Prepared in cooperation with the Virginia Department of Environmental Quality

Low-Flow Characteristics of Virginia Streams

Scientific Investigations Report 2011–5143

Cover art. See figure 1 (map showing low-flow study sites in Virginia).

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By Samuel H. Austin, Jennifer L. Krstolic, and Ute Wiegand

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U.S. Department of the Interior
U.S. Geological Survey

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KEN SALAZAR, Secretary

U.S. Geological Survey
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Conversion Factors

Inch/Pound to SI

Multiply	By	To obtain
Length		
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
Area		
acre	0.4047	hectare (ha)
square foot (ft ²)	0.09290	square meter (m ²)
square mile (mi ²)	259.0	hectare (ha)
Volume		
gallon (gal)	0.003785	cubic meter (m ³)
cubic foot (ft ³)	0.02832	cubic meter (m ³)
acre-foot (acre-ft)	1,233	cubic meter (m ³)
Flow rate		
acre-foot per day (acre-ft/d)	0.01427	cubic meter per second (m ³ /s)
foot per second (ft/s)	0.3048	meter per second (m/s)
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second (m ³ /s)
Hydraulic gradient		
foot per mile (ft/mi)	0.1894	meter per kilometer (m/km)

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Altitude, as used in this report, refers to distance above the vertical datum.

Low-Flow Characteristics of Virginia Streams

By Samuel H. Austin, Jennifer L. Krstolic, and Ute Wiegand

Abstract

Low-flow annual non-exceedance probabilities (ANEP), called probability-percent chance (P-percent chance) flow estimates, regional regression equations, and transfer methods are provided describing the low-flow characteristics of Virginia streams. Statistical methods are used to evaluate streamflow data. Analysis of Virginia streamflow data collected from 1895 through 2007 is summarized. Methods are provided for estimating low-flow characteristics of gaged and ungaged streams. The 1-, 4-, 7-, and 30-day average streamgaging station low-flow characteristics for 290 long-term, continuous-record, streamgaging stations are determined, adjusted for instances of zero flow using a conditional probability adjustment method, and presented for non-exceedance probabilities of 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.05, 0.02, 0.01, and 0.005. Stream basin characteristics computed using spatial data and a geographic information system are used as explanatory variables in regional regression equations to estimate annual non-exceedance probabilities at gaged and ungaged sites and are summarized for 290 long-term, continuous-record streamgaging stations, 136 short-term, continuous-record streamgaging stations, and 613 partial-record streamgaging stations. Regional regression equations for six physiographic regions use basin characteristics to estimate 1-, 4-, 7-, and 30-day average low-flow annual non-exceedance probabilities at gaged and ungaged sites. Weighted low-flow values that combine computed streamgaging station low-flow characteristics and annual non-exceedance probabilities from regional regression equations provide improved low-flow estimates. Regression equations developed using the Maintenance of Variance with Extension (MOVE.1) method describe the line of organic correlation (LOC) with an appropriate index site for low-flow characteristics at 136 short-term, continuous-record streamgaging stations and 613 partial-record streamgaging stations. Monthly streamflow statistics computed on the individual daily mean streamflows of selected continuous-record streamgaging stations and curves describing flow-duration are presented. Text, figures, and lists are provided summarizing low-flow estimates, selected low-flow sites, delineated physiographic regions, basin characteristics, regression equations, error estimates, definitions, and datasources. This study supersedes previous studies of low flows in Virginia.

Introduction

Understanding low flows in Virginia streams is essential to sound management of our water resources and associated riparian and watershed ecosystems. Meaningful characterizations of the magnitude, frequency, and duration of low flows provide valuable insights into the dynamics and variability of water movement through these unique stream systems. Improved estimates of low flows provide data needed for the effective management of riparian systems and ecology associated with forested, agricultural, and urban landscapes. Low-flow estimates provide a basis for analysis of future streamflow response to changes in ecosystem and climate.

This report is the product of a cooperative partnership between the Virginia Department of Environmental Quality (DEQ) and the U.S. Geological Survey. The report describes the magnitude, frequency, and duration of low flows in Virginia streams. Low-flow characteristics are used to identify the reliability and sustainability of streamflows within the context of changing human demands and changing states of ecosystem organization. This information aids understanding of water use and the environmental health of watersheds and their associated ecosystems.

Purpose and Scope

The purpose of this report is to present the findings of a study to determine the magnitude, frequency, and duration of low flows in Virginia streams. This report summarizes a statistical analysis of low-flow characteristics of Virginia streams using data collected in Virginia from 1895 through 2007. Low-flow annual non-exceedance probabilities, called probability-percent chance (P-percent chance) flow estimates, and regional regression equations are used to describe the low-flow characteristics of Virginia streams. Statistical methods are used to evaluate streamflow data. Methods are provided for estimating low flow of gaged and ungaged streams. The 1-, 4-, 7-, and 30-day average streamgaging station low flows for 290 long-term, continuous-record streamgaging stations are determined, adjusted for instances of zero flow using a conditional probability adjustment method, and presented for non-exceedance probabilities of 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.05, 0.02, 0.01, and 0.005 (recurrence intervals of 1.11, 1.25, 1.43, 1.67, 2.0, 2.5, 3.3, 5, 10, 20, 50, 100,

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and 200 years, respectively). Stream basin characteristics computed using spatial data and a geographic information system are used as explanatory variables in regional regression equations to estimate annual non-exceedance probabilities at gaged and ungaged sites and are summarized for 290 long-term, continuous-record streamgaging stations, 136 short-term, continuous-record streamgaging stations, and 613 partial-record streamgaging stations. Regional regression equations for six physiographic regions use basin characteristics to estimate 1-, 4-, 7-, and 30-day average low-flow annual non-exceedance probabilities at gaged and ungaged sites. Weighted low-flow values that combine computed streamgaging station low-flow characteristics and annual non-exceedance probabilities from regional regression equations provide improved low-flow estimates. Regression equations developed using the Maintenance of Variance with Extension (MOVE.1) method describe a line of organic correlation (LOC) with an appropriate index site for low-flow characteristics at 136 short-term, continuous-record streamgaging stations and 613 partial-record streamgaging stations. Monthly streamflow statistics computed on the individual daily mean streamflows of 375 selected continuous-record streamgaging stations and statistics describing flow-duration are presented. Text, figures, and lists are provided summarizing low-flow estimates, selected low-flow sites, delineated physiographic regions, basin characteristics, regression equations, error estimates, definitions, and datasources. This study supersedes previous studies of low flows in Virginia.

Background

The DEQ and the U.S. Geological Survey (USGS) work cooperatively, maintaining a statewide network of more than 290 continuous streamgaging stations with many additional partial-record streamgaging stations. Together DEQ and USGS develop computations, analyses, and tools to support understanding and effective management of streamflows. These data and methods support evaluation and prediction by DEQ of streamwater low flows throughout Virginia.

Physical Setting

Virginia is located on the Atlantic Coast, bordered to the north by Maryland and West Virginia, to the south by North Carolina and Tennessee, and to the west by Kentucky and West Virginia (fig. 1). The total area of Virginia is approximately 41,000 square miles (mi²). This includes almost 1,000 mi² of lakes, tidal rivers, and bays. There are more than 3,000 miles (mi) of nontidal rivers in Virginia and 5,000 mi of shoreline along the Atlantic Coast and Chesapeake Bay (Fenneman, 1938; Fenneman and Johnson, 1946).

