e540	1140	e580	e540	2310	366	1450	281	1590	2630
6	183	599	e520	1020	e480	e520	2130	355	1170	257	1400	1540
7	160	645	e500	922	e400	e480	1690	349	1040	232	906	1090
8	134	568	e460	865	e360	e470	1480	360	1240	263	692	840
9	118	527	e420	878	e340	e460	1310	370	988	237	733	693
10	109	502	e420	1020	e320	e440	1270	343	831	235	790	594
11	188	523	e440	859	e300	e380	1650	351	725	567	e710	507
12	7840	555	e520	e740	e300	e400	2880	573	751	708	e1100	439
13	3730	861	e700	e660	e280	e420	2050	537	805	406	825	397
14	1870	832	1350	e560	e260	e400	1600	469	813	294	732	444
15	1240	737	1930	e540	e240	451	1330	426	679	237	610	430
16	2020	725	1450	e530	e220	626	1150	431	566	231	507	503
17	5600	1650	1150	e480	e230	1990	996	602	488	224	802	432
18	2530	2410	945	e440	e280	4300	879	553	514	201	605	351
19	1680	1760	884	e480	e300	4090	840	482	554	215	472	363
20	1310	1420	2890	e500	e280	4150	762	430	489	214	398	590
21	1040	1280	3720	e400	e260	9580	686	419	4660	179	346	501
22	848	1280	2220	e380	e300	6610	719	398	4880	462	307	399
23	724	1550	1680	e370	e1200	4370	716	369	2890	794	276	4110
24	635	1230	1330	e380	e1300	3030	640	675	1730	523	245	2780
25	583	1090	1180	e390	e1000	2310	580	1160	1230	388	218	1580
26	1260	969	1060	e360	e870	1990	573	933	965	309	201	1210
27	1330	888	907	e300	e740	1900	657	831	775	298	186	981
28	1020	807	e740	e280	e700	1500	583	732	649	579	179	1240
29	871	739	e700	e300	---	1430	532	763	554	433	163	1060
30	802	696	682	e280	---	1820	489	691	483	317	164	830
31	759	---	654	e280	---	1600	---	646	---	257	168	---
TOTAL	39693	27875	32282	21926	12690	58667	37422	16323	42969	10822	17743	32438
MEAN	1280	929	1041	707	453	1892	1247	527	1432	349	572	1081
MAX	7840	2410	3720	2600	1300	9580	2880	1160	4880	794	1590	4110
MIN	109	502	420	280	220	380	489	343	483	179	163	194
CFM	2.94	2.14	2.39	1.63	1.04	4.35	2.87	1.21	3.29	0.80	1.32	2.49
IN.	3.39	2.38	2.76	1.88	1.09	5.02	3.20	1.40	3.67	0.93	1.52	2.77

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2003, BY WATER YEAR (WY)

MEAN	483	841	892	773	820	1478	1557	953	524	277	268	283
MAX	2512	2856	3033	3070	2961	4490	4236	2694	4327	1206	1797	1503
(WY)	1991	1951	1974	1996	1981	1936	1993	1946	1972	1928	1994	1933
MIN	20.2	28.4	80.5	34.1	108	449	363	220	92.4	41.6	31.5	13.8
(WY)	1965	1965	1931	1931	1931	1969	1946	1941	1991	1962	1964	1964

