

## MONONGAHELA RIVER BASIN

## 03075070 MONONGAHELA RIVER AT ELIZABETH, PA

**LOCATION.**--Lat 40°15'44", long 79°54'05", Allegheny County, Hydrologic Unit 05020005, on right bank 30 ft landward from upstream end of guide wall, 1,050 ft upstream from dam at lock 3 at Elizabeth, 0.4 mi downstream from Lobbs Creek, at mile 24.0.

**DRAINAGE AREA.**--5,340 mi<sup>2</sup>.

**PERIOD OF RECORD.**--October 1933 to current year. Published as "*at Charleroi*" (station 03075000) October 1933 to September 1976. Monthly discharge prior to 1940, adjusted for reservoir contents, published in WSP 1305. Records for March 1886 to March 1905 (high-water periods, only), published in WSP 169, are unreliable and should not be used (peak discharge of July 11, 1888, as published in WSP 183, is still considered reliable).

**REVISED RECORDS.**--WSP 758: Drainage area. WSP 783: 1888 (M). WSP 1435: 1934, 1936. See also "*PERIOD OF RECORD.*"

**GAGE.**--Water-stage recorder and concrete dam control. Datum of gage is 717.90 ft above sea level (U.S. Army Corps of Engineers bench mark). From Oct. 1, 1967 to Sept. 30, 1976, at site 17.5 mi upstream at datum 15.70 ft higher. Prior to Oct. 1, 1967, water-stage recorder at site 17.9 mi upstream at datum 17.43 ft higher. Oct. 1, 1965 to Sept. 30, 1967, auxiliary staff gage, Apr. 14, 1966 to Sept. 30, 1967, auxiliary water-stage recorder and Oct. 1, 1967 to Nov. 4, 1990, water-stage recorder at present site at datum 7.60 ft higher.

**REMARKS.**--No estimated daily discharges. Records good, except those below 2,500 ft<sup>3</sup>/s, which are poor. Flow regulated by locks above station, since 1938 by Tygart Lake (station 03055500), since May 1926 by Lake Lynn, and since April 1989 by Stonewall Jackson Lake, combined capacity, 432,000 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemetry at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1999 TO SEPTEMBER 2000  
DAILY MEAN VALUES

