

# Base Flow Hydrograph Separation Analyses

| Number   | Gage Name                    | HGMR | County | Basin Area (sq.mi.) | Average Tflow (in) | Ratio Bflow/ Tflow | Bflow Drought 1-in-10 yr (in) | ≈Yr  | Ratio Drought / Avg Bflow | Bflow Drought of Record (in) | Yr   | 1931 (in) | 1966 (in) | 2002 (in) | 7Q10 (in) | Period of Record | Prec. (in) | Elev. (ft msl) |
|----------|------------------------------|------|--------|---------------------|--------------------|--------------------|-------------------------------|------|---------------------------|------------------------------|------|-----------|-----------|-----------|-----------|------------------|------------|----------------|
| 01478000 | Christina River (DE)         | CPD  | CE     | 20.5                | 8.3                | 0.43               | 5.1                           | 1944 | 0.61                      | 3.6                          | 1981 | -         | 4.5       | 4.6       | 1.1       | 1944 to 2023     | 47.9       | 24             |
| 01481000 | Brandywine Creek (PA)        | PCR  | CE     | 287                 | 13.8               | 0.70               | 8.7                           | 1932 | 0.64                      | 7.0                          | 1931 | 7.0       | 7.9       | 7.2       | 3.3       | 1912 to 2023     | 49.4       | 150            |
| 01495000 | Big Elk Creek                | PCR  | CE     | 51.6                | 12.5               | 0.66               | 8.0                           | 1954 | 0.64                      | 6.2                          | 2002 | -         | 6.2       | 6.2       | 2.4       | 1933 to 2024     | 48.2       | 83             |
| 01571500 | Yellow Breeches Creek (PA)   | MIX  | CL     | 213                 | 15.9               | 0.82               | 10.9                          | 2001 | 0.68                      | 8.5                          | 2002 | -         | 9.1       | 8.5       | 5.7       | 1955 to 2024     | 44.8       | 307            |
| 01580000 | Deer Creek                   | PCR  | HA     | 94.4                | 14.1               | 0.77               | 9.0                           | 1954 | 0.64                      | 5.7                          | 2002 | 5.9       | 6.5       | 5.7       | 3.4       | 1927 to 2024     | 48.5       | 250            |
| 01581700 | Winters Run near Benson      | PCR  | HA     | 34.8                | 14.4               | 0.71               | 8.9                           | 1992 | 0.62                      | 5.9                          | 2002 | -         | -         | 5.9       | 2.0       | 1968 to 2024     | 49.8       | 188            |
| 01582000 | Little Falls at Blue Mount   | PCR  | BA     | 52.9                | 14.4               | 0.80               | 8.9                           | 2023 | 0.62                      | 6.4                          | 2002 | -         | 6.5       | 6.4       | 3.4       | 1945 to 2024     | 47.9       | 302            |
| 01583000 | Slade Run                    | PCR  | BA     | 2.1                 | 12.8               | 0.81               | 6.7                           | 1963 | 0.53                      | 5.0                          | 1966 | -         | 5.0       | -         | 2.1       | 1948 to 1980     | 47.4       | 425            |
| 01583100 | Piney Run at Dover           | MIX  | BA     | 12.3                | 13.6               | 0.8                | 8.9                           | 2023 | 0.65                      | 6.4                          | 2002 | -         | -         | 6.4       | 3.3       | 1983 to 2024     | 47.5       | 375            |
| 01583500 | Western Run                  | PCR  | BA     | 59.8                | 12.7               | 0.78               | 7.6                           | 1986 | 0.59                      | 4.9                          | 2002 | -         | 5.4       | 4.9       | 2.6       | 1945 to 2024     | 48.0       | 262            |
| 01583600 | Beaverdam Run                | PCA  | BA     | 20.9                | 13.3               | 0.64               | 8.9                           | 2017 | 0.67                      | 6.6                          | 2002 | -         | -         | 6.6       | 3.9       | 1983 to 2023     | 48.3       | 240            |
| 01584050 | Long Green Creek             | PCR  | BA     | 9.4                 | 12.3               | 0.73               | 7.9                           | 2017 | 0.64                      | 4.8                          | 2002 | -         | -         | 4.8       | 2.5       | 1976 to 2024     | 49.4       | 243            |
| 01584500 | Little Gunpowder Falls       | PCR  | BA     | 36.1                | 12.7               | 0.74               | 7.9                           | 1954 | 0.62                      | 5.2                          | 1931 | 5.2       | 6.0       | 5.6       | 2.8       | 1927 to 2024     | 49.7       | 261            |
| 01585100 | Whitemarsh Run               | CPD  | BA     | 7.6                 | 6.9                | 0.30               | 4.5                           | 1981 | 0.65                      | 3.8                          | 1969 | -         | 4.7       | 4.2       | 0.7       | 1960 to 2024     | 48.9       | 34             |
| 01586210 | Beaver Run                   | PCR  | CL     | 14.0                | 13.2               | 0.78               | 8.3                           | 2017 | 0.63                      | 5.9                          | 2002 | -         | -         | 5.9       | 1.8       | 1983 to 2024     | 46.5       | 428            |
