

## BROKENSTRAW CREEK BASIN

## 03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, PA

**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 mi<sup>2</sup>, including that of Matthews Run.

**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 sea level. 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 ft<sup>3</sup>/s and maximum (\*):

| Date    | Time | Discharge<br>ft <sup>3</sup> /s | Gage Height<br>(ft) | Date                                       | Time | Discharge<br>ft <sup>3</sup> /s | Gage Height<br>(ft) |
|---------|------|---------------------------------|---------------------|--|------|---------------------------------|---------------------|
| Feb. 10 | 0645 | *4,770                          | *7.52               | No other peak greater than base discharge. |      |                                 |                     |

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001  
DAILY MEAN VALUES

| DAY   | OCT  | NOV   | DEC   | JAN  | FEB   | MAR   | APR   | MAY  | JUN   | JUL  | AUG  | SEP  |
|-------|------|-------|-------|------|-------|-------|-------|------|-------|------|------|------|
| 1     | 85   | 101   | 976   | e230 | 890   | 436   | 1070  | 302  | 233   | 160  | 63   | 130  |
| 2     | 82   | 98    | 722   | e220 | 696   | 403   | 922   | 275  | 1040  | 243  | 60   | 139  |
| 3     | 78   | 98    | 491   | e220 | 494   | 370   | 863   | 258  | 1080  | 195  | 79   | 93   |
| 4     | 193  | 100   | 422   | e215 | 476   | 345   | 829   | 241  | 753   | 161  | 117  | 72   |
| 5     | 377  | 99    | 422   | e215 | 462   | 336   | 860   | 222  | 558   | 197  | 93   | 62   |
| 6     | 1180 | 97    | 355   | e210 | 418   | 297   | 1070  | 198  | 408   | 252  | 73   | 57   |
| 7     | 948  | 94    | 345   | e210 | 390   | 312   | 1370  | 182  | 332   | 167  | 64   | 54   |
| 8     | 758  | 92    | 338   | e205 | 367   | 298   | 1380  | 179  | 274   | 137  | 60   | 58   |
| 9     | 941  | 95    | 316   | e200 | 1380  | 282   | 1300  | 203  | 227   | 123  | 58   | 52   |
| 10    | 839  | 145   | 316   | e200 | 4100  | 268   | 1330  | 192  | 197   | 111  | 57   | 50   |
| 11    | 614  | 251   | 333   | e195 | 3240  | 260   | 1060  | 178  | 247   | 115  | 54   | 48   |
| 12    | 421  | 252   | 1160  | e190 | 2170  | 246   | 760   | 343  | 266   | 106  | 52   | 46   |
| 13    | 318  | 198   | 1180  | e190 | 1270  | 688   | 597   | 449  | 213   | 96   | 52   | 46   |
| 14    | 263  | 175   | 928   | e185 | 1200  | 1390  | 487   | 333  | 173   | 90   | 51   | 51   |
| 15    | 224  | 164   | 686   | e185 | 2580  | 1100  | 437   | 258  | 152   | 85   | 49   | 52   |
| 16    | 198  | 161   | 741   | e200 | 2340  | 949   | 1040  | 214  | 158   | 80   | 48   | 49   |
| 17    | 186  | 172   | 3470  | e215 | 1440  | 1030  | 1130  | 188  | 169   | 78   | 52   | 46   |
| 18    | 191  | 208   | 2580  | e220 | 809   | 878   | 971   | 176  | 148   | 76   | 53   | 44   |
| 19    | 180  | 225   | 2040  | e210 | 652   | 760   | 755   | 170  | 130   | 97   | 51   | 44   |
| 20    | 166  | 217   | 1190  | e200 | 652   | 788   | 626   | 157  | 119   | 120  | 52   | 49   |
| 21    | 154  | 207   | 749   | e190 | 737   | 1010  | 962   | 226  | 140   | 101  | 53   | 50   |
| 22    | 144  | 171   | 574   | e185 | 479   | 1630  | 1460  | 539  | 1360  | 82   | 51   | 66   |
| 23    | 135  | 185   | 462   | e180 | 492   | 1520  | 1140  | 906  | 923   | 73   | 53   | 67   |
| 24    | 127  | 249   | e400  | e180 | 409   | 1300  | 819   | 683  | 535   | 70   | 54   | 60   |
| 25    | 134  | 266   | e360  | e175 | 529   | 1010  | 646   | 443  | 359   | 91   | 52   | 72   |
| 26    | 136  | 678   | e330  | e175 | 1050  | 762   | 533   | 457  | 283   | 151  | 60   | 70   |
| 27    | 129  | 1600  | e360  | e170 | 852   | 633   | 469   | 399  | 201   | 102  | 116  | 76   |
| 28    | 123  | 1880  | e350  | e170 | 556   | 570   | 418   | 390  | 169   | 77   | 97   | 119  |
| 29    | 114  | 1760  | e310  | e200 | ---   | 608   | 365   | 400  | 149   | 69   | 77   | 115  |
| 30    | 107  | 1420  | e270  | 283  | ---   | 981   | 330   | 333  | 136   | 66   | 63   | 89   |
| 31    | 103  | ---   | e250  | 704  | ---   | 1350  | ---   | 266  | ---   | 65   | 66   | ---  |
| TOTAL | 9648 | 11458 | 23426 | 6727 | 31130 | 22810 | 25999 | 9760 | 11132 | 3636 | 1980 | 2026 |
| MEAN  | 311  | 382   | 756   | 217  | 1112  | 736   | 867   | 315  | 371   | 117  | 63.9 | 67.5 |
| MAX   | 1180 | 1880  | 3470  | 704  | 4100  | 1630  | 1460  | 906  | 1360  | 252  | 117  | 139  |
| MIN   | 78   | 92    | 250   | 170  | 367   | 246   | 330   | 157  | 119   | 65   | 48   | 44   |
| CFSM  | .97  | 1.19  | 2.35  | .68  | 3.46  | 2.29  | 2.70  | .98  | 1.16  | .37  | .20  | .21  |
| IN.   | 1.12 | 1.33  | 2.71  | .78  | 3.61  | 2.64  | 3.01  | 1.13 | 1.29  | .42  | .23  | .23  |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2001, BY WATER YEAR (WY)