Virginia lies within five physiographic provinces—the Coastal Plain, Piedmont, Blue Ridge, Valley and Ridge, and Appalachian Plateaus Physiographic Provinces. Each province, hereafter termed physiographic region or low-flow

region, has distinctive geologic features and landforms. Geology ranges from unconsolidated sands and clays in the Coastal Plain physiographic region, to igneous and metamorphic rocks in the Piedmont and Blue Ridge physiographic regions, to sedimentary rocks, carbonate rocks, sandstone, and shale in the Valley and Ridge and Appalachian Plateaus physiographic regions (Hayes, 1991). Topography ranges from virtually flat in the Coastal Plain to highly dissected rugged terrain along the Blue Ridge and Appalachian crests. The central Piedmont is characterized by rolling hills and valleys, and is separated from the Valley and Ridge physiographic region by the Blue Ridge Mountains. Land-surface elevations range from 0 feet (ft) to over 5,000 ft above sea level (Fenneman, 1938).

Coastal Plain

The Coastal Plain physiographic region (Coastal Plain) generally consists of unconsolidated, gently sloping layers of sand and gravel separated by layers of clay and marl. The eastern boundary of the Coastal Plain is the Atlantic Ocean. The western boundary is the Fall Line, where the resistant rock of the Piedmont forms a contact with the unconsolidated sediments of the Coastal Plain (Fenneman, 1938). Sediments are thin at the Fall Line and thicken to as much as 6,000 ft at the eastern edge of the Coastal Plain and are more than 13,000 ft thick under the Continental Shelf. These sediments rest on an eroded surface of Precambrian to early Mesozoic rock. Two-thirds of this material is composed of Late Jurassic and Cretaceous clay, sand, and gravel, which was stripped from the Appalachian mountains, carried eastward by rivers, and deposited in deltas in the newly formed Atlantic Ocean basin. A sequence of thin, fossiliferous marine sands of Tertiary age overlies the older strata. These sands were deposited in warm, shallow seas during repeated marine transgressions across the Coastal Plain (Hayes, 1991). This pattern of deposition was interrupted about 35 million years ago by a large meteorite that plummeted into a shallow sea and created a crater more than 55 mi in diameter, termed the Chesapeake Bay impact structure, which was subsequently buried under about 4,000 ft of younger sediment (Edwards and others, 2005). Rivers and streams are affected by tides over a substantial area (Fenneman, 1938; Fenneman and Johnson, 1946).

Piedmont

The Piedmont physiographic region (Piedmont) in Virginia consists of gently rolling terrain, which extends from the base of the Blue Ridge Mountains east to the Fall Line. It is the largest physiographic region in Virginia, is widest along the Virginia–North Carolina border (approximately 125 mi wide), then narrows to about 25 mi wide in northern Virginia. The Piedmont is formed mainly of metamorphic and igneous rocks that consist of granite, gneiss, schist, slate, phyllite, and quartzite. Triassic and Jurassic sedimentary rocks form several early Mesozoic Basins in the Piedmont that consist mainly of

Figure 1. Selected low-flow study sites and physiographic provinces for application of low-flow regional estimating equations.

shales and sandstones intruded by diabase. Geologic formations of the Piedmont trend northeast-southwest and generally are covered by a deep (6 to 65 ft) layer of saprolite. Outcrops commonly are restricted to stream valleys where saprolite has been removed by erosion. The topography becomes somewhat more rugged with proximity to the Blue Ridge physiographic region, where local hills, knobs, or ridges of more resistant rock are present (Fenneman, 1938).

The Mesozoic Basins are located within the Piedmont, but they are evaluated as a separate physiographic region in this study because of their unique geomorphology and the associated improvements in explanatory power of basin characteristics in regional regression equations developed specifically for Mesozoic Basins. The Mesozoic Basins consist of sediments deposited in fault basins and are usually referred to as Triassic Basin deposits, though they are known to also contain lower Jurassic rocks. These basins formed when Africa separated from North America to create the Atlantic Ocean. The Culpeper basin, in the western Piedmont near the Blue Ridge physiographic region is the largest Mesozoic Basin in Virginia, but smaller basins, including the Richmond, Farmville, and Danville, are scattered throughout the Piedmont. Structurally, these are partially depressed blocks of land with a main fault on the western side. Ancient alluvial fan conglomerates fill these basins along the western borders, and deep red sediments fill the eastern portions of these basins. These red sediments often contain fish fossils or dinosaur tracks, indicating that tropical lakes and mudflats were present. Numerous igneous rocks and lava flows cut into these Triassic sediments and are remnants of the volcanic activity that accompanied the opening of the Atlantic Ocean (Hayes, 1991).

Blue Ridge

The Blue Ridge physiographic region (Blue Ridge) lies between the Valley and Ridge and the Piedmont. It is a fairly thin ridge of northeast-southwest-trending mountains consisting mainly of metamorphic and igneous rocks, with some sedimentary rock on the western slope. By the early Cambrian, the Iapetus Ocean had opened to the east of the Blue Ridge, and a westward transgression occurred along the ancient North American margin. In the western Blue Ridge, shallow marine siliclastics of the Chilhowee Group were deposited in the early Cambrian and eventually gave way to carbonates of Cambro-Ordovician age. In central and northern Virginia, the Blue Ridge Mountains rise to elevations exceeding 4,000 ft. Local relief on the east side of the Blue Ridge is up to 3,000 ft. In southern Virginia, the Blue Ridge forms a broad plateau-like upland that rises over 1,500 ft from the Piedmont along a prominent escarpment. Mt. Rogers (5,728 ft), in the southwestern Virginia Blue Ridge, is the highest peak in Virginia. Steep slopes allow only thin soils in some areas, thus reducing the amount of groundwater storage (Hayes, 1991).

Valley and Ridge

The Valley and Ridge physiographic region (Valley and Ridge) was formed by the folding and faulting of sedimentary rocks. Northeast-southwest-trending ridges are formed by resistant quartzite, sandstone, and conglomerates, while narrow valleys are underlain by limestone, shale, and dolostone. The characteristic topography of this region is the result of differential weathering of linear belts of rocks that has been repeated by folding and faulting. Cambrian clastic sediments of the western Blue Ridge are overlain by carbonate rocks. For at least 70 million years, carbonates were deposited in a shallow, tropical ocean along the southeastern edge of North America. Today these carbonates, up to 2 mi thick, are exposed in the Great Valley, known as the Shenandoah Valley in central and northern Virginia, and in the easternmost portion of the Valley and Ridge. Well-developed karst topography is characteristic of the Great Valley, and many caverns are located in the subsurface (Hayes, 1991).

Appalachian Plateaus

The Appalachian Plateaus physiographic region (Appalachian Plateaus), locally known as the Cumberland Plateau, consists of westward-dipping, consolidated, sedimentary rocks composed mainly of sandstone, shale, and coal. It is located at the western end of Virginia. Extensive erosion has formed steep slopes and narrow valleys throughout this province. Although some parts exhibit a low relief plateau-like morphology, much of the Appalachian Plateaus is strongly dissected by stream erosion, and the topography is rugged. Regional-scale folds in the Appalachian Plateaus were formed in response to shortening on thrust faults that do not reach the present surface and are rooted to the east in the Valley and Ridge. The upper Paleozoic strata of the Plateaus are rich in mineral resources, such as coal, natural gas, and petroleum (Fenneman, 1938; Fenneman and Johnson, 1946).