| 01586610 | Morgan Run                   | PCR  | CL     | 28.0                | 13.2               | 0.78               | 7.9                           | 1999 | 0.46                      | 5.1                          | 2002 | -         | -         | 5.1       | 1.6       | 1983 to 2023     | 46.4       | 422            |
| 01587500 | S Branch Patapsco River      | PCR  | CL     | 64.4                | 11.4               | 0.73               | 6.1                           | 1963 | 0.53                      | 5.4                          | 1966 | -         | 5.4       | -         | 1.1       | 1949 to 1979     | 46.4       | 289            |
| 01589100 | East Branch Herbert Run      | MIX  | BA     | 2.5                 | 7.4                | 0.39               | 5.0                           | 2012 | 0.26                      | 4.4                          | 2001 | -         | 6.2       | 5.0       | 1.5       | 1958 to 2024     | 47.0       | 40             |
| 01589300 | Gwynns Falls at Villa Nova   | PCR  | BA     | 32.5                | 9.2                | 0.52               | 5.9                           | 1969 | 0.64                      | 5.2                          | 1966 | -         | 5.2       | 5.6       | 1.7       | 1958 to 2024     | 47.4       | 361            |
| 01589330 | Dead Run                     | PCR  | BA     | 5.5                 | 5.1                | 0.23               | 3.2                           | 1962 | 0.14                      | 2.2                          | 1963 | -         | 3.1       | 3.0       | 0.7       | 1960 to 2023     | 47.4       | 304            |
| 01589440 | Jones Falls                  | PCR  | BA     | 25.2                | 12.0               | 0.68               | 7.2                           | 1986 | 0.41                      | 5.4                          | 2002 | -         | -         | 5.4       | 1.9       | 1967 to 2024     | 48.2       | 229            |
| 01591000 | Patuxent River near Unity    | PCR  | MO     | 34.8                | 11.4               | 0.72               | 6.3                           | 1969 | 0.55                      | 4.9                          | 2002 | -         | 6.1       | 4.9       | 1.0       | 1945 to 2023     | 46.0       | 364            |
| 01591400 | Cattail Creek                | PCR  | HO     | 22.9                | 11.0               | 0.71               | 6.9                           | 1985 | 0.62                      | 5.1                          | 2002 | -         | -         | 5.1       | 0.8       | 1979 to 2024     | 46.1       | 374            |
| 01591700 | Hawlings River               | PCR  | MO     | 27.0                | 9.6                | 0.63               | 5.9                           | 2017 | 0.61                      | 4.9                          | 2002 | -         | -         | 4.9       | 0.5       | 1979 to 2024     | 45.9       | 303            |
| 01593500 | Little Pax River at Guilford | PCR  | HO     | 38.0                | 9.1                | 0.56               | 6.3                           | 1982 | 0.69                      | 4.8                          | 2002 | -         | 6.3       | 4.8       | 1.2       | 1933 to 2023     | 47.1       | 259            |
| 01594000 | Little Pax River at Savage   | MIX  | HO     | 98.4                | 9.5                | 0.60               | 6.4                           | 1941 | 0.40                      | 4.8                          | 2002 | -         | -         | 4.8       | 1.0       | 1940 to 2023     | 47.0       | 122            |
| 01594950 | Mcmillan F - Fort Pendleton  | APS  | GA     | 2.3                 | 19.3               | 0.71               | 13.3                          | 1995 | 0.69                      | 11.5                         | 2000 | -         | -         | 17.5      | 0.1       | 1987 to 2019     | 52.5       | 2442           |
| 01595000 | Potomac River at Steyer      | APS  | GA     | 73.1                | 21.3               | 0.66               | 17.1                          | 1969 | 0.80                      | 14.5                         | 1965 | -         | 18.5      | 21.7      | 1.4       | 1957 to 2024     | 48.9       | 2276           |
| 01596500 | Savage River near Barton     | APS  | GA     | 49.1                | 12.7               | 0.59               | 9.7                           | 1954 | 0.77                      | 8.0                          | 2021 | -         | 9.9       | 11.2      | 0.3       | 1949 to 2024     | 44.1       | 1603           |
| 01597000 | Crabtree Creek               | APS  | GA     | 16.7                | 15.7               | 0.67               | 11.7                          | 1964 | 0.75                      | 8.9                          | 1969 | -         | 12.0      | -         | 0.9       | 1949 to 1980     | 43.3       | 1529           |
| 01599000 | Georges Creek                | APS  | AL     | 72                  | 10.9               | 0.82               | 7.2                           | 1941 | 0.66                      | 4.3                          | 1930 | 6.5       | 6.6       | 7.5       | 0.8       | 1930 to 2023     | 41.1       | 958            |
| 01601000 | Wills Creek (PA)             | VRC  | AL     | 146                 | 10.8               | 0.56               | 7.9                           | 1963 | 0.41                      | 6.7                          | 1966 | -         | 6.7       | -         | 0.1       | 1952 to 2024     | 41.0       | 893            |