| DAY   | OCT   | NOV    | DEC    | JAN    | FEB    | MAR    | APR    | MAY    | JUN    | JUL    | AUG    | SEP    |
|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1     | 1170  | 1500   | 6900   | 2560   | 2590   | 15200  | 7440   | 4980   | 11800  | 4640   | 4250   | 3350   |
| 2     | 922   | 2370   | 4810   | 2380   | 2080   | 14400  | 6220   | 6500   | 8120   | 4220   | 5390   | 1660   |
| 3     | 858   | 8910   | 4200   | 3590   | 2180   | 10800  | 8350   | 6320   | 3780   | 3400   | 4940   | 1900   |
| 4     | 1690  | 9100   | 2860   | 2490   | 2110   | 7600   | 21700  | 6140   | 3110   | 4750   | 4060   | 3510   |
| 5     | 2020  | 5930   | 2680   | 4500   | 2380   | 5960   | 42800  | 5020   | 3700   | 4010   | 4070   | 3220   |
| 6     | 1960  | 3370   | 3570   | 5750   | 930    | 6260   | 33700  | 5840   | 8640   | 4060   | 10400  | 2700   |
| 7     | 2830  | 3580   | 3350   | 4670   | 1910   | 5520   | 28800  | 5290   | 17200  | 3050   | 13200  | 2690   |
| 8     | 1750  | 4080   | 2680   | 6030   | 2560   | 4290   | 22100  | 5870   | 12500  | 2490   | 6070   | 2820   |
| 9     | 942   | 2680   | 3400   | 4080   | 2880   | 2910   | 19600  | 4880   | 7930   | 1090   | 4310   | 2810   |
| 10    | 2030  | 3440   | 3620   | 3540   | 2650   | 2750   | 15800  | 3220   | 7910   | 2090   | 3320   | 1980   |
| 11    | 9300  | 3860   | 8600   | 3300   | 5260   | 2140   | 14200  | 3560   | 4110   | 13400  | 4270   | 1950   |
| 12    | 4960  | 1470   | 13900  | 4670   | 18300  | 6980   | 16200  | 3060   | 4440   | 12000  | 2490   | 2440   |
| 13    | 4750  | 1690   | 11400  | 4290   | 14600  | 9190   | 16900  | 3080   | 2450   | 6120   | 2420   | 3920   |
| 14    | 2800  | 2210   | 22300  | 7920   | 40900  | 12000  | 13400  | 2770   | 2550   | 3860   | 2390   | 5530   |
| 15    | 3320  | 2170   | 42800  | 5480   | 52600  | 7790   | 11500  | 2760   | 2930   | 3310   | 2790   | 4320   |
| 16    | 1950  | 1350   | 24900  | 2970   | 29900  | 11200  | 8530   | 2500   | 3370   | 2810   | 2590   | 3740   |
| 17    | 1970  | 2540   | 20800  | 5840   | 26700  | 13000  | 11100  | 1600   | 3850   | 2910   | 1680   | 2780   |
| 18    | 1850  | 1130   | 12800  | 4290   | 30800  | 14200  | 30100  | 2630   | 3000   | 3360   | 1560   | 3040   |
| 19    | 2110  | 1780   | 12900  | 4080   | 109000 | 9700   | 25100  | 3410   | 3360   | 2470   | 2770   | 2990   |
| 20    | 2030  | 1540   | 13400  | 4010   | 97500  | 11600  | 24600  | 6990   | 5610   | 9880   | 7760   | 2470   |
| 21    | 1250  | 1630   | 8250   | 4710   | 38000  | 15200  | 19000  | 7370   | 7460   | 8680   | 9910   | 2370   |
| 22    | 2160  | 1250   | 4050   | 5440   | 32400  | 20500  | 17500  | 5620   | 10900  | 7840   | 9000   | 1690   |
| 23    | 1860  | 1470   | 4000   | 2230   | 28000  | 15800  | 18900  | 5050   | 12700  | 5290   | 4710   | 1810   |
| 24    | 1040  | 1790   | 2460   | 2200   | 30300  | 14800  | 17600  | 12300  | 10800  | 5020   | 2760   | 2400   |
| 25    | 1070  | 1800   | 1890   | 3580   | 22000  | 10800  | 17300  | 13000  | 8250   | 3350   | 4840   | 2200   |
| 26    | 2050  | 12800  | 2150   | 3270   | 13500  | 8830   | 13600  | 12000  | 6320   | 1870   | 3140   | 14600  |
| 27    | 989   | 24000  | 1840   | 2270   | 16000  | 10300  | 10900  | 8630   | 4670   | 1970   | 4500   | 18500  |
| 28    | 1250  | 12600  | 1720   | 2220   | 17400  | 9390   | 8680   | 7040   | 8280   | 2450   | 3610   | 16600  |
| 29    | 2100  | 7600   | 1960   | 2120   | 17500  | 8990   | 7260   | 13600  | 7820   | 1960   | 3600   | 14600  |
| 30    | 1660  | 5600   | 2520   | 1440   | ---    | 10100  | 4510   | 14600  | 5410   | 1300   | 2910   | 12300  |
| 31    | 1030  | ---    | 2730   | 2080   | ---    | 9850   | ---    | 12400  | ---    | 2810   | 2250   | ---    |
| TOTAL | 67671 | 135240 | 255440 | 118000 | 662930 | 308050 | 513390 | 198030 | 202970 | 136460 | 141960 | 146890 |
| MEAN  | 2183  | 4508   | 8240   | 3806   | 22860  | 9937   | 17110  | 6388   | 6766   | 4402   | 4579   | 4896   |
| MAX   | 9300  | 24000  | 42800  | 7920   | 109000 | 20500  | 42800  | 14600  | 17200  | 13400  | 13200  | 18500  |
| MIN   | 858   | 1130   | 1720   | 1440   | 930    | 2140   | 4510   | 1600   | 2450   | 1090   | 1560   | 1660   |
| (†)   | -102  | -267   | +39    | -94    | +768   | +783   | +172   | +150   | -70    | -107   | +16    | +158   |

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2000, BY WATER YEAR (WY)

|      |       |       |       |       |       |       |       |       |       |       |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| MEAN | 3599  | 6742  | 11650 | 13650 | 15570 | 18180 | 13450 | 10170 | 6327  | 4325  | 4156  | 2965  |
| MAX  | 16770 | 33750 | 29760 | 37480 | 33170 | 41930 | 26500 | 33610 | 24840 | 13570 | 17890 | 13300 |
| (WY) | 1980  | 1986  | 1973  | 1937  | 1994  | 1963  | 1940  | 1996  | 1981  | 1958  | 1956  | 1945  |
| MIN  | 475   | 400   | 1991  | 2249  | 3210  | 6636  | 4478  | 2128  | 1009  | 915   | 812   | 581   |
| (WY) | 1954  | 1954  | 1966  | 1977  | 1934  | 1987  | 1971  | 1982  | 1936  | 1966  | 1957  | 1936  |

† Change in contents, equivalent in cubic feet per second, in Tygart Lake, Stonewall Jackson Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Energy Supply. Records of contents in Tygart Lake and Stonewall Jackson Lake furnished by U.S. Army Corps of Engineers.

