

WEST BRANCH SUSQUEHANNA RIVER BASIN

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°14'10", long 76°59'49", Lycoming County, Hydrologic Unit 02050206, on right bank 100 ft upstream from Market Street bridge at South Williamsport, and 350 ft upstream from Hagermans Run.

DRAINAGE AREA.--5,682 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1895 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1925-28. WSP 1502: 1895-1904, 1912-13, 1919.

GAGE.--Water-stage recorder. Datum of gage is 494.98 ft above National Geodetic Vertical Datum of 1929. Mar. 1, 1895, to Sept. 30, 1928, nonrecording gage at bridge 100 ft downstream at same datum. Prior to July 1980, 100 ft downstream on left bank at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow slightly regulated by 6 flood-control reservoirs which have a combined capacity of 440,200 acre-ft. 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 1895, 32.4 ft, June 1, 1889, discharge, about 252,000 ft³/s.

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 | 2490 | 3620 | 5250 | 7610 | 4290 | 8880 | 14200 | 4900 | 19800 | 4900 | 11100 | 9890 |
| 2 | 1860 | 3950 | 5000 | 25200 | 4500 | 8210 | 14000 | 4690 | 26300 | 4480 | 36600 | 10500 |
| 3 | 1480 | 4100 | 4560 | 43700 | 4380 | e7600 | 16700 | 4600 | 22900 | 4050 | 32100 | 18100 |
| 4 | 1270 | 3770 | e3800 | 33700 | 4360 | 6990 | 17500 | 4490 | 20900 | 3700 | 27100 | 24900 |
| 5 | 1190 | 3360 | 3210 | 25600 | e4600 | 6560 | 20500 | 4190 | 19900 | 3440 | 33000 | 32400 |
| 6 | 1120 | 3450 | 3140 | 19000 | e4800 | 6850 | 37300 | 4180 | 19400 | 3180 | 28800 | 24500 |
| 7 | 1090 | 3940 | 3370 | 15500 | e5000 | 6490 | 37200 | 4580 | 17200 | 3010 | 21700 | 17600 |
| 8 | 987 | 4640 | 3340 | 13400 | e5000 | 6590 | 29700 | 5600 | 17600 | 3140 | 16400 | 13500 |
| 9 | 964 | 4690 | e3200 | 12100 | e4800 | 7240 | 23400 | 6340 | 16500 | 3200 | 14900 | 11100 |
| 10 | 962 | 4330 | e2900 | 12500 | e4600 | 9060 | 20600 | 7560 | 16200 | 3380 | 20000 | 9250 |
| 11 | 1200 | 4220 | 2850 | 12000 | e4600 | 10600 | 19500 | 8240 | 14600 | 4100 | 31700 | 7810 |
| 12 | 7000 | 4590 | 3250 | 10600 | e4400 | 9670 | 21900 | 9180 | 13800 | 4580 | 27100 | 6880 |
| 13 | 5360 | 4950 | 4230 | 9220 | e4200 | 9980 | 22400 | 9620 | 13800 | 4500 | 21800 | 6200 |
| 14 | 3220 | 4990 | 6310 | 7930 | 3860 | 12900 | 19800 | 9150 | 14500 | 3910 | 16800 | 6130 |
| 15 | 2420 | 4930 | 10400 | e7500 | e3600 | 17400 | 16900 | 8550 | 13600 | 3050 | 12700 | 5870 |
| 16 | 2930 | 5060 | 12500 | e6900 | e3800 | 19400 | 15000 | 8260 | 11900 | 2710 | 10400 | 6980 |
| 17 | 6820 | 6880 | 11000 | e5600 | e3800 | 30200 | 13300 | 9710 | 10100 | 2450 | 9940 | 8430 |
| 18 | 4880 | 13500 | 8890 | e5000 | 3930 | 53200 | 11800 | 10700 | 9280 | 2460 | 8880 | 7180 |
| 19 | 3800 | 15500 | 7510 | e4800 | 3970 | 66700 | 10300 | 10700 | 9610 | 2530 | 7430 | 6830 |
| 20 | 3380 | 13300 | 9130 | e4800 | 4510 | 62400 | 9330 | 10100 | 9530 | 2390 | 6230 | 10100 |
| 21 | 2930 | 11100 | 17400 | e5000 | 4630 | 75300 | 8560 | 9900 | 16000 | 2790 | 5400 | 12400 |
| 22 | 2680 | 9980 | 23400 | e4800 | 4980 | 68900 | 8390 | 10200 | 20200 | 4250 | 4860 | 11100 |
| 23 | 2410 | 9640 | 19700 | e4300 | 6980 | 58900 | 8150 | 10100 | 17500 | 10800 | 4370 | 18900 |
| 24 | 2130 | 8910 | 15800 | e4000 | 8920 | 50900 | 7490 | 9850 | 14300 | 12900 | 3950 | 28700 |
| 25 | 1980 | 8030 | 13600 | e3900 | 10900 | 40900 | 6750 | 12000 | 11500 | 13800 | 3610 | 24200 |
| 26 | 3060 | 7400 | 12100 | e4000 | 11800 | 33800 | 6440 | 12600 | 9530 | 11800 | 3350 | 19100 |
| 27 | 4410 | 7030 | 10300 | e4300 | 10100 | 28100 | 6320 | 14300 | 8130 | 9150 | 3250 | 15800 |
| 28 | 5110 | 6430 | 8860 | 4360 | 9230 | 23400 | 5900 | 14400 | 6970 | 14000 | 3690 | 21300 |
| 29 | 4780 | 6050 | 7840 | 4030 | --- | 20100 | 5470 | 15100 | 6100 | 22200 | 5580 | 38500 |
| 30 | 4130 | 5640 | 7260 | 4050 | --- | 17800 | 5100 | 13500 | 5340 | 15500 | 4530 | 32000 |
| 31 | 3770 | --- | 6870 | 4060 | --- | 16100 | --- | 12300 | --- | 10600 | 4680 | --- |
| TOTAL | 91813 | 197980 | 256970 | 329460 | 154540 | 801120 | 459900 | 279590 | 432990 | 196950 | 441950 | 466150 |
| MEAN | 2962 | 6599 | 8289 | 10630 | 5519 | 25840 | 15330 | 9019 | 14430 | 6353 | 14260 | 15540 |
| MAX | 7000 | 15500 | 23400 | 43700 | 11800 | 75300 | 37300 | 15100 | 26300 | 22200 | 36600 | 38500 |
| MIN | 962 | 3360 | 2850 | 3900 | 3600 | 6490 | 5100 | 4180 | 5340 | 2390 | 3250 | 5870 |
| CFSM | 0.52 | 1.16 | 1.46 | 1.87 | 0.97 | 4.55 | 2.70 | 1.59 | 2.54 | 1.12 | 2.51 | 2.73 |
| IN. | 0.60 | 1.30 | 1.68 | 2.16 | 1.01 | 5.24 | 3.01 | 1.83 | 2.83 | 1.29 | 2.89 | 3.05 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1895 - 2003, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| MEAN | 4135 | 6988 | 8843 | 9687 | 10580 | 19920 | 18270 | 12300 | 7202 | 4033 | 2914 | 2836 |
| MAX | 20850 | 28330 | 24140 | 30210 | 29100 | 62970 | 51090 | 32030 | 37400 | 20080 | 16450 | 20280 |
| (WY) | 1991 | 1951 | 1928 | 1937 | 1981 | 1936 | 1993 | 1919 | 1972 | 1902 | 1994 | 1975 |
| MIN | 416 | 408 | 642 | 423 | 1965 | 5559 | 4633 | 2766 | 1501 | 847 | 592 | 425 |
| (WY) | 1931 | 1931 | 1931 | 1931 | 1931 | 1969 | 1946 | 1941 | 1999 | 1966 | 1910 | 1932 |

