

## TENNESSEE RIVER BASIN

03531500 POWELL RIVER NEAR JONESVILLE, VA

LOCATION.--Lat 36°39'43", long 83°05'42", Lee County, Hydrologic Unit 06010206, on right bank 175 ft downstream from highway bridge, 2 mi southeast of Jonesville, 10 mi upstream from Wallen Creek, and at mile 143.1.

DRAINAGE AREA.--319 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for some periods, published in WSP 1306.

REVISED RECORDS.--WSP 823: Drainage area. WSP 1033: 1932-44. WSP 1436: 1946(M), 1948(M).

GAGE.--Water-stage recorder. Datum of gage is 1,259.08 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. National Weather Service gage-height telemeter at station. Tennessee Valley Authority gage-height data recorder at station, called at 6-hour intervals by computer at Knoxville, Tennessee. Maximum discharge, 57,000 ft<sup>3</sup>/s, from rating curve extended above 20,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow. Minimum gage height, 0.68 ft, Oct. 18, 1961, result of storage behind temporary dam. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft<sup>3</sup>/s and maximum (\*):

| Date   | Time | Discharge (ft <sup>3</sup> /s) | Gage height (ft) | Date                                 | Time | Discharge (ft <sup>3</sup> /s) | Gage height (ft) |
|--------|------|--------------------------------|------------------|--------------------------------------|------|--------------------------------|------------------|
| Jan 09 | 2030 | *4,230                         | *8.80            | No peak greater than base discharge. |      |                                |                  |

Minimum discharge, 35 ft<sup>3</sup>/s, Sep 15-16, gage height, 1.09 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999  
DAILY MEAN VALUES

| DAY   | OCT  | NOV  | DEC  | JAN   | FEB   | MAR   | APR   | MAY   | JUN  | JUL  | AUG  | SEP  |
|-------|------|------|------|-------|-------|-------|-------|-------|------|------|------|------|
| 1     | 56   | 49   | 47   | 154   | 475   | 2650  | 377   | 575   | 127  | 174  | 86   | 44   |
| 2     | 50   | 48   | 45   | 146   | 600   | 1630  | 379   | 497   | 121  | 121  | 258  | 43   |
| 3     | 46   | 49   | 44   | 945   | 542   | 2140  | 355   | 434   | 118  | 108  | 160  | 40   |
| 4     | 45   | 50   | 44   | 994   | 479   | 3030  | 340   | 380   | 113  | 102  | 107  | 40   |
| 5     | 45   | 56   | 44   | 548   | 413   | 1950  | 322   | 345   | 103  | 86   | 88   | 39   |
| 6     | 45   | 54   | 59   | 351   | 370   | 1540  | 304   | 628   | 101  | 80   | 77   | 39   |
| 7     | 44   | 50   | 70   | 297   | 358   | 1290  | 283   | 1080  | 96   | 76   | 69   | 40   |
| 8     | 74   | 49   | 367  | 282   | 376   | 1050  | 264   | 957   | 89   | 71   | 65   | 39   |
| 9     | 106  | 50   | 1330 | 2170  | 334   | 956   | 264   | 762   | 87   | 66   | 65   | 41   |
| 10    | 90   | 52   | 444  | 2440  | 319   | 1160  | 257   | 598   | 88   | 69   | 67   | 41   |
| 11    | 61   | 114  | 230  | 1140  | 304   | 1050  | 325   | 483   | 96   | 124  | 64   | 40   |
| 12    | 52   | 161  | 161  | 706   | 297   | 924   | 701   | 405   | 86   | 128  | 59   | 37   |
| 13    | 48   | 96   | 728  | 512   | 297   | 824   | 560   | 361   | 79   | 101  | 56   | 37   |
| 14    | 46   | 69   | 1280 | 552   | 262   | 848   | 470   | 462   | 74   | 85   | 55   | 37   |
| 15    | 45   | 59   | 549  | 2840  | 246   | 1140  | 506   | 473   | 72   | 76   | 53   | 36   |
| 16    | 44   | 53   | 326  | 2020  | 241   | 1410  | 751   | 359   | 72   | 70   | 52   | 36   |
| 17    | 43   | 50   | 236  | 1170  | 255   | 1260  | 669   | 300   | 71   | 64   | 51   | 40   |
| 18    | 43   | 49   | 188  | 1870  | 342   | 1130  | 580   | 267   | 70   | 70   | 49   | 40   |
| 19    | 45   | 47   | 153  | 2390  | 434   | 977   | 498   | 305   | 67   | 142  | 48   | 38   |
| 20    | 44   | 47   | 140  | 1520  | 811   | 808   | 447   | 292   | 64   | 143  | 49   | 39   |
| 21    | 45   | 47   | 128  | 1000  | 654   | 709   | 400   | 242   | 61   | 134  | 106  | 38   |
| 22    | 46   | 47   | 123  | 732   | 539   | 629   | 358   | 219   | 60   | 111  | 78   | 38   |
| 23    | 44   | 47   | 165  | 823   | 452   | 533   | 322   | 226   | 59   | 91   | 58   | 38   |
| 24    | 43   | 46   | 371  | 2970  | 399   | 481   | 298   | 272   | 59   | 255  | 59   | 38   |
| 25    | 43   | 45   | 401  | 2310  | 360   | 438   | 268   | 358   | 83   | 945  | 68   | 39   |
| 26    | 43   | 48   | 281  | 1430  | 348   | 411   | 261   | 258   | 114  | 345  | 95   | 38   |
| 27    | 43   | 50   | 226  | 978   | 317   | 417   | 323   | 212   | 104  | 202  | 82   | 38   |
| 28    | 43   | 51   | 194  | 750   | 2540  | 446   | 377   | 183   | 196  | 174  | 62   | 41   |
| 29    | 45   | 51   | 178  | 600   | ---   | 412   | 773   | 163   | 433  | 140  | 53   | 48   |
| 30    | 45   | 47   | 173  | 479   | ---   | 382   | 670   | 147   | 325  | 110  | 49   | 90   |
| 31    | 48   | ---  | 173  | 412   | ---   | 361   | ---   | 135   | ---  | 94   | 47   | ---  |
| TOTAL | 1560 | 1731 | 8898 | 35531 | 13364 | 32986 | 12702 | 12378 | 3288 | 4557 | 2335 | 1232 |
| MEAN  | 50.3 | 57.7 | 287  | 1146  | 477   | 1064  | 423   | 399   | 110  | 147  | 75.3 | 41.1 |
| MAX   | 106  | 161  | 1330 | 2970  | 2540  | 3030  | 773   | 1080  | 433  | 945  | 258  | 90   |
| MIN   | 43   | 45   | 44   | 146   | 241   | 361   | 257   | 135   | 59   | 64   | 47   | 36   |
| CFSM  | .16  | .18  | .90  | 3.59  | 1.50  | 3.34  | 1.33  | 1.25  | .34  | .46  | .24  | .13  |
| IN.   | .18  | .20  | 1.04 | 4.14  | 1.56  | 3.85  | 1.48  | 1.44  | .38  | .53  | .27  | .14  |