|      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 315  | 622  | 750  | 790  | 773  | 1238 | 1020 | 594  | 377  | 226  | 178  | 224  |
| 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 2000 CALENDAR YEAR |          | FOR 2001 WATER YEAR |           | WATER YEARS 1910 - 2001 |             |
|--------------------------|------------------------|----------|---------------------|-----------|-------------------------|-------------|
| ANNUAL TOTAL             | 177273                 |          | 159732              |           | 591                     |             |
| ANNUAL MEAN              | 484                    |          | 438                 |           | 864                     |             |
| HIGHEST ANNUAL MEAN      |                        |          |                     |           | 1956                    |             |
| LOWEST ANNUAL MEAN       |                        |          |                     |           | 307                     |             |
| HIGHEST DAILY MEAN       | 4350                   | Feb 25   | 4100                | Feb 10    | 14000                   | Mar 25 1913 |
| LOWEST DAILY MEAN        | 58                     | Sep 9,10 | 44                  | Sep 18,19 | 19                      | Oct 14 1934 |
| ANNUAL SEVEN-DAY MINIMUM | 62                     | Sep 4    | 47                  | Sep 13    | 24                      | Oct 11 1934 |
| MAXIMUM PEAK FLOW        |                        |          | 4770                | Feb 10    | <b>ab</b> 18000         | Mar 25 1913 |
| MAXIMUM PEAK STAGE       |                        |          | 7.52                | Feb 10    | 14.20                   | Mar 25 1913 |
| INSTANTANEOUS LOW FLOW   |                        |          | 43                  | Sep 19    | <b>c</b> 19             | Oct 14 1934 |
| ANNUAL RUNOFF (CFSM)     | 1.51                   |          | 1.36                |           | 1.84                    |             |
| ANNUAL RUNOFF (INCHES)   | 20.54                  |          | 18.51               |           | 25.03                   |             |
| 10 PERCENT EXCEEDS       | 978                    |          | 1070                |           | 1420                    |             |
| 50 PERCENT EXCEEDS       | 310                    |          | 220                 |           | 301                     |             |
| 90 PERCENT EXCEEDS       | 100                    |          | 60                  |           | 67                      |             |

- a** From rating curve extended above 9,400 ft<sup>3</sup>/s.
- b** About.
- c** Minimum observed.