Previous Studies

Previous studies have collected and reported low-flow data or analyzed low-flow characteristics for Virginia streams. Hayes (1991) provided a comprehensive analysis of low-flow characteristics in Virginia streams. A study by Nuckels (1970) analyzed long-term, continuous-record streamgaging stations throughout Virginia. Other studies have focused on portions of the State. These include studies by Cushing and others (1973), Trainer and Watkins (1975), Mohler and Hagan (1981), Smith (1981), Wetzel and Bettendorff (1986), Lynch (1987), and Lynch and others (1987).

Approach

Low-flow characteristics were determined by frequency analysis of low-flow non-exceedance probabilities and annual and monthly flow-duration statistics. Study sites were selected, data were evaluated, basin characteristics were compiled, and low-flow frequency and duration analyses were performed. Regional regression equations were developed using frequency data and basin characteristics. Study results are presented in a series of tables.

Site Selection

Streamgaging stations with at least 10 years of continuous record were identified as long-term, continuous-record streamgaging stations. Streamgaging stations with less than 10 years of continuous record were identified as short-term, continuous-record streamgaging stations. A total of 426 continuous-record streamgaging stations met these criteria. There were 290 long-term, continuous-record streamgaging stations and 136 short-term, continuous-record streamgaging stations selected for study. More than 3,000 partial-record streamgaging stations were identified as candidates for low-flow characterization. Of these, 1,642 were identified as potential study sites, each having enough flow data upon which to perform statistical tests. Of these, 626 sites met a threshold of at least 10 low-flow discharge measurements considered necessary to create a meaningful index-site, partial-record site x-y low-flow relation. Of these, 13 sites were removed from the final group of relations due to a lack of meaningful statistical relation between the paired x-y datasets. A total of 613 sites were found to be suitable with viable statistical relations between partial-record flow data and corresponding, vetted, index-record site daily value flow data, from which index-site, partial-record site x-y pairs were developed.

In each of these site categories, (1) long-term continuous-record, (2) short-term continuous-record, and (3) partial-record, data from candidate streamgaging stations were quality checked to identify any numerical errors. Then, tables were created for candidate streamgaging stations in each category, listing all datapoints over the period of record. Each list of datapoints was individually evaluated, using written accounts of past data-collection procedures and anecdotal information specific to each streamgaging site, to discover and segregate any intervals in the record in which concomitant effects such as data of poor quality or severely altered or regulated flows negatively affected the candidate data. Data within these impacted intervals were segregated from the larger dataset.

Similarly, using professional judgment, drainage basin area and usable watershed storage volume upstream from the streamgaging station were calculated for each candidate dataset in which regulation was suspected. If the calculated volume of usable water storage upstream from the streamgaging station met or exceeded 100 acre-feet per square mile,

an amount considered to significantly regulate streamflow, then the affected streamflow data were eliminated from the analysis, potentially eliminating the streamgaging station as a candidate site (Benson, 1962, 1964). The streamgaging stations used in this study are listed in table 1 (compact disc (CD) in pocket).

Data Evaluation

For each long- and short-term continuous-record dataset, the annual 1-, 4-, 7-, and 30-day average low-flow climatic year (April 1 through March 31) time series were determined. Datapoints in each long- and short-term continuous-record time series, and datapoints from each partial-record dataset were plotted in time-series-specific, streamgaging station-specific scatter plots, and each scatter plot was visually checked for evidence of trends. Summary statistics were generated for each dataset along with additional statistics useful for identifying trends in data and monotonic, non-monotonic, linear, and non-linear correlation, including (1) calculating Kendall's Tau, (2) creating an index of Kendall's trend probability, and (3) calculating Spearman's rho to help determine the strength of any linear or non-linear monotonic trend (Helsel and Hirsch, 2002). Also, (4) linear regression of each dataset with time and (5) plotting residuals were performed to help identify any significant correlation with time and, if evident, any negative or positive auto-correlation. Finally, (6) a runs test of each dataset was performed to help determine any significantly non-linear change over time using GraphPad Prism¹.

The results of these statistical tests were summarized for each candidate dataset and used to help determine the degree of significant auto-correlation within the data from each candidate site. If no significant trend was evident at the 0.05 confidence level, the candidate site became part of the study pool in its site class. If a significant trend was evident, it was further evaluated to determine if (1) the trend could be directly attributed to a causal factor or (2) the trend produced values that exceed those normally expected from a random sample. If the trend could not be directly attributed to a causal factor or if trend values ranged within the bounds of expected statistical variation, then the trend was considered non-problematic and no efforts were made to compensate for it by adjusting the streamgaging station dataset. If the trend could be attributed to a causal factor or trend values were determined to range outside the bounds of expected statistical variation, then several methods to evaluate the dataset and remove the trend were considered. These methods included (1) testing the dataset against an annual precipitation time series to identify any correlation with annual precipitation, (2) sampling from the dataset, then re-evaluating the auto-correlation of the sample, (3) grouping the data into alternate time periods and computing a summary statistic for the period, such as a

¹ GraphPad Prism version 5.0b, 2009, GraphPad Software, San Diego, California.

time-weighted mean or median, and (4) removing the dataset from the pool of sites to be analyzed. If trends persisted in the revised dataset, then the candidate dataset was removed from consideration as a possible study site.

Of the 290 long-term, continuous-record candidate datasets considered for study, zero were removed from consideration because they either had too few datapoints available for analysis or characterized streams with excessively regulated flow, while 56 datasets were adjusted to remove data collected during periods of excessively regulated flow. Significant statistical trends were identified in 80 datasets. Of these, trends in 14 datasets were determined to be non-problematic, and trends in 66 datasets were determined as potentially problematic. The 66 potentially problematic datasets were detrended by sampling from the dataset and re-evaluating the auto-correlation of the sample.

Of the 136 short-term, continuous-record candidate datasets considered for study, zero were removed from consideration because they either had too few datapoints available for analysis or characterized streams with excessively regulated flow. Significant statistical trends were identified in zero of these datasets.

Of the over 3,000 partial-record candidate datasets considered for study, more than 1,358 were removed from consideration because they either had too few datapoints available for analysis, or characterized streams with excessively regulated flow. Of the remaining 1,642 sites, 1,016 were removed from consideration because a minimum of 10 low-flow measurements considered necessary to create a meaningful index-site, partial-record site x-y low-flow relation were lacking in the dataset, and 13 were removed from consideration because a suitable, vetted, index-record site with corresponding daily value flow data from which to develop an index-site, partial-record site x-y pair could not be found. Of the remaining 613 sites, statistical trends were identified in zero datasets, and zero datasets were partially censored due to indications of excessively regulated flow.

Monthly Streamflow Statistics

Monthly streamflow statistics were determined in units of cubic feet per second and cubic feet per second per square mile for over 300 continuous-record streamgaging stations using USGS individual daily streamflow data collected over the period of record (USGS National Water Information System (NWIS) database accessed March 11, 2009). Streamflow statistics computed include the count of individual daily streamflow data values, the maximum, minimum, and median values sampled in each month, the arithmetic, geometric, and harmonic mean values for each month, the standard deviation of values in each month, and the monthly flow-duration value within each of the following percentile groupings: 5th percentile, 10th percentile, 20th percentile, 30th percentile, 40th percentile, 50th percentile, 60th percentile, 70th percentile, 80th percentile, and 90th percentile. Relative comparisons of

inter-basin monthly streamflows may be made using monthly statistics presented in units of cubic feet per second per square mile. Relative comparisons of monthly low flows to other flows may be made using the monthly streamflow percentiles presented in groupings ranging from the 5th percentile monthly flow to the 90th percentile monthly flow. Monthly streamflow statistics are listed in table 2 (CD in pocket).