MONONGAHELA RIVER BASIN

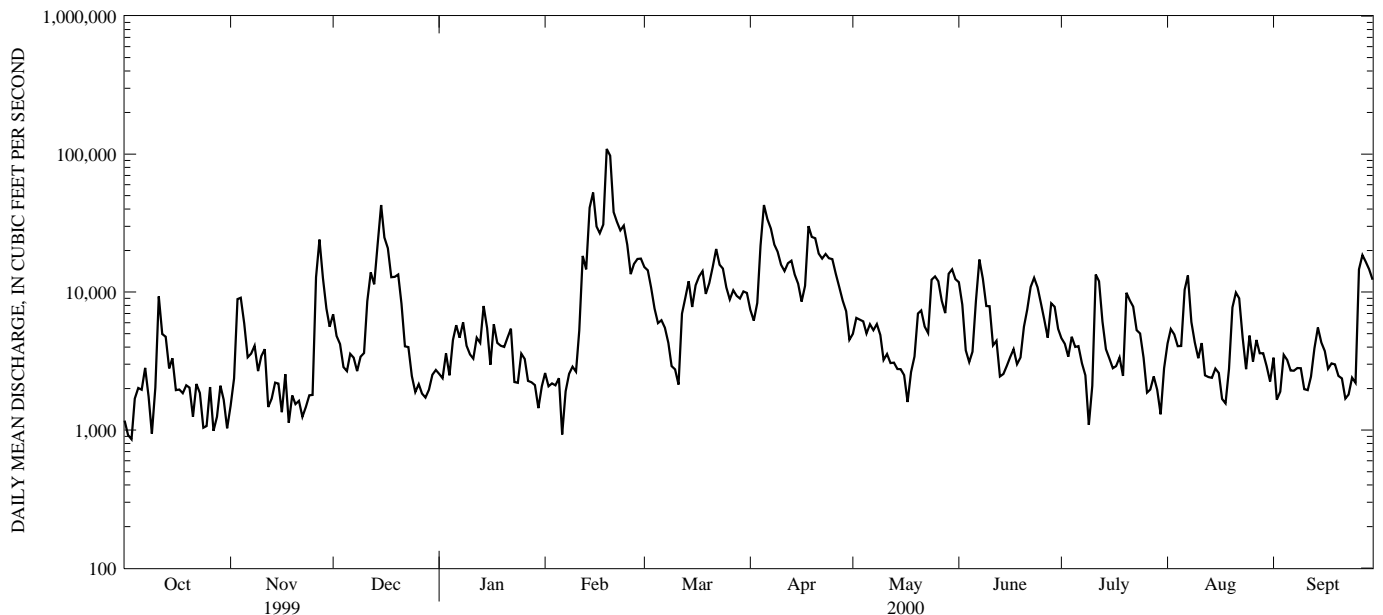
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| SUMMARY STATISTICS       | FOR 1999 CALENDAR YEAR |        | FOR 2000 WATER YEAR |        | WATER YEARS 1934 - 2000 |             |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|-------------|
| ANNUAL TOTAL             | 2592558                |        | 2887031             |        |                         |             |
| ANNUAL MEAN              | 7103                   | † +9.5 | 7888                | † +117 | 9205                    |             |
| HIGHEST ANNUAL MEAN      |                        |        |                     |        | 14400                   | 1996        |
| LOWEST ANNUAL MEAN       |                        |        |                     |        | 5282                    | 1954        |
| HIGHEST DAILY MEAN       | 53000                  | Jan 15 | 109000              | Feb 19 | 158000                  | Jan 20 1996 |
| LOWEST DAILY MEAN        | 404                    | Aug 18 | 858                 | Oct 3  | 206                     | Jun 29 1936 |
| ANNUAL SEVEN-DAY MINIMUM | 589                    | Jul 13 | 1450                | Oct 25 | 301                     | Oct 1 1936  |
| INSTANTANEOUS PEAK FLOW  |                        |        | a145000             | Feb 19 | ab178000                | Nov 6 1985  |
| INSTANTANEOUS PEAK STAGE |                        |        | 27.51               | Feb 19 | 30.39                   | Jan 20 1996 |
| 10 PERCENT EXCEEDS       | 21600                  |        | 17200               |        | 22400                   |             |
| 50 PERCENT EXCEEDS       | 2830                   |        | 4260                |        | 5160                    |             |
| 90 PERCENT EXCEEDS       | 738                    |        | 1830                |        | 1140                    |             |

† Change in contents, equivalent in cubic feet per second, in Tygart Lake, Stonewall Jackson Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Energy Supply. Records of contents in Tygart Lake and Stonewall Jackson Lake furnished by U.S. Army Corps of Engineers.

a From rating curve extended above 110,000 ft<sup>3</sup>/s.

b Gage height 23.60 ft, datum then in use.



1-YEAR HYDROGRAPH  
OCTOBER 1, 1999 TO SEPTEMBER 30, 2000