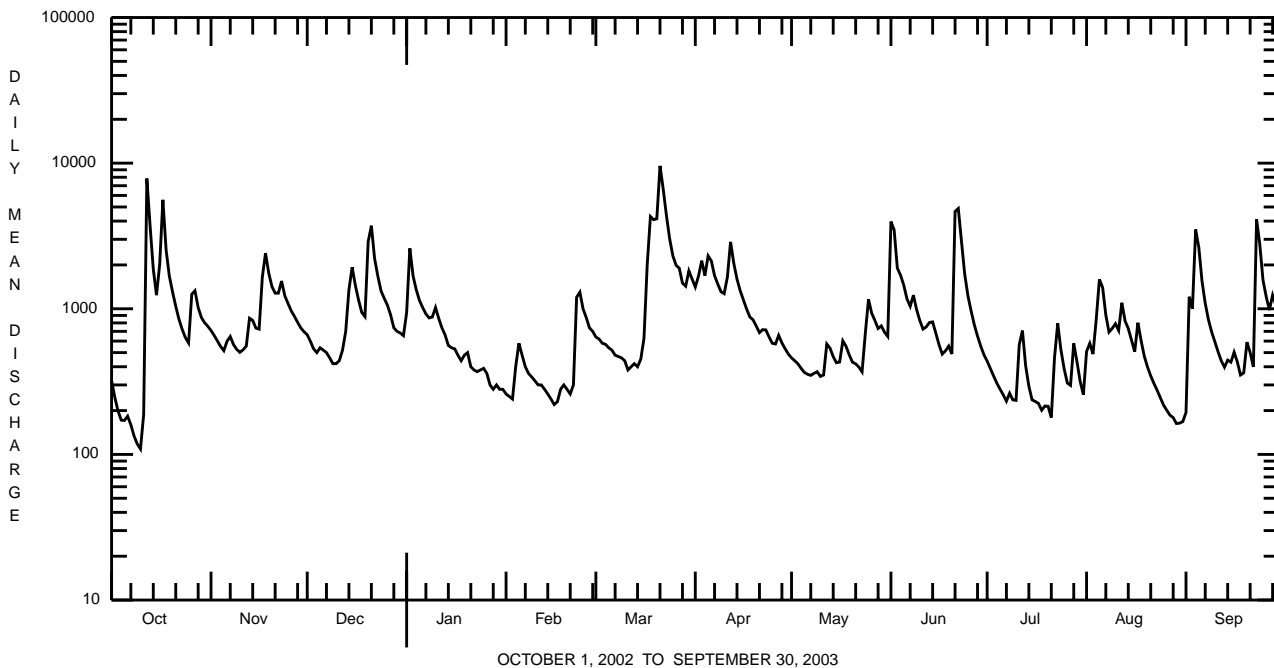
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA--Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1926 - 2003	
ANNUAL TOTAL	280655		350850			
ANNUAL MEAN	769		961		762	
HIGHEST ANNUAL MEAN					1312	
LOWEST ANNUAL MEAN					332	
HIGHEST DAILY MEAN	8830	Mar 27	9580	Mar 21	45000	Jun 23 1972
LOWEST DAILY MEAN	24	Sep 14	109	Oct 10	11	Sep 25,26 1964 <sup>c</sup>
ANNUAL SEVEN-DAY MINIMUM	28	Sep 8	150	Oct 4	12	Sep 20 1964
MAXIMUM PEAK FLOW			a14300	Oct 12	a55800	Jan 19 1996
MAXIMUM PEAK STAGE			9.65	Oct 12	b17.93	Jan 19 1996
INSTANTANEOUS LOW FLOW					11	Sep 25,26 1964 <sup>c</sup>
ANNUAL RUNOFF (CFSM)	1.77		2.21		1.75	
ANNUAL RUNOFF (INCHES)	24.00		30.00		23.79	
10 PERCENT EXCEEDS	1540		1900		1680	
50 PERCENT EXCEEDS	560		620		404	
90 PERCENT EXCEEDS	52		259		68	

- a From rating curve extended above 11,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow.
- b From floodmark in gage.
- c Also Nov. 24, 1964.



## WEST BRANCH SUSQUEHANNA RIVER BASIN

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, 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 368-434.

