

BROKENSTRAW CREEK BASIN

03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 41°51'09", long 79°19'03", Warren County, Hydrologic Unit 05010001, on right bank 150 ft downstream from bridge on Main Street at Youngsville, 500 ft upstream from Matthews Run, and 3.7 mi upstream from mouth. Records include flow of Matthews Run.

DRAINAGE AREA.--321 mi², including that of Matthews Run.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1909 to current year. Monthly discharge only for some periods, published in WSP 1305. Flow of Matthews Run included in records since October 1938.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1083: 1913 (M). WSP 1275: 1920, 1932, 1936. WSP 1305: 1910-15, 1928-29.

GAGE.--Water-stage recorder. Datum of gage is 1,186.92 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1933, nonrecording gage at site 150 ft upstream at datum 2.00 ft higher. Oct. 1, 1933 to June 15, 1939, nonrecording gage at site 150 ft upstream, and June 16, 1939 to Sept. 30, 1961, water-stage recorder at present site, both at datum 1.00 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,500 ft³/s and maximum (*):

| Date | Time | Discharge ft ³ /s | Gage Height (ft) | Date | Time | Discharge ft ³ /s | Gage Height (ft) |
|--------|------|---------------------------------|---------------------|--------|------|---------------------------------|---------------------|
| Feb. 1 | 1200 | 5,260 | 7.90 | May 14 | 0030 | *6,670 | *8.88 |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|
| 1 | 73 | 320 | 1260 | e303 | 4760 | 462 | 1670 | 948 | 530 | 127 | 318 | 48 |
| 2 | 63 | 267 | 882 | e295 | 4000 | 463 | 1050 | 1070 | 391 | 118 | 190 | 47 |
| 3 | 58 | 327 | 586 | e286 | 2490 | 1100 | 2020 | 996 | 303 | 109 | 135 | 51 |
| 4 | 53 | 326 | 445 | e282 | 1280 | 1270 | 2160 | 750 | 287 | 105 | 106 | 62 |
| 5 | 51 | 255 | 381 | e271 | 804 | 757 | 1550 | 605 | 543 | 98 | 94 | 58 |
| 6 | 60 | 208 | 336 | e265 | 726 | 701 | 1020 | 516 | 1160 | 92 | 86 | 51 |
| 7 | 94 | 182 | 301 | e258 | 632 | 718 | 886 | 473 | 795 | 90 | 78 | 47 |
| 8 | 131 | 166 | 269 | 266 | 577 | 685 | 798 | 435 | 523 | 84 | 73 | 45 |
| 9 | 118 | 175 | 250 | 266 | 550 | 593 | 893 | 481 | 386 | 92 | 70 | 45 |
| 10 | 91 | 183 | 226 | 274 | 557 | 785 | 1140 | 771 | 306 | 125 | 67 | 43 |
| 11 | 76 | 173 | 204 | 318 | 919 | 777 | 918 | 580 | 261 | 123 | 64 | 42 |
| 12 | 70 | 153 | 189 | 349 | 862 | 684 | 703 | 2310 | 239 | 104 | 63 | 43 |
| 13 | 68 | 141 | 212 | 356 | 656 | 766 | 897 | 5470 | 225 | 89 | 71 | 43 |