03531500 POWELL RIVER NEAR JONESVILLE, VA--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1999, BY WATER YEAR (WY)

|      | OCT  | NOV  | DEC  | JAN  | FEB  | MAR  | APR  | MAY  | JUN  | JUL  | AUG  | SEP  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 153  | 313  | 656  | 950  | 1073 | 1145 | 812  | 575  | 316  | 232  | 199  | 117  |
| MAX  | 1086 | 1405 | 2026 | 2765 | 2666 | 3423 | 2542 | 1436 | 1601 | 825  | 1187 | 603  |
| (WY) | 1978 | 1974 | 1973 | 1937 | 1994 | 1963 | 1977 | 1984 | 1989 | 1941 | 1942 | 1982 |
| MIN  | 22.9 | 29.7 | 46.5 | 57.8 | 124  | 281  | 169  | 108  | 46.7 | 47.7 | 49.0 | 24.5 |
| (WY) | 1955 | 1954 | 1966 | 1940 | 1941 | 1988 | 1986 | 1941 | 1936 | 1944 | 1953 | 1955 |

| SUMMARY STATISTICS       | FOR 1998 CALENDAR YEAR | FOR 1999 WATER YEAR | WATER YEARS 1932 - 1999 |
|--------------------------|------------------------|---------------------|-------------------------|
| ANNUAL TOTAL             | 203738                 | 130562              |                         |
| ANNUAL MEAN              | 558                    | 358                 | 543                     |
| HIGHEST ANNUAL MEAN      |                        |                     | 943                     |
| LOWEST ANNUAL MEAN       |                        |                     | 218                     |
| HIGHEST DAILY MEAN       | 11000                  | Apr 17              | 35000                   |
| LOWEST DAILY MEAN        | 43                     | aSep 19             | 18                      |
| ANNUAL SEVEN-DAY MINIMUM | 43                     | Oct 23              | 18                      |
| INSTANTANEOUS PEAK FLOW  |                        |                     | 57000                   |
| INSTANTANEOUS PEAK STAGE |                        |                     | c44.32                  |
| INSTANTANEOUS LOW FLOW   |                        |                     | 17                      |
| ANNUAL RUNOFF (CFSM)     | 1.75                   | 1.12                | 1.70                    |
| ANNUAL RUNOFF (INCHES)   | 23.76                  | 15.23               | 23.12                   |
| 10 PERCENT EXCEEDS       | 1270                   | 949                 | 1230                    |
| 50 PERCENT EXCEEDS       | 296                    | 146                 | 255                     |
| 90 PERCENT EXCEEDS       | 46                     | 44                  | 54                      |

- a Also Sep 20, and Oct 17, 18, 24-28, 1998.
- b Also Sep 16, 1999.
- c From floodmark.
- d Also Sep 20, 1954, and as a result of storage behind temporary dam Oct 18, 1961.