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| 01601500 | * Wills Creek - Cumberland | APS  | AL     | 247                 | 11.5               | 0.62               | 7.8                           | 1938 | 0.68                      | 5.5                          | 1930 | 7.6       | 7.0       | 8.5       | 0.8       | 1930 to 2024     | 40.0       | 640            |
| 01603500 | Evitts Creek (PA)          | VRS  | AL     | 30.2                | 10.0               | 0.69               | 6.2                           | 1963 | 0.63                      | 5.1                          | 1934 | -         | 5.2       | -         | 0.8       | 1933 to 1981     | 40.5       | 1028           |
| 01604500 | Patterson Creek (WVA)      | VRS  | AL     | 221                 | 6.6                | 0.62               | 3.8                           | 2000 | 0.58                      | 1.7                          | 1969 | -         | 3.6       | 5.6       | 0.2       | 1939 to 2024     | 38.5       | 625            |
| 01609000 | Town Creek                 | VRS  | AL     | 148                 | 8.3                | 0.55               | 4.9                           | 2015 | 0.33                      | 3.2                          | 1930 | 5.2       | -         | 5.7       | 0.2       | 1929 to 2024     | 39.4       | 547            |
| 01610155 | Sideling Hill Creek        | VRS  | AL     | 102                 | 6.7                | 0.46               | 4.1                           | 2023 | 0.28                      | 3.0                          | 1969 | -         | -         | 4.4       | 0.0       | 1968 to 2024     | 39.6       | 440            |
| 01611500 | Cacapon River (WVA)        | VRS  | WA     | 675                 | 6.8                | 0.57               | 3.9                           | 1959 | 0.57                      | 2.8                          | 1969 | 3.4       | 3.7       | 5.6       | 0.8       | 1923 to 2024     | 40.4       | 456            |
| 01614500 | Conococheque Creek         | VRS  | WA     | 494                 | 11.4               | 0.68               | 7.1                           | 2023 | 0.62                      | 5.3                          | 1931 | 5.3       | 6.1       | 6.5       | 1.6       | 1929 to 2024     | 40.6       | 391            |
| 01617800 | Marsh Run                  | VRC  | WA     | 19                  | 7.8                | 0.90               | 3.8                           | 1981 | 0.48                      | 1.6                          | 2002 | -         | 4.0       | 1.6       | 0.3       | 1964 to 2024     | 41.4       | 354            |
| 01619500 | Antietam Creek - Sh (MD)   | VRC  | WA     | 281                 | 12.0               | 0.85               | 7.3                           | 1938 | 0.61                      | 4.3                          | 1931 | 4.3       | 5.6       | 5.0       | 3.2       | 1929 to 2024     | 42.3       | 310            |
| 01637500 | Catoctin Creek (MD)        | BR   | FR     | 66.9                | 11.1               | 0.69               | 5.8                           | 1966 | 0.52                      | 4.2                          | 2002 | -         | 5.8       | 4.2       | 0.2       | 1948 to 2024     | 43.5       | 376            |
| 01638480 | Catoctin Creek (VA)        | PCR  | FR     | 89.5                | 9.0                | 0.59               | 4.9                           | 1985 | 0.55                      | 3.3                          | 1981 | -         | -         | 4.0       | 0.1       | 1972 to 2024     | 43.8       | 247            |
| 01639000 | Monocacy River Bridgeport  | ML   | CL     | 173                 | 6.4                | 0.38               | 4.0                           | 1966 | 0.64                      | 3.0                          | 1954 | -         | 4.0       | 4.2       | 0.1       | 1943 to 2024     | 45.0       | 340            |
| 01639500 | Big Pipe Creek             | PCR  | CL     | 102                 | 9.9                | 0.64               | 5.8                           | 1969 | 0.58                      | 4.1                          | 2002 | -         | 4.7       | 4.1       | 1.0       | 1948 to 2024     | 44.8       | 336            |
| 01640500 | Owens Creek                | BR   | FR     | 5.9                 | 16.1               | 0.75               | 8.9                           | 1963 | 0.55                      | 6.8                          | 1969 | -         | 8.8       | -         | 0.4       | 1932 to 1983     | 49.1       | 956            |