| 14 | 75 | 139 | 316 | 334 | 489 | 731 | 1770 | 6380 | 300 | 82 | 64 | 68 |
| 15 | 95 | 137 | 614 | 364 | 511 | 614 | 2480 | 4750 | 352 | 79 | 70 | 131 |
| 16 | 99 | 126 | 602 | 411 | 524 | 761 | 1920 | 2710 | 529 | 74 | 69 | 290 |
| 17 | 232 | 121 | 772 | 404 | 571 | 818 | 1200 | 2260 | 537 | 70 | 94 | 175 |
| 18 | 283 | 115 | 2420 | 371 | 465 | 674 | 862 | 2250 | 378 | 67 | 78 | 108 |
| 19 | 210 | 120 | 2040 | 311 | 432 | 622 | 721 | 1760 | 252 | 67 | 68 | 79 |
| 20 | 149 | 313 | 1370 | 327 | 462 | 722 | 692 | 1170 | 197 | 70 | 63 | 68 |
| 21 | 132 | 430 | 885 | 348 | 710 | 1160 | 719 | 877 | 167 | 69 | 61 | 63 |
| 22 | 353 | 310 | 734 | 328 | 881 | 956 | 658 | 718 | 164 | 71 | 60 | 58 |
| 23 | 288 | 244 | 935 | 340 | 655 | 758 | 610 | 604 | 161 | 103 | 66 | 56 |
| 24 | 317 | 203 | 1960 | 995 | 514 | 770 | 528 | 520 | 149 | 106 | 73 | 55 |
| 25 | 391 | 868 | 1610 | 1670 | 476 | 792 | 501 | 469 | 140 | 86 | 67 | 51 |
| 26 | 347 | 908 | 891 | 1200 | 503 | 961 | 488 | 876 | 151 | 80 | 61 | 50 |
| 27 | 533 | 601 | 618 | 840 | 607 | 1900 | 430 | 840 | 170 | 83 | 57 | 98 |
| 28 | 614 | 445 | 505 | 793 | 519 | 1660 | 878 | 566 | 211 | 168 | 54 | 276 |
| 29 | 477 | 841 | 424 | 943 | --- | 1480 | 1710 | 462 | 179 | 1390 | 53 | 227 |
| 30 | 433 | 1250 | 362 | 2150 | --- | 2930 | 1440 | 440 | 142 | 1260 | 54 | 132 |
| 31 | 407 | --- | e329 | 3020 | --- | 2610 | --- | 639 | --- | 689 | 51 | --- |
| TOTAL | 6441 | 10047 | 22928 | 18938 | 27132 | 30680 | 33312 | 43696 | 10128 | 5970 | 2578 | 2610 |
| MEAN | 208 | 335 | 740 | 611 | 969 | 990 | 1110 | 1410 | 338 | 193 | 83.2 | 87.0 |
| MAX | 614 | 1250 | 2420 | 3020 | 4760 | 2930 | 2480 | 6380 | 1160 | 1390 | 318 | 290 |
| MIN | 51 | 115 | 189 | 258 | 432 | 462 | 430 | 435 | 140 | 67 | 51 | 42 |
| CFSM | 0.65 | 1.04 | 2.30 | 1.90 | 3.02 | 3.08 | 3.46 | 4.39 | 1.05 | 0.60 | 0.26 | 0.27 |
| IN. | 0.75 | 1.16 | 2.66 | 2.19 | 3.14 | 3.56 | 3.86 | 5.06 | 1.17 | 0.69 | 0.30 | 0.30 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2002, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 314 | 619 | 750 | 788 | 775 | 1235 | 1021 | 603 | 377 | 225 | 177 | 222 |
| MAX | 1413 | 1817 | 1724 | 2459 | 2248 | 2851 | 2715 | 1528 | 1535 | 1039 | 994 | 1428 |
| (WY) | 1991 | 1986 | 1978 | 1913 | 1976 | 1936 | 1947 | 1943 | 1928 | 1986 | 1956 | 1977 |
| MIN | 31.7 | 57.3 | 85.9 | 124 | 161 | 297 | 251 | 135 | 62.0 | 37.8 | 32.3 | 31.6 |
| (WY) | 1932 | 1931 | 1961 | 1918 | 1987 | 1915 | 1946 | 1934 | 1934 | 1934 | 1934 | 1936 |