Flow-Duration Curves

Flow-duration curves were developed for more than 300 continuous-record streamgaging stations using USGS individual daily value streamflow data collected over the period of record (USGS NWIS database accessed March 11, 2009). Flow-duration statistics were summarized and transferred to short-term, continuous-record and partial-record streamgaging stations using the MOVE.1 method. A flow-duration curve is a cumulative frequency curve that shows the relation between streamflow and the percentage of time that it is equaled or exceeded. These curves may be used to answer questions such as, “what percentage of time is the daily value of flow data above (or below) a certain discharge value?” To create the curves, individual daily value streamflow data, expressed in cubic feet per second (ft³/s), were ranked from largest to smallest daily value, organized by percentile categories and plotted. Statistics from flow-duration curves are summarized in table 3 (CD in pocket).

In addition to daily value flow-duration statistics, a base-flow index, and Lane’s variability index were computed for continuous-record, short-term continuous-record, and partial-record streamgaging stations. The ratio of daily value flow-duration statistics Q_{50} and Q_{90} is a useful index of the variability of base flow associated with stream low flow. For each streamgaging station, a base-flow index was computed as the $\log_{10}$ of the ratio of daily value flow-duration Q_{50} to daily value flow-duration Q_{90} (Nelms and others, 1997). Lane’s variability index (Lane and Lei, 1950) was also computed for each streamgaging station; this index is a measure of the overall variability of the daily flow-duration values for a particular streamgaging station and is calculated as the standard deviation of the logarithms of the daily flow-duration values. Base-flow indices and Lane’s variability indices are listed in table 3.

Low-Flow Frequency Analysis

Low-flow frequency analysis was used to determine the annual 1-, 4-, 7-, and 30-day average minimum low-flow climatic year time series and annual non-exceedance probabilities for long-term, continuous-record streamgaging stations. The 0.9, 0.8, 0.7, 0.6, 0.5, 0.4, 0.3, 0.2, 0.1, 0.05, 0.02, 0.01, and 0.005 annual non-exceedance probabilities were calculated. The climatic year was defined as April 1 through March 31. After these analyses were made, daily flow values from suitable long-term, continuous-record

streamgaging stations were matched with daily flow values from short-term, continuous-record streamgaging stations, and instantaneous discharge measurements from partial-record streamgaging stations, to create index-site, short-term continuous, and index-site, partial-record x-y pairs. A line of organic correlation (LOC) was fitted to each set of x-y pairs using the Maintenance of Variance with Extension (MOVE.1) method, and low-flow frequencies were then described for each short-term continuous-record site and each partial-record site as the transfer of the index-site flow statistic through the orthogonal LOC relation. For more information, see the section titled MOVE.1 Regression Equations for Partial-Record and Short-Term, Continuous-Record Streamgaging Stations.

Low-flow frequency analysis began with calculation of the annual streamflow time series by climatic year for each average minimum flow of interest, yielding the 1-, 4-, 7-, and 30-day average minimum low-flow climatic year time series for each long-term, continuous-record streamgaging site. Each time series dataset was examined for suitability for frequency analysis, as previously described in the data evaluation section. A Log-Pearson Type III probability distribution was then fitted to each vetted annual low-flow time series, yielding a conditional-probability curve describing all flows as restricted by flow value and assumed to be non-zero. Selected, restricted low-flow characteristics were computed using a fitted Log-Pearson Type III parametric distribution of the form:

$$X_T = \bar{X} + KS, \quad (1)$$

where

- X_T = the conditional low-flow statistic;
- $\bar{X}$ = the mean of the annual events;
- S = the standard deviation of the logarithms of the annual events; and
- K = the Log-Pearson Type III frequency factor for skewness of G at a recurrence interval of T, remembering that low-flow non-exceedance probability $(p) = \frac{1}{T}$.

The Log-Pearson Type III is a 3-parameter distribution, well suited to analyses of data tending to have lower limits but no upper bounds. The Log-Pearson Type III distribution also contains the log-normal distribution, as a special case, when the skew coefficient of the logarithmically transformed data equals zero. These attributes, combined with the flexibility of a 3-parameter distribution, make the Log-Pearson Type III parametric distribution well-suited to low-flow frequency analysis.

The Log-Pearson Type III conditional-probability curve was inspected for adequate fit and the conditional return period low flows for the 1-, 4-, 7-, and 30-year averaged time series were retrieved. If flow events with a magnitude of zero were present in an averaged time series, then the fitted conditional-probability curve was adjusted, using conditional-probability

adjustment methods described below, and yielding a fitted Log-Pearson Type III unconditional-probability curve describing low-flow probabilities not restricted by flow value. The unconditional-probability curve was inspected for adequate fit, and the unconditional return period low flows for the 1-, 4-, 7-, and 30-year averaged time series were retrieved. Retrieved return-period flows were tabulated, graphed, and organized by streamgaging station number and averaged-time series category. These data are summarized in table 4 (p. 27).

Conditional-Probability Adjustment

Methods of conditional probability adjustment (Jennings and Benson, 1969; Tasker, 1987), were used to adjust the annual non-exceedance probability Log-Pearson Type III low-flow curves, developed in the low-flow frequency analysis, for instances of zero flow. This was done by adjusting the Log-Pearson Type III distribution for cases where one or more elements of the annual 1-, 4-, 7-, or 30-day average low-flow time series were equal to zero.

The fitted Log-Pearson Type III parametric distribution has the form shown in eq 1 and is considered a *conditional* parametric distribution, or probability curve, because it describes the probability that a low flow is less than a particular flow threshold *given that all flow remains non-zero*.

The conditional probability adjustment creates an *unconditional* Log-Pearson Type III parametric distribution, in which the probability curve describing the low flow is not restricted by flow value.

The conditional probability adjustment is described by the following equation:

$$X_T = \bar{X} + K^*S, \quad (2)$$

where

- X_T = the unconditional low-flow statistic;
- $\bar{X}$ and S = mean and standard deviation respectively, computed from the non-zero annual 1-, 4-, 7-, and 30-day average low flows; and
- K^* = the adjusted frequency factor calculated using an adjusted probability, p_{adj} , which equals

$$\left[p \left(\frac{N}{n} \right) - \frac{N-n}{n} \right],$$

where

- N = the total number of events in the low-flow time series,
- n = the number of non-zero events, and
- p = the unconditional probability $(1/T)$.

The numbers in table 4 are adjusted for zero flow using conditional probability adjustment.

MOVE.1 Regression Equations for Short-Term, Continuous-Record and Partial-Record Streamgaging Stations

Regression equations describing low flows at partial-record and short-term, continuous-record streamgaging stations as functions of flows at selected long-term, continuous-record, index sites were prepared using the MOVE.1 method proposed by Stedinger and Thomas (Stedinger and Thomas, 1985). This method allows common logarithms (Log_{10}) of streamflow daily values collected at a short-term, continuous-record, streamgaging station, or instantaneous discharge measurements collected at a partial-record, streamgaging station (y-axis), to be plotted against corresponding common logarithms of streamflow daily values from an appropriate index site (x-axis). An ordinary least squares linear regression model of the form $y = a + bx$ is fitted to these transformed data, and the relation is then adjusted using the MOVE.1 method, yielding an orthogonal LOC. The LOC may be used to estimate the common logarithm of stream low flow at the short-term, continuous- or partial-record site (y), as a function of the common logarithm of streamflow at the index-record site (x), while preserving the statistical variance associated with each site. As the relation of low-flow values from either a partial-record site, or a short-term, continuous-record site, to a corresponding long-term, continuous-record site can be non-linear, the linear transformation of values afforded by the MOVE.1 linear regression of the LOC of the common logarithms of each dataset can accommodate, yielding accurate transfer of values through the relation line.

