

JAMES RIVER BASIN

02025500 JAMES RIVER AT HOLCOMB ROCK, VA

LOCATION.--Lat 37°30'04", long 79°15'46", Bedford County, Hydrologic Unit 02080203, on right bank at Holcomb Rock, 0.9 mi downstream from Pedlar River, and at mile 268.6.

DRAINAGE AREA.--3,259 mi².

PERIOD OF RECORD.--January 1900 to September 1915 (gage heights only), October 1926 to current year. Monthly discharge only for some periods, published in WSP 1303. Published as "at Salt Creek" December 1926 to June 1931 and as "at Holcombs Rock" June 1931 to September 1990.

REVISED RECORDS.--WSP 972: 1913(M), 1932-33, 1935(M), 1936. WSP 1303: 1928(M). WSP 2104: Drainage area. GAGE.--Water-stage recorder. Datum of gage is 548.53 ft above sea level. January 1900 to September 1915, non-recording gage in powerhouse of Owens Illinois Glass Company 1,000 ft upstream at different datum. December 1926 to June 1931, water-stage recorder at site 2 mi downstream at different datum.

REMARKS.--Records good, except for periods of doubtful gage-height record, Jan. 8, 9, 24, Feb. 4-6, Mar. 21, 22, and Apr. 17, 18, which are fair. Some diurnal fluctuation caused by powerplants upstream from station. Flow regulated since December 1979 by Lake Moomaw (station 02011795) 117.4 mi upstream; since October 1984 by Back Creek Lake 145.4 mi upstream; and since January 1985 by Little Back Creek Lake 148.5 mi upstream, amount unknown. National Weather Service gage-height telemeter at station. Maximum discharge, 207,000 ft³/s, from rating curve extended above 73,000 ft³/s on basis of records for other stations in James River Basin. Minimum gage height, 2.80 ft, Oct. 29, 1987. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 31.3 ft, from floodmarks, discharge, 118,000 ft³/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges equal to or greater than base discharge of 25,000 ft³/s and maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) | Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---------|---------|--------------------------------|------------------|---------|---------|--------------------------------|------------------|
| Jan. 9 | Unknown | *Unknown | *Unknown | Mar. 19 | 2245 | 26,700 | 14.87 |
| Feb. 4 | Unknown | Unknown | Unknown | Mar. 21 | Unknown | Unknown | Unknown |
| Feb. 18 | 1345 | 41,600 | 18.55 | Apr. 20 | 1945 | 35,500 | 17.14 |