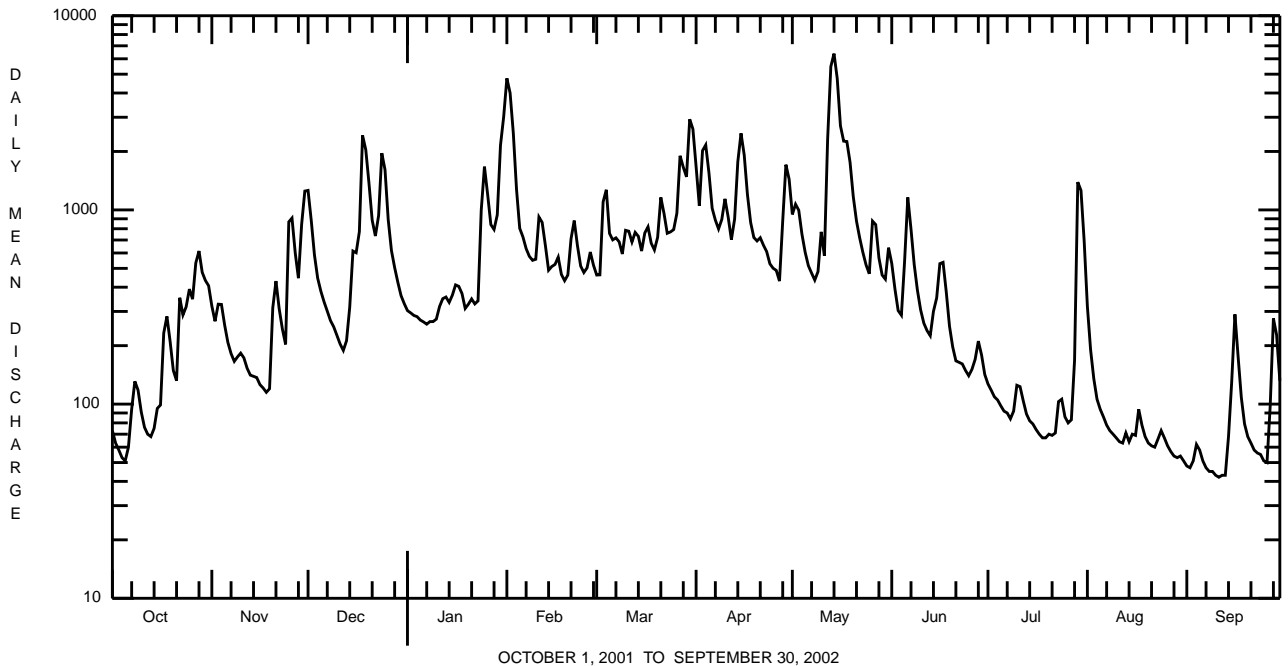
e Estimated.

BROKENSTRAW CREEK BASIN

03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, PA--Continued

| SUMMARY STATISTICS | FOR 2001 CALENDAR YEAR | | FOR 2002 WATER YEAR | | WATER YEARS 1910 - 2002 | |
|--------------------------|------------------------|-----------|---------------------|-----------|-------------------------|-------------|
| ANNUAL TOTAL | 154616 | | 214460 | | | |
| ANNUAL MEAN | 424 | | 588 | | 591 | |
| HIGHEST ANNUAL MEAN | | | | | 864 | 1956 |
| LOWEST ANNUAL MEAN | | | | | 307 | 1931 |
| HIGHEST DAILY MEAN | 4100 | Feb 10 | 6380 | May 14 | 14000 | Mar 25 1913 |
| LOWEST DAILY MEAN | 44 | Sep 18,19 | 42 | Sep 11 | 19 | Oct 14 1934 |
| ANNUAL SEVEN-DAY MINIMUM | 47 | Sep 13 | 44 | Sep 7 | 24 | Oct 11 1934 |
| MAXIMUM PEAK FLOW | | | 6670 | May 14 | ab 18000 | Mar 25 1913 |
| MAXIMUM PEAK STAGE | | | 8.88 | May 14 | 14.20 | Mar 25 1913 |
| INSTANTANEOUS LOW FLOW | | | 41 | Sep 12-14 | c 19 | Oct 14 1934 |
| ANNUAL RUNOFF (CFSM) | 1.32 | | 1.83 | | 1.84 | |
| ANNUAL RUNOFF (INCHES) | 17.92 | | 24.85 | | 25.02 | |
| 10 PERCENT EXCEEDS | 1040 | | 1260 | | 1420 | |
| 50 PERCENT EXCEEDS | 226 | | 349 | | 303 | |
| 90 PERCENT EXCEEDS | 59 | | 65 | | 67 | |