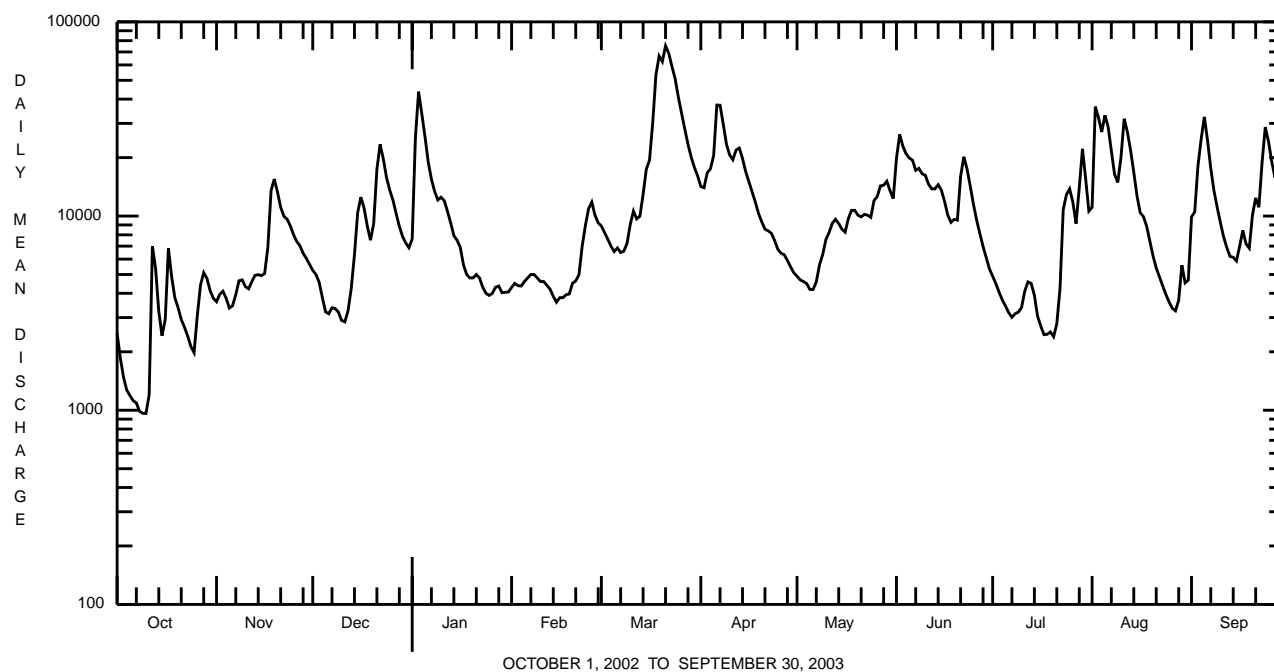
e Estimated.