Minimum daily discharge, 555 ft³/s, Sept. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|---------------|-----------|-----------|---------|------------|------------|------------|--------|-------|-------|-------|-------|
| 1 | 921 | 1180 | 1130 | 1530 | 11300 | 8100 | 4650 | 4410 | 2740 | 2030 | 1010 | 899 |
| 2 | 881 | 1410 | 1430 | 1420 | 9270 | 7900 | 4490 | 5250 | 2450 | 1740 | 990 | 827 |
| 3 | 847 | 1760 | 1480 | 1370 | 8210 | 7120 | 4480 | 6370 | 2160 | 1590 | 834 | 555 |
| 4 | 805 | 1680 | 1330 | 1460 | e24000 | 6360 | 5570 | 7020 | 2070 | 1490 | 918 | 848 |
| 5 | 791 | 1440 | 1270 | 1820 | e37500 | 5700 | 8030 | 8270 | 1930 | 1530 | 912 | 787 |
| 6 | 774 | 1170 | 1310 | 2760 | e25000 | 5090 | 8910 | 9830 | 1920 | 1500 | 897 | 806 |
| 7 | 778 | 1630 | 1090 | 3980 | 22100 | 4320 | 7550 | 8770 | 1880 | 1370 | 865 | 790 |
| 8 | 766 | 2170 | 1120 | e27500 | 17000 | 4930 | 6430 | 9830 | 1700 | 1350 | 953 | 872 |
| 9 | 732 | 3300 | 1090 | e48500 | 14100 | 10000 | 6470 | 15100 | 1680 | 1460 | 1080 | 970 |
| 10 | 638 | 2870 | 1090 | 16900 | 11900 | 17500 | 10100 | 12600 | 1720 | 1440 | 1090 | 878 |
| 11 | 715 | 2030 | 1090 | 10100 | 10600 | 13900 | 11100 | 9880 | 1690 | 1310 | 1050 | 705 |
| 12 | 714 | 1610 | 1210 | 7090 | 13000 | 11100 | 8760 | 9680 | 1700 | 1250 | 1150 | 857 |
| 13 | 762 | 1420 | 1280 | 5890 | 14000 | 9170 | 7400 | 7950 | 1780 | 1180 | 1070 | 769 |
| 14 | 733 | 1340 | 1270 | 4900 | 13000 | 7170 | 6640 | 6670 | 1760 | 1170 | 1160 | 793 |
| 15 | 729 | 1300 | 1220 | 4860 | 10800 | 6350 | 5900 | 5580 | 1890 | 1150 | 1020 | 792 |
| 16 | 717 | 1270 | 1180 | 7820 | 9460 | 5660 | 5620 | 4960 | 2350 | 1130 | 1100 | 790 |
| 17 | 725 | 1180 | 1170 | 9450 | 19100 | 4720 | e10000 | 4780 | 3330 | 1160 | 1510 | 785 |
| 18 | 746 | 1200 | 1100 | 7940 | 38300 | 4470 | e15000 | 4270 | 2870 | 1090 | 1560 | 793 |
| 19 | 738 | 1130 | 1060 | 6710 | 26600 | 13500 | 11500 | 3930 | 2270 | 1090 | 1390 | 792 |
| 20 | 734 | 1140 | 1020 | 5950 | 20600 | 23900 | 28000 | 3560 | 2280 | 1080 | 1160 | 797 |
| 21 | 734 | 1070 | 1020 | 5070 | 17900 | e46000 | 24500 | 3240 | 2310 | 1060 | 1120 | 795 |
| 22 | 734 | 1210 | 1060 | 4190 | 15300 | e37300 | 16300 | 2970 | 2110 | 1050 | 1030 | 801 |
| 23 | 724 | 1270 | 1090 | 7060 | 12800 | 21800 | 12000 | 2770 | 1870 | 1070 | 1000 | 786 |
| 24 | 739 | 1290 | 1160 | e12500 | 13000 | 17600 | 9500 | 2820 | 1710 | 1070 | 959 | 774 |
| 25 | 778 | 1280 | 1310 | 12600 | 12100 | 15000 | 8120 | 3030 | 1620 | 1080 | 971 | 775 |
| 26 | 860 | 1220 | 1810 | 10000 | 10400 | 12400 | 7110 | 3190 | 1520 | 1020 | 982 | 774 |
| 27 | 963 | 1140 | 2050 | 8340 | 9360 | 9500 | 6210 | 3050 | 1530 | 1060 | 1020 | 774 |
| 28 | 953 | 1140 | 2010 | 15300 | 8550 | 7480 | 5360 | 5600 | 1510 | 1040 | 999 | 768 |
| 29 | 902 | 1090 | 1930 | 20400 | --- | 6650 | 4810 | 5340 | 1770 | 1020 | 981 | 780 |
| 30 | 888 | 1070 | 1810 | 15800 | --- | 6070 | 4380 | 3980 | 2290 | 992 | 941 | 764 |
| 31 | 837 | --- | 1690 | 14100 | --- | 5460 | --- | 3250 | --- | 1030 | 913 | --- |
| TOTAL | 24358 | 44010 | 40880 | 303310 | 455250 | 362220 | 274890 | 187950 | 60410 | 38602 | 32635 | 23896 |
| MEAN | 786 | 1467 | 1319 | 9784 | 16260 | 11680 | 9163 | 6063 | 2014 | 1245 | 1053 | 797 |
| MAX | 963 | 3300 | 2050 | 48500 | 38300 | 46000 | 28000 | 15100 | 3330 | 2030 | 1560 | 970 |
| MIN | 638 | 1070 | 1020 | 1370 | 8210 | 4320 | 4380 | 2770 | 1510 | 992 | 834 | 555 |
| (†) | -3731 | +2672 | +1361 | +20822 | -1160 | -151 | -101 | +504 | +101 | -5092 | -6201 | -5949 |
| MEAN† | 665 | 1556 | 1363 | 10456 | 16218 | 11680 | 9160 | 6079 | 2017 | 1081 | 853 | 598 |
| CFSM† | .20 | .48 | .42 | 3.21 | 4.98 | 3.58 | 2.81 | 1.87 | .62 | .33 | .26 | .18 |
| IN.† | .24 | .53 | .48 | 3.70 | 5.18 | 4.13 | 3.14 | 2.15 | .69 | .38 | .30 | .20 |
| CAL YR 1997 | TOTAL 1011886 | MEAN 2772 | MAX 28100 | MIN 620 | MEAN† 2719 | CFSM† .83 | IN.† 11.33 | | | | | |
| WTR YR 1998 | TOTAL 1848411 | MEAN 5064 | MAX 48500 | MIN 555 | MEAN† 5073 | CFSM† 1.56 | IN.† 21.14 | | | | | |

† Total change in contents, equivalent in cubic feet per second, per month, in Lake Moomaw; provided by U.S. Army Corps of Engineers.