- a** From rating curve extended above 9,400 ft³/s.
- b** About.
- c** Minimum observed.



BROKENSTRAW CREEK BASIN

**03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, 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 210-233.

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 2001 TO SEPTEMBER 2002

| Date | Time | AGENCY ANA-LYZING SAMPLE NUMBER (00028) | DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061) | SAM-PLING METHOD, CODES (82398) | OXYGEN, DIS-SOLVED (MG/L) (00300) | PH WATER FIELD (STAND-ARD UNITS) (00400) | SPE-CIFIC CON-DUCT-ANCE (µS/CM) (00095) | TEMPER-ATURE WATER (DEG C) (00010) | HARD-NESS TOTAL (MG/L AS CAC03) (00900) | CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916) | MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927) | ANC WATER UNFLTRD FET LAB (MG/L AS CAC03) (00417) | SULFATE DIS-SOLVED (MG/L AS SO4) (00945) |
|-----------|------|--|--|------------------------------------|--------------------------------------|---|--|---------------------------------------|--|--|--|--|---|
| APR 2002 | | | | | | | | | | | | | |
| 16... | 0630 | 9813 | 2100 | 40 | 9.6 | 7.3 | 103 | 12.0 | 43 | 13.0 | 2.6 | 30 | 8.9 |
| JUN 27... | 1045 | 9813 | 148 | 40 | 9.0 | 8.1 | 227 | 21.6 | 110 | 33.3 | 6.5 | 92 | 11.5 |
| AUG 21... | 0800 | 9813 | 63 | 40 | 8.1 | 8.1 | 253 | 18.1 | 130 | 39.0 | 7.5 | 106 | 13.3 |

| Date | RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L) (00515) | RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530) | NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610) | NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620) | NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615) | NITRO-GEN, TOTAL (MG/L AS N) (00600) | PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507) | PHOS-PHORUS TOTAL (MG/L AS P) (00665) | CARBON, ORGANIC TOTAL (MG/L AS C) (00680) | COPPER, TOTAL RECOV-ERABLE (µG/L AS CU) (01042) | IRON, TOTAL RECOV-ERABLE (µG/L AS FE) (01045) | LEAD, TOTAL RECOV-ERABLE (µG/L AS PB) (01051) | MANGA-NESE, TOTAL RECOV-ERABLE (µG/L AS MN) (01055) |
|-----------|---|---|---|---|---|---|--|--|--|--|--|--|--|
| APR 2002 | | | | | | | | | | | | | |
| 16... | 118 | 8 | <.020 | .29 | <.040 | .79 | .04 | .060 | 4.6 | <10 | 640 | 2.4 | 50 |
| JUN 27... | 150 | 6 | <.020 | .61 | <.040 | .77 | .02 | .020 | 2.7 | <10 | 270 | <1.0 | 20 |
| AUG 21... | 198 | 6 | <.020 | .56 | <.040 | .75 | .01 | .010 | 2.6 | <10 | 100 | <1.0 | 20 |

| Date | NICKEL, TOTAL RECOV-ERABLE (µG/L AS NI) (01067) | ZINC, TOTAL RECOV-ERABLE (µG/L AS ZN) (01092) |
|-----------|--|--|
| APR 2002 | | |
| 16... | <50 | <10 |
| JUN 27... | <50 | <10 |
| AUG 21... | <50 | <10 |