WEST BRANCH SUSQUEHANNA RIVER BASIN

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, PA--Continued

| SUMMARY STATISTICS | FOR 2002 CALENDAR YEAR | | FOR 2003 WATER YEAR | | WATER YEARS 1895 - 2003 | |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|-------------|
| ANNUAL TOTAL | 2961137 | | 4109413 | | | |
| ANNUAL MEAN | 8113 | | 11260 | | 8975 | |
| HIGHEST ANNUAL MEAN | | | | | 14010 | 1928 |
| LOWEST ANNUAL MEAN | | | | | 5357 | 1934 |
| HIGHEST DAILY MEAN | 73400 | May 14 | 75300 | Mar 21 | 240000 | Jun 23 1972 |
| LOWEST DAILY MEAN | 531 | Sep 14 | 962 | Oct 10 | 251 | Sep 13 1932 |
| ANNUAL SEVEN-DAY MINIMUM | 567 | Sep 10 | 1070 | Oct 5 | 328 | Nov 25 1930 |
| MAXIMUM PEAK FLOW | | | 78300 | Mar 21 | ^a 279000 | Jun 23 1972 |
| MAXIMUM PEAK STAGE | | | 16.13 | Mar 21 | 34.75 | Jun 23 1972 |
| INSTANTANEOUS LOW FLOW | | | | | 162 | Sep 17 1943 |
| ANNUAL RUNOFF (CFSM) | 1.43 | | 1.98 | | 1.58 | |
| ANNUAL RUNOFF (INCHES) | 19.39 | | 26.90 | | 21.46 | |
| 10 PERCENT EXCEEDS | 17900 | | 23100 | | 20900 | |
| 50 PERCENT EXCEEDS | 5560 | | 7930 | | 5050 | |
| 90 PERCENT EXCEEDS | 976 | | 3240 | | 1060 | |

^a From rating curve extended above 210,000 ft³/s on basis of slope-area measurement at gage height 33.57 ft.