MOVE.1 Analyses for Short-Term, Continuous-Record Streamgaging Stations

Regression equations describing low flows at short-term, continuous-record streamgaging stations were prepared using methods similar to those used for partial-record stations. One-hundred thirty-six (136) short-term, continuous-record streamgaging station datasets were evaluated as possible candidates for low-flow characterization using the MOVE.1 methodology. All of these datasets were identified as having enough flow data upon which to perform statistical tests. Statistics describing each dataset were developed and scattergrams of each dataset were prepared.

The daily flow values within the 136 short-term, continuous-record datasets were compared against the corresponding daily flow values within 251 vetted long-term, continuous-record datasets identified as candidate index sites. Three dimensionless indices, each expressed as a value from 0 to 1, were created to facilitate the ranking and comparison of each potential x-y pair by (1) the number of coincident days in which daily flow data values were computed, expressed as a fraction of the number of daily flow data values computed at the short-term, continuous-record site, (2) the value of Spearman's rank correlation coefficient (r_s) computed for

each short-term, continuous-record site and candidate index site, and (3) a ranking of candidate index-site proximity to the short-term, continuous-record site, relative to the proximity of other candidate index sites. An overall ranking of candidate index-site, short-term, continuous-record site x-y pairs, computed as the sum of the three separate dimensionless indices, was used to facilitate creation of a list containing the top 20 ranked candidate index-site, short-term, continuous-record site x-y pairs. An orthogonal regression of the common logarithms of the measured daily flow values of the short-term, continuous-record site against the common logarithms of each of the top 20 candidate index sites was performed using the MOVE.1 method, yielding a plot and LOC for each of the top 20 candidate pairs for each short-term, continuous-record site. Each of the candidate x-y pair selections contained in the top 20 ranking list for each of the 136 short-term, continuous-record regressions was then individually evaluated based on the orthogonal regression and additional statistical, empirical, and anecdotal information specific to each site. Then a best representative index-site, short-term, continuous-record site x-y pair regression was selected. Zero index-site, short-term, continuous-record site x-y pair regressions were removed from the final group of relations due to lack of a meaningful statistical relation between the x and y variables of the dataset. Low-flow frequencies were described for each short-term, continuous-record site as the transfer of the index-site flow statistic through the orthogonal LOC relation. Short-term, continuous-record site MOVE.1 regression equations are listed in table 5 (CD in pocket).

MOVE.1 Analyses for Partial-Record Streamgaging Stations

More than 3,000 partial-record streamgaging station datasets were evaluated as possible candidates for low-flow characterization using the MOVE.1 methodology. Of these, 1,642 datasets were identified as having enough flow data upon which to perform statistical tests. Statistics describing each dataset were developed and scattergrams of each dataset were prepared. Based on statistical descriptions and visual checks of each scattergram it was determined that each partial-record dataset should contain at least 10 low-flow discharge measurements in order to create a meaningful index-site, partial-record site x-y relation. A subset of 626 partial-record datasets, each with more than 9 low-flow measurements, was identified for further analysis.

Flow data from partial-record streamgaging stations are instantaneous discharge measurements, and flow data from continuous-record streamgaging stations are daily flow values. The instantaneous discharge measurements within the 626 partial-record datasets were compared against the corresponding daily flow values within 255 vetted long-term, continuous-record datasets identified as candidate index sites. Three dimensionless indices, each expressed as a value from 0 to 1, were created to facilitate the ranking and comparison of

each potential x-y pair by (1) the number of coincident days in which daily flow measurements were made, expressed as a fraction of the number of daily flow measurements taken at the partial-record site, (2) the value of Spearman's rank correlation coefficient (r_s) computed for each partial-record site and candidate index site, and (3) a ranking of candidate index-site proximity to the partial-record site, relative to the proximity of other candidate index sites. An overall ranking of candidate index-site, partial-record site x-y pairs, computed as the sum of the three separate dimensionless indices, was used to facilitate creation of a list containing the top 20 ranked candidate index-site, partial-record site x-y pairs. An orthogonal regression of the common logarithms of the measured instantaneous discharge values of the partial-record site against the common logarithms of the daily flow values of each of the top 20 candidate index sites was performed using the MOVE.1 method, yielding a plot and LOC for each of the top 20 candidate pairs for each partial-record site. Each of the candidate x-y pair selections contained in the top 20 ranking list for each of the 626 partial-record regressions was then individually evaluated based on the orthogonal regression and additional statistical, empirical, and anecdotal information specific to each site. Evaluations of each regression included review of statistical metrics and visual checks of each regression plot for variance, range, and goodness of fit. A best representative index-site, partial-record site x-y pair regression was then selected. Thirteen (13) index-site, partial-record site x-y pair regressions were removed from the final group of relations due to lack of a meaningful statistical relation between the paired x-y datasets, bringing the total number of index-site, partial-record site x-y paired regressions to 613. Low-flow frequencies were then described for each partial-record site as the transfer of the index-site flow statistic through the orthogonal LOC relation. Partial-record site MOVE.1 regression equations are listed in table 6 (CD in pocket).

Basin Characteristics

Measurements and statistics describing characteristics associated with delineated drainage basins in Virginia were developed and compiled for use as possible explanatory variables in low-flow regional regression analyses. These *basin characteristics* describing 312 unique attributes for each of 3,469 delineated drainage basins form a matrix of 1,082,328 values. The basin characteristics were compiled using Arc-GISTM² and data from the following sources: (1) a Virginia delineated drainage basin dataset (Hayes and Wiegand, 2006); (2) a USGS national hydrography dataset (U.S. Geological Survey, 2006); (3) a Natural Resources Conservation Service (NRCS) soil statistics dataset (U.S. Department of Agriculture, 2007); (4) a PRISM climate dataset (PRISM Climate Group, 2007); (5) a National Oceanic and Atmospheric Administration

(NOAA) rainfall intensity and climate dataset (National Oceanic and Atmospheric Administration, 2007; Paybins, 2008); (6) a USGS 2005 geology dataset (Dicken and others, 2005); (7) a USGS 2007 national elevation dataset (U.S. Geological Survey, 2007); and (8) a physiography dataset for the United States (Fenneman, 1938). Statistics summarizing basin characteristics selected for regional regression of low flows in Virginia are listed in table 7 (CD in pocket). A description of these basin characteristics, their definitions, and datasources can be found in table 8. A table of basin characteristics chosen for possible use in candidate regional regression models can be found in table 9 (CD in pocket). Drainage-basin boundaries were obtained from the delineated drainage basin dataset listed above (Hayes and Wiegand, 2006).

Regionalization

Regional regression analysis was used to develop equations for estimating the frequency of low flows at ungaged sites in Virginia. These equations relate the annual non-exceedance probability flows computed using low-flow frequency analysis of data from long-term gages to the measured basin characteristics of delineated drainage basins.