† Adjusted for monthly change in contents.

e Estimated.

JAMES RIVER BASIN

02025500 JAMES RIVER AT HOLCOMB ROCK, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1979, BY WATER YEAR (WY) [UNREGULATED]

| | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|-------|------|-------|-------|-------|-------|-------|-------|-------|------|------|------|
| MEAN | 2031 | 2352 | 3690 | 4904 | 5803 | 7376 | 5785 | 4270 | 2701 | 1606 | 1953 | 1572 |
| MAX | 10050 | 8975 | 12750 | 14490 | 11260 | 15510 | 11840 | 10020 | 11320 | 6610 | 9834 | 7414 |
| (WY) | 1938 | 1973 | 1949 | 1937 | 1939 | 1936 | 1935 | 1942 | 1972 | 1972 | 1940 | 1979 |
| MIN | 432 | 511 | 580 | 631 | 690 | 2741 | 1798 | 1188 | 910 | 415 | 458 | 421 |
| (WY) | 1931 | 1932 | 1966 | 1956 | 1934 | 1940 | 1942 | 1930 | 1964 | 1966 | 1930 | 1930 |

SUMMARY STATISTICS WATER YEARS 1927 - 1979

| | |
|--------------------------|--------|
| ANNUAL MEAN | 3663 |
| HIGHEST ANNUAL MEAN | 6241 |
| LOWEST ANNUAL MEAN | 1947 |
| HIGHEST DAILY MEAN | 118000 |
| LOWEST DAILY MEAN | 223 |
| ANNUAL SEVEN-DAY MINIMUM | 306 |
| INSTANTANEOUS PEAK FLOW | 150000 |
| INSTANTANEOUS PEAK STAGE | 35.50 |
| INSTANTANEOUS LOW FLOW | 71 |
| ANNUAL RUNOFF (CFSM) | 1.12 |
| ANNUAL RUNOFF (INCHES) | 15.26 |
| 10 PERCENT EXCEEDS | 7910 |
| 50 PERCENT EXCEEDS | 2100 |
| 90 PERCENT EXCEEDS | 655 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1998, BY WATER YEAR (WY) [REGULATED, UNADJUSTED]

| | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|------|------|-------|------|-------|-------|-------|-------|-------|------|------|------|------|
| MEAN | 1980 | 3090 | 3426 | 5141 | 5934 | 7528 | 6752 | 4525 | 3258 | 1591 | 1526 | 1668 |
| MAX | 7966 | 17270 | 9246 | 13540 | 16260 | 16910 | 21670 | 12380 | 9990 | 4562 | 5640 | 7233 |
| (WY) | 1980 | 1986 | 1997 | 1996 | 1998 | 1993 | 1987 | 1989 | 1995 | 1995 | 1984 | 1996 |
| MIN | 690 | 785 | 890 | 730 | 2139 | 1472 | 1616 | 2205 | 1234 | 1009 | 595 | 674 |
| (WY) | 1992 | 1992 | 1981 | 1981 | 1981 | 1981 | 1995 | 1991 | 1988 | 1986 | 1981 | 1983 |

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1980 - 1998

| | | | |
|--------------------------|---------|---------|--------|
| ANNUAL TOTAL | 1011886 | 1848411 | |
| ANNUAL MEAN | 2772 | 5064 | 3855 |
| HIGHEST ANNUAL MEAN | | | 5064 |
| LOWEST ANNUAL MEAN | | | 1613 |
| HIGHEST DAILY MEAN | 28100 | Mar 4 | e48500 |
| LOWEST DAILY MEAN | 620 | Sep 7 | 555 |
| ANNUAL SEVEN-DAY MINIMUM | 715 | Oct 10 | 715 |
| INSTANTANEOUS PEAK FLOW | | | (a) |
| INSTANTANEOUS PEAK STAGE | | | (b) |
| INSTANTANEOUS LOW FLOW | | | d100 |
| ANNUAL RUNOFF (CFSM) | .85 | | 1.55 |
| ANNUAL RUNOFF (INCHES) | 11.55 | | 21.10 |
| 10 PERCENT EXCEEDS | 5770 | | 13000 |
| 50 PERCENT EXCEEDS | 1680 | | 1700 |
| 90 PERCENT EXCEEDS | 815 | | 792 |

a Not determined.

b Probably occurred Jan. 9, 1998.

c From high-water mark in gage house.

d Result of regulation.

e Estimated.