| 01641000 | Hunting Creek              | BR   | FR     | 18.4                | 14.1               | 0.72               | 8.1                           | 1963 | 0.58                      | 6.6                          | 1954 | -         | 8.2       | -         | 1.0       | 1950 to 1991     | 44.6       | 355            |
| 01641500 | Fishing Creek              | BR   | FR     | 7.3                 | 19.3               | 0.89               | 11.2                          | 1969 | 0.58                      | 9.2                          | 1954 | -         | 10.6      | -         | 1.6       | 1948 to 1983     | 47.1       | 735            |
| 01642500 | Linganore Creek            | PCR  | FR     | 82.3                | 9.6                | 0.69               | 5.3                           | 1981 | 0.56                      | 4.6                          | 1959 | -         | 5.6       | -         | 1.2       | 1935 to 1981     | 44.7       | 10             |
| 01643000 | Monocacy River Jug Bridge  | ML   | FR     | 817                 | 8.7                | 0.54               | 5.0                           | 2023 | 0.57                      | 2.9                          | 1931 | 2.9       | 4.8       | 4.3       | 0.8       | 1930 to 2024     | 44.4       | 231            |
| 01643500 | Bennett Creek              | PCR  | FR     | 62.8                | 10.5               | 0.68               | 6.1                           | 1985 | 0.58                      | 4.3                          | 2002 | -         | -         | 4.3       | 0.9       | 1949 to 2024     | 44.5       | 233            |
| 01644000 | Goose Creek (VA)           | BR   | MO     | 332                 | 8.0                | 0.61               | 4.5                           | 1999 | 0.56                      | 1.2                          | 1931 | 1.2       | 4.4       | 3.9       | 0.1       | 1930 to 2024     | 44.4       | 248            |
| 01645000 | Seneca Creek               | PCR  | MO     | 101                 | 10.5               | 0.65               | 5.8                           | 1941 | 0.55                      | 2.6                          | 1931 | 2.6       | 5.7       | 6.7*      | 1.4       | 1931 to 2024     | 45.2       | 213            |
| 01648000 | Rock Creek                 | PCR  | MO     | 62.2                | 8.2                | 0.56               | 5.1                           | 1965 | 0.63                      | 2.3                          | 1931 | 2.3       | 5.4       | 3.9       | 0.7       | 1929 to 2024     | 46.1       | 148            |
| 01650500 | NW Branch Anacostia River  | PCR  | MO     | 21                  | 8.0                | 0.55               | 4.8                           | 1966 | 0.33                      | 2.6                          | 1931 | 2.6       | 4.8       | 3.3       | 0.2       | 1924 to 2024     | 45.7       | 264            |
| 03066000 | Blackwater R (WVA)         | APS  | GA     | 86.1                | 18.0               | 0.55               | 14.3                          | 1931 | 0.79                      | 8.8                          | 1930 | 14.3      | 14.6      | 18.8      | 0.8       | 1922 to 2024     | 60.5       | 3059           |
| 03075500 | Youghiogheny Oakland       | APS  | GA     | 134                 | 18.0               | 0.57               | 13.9                          | 1952 | 0.78                      | 11.2                         | 1946 | -         | 13.0      | 17.2      | 0.7       | 1942 to 2024     | 51.0       | 2353           |
| 03076600 | Bear Creek                 | APS  | GA     | 48.9                | 16.9               | 0.66               | 12.9                          | 1999 | 0.76                      | 10.2                         | 1969 | -         | 11.0      | 16.3      | 0.9       | 1965 to 2024     | 52.0       | 1551           |
| 03078000 | Casselman R.               | APS  | GA     | 64.2                | 16.4               | 0.63               | 13.3                          | 1954 | 0.81                      | 10.5                         | 1969 | -         | 12.6      | 12.6      | 0.4       | 1948 to 2024     | 53.0       | 2089           |

(\*- regulated stream) HGMR = hydrogeomorphic region (USGS W-RIR 98-4059, Bachman, et.al., 1998):

APS (Appalachian Plateau Siliciclastic), BR (Blue Ridge), C (Carbonate), ML (Mesozoic Lowland), PCR (Piedmont Chrystalline), S ( Siliciclastic), VR(Valley and Ridge), MIX (Mixed of two or more)

Computer programs adapted from Rutledge (1998, USGS W-RIR 98-4148; updated 2012); USGS Hydrologic Toolbox - Barlow, P.M., et al., 2022, TM 4-D3, 23 p.

Precipitation Data: 30-year normals 1991-2020 PRISM Group, Oregon State University, <https://prism.oregonstate.edu>, accessed 05 June 2025.

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