Six physiographic regions were used to organize regression analyses of basin characteristics against low-flow estimates. These six physiographic regions are similar to the five physiographic provinces identified in the discussion of physical setting except that the Mesozoic Basins, considered a subset of the Piedmont Physiographic Province, are identified separately as one of the six physiographic regions. The rationale for this organizational framework, that physiographic differences expressed in these six regions are related to hydrologic response, appeared to be a sound rationale because candidate regression models significantly improved across the range of low-flow probabilities as a consequence of these regressions based on physiographic regions.

Definition of Regions

The six regions delineated and used to evaluate low flows are Coastal Plain, Piedmont, Mesozoic Basins, Blue Ridge, Valley and Ridge, and Appalachian Plateaus (fig. 1). Each region was identified using Arc-GISTM² to perform spatial separations of the geologic dataset. Regions were selected and identified iteratively, based on the improved explanatory power of candidate regression models associated with the regions across the range of low-flow annual non-exceedance probabilities. Exploratory statistical analyses helped improve the explanatory power of regional regression models. The Mesozoic Basins, usually grouped with the Piedmont physiographic region, were explicitly identified as a unique region for the purposes of this study, leading to improved correlations among candidate regional regression models.

² Arc-GIS, ESRI Inc., copyright 1999-2009, ESRI ArcMap 9.3.1 and ArcInfo Workstation GIS software, ESRI Inc., 380 New York Street, Redlands, California 92373-8100, USA.

Table 8. Selected basin characteristics, their definitions, and datasources.[ft, foot; mi², square mile; ft/mi, foot per mile; DD, decimal degrees; mi, mile; in., inch]

Basin characteristic	Units	Definition	Datasource
Mean elevation	ft	The average elevation in the basin.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Drainage area	mi ²	Published values of surface drainage area for each basin in the study.	Hayes and Wiegand, 2006
Basin slope	(ft/mi)	The average slope of the basin from upland to outlet.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Perimeter	mi	The length of the basin boundary.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Latitude	DD	The east-west coordinate at the centroid of the basin boundary.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Longitude	DD	The north-south coordinate at the centroid of the basin boundary.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Elevation	ft	The distance above sea level associated with the center point of the watershed polygon.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Basin relief	ft	The difference between maximum and minimum elevation within the basin.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Valley length	mi	The length of the main valley within the basin.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Channel slope	ft/mi	The slope of the main channel within the basin.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Elevation at 10 percent	ft	The distance above sea level associated with the main channel at 10 percent of the basin drainage area from the outlet.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Elevation at 85 percent	ft	The distance above sea level associated with the main channel at 85 percent of the basin drainage area from the outlet.	U.S. Geological Survey, 2007, National Elevation Data Set (NED)
Stream length	mi	Length along the main channel from the outlet to the basin divide.	U.S. Geological Survey, 2006, National Hydrography Dataset
Forest	percent	Fraction of basin land area classified as forest.	Homer and others, 2004, http://www.mrlc.gov/nlcd.php
Urban	percent	Fraction of basin land area classified as urban area.	Homer and others, 2004, http://www.mrlc.gov/nlcd.php
Agriculture	percent	Fraction of basin land area classified as agricultural land.	Homer and others, 2004, http://www.mrlc.gov/nlcd.php
Wetland	percent	Fraction of basin land area classified as wetland.	Homer and others, 2004, http://www.mrlc.gov/nlcd.php
Water	percent	Fraction of basin land area classified as surface water.	Homer and others, 2004, http://www.mrlc.gov/nlcd.php
Grass	percent	Fraction of basin land area classified as grassland.	Homer and others, 2004, http://www.mrlc.gov/nlcd.php
Bare	percent	Fraction of basin land area classified as exposed soil.	Homer and others, 2004, http://www.mrlc.gov/nlcd.php
Basin area in Coastal Plain physiographic region	mi ²	Area within the Coastal Plain physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Piedmont physiographic region	mi ²	Area within the Piedmont physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Blue Ridge physiographic region	mi ²	Area within the Blue Ridge physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Valley and Ridge physiographic region	mi ²	Area within the Valley and Ridge physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Appalachian Plateaus physiographic region	mi ²	Area within the Appalachian Plateaus physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Mesozoic Basins physiographic region	mi ²	Area within the Mesozoic Basins physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in water	mi ²	Area covered in surface water.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Coastal Plain physiographic region	percent	Percent of the basin within the Coastal Plain physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Piedmont physiographic region	percent	Percent of the basin within the Piedmont physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Blue Ridge physiographic region	percent	Percent of the basin within the Blue Ridge physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005

Table 8. Selected basin characteristics, their definitions, and datasources.—Continued[ft, foot; mi², square mile; ft/mi, foot per mile; DD, decimal degrees; mi, mile; in., inch]

Basin characteristic	Units	Definition	Datasource
Basin area in Valley and Ridge physiographic region	percent	Percent of the basin within the Valley and Ridge physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Appalachian Plateaus physiographic region	percent	Percent of the basin within the Appalachian Plateaus physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in Mesozoic Basins physiographic region	percent	Percent of the basin within the Mesozoic Basins physiographic region.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Basin area in water	percent	Percent of basin area covered in surface water.	Fenneman and Johnson, 1946; Mixon and others, 1989; Dicken and others, 2005
Mean annual precipitation	in.	Mean annual precipitation falling on the basin, averaged over the whole basin.	PRISM Climate Group, 2007; Paybins, 2008
Mean January–February–March precipitation	in.	Mean January–February–March precipitation falling on the basin, averaged over the whole basin.	PRISM Climate Group, 2007
2-year 24-hour precipitation intensity	in.	Basin average rainfall at the 24-hour 2-year recurrence interval.	National Oceanic and Atmospheric Administration, 2007; Paybins, 2008
Basin area with 0 percent impervious surface	percent	Percent of the basin coded as 0 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 1–5 percent impervious surface	percent	Percent of the basin coded as 1 to 5 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 6–10 percent impervious surface	percent	Percent of the basin coded as 6 to 10 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 11–25 percent impervious surface	percent	Percent of the basin coded as 11 to 25 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 26–50 percent impervious surface	percent	Percent of the basin coded as 26 to 50 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 51–75 percent impervious surface	percent	Percent of the basin coded as 51 to 75 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 76–100 percent impervious surface	percent	Percent of the basin coded as 76 to 100 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 0 percent impervious surface	mi ²	Area within the basin coded as 0 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 1–5 percent impervious surface	mi ²	Area within the basin coded as 1 to 5 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 6–10 percent impervious surface	mi ²	Area within the basin coded as 6 to 10 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 11–25 percent impervious surface	mi ²	Area within the basin coded as 11 to 25 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 26–50 percent impervious surface	mi ²	Area within the basin coded as 26 to 50 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 51–75 percent impervious surface	mi ²	Area within the basin coded as 51 to 75 percent impervious.	Yang and others, 2002; Homer and others, 2004
Basin area with 76–100 percent impervious surface	mi ²	Area within the basin coded as 76 to 100 percent impervious.	Yang and others, 2002; Homer and others, 2004

Model Development

Exploratory analyses of all computed P-percent chance 1-, 4-, 7-, and 30-day averaged low flows and potential explanatory variables (basin characteristics) were performed prior to developing candidate regression models, using statistical software, JMP[®] version 8.³ Sites with 50 percent or more of their drainage area within a region were included in developing that region's regression equations, with the exception of the Coastal Plain region in which all sites with 5 percent or more of their land area within the region were included in developing the region's regression equations. Scatter plots showing relations between pairs of basin characteristics were evaluated along with basic descriptive statistics to (1) identify explanatory variable pairs that are highly correlated with one another so that they may be evaluated and possibly removed from the selection dataset and (2) determine candidate explanatory variable, response variable pairs that are highly correlated with potentially significant explanatory power. In some instances, one or both variables in an explanatory variable, response variable pair were mathematically transformed to potentially enhance their relation and statistical power when part of a linear regression model. Depending on the shape of each scatter plot relation, possible transformations of the X variable included $\log X$, $\sqrt{X}$, X^2 , and X^3 , and possible transformations of the Y variable included $\log Y$, $\sqrt{Y}$, Y^2 , and Y^3 , as suggested by "Tukey's bulging rule" (Mosteller and Tukey, 1977). Exploratory statistical investigation and comparison of the 312 candidate explanatory basin characteristics associated with each P-percent chance 1-, 4-, 7-, and 30-day averaged low-flow value proceeded iteratively until each candidate variable, low-flow value x-y pair was vetted for possible explanatory power.