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)	Specific conductance, $\mu$ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, unfltrd, recoverable, mg/L (00915)	Calcium water, unfltrd, recoverable, mg/L (00916)	Magnesium, water, unfltrd, recoverable, mg/L (00925)
NOV 2002 14...	1315	1028	9813	822	30	12.8	7.5	56	7.9	22	6.55	6.9	1.03
MAR 2003 18...	1300	1028	9813	3720	30	14.6	7.2	53	1.7	19	5.50	5.8	.94
MAY 08...	1300	1028	9813	356	30	10.8	7.6	53	14.3	23	7.14	7.1	1.15
JUL 24...	1230	1028	9813	517	30	9.5	7.8	65	20.7	22	6.78	7.1	1.09
SEP 03...	1230	1028	9813	E1000	30	9.7	7.3	56	16.5	18	5.47	5.7	.89
Date	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, water, unfltrd end pt, lab, mg/L as CaCO3 (00417)	Acidity water, unfltrd heated, mg/L as CaCO3 (70508)	Sulfate water, unfltrd, mg/L (00945)	Residue on evap. at 105degC, wat flt mg/L (00515)	Residue total at 105 deg. C, sus-pended, 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)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)
NOV 2002 14...	1.1	9	.0	9.4	30	<2	.040	.17	<.040	<.01	<.010	.29	1.3
MAR 2003 18...	1.0	8	.0	7.7	30	22	<.020	.60	<.040	.02	.021	.78	1.3
MAY 08...	1.1	13	.0	8.7	52	<2	<.020	.22	<.040	.01	.011	.34	1.6
JUL 24...	1.1	16	.0	7.7	148	8	<.020	.10	<.040	<.01	<.010	.17	.6
SEP 03...	.9	12	.0	6.5	62	<2	<.020	.18	<.040	.01	.014	.34	1.2
Date	Aluminum, water, unfltrd, recoverable, $\mu$ g/L (01106)	Aluminum, water, unfltrd, recoverable, $\mu$ g/L (01105)	Copper, water, unfltrd, recoverable, $\mu$ g/L (01040)	Copper, water, unfltrd, recoverable, $\mu$ g/L (01042)	Iron, water, unfltrd, recoverable, $\mu$ g/L (01046)	Iron, water, unfltrd, recoverable, $\mu$ g/L (01045)	Lead, water, unfltrd, recoverable, $\mu$ g/L (01049)	Lead, water, unfltrd, recoverable, $\mu$ g/L (01051)	Manganese, water, unfltrd, recoverable, $\mu$ g/L (01056)	Manganese, water, unfltrd, recoverable, $\mu$ g/L (01055)	Nickel, water, unfltrd, recoverable, $\mu$ g/L (01065)	Nickel, water, unfltrd, recoverable, $\mu$ g/L (01067)	Zinc, water, unfltrd, recoverable, $\mu$ g/L (01090)
NOV 2002 14...	28	52	<4	<4	20	50	<1.0	<1.0	2.6	4.5	<4.0	<4.0	<5.0
MAR 2003 18...	65	400	<4	<4	30	510	<1.0	<1.0	30	90	<4.0	<4.0	5.5
MAY 08...	11	40	<4	<4	<20	20	<1.0	<1.0	3.4	5.0	<4.0	<4.0	<5.0
JUL 24...	24	49	<4	<4	50	90	<1.0	<1.0	4.7	10	<4.0	<4.0	<5.0
SEP 03...	46	100	<4	<4	110	340	<1.0	<1.0	6.1	30	<4.0	<4.0	8.6
Date	Zinc, water, unfltrd recoverable, $\mu$ g/L (01092)												
NOV 2002 14...	<5.0												
MAR 2003 18...	9.9												
MAY 08...	<5.0												
JUL 24...	<5.0												
SEP 03...	10												

## WEST BRANCH SUSQUEHANNA RIVER BASIN

## 01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, 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	8/8/02
Benthic Macroinvertebrate	Count
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Ancylidae	
<u>Ferrissia</u> sp	1
Arthropoda	
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
<u>Baetis</u> sp	1
<u>Procladius</u> sp	1
Ephemerellidae	
<u>Serratella</u> sp	1
Heptageniidae	
<u>Leucrocuta</u> sp	24
<u>Stenacron</u> sp	4
<u>Stenonema</u> sp	33
Isonychiidae	
<u>Isonychia</u> sp	9
Leptophlebiidae	
<u>Paraleptophlebia</u> sp	1
Odonata (DRAGONFLIES AND DAMSELFLIES)	
Coenagrionidae	
<u>Argia</u> sp	2
Gomphidae	
<u>Ophiogomphus</u> sp	3
Plecoptera (STONEFLIES)	
Perlidae	
<u>Acroneuria</u> sp	1
Megaloptera	
Corydalidae (FISHFLIES AND DOBSONFLIES)	
<u>Nigronia</u> sp	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
<u>Cheumatopsyche</u> sp	4
<u>Hydropsyche</u> sp	1
Leptoceridae	
<u>Ceraclea</u> sp	1
Philopotamidae	
<u>Chimarra</u> sp	3
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
<u>Optioservus</u> sp	4
Psephenidae (WATER PENNIES)	
<u>Psephenus</u> sp	14
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	
Tanyderidae	
<u>Protoplasa</u> sp	1
Total Organisms	117