WEST BRANCH SUSQUEHANNA RIVER BASIN

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, 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, wat unfltrd μ 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, water unfltrd fixed end pt, lab, mg/L as CaCO3 (00417) | |
|----------|-------|---|--|---|---|---|---|--|--|--|--|---|---|---|
| Date | | Sulfate water, unfltrd, mg/L (00945) | Residue on evap. at 105degC, suspended, 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, μ g/L (01105) | Copper, water, unfltrd recover -able, μ g/L (01042) | Iron, water, unfltrd recover -able, μ g/L (01045) |
| NOV 2002 | 20... | 1415 | 1028 | 9813 | 13000 | 40 | 12.7 | 7.3 | 200 | 6.2 | 81 | 19.9 | 7.5 | 24 |
| MAR 2003 | 12... | 1000 | 1028 | 9813 | 9590 | 40 | 15.6 | 6.6 | 173 | .5 | 91 | 22.8 | 8.3 | 18 |
| MAY | 14... | 1230 | 1028 | 9813 | 9100 | 40 | 10.4 | 7.3 | 221 | 13.6 | 80 | 19.1 | 7.8 | 16 |
| JUL | 17... | 1200 | 1028 | 9813 | 2470 | 40 | 8.9 | 7.6 | 355 | 24.8 | 140 | 34.2 | 14.1 | 26 |
| SEP | 17... | 1400 | 1028 | 9813 | 8690 | 40 | 9.4 | 7.5 | 236 | 20.1 | 94 | 22.8 | 9.1 | 25 |
| NOV 2002 | 20... | 51.9 | 138 | 18 | <.020 | .59 | <.040 | <.01 | .013 | 1.1 | 2.1 | 1000 | <10 | 1470 |
| MAR 2003 | 12... | 67.3 | 198 | <2 | .030 | .70 | <.040 | .01 | .024 | .90 | 1.5 | 1300 | <10 | 2210 |
| MAY | 14... | 68.5 | 150 | <2 | <.020 | .27 | <.040 | .01 | .016 | .50 | 1.5 | 200 | <10 | 220 |
| JUL | 17... | 106 | 286 | 6 | <.020 | .58 | <.040 | .01 | .012 | .73 | 1.6 | <200 | <10 | 120 |
| SEP | 17... | 68.3 | 198 | 6 | <.020 | .46 | <.040 | .01 | .017 | .62 | 1.7 | 200 | <10 | 240 |
| Date | | Lead, water, unfltrd recover -able, μ g/L (01051) | Manganese, water, unfltrd recover -able, μ g/L (01055) | Nickel, water, unfltrd recover -able, μ g/L (01067) | Zinc, water, unfltrd recover -able, μ g/L (01092) | | | | | | | | | |
| NOV 2002 | 20... | <1.0 | 800 | <50 | <10 | | | | | | | | | |
| MAR 2003 | 12... | <1.0 | 620 | <50 | 30 | | | | | | | | | |
| MAY | 14... | <1.0 | 470 | <50 | 30 | | | | | | | | | |
| JUL | 17... | <1.0 | 420 | <50 | 120 | | | | | | | | | |
| SEP | 17... | <1.0 | 460 | <50 | 20 | | | | | | | | | |

WEST BRANCH SUSQUEHANNA RIVER BASIN

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, 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 | 9/10/02 |
|---|---------|
| Benthic Macroinvertebrate | Count |
| Mollusca | |
| Bivalvia (CLAMS) | |
| Veneroida | |
| Corbiculidae | |
| <u>Corbicula fluminea</u> | 2 |
| Unionidae | |
| <u>Strophitus</u> sp | 1 |
| Arthropoda | |
| Insecta | |
| Ephemeroptera (MAYFLIES) | |
| Baetidae | |
| <u>Acentrella</u> sp | 3 |
| <u>Acerpenna</u> sp | 1 |
| <u>Baetis</u> sp | 7 |
| <u>Heterocloeon</u> sp | 3 |
| Heptageniidae | |
| <u>Leucrocuta</u> sp | 4 |
| <u>Stenonema</u> sp | 23 |
| Isonychiidae | |
| <u>Isonychia</u> sp | 43 |
| Tricorythidae | |
| <u>Tricorythodes</u> sp | 2 |
| Megaloptera | |
| Corydalidae (FISHFLIES AND DOBSONFLIES) | |
| <u>Corydalis</u> sp | 2 |
| Trichoptera (CADDISFLIES) | |
| Hydropsychidae | |
| <u>Cheumatopsyche</u> sp | 107 |
| <u>Hydropsyche</u> sp | 15 |
| <u>Macrostemum</u> sp | 16 |
| Hydroptilidae | |
| <u>Hydroptila</u> sp | 2 |
| Philopotamidae | |
| <u>Chimarra</u> sp | 1 |
| Coleoptera (BEETLES) | |
| Elmidae (RIFFLE BEETLES) | |
| <u>Optioservus</u> sp | 1 |
| <u>Stenelmis</u> sp | 2 |
| Diptera (TRUE FLIES) | |
| Chironomidae (MIDGES) | 4 |
| Simuliidae (BLACK FLIES) | |
| <u>Simulium</u> sp | 1 |
| Total Organisms | 240 |