Candidate regional regression models were developed following an iterative approach. For each region, and for each 1-, 4-, 7-, and 30-day averaged low-flow response variable, forward-, backward-, and mixed-stepwise regressions were used to identify combinations of basin characteristics with likely explanatory power. A list of all possible 1-, 2-, and 3-parameter candidate models was prepared for each 1-, 4-, 7-, and 30-day averaged P-percent chance low-flow response variable. The list of candidate models was sorted by the number of explanatory variables in each model. Then, candidate models in each sub-list were evaluated using three metrics—the coefficient of determination (R-square), the root mean square error (RMSE), and Akaike's information criterion (AIC), modified with a second-order correction for small sample sizes and identified as AICc, (Burnham and Anderson, 2002). The most reasonable 1-, 2-, and 3-parameter models for each 1-, 4-, 7-, and 30-day averaged P-percent chance low flow in each region were chosen as final candidates for regional regression. Final 1-, 2-, and 3-parameter regional regression models were prepared using statistical software (JMP[®] version 8). Explanatory variables for any 2- and 3-parameter models were

carefully chosen to ensure that each variable in the model contributed adequate explanatory power and to avoid instances of collinearity, autocorrelation, or excessive variance inflation. Regional regression models were evaluated and modified iteratively. Final models were then selected. Coefficients of final models were specified using the weighted least squares (WLS) option of the Weighted-Multiple-Linear Regression Program (WREG, version 1.01; Eng and others, 2009). Preference was given to regional regression models with explanatory variables that are easily determined and understood. Models with little explanatory power and high standard errors were not reported.

Model Verification and Diagnostics

Evaluation of candidate models using R-square, RMSE, and AICc provided insights into the most appropriate candidate model choices for each 1-, 4-, 7-, and 30-day averaged P-percent chance low-flow response variable in each region. The R-square value indicated the proportion of variability in each relation that was accounted for by the statistical model—in this case, a linear regression model. R-square values approaching 1 suggested increased explanatory power. The RMSE value indicated the differences between values predicted by each model and the values actually observed or measured. The RMSE helped to aggregate individual residual differences into a single measure of predictive power. To assist in choosing among candidate models in each region, plots were constructed identifying each candidate model by the number of model parameters (x-axis) and RMSE value (y-axes), providing a spatial representation of increased or decreased RMSE relative to the number of model terms. The AICc value indicated the goodness of fit of each regression model, relative to other candidate models in the list, providing a tool for model selection. AICc values are grounded in the concept of entropy, offering a relative measure of the information lost when a given model is used to describe reality. AICc describes the difference between model bias and model variance, or the tradeoff between model precision and model complexity. Several competing models may be ranked by their AICc values. Lower AICc values were considered better than higher values.

Leverage plots (Sall, 1990), also known as "partial-regression residual leverage plots" (Belsley and others, 1980) or "added variable plots" (Cook and Weisberg, 1982), were used to further investigate and screen candidate regional regression models. Leverage plots allow one to view the significance of each model parameter in the candidate regression model within the context of the larger model. The effect of a model parameter on the larger model is displayed on the leverage plot by comparing the sum of squared residuals of the model to the sum of squared residuals of the model with the effect of interest removed. Residual errors that are smaller when the effect of a particular parameter is included in the model help confirm that the effect contributes significantly

³ SAS Institute Inc., 2009, Cary, North Carolina.

to the model fit. The leverage plot graphically displays this potential significance for each candidate explanatory variable, showing for each point in the model what the residual would be with and without the effect in the model. In the leverage plot, the distance from a point to the line of fit describes the actual residual. The distance from a point to the horizontal line of the mean describes the potential residual error if the effect were not part of the model. In other words, the mean line of the leverage plot represents the model if the value of the parameter effect were constrained to zero. The idea is to determine if the line of fit on the leverage plot for each explanatory variable carries each point on the plot significantly better than does the horizontal line of the mean shown on the plot. Leverage plots were used to identify (1) regression variables with significant explanatory power, (2) regression variables with borderline or insignificant explanatory power, and (3) regression variables exhibiting significant collinearity within the model (fig. 2).

Analyses of leverage plots for each potential explanatory variable in a candidate regression model afforded the opportunity to see the characteristics of each candidate variable, the influential strength of the variable, and its consequences within the larger model. The picture provided by each leverage plot enabled a thorough, visual vetting of individual candidate model variables and a measure of confidence in variable selection that could not be obtained from non-graphical indices of collinearity and variable inflation, preparing a means to construct robust regional regressions. A leverage plot was constructed and evaluated for each model parameter in each candidate regional regression model. Models containing explanatory variables with significant explanatory power, limited parameter counts, and limited collinearity were preferred as final candidates.

Explanatory variables associated with the best candidate models were chosen for inclusion in final candidate single-parameter and multi-parameter regional regression models. Preference was given to explanatory variables that are easily measured and understood.

Final models were specified using WLS regression (Eng and others, 2009). Weights were formed as described in the Weighted-Multiple-Linear Regression Program (WREG, version 1.01). Candidate regional regressions and their associated leverage plots were carefully evaluated to avoid the effects of potential cross correlation between sites and excessive variability in low flows at streamgaging stations.

Because the length of streamflow record varies among streamgages, the precision of streamflow estimates also varies. Different streamflow records have different variances. Concurrent flows observed at different gages in a region can yield cross correlations. If these correlations are not accounted for in a regional analysis, regression parameters may be less precise, and estimators of precision may be less accurate (Eng and others, 2009).

WLS analyses account for cross correlations among characteristics. Weights are formed using the period of record and the variance of the response variable annual time

Figure 2. Example leverage plots showing (A) significant explanatory power, (B) insignificant explanatory power, and (C) evidence of collinearity. The solid red lines represent the significance of each explanatory model parameter, shown on the x-axis, within the context of the larger model. The dashed red lines represent the confidence interval of the significance of each explanatory model parameter. The dashed blue lines represent the horizontal line of the mean, describing the larger model if the effect of each explanatory model parameter were constrained to zero. The idea behind each leverage plot is to determine if the line of fit for each potential explanatory model variable carries each point on the plot significantly better than does the horizontal line of the mean shown on the plot.

series. The series of annual 1-, 4-, 7-, and 30-day averaged P-percent chance low flows at streamgaging stations and the geographic distances between streamgages are examined to help determine the degree of potential correlation between sites. Weights are assigned to account for variability. Sites exhibiting potentially cross-correlated, concurrent low flows are given less weight than other sites. Pseudo R-square is reported for each WLS regression model. A metric in the style of the R-square commonly reported as part of ordinary least squares regression, pseudo R-square is designed specifically to evaluate the iterative models developed using WREG.

The average variance of prediction (AVP; Stedinger and Tasker, 1985; Tasker and Stedinger, 1989) is a helpful indication of the average error of a regression. The AVP may be represented by one of two equations. The first option is

$$AVP = \sigma_i^T + \left(\frac{1}{n} \right) \sum_{i=1}^n x_i (X^T \wedge X)^{-1} X_i^T, \quad (3)$$

where

- AVP = the average variance of prediction,
- σ_i^T = the model error variance,
- n = the number of streamgaging stations in the regression model,
- x = the vector containing the basin attributes of the i^{th} station augmented by the value of one,
- X = the matrix of all basin attributes at all streamgaging stations in the regression augmented by a column of ones,
- $\wedge$ = the weighting matrix (Tasker and Stedinger, 1989),
- T = superscript indicating taking the transpose of a matrix, and
- $^{-1}$ = superscript indicating taking the inverse of a matrix.

The second option is

$$AVP = error_m + error_t, \quad (4)$$

where

- AVP = the average variance of prediction,
- $error_m$ = model error, and
- $error_t$ = time sampling error.

The AVP may be used to provide an estimate of errors that may be associated with the use of a regression model to estimate flow statistics at an ungaged site. An important consideration is that the AVP metric assumes that basin characteristics at the ungaged location are similar to those used to develop the model.

The average standard error of prediction in percent, S_p , is used in this report to express the AVP as a percentage. S_p is computed from the AVP (Aitchison and Brown, 1957) and modified for use with common logarithms as follows:

$$S_p = 100 \sqrt{\text{EXP}[\sigma^2 \cdot \ln(10)^2]} - 1, \quad (5)$$

where:

- S_p = the average standard error of prediction, in percent; and
- σ^2 = the average variance of prediction.

Regionalization yielded well-correlated low-flow regression equations in each of the six regions using computed low-flow statistics from sites listed in table 1 and selected basin characteristics. Candidate regional regression equations describing 1-, 4-, 7-, and 30-day average low flows in the Mesozoic Basins yielded the highest median R-square values of 0.80, 0.81, 0.82, and 0.86 and lowest median root mean square error values of 0.48, 0.48, 0.47, and 0.40, respectively. Candidate regional regression equations describing 1-, 4-, 7-, and 30-day average low flows in the Blue Ridge yielded median R-square of 0.74, 0.79, 0.79, and 0.83 and median root mean square error of 0.53, 0.47, 0.48, and 0.41, respectively. Candidate regional regression equations describing 1-, 4-, 7-, and 30-day average low flows in the Valley and Ridge yielded median R-square of 0.76, 0.78, 0.77, and 0.80 and median root mean square error of 0.40, 0.39, 0.39, and 0.36, respectively. Candidate regional regression equations describing 1-, 4-, 7-, and 30-day average low flow in the Piedmont, excluding the Mesozoic Basins located within the Piedmont, yielded median R-square of 0.65, 0.66, 0.68, and 0.70 and median root mean square error of 0.67, 0.66, 0.65, and 0.61, respectively. Candidate regional regression equations describing 1-, 4-, 7-, and 30-day average low flow in the Coastal Plain yielded median R-square of 0.58, 0.59, 0.65, and 0.65 and median root mean square error of 0.61, 0.63, 0.55, and 0.53, respectively. Candidate regional regression equations describing 1-, 4-, 7-, and 30-day average low flows in the Appalachian Plateaus yielded median R-square of 0.49, 0.59, 0.57, and 0.68 and median root mean square error of 0.45, 0.32, 0.33, and 0.25, respectively. Regional regression equations are found in table 10.

Table 10. Regional regression equations for estimating low flows of streams in Virginia.

[DA, basin drainage area in square miles]

	Pseudo R-square ^a	Average standard error of prediction ^a (percent)	Standard model error ^a (percent)
Virginia basins in the Coastal Plain region			
$\text{Log10LF1Day}(0.9) = -0.857 + 0.961 \cdot \text{Log10}(\text{DA})$	0.88	71	66
$\text{Log10LF1Day}(0.8) = -1.021 + 0.952 \cdot \text{Log10}(\text{DA})$	0.82	94	88
$\text{Log10LF1Day}(0.7) = -1.177 + 0.954 \cdot \text{Log10}(\text{DA})$	0.77	118	110
$\text{Log10LF1Day}(0.6) = -1.326 + 0.957 \cdot \text{Log10}(\text{DA})$	0.72	148	136
$\text{Log10LF1Day}(0.5) = -1.482 + 0.96 \cdot \text{Log10}(\text{DA})$	0.65	194	176
$\text{Log10LF1Day}(0.4) = -1.692 + 0.964 \cdot \text{Log10}(\text{DA})$	0.50	396	342
$\text{Log10LF4Day}(0.9) = -0.601 + 0.89 \cdot \text{Log10}(\text{DA})$	0.89	62	60
$\text{Log10LF4Day}(0.8) = -0.747 + 0.875 \cdot \text{Log10}(\text{DA})$	0.85	77	74
$\text{Log10LF4Day}(0.7) = -0.883 + 0.87 \cdot \text{Log10}(\text{DA})$	0.81	94	90
$\text{Log10LF4Day}(0.6) = -1.013 + 0.867 \cdot \text{Log10}(\text{DA})$	0.76	113	108
$\text{Log10LF4Day}(0.5) = -1.144 + 0.86 \cdot \text{Log10}(\text{DA})$	0.70	140	133
$\text{Log10LF4Day}(0.4) = -1.308 + 0.849 \cdot \text{Log10}(\text{DA})$	0.57	237	221
$\text{Log10LF7Day}(0.9) = -0.538 + 0.884 \cdot \text{Log10}(\text{DA})$	0.91	56	54
$\text{Log10LF7Day}(0.8) = -0.695 + 0.874 \cdot \text{Log10}(\text{DA})$	0.87	70	67
$\text{Log10LF7Day}(0.7) = -0.83 + 0.87 \cdot \text{Log10}(\text{DA})$	0.83	85	81
$\text{Log10LF7Day}(0.6) = -0.966 + 0.869 \cdot \text{Log10}(\text{DA})$	0.79	102	98
$\text{Log10LF7Day}(0.5) = -1.106 + 0.868 \cdot \text{Log10}(\text{DA})$	0.73	127	121
$\text{Log10LF7Day}(0.4) = -1.255 + 0.859 \cdot \text{Log10}(\text{DA})$	0.64	183	173
$\text{Log10LF30Day}(0.9) = -0.335 + 0.917 \cdot \text{Log10}(\text{DA})$	0.96	35	33
$\text{Log10LF30Day}(0.8) = -0.461 + 0.897 \cdot \text{Log10}(\text{DA})$	0.95	41	40
$\text{Log10LF30Day}(0.7) = -0.578 + 0.887 \cdot \text{Log10}(\text{DA})$	0.92	53	51
$\text{Log10LF30Day}(0.6) = -0.686 + 0.876 \cdot \text{Log10}(\text{DA})$	0.88	66	64
$\text{Log10LF30Day}(0.5) = -0.8 + 0.867 \cdot \text{Log10}(\text{DA})$	0.83	84	80
$\text{Log10LF30Day}(0.4) = -0.93 + 0.858 \cdot \text{Log10}(\text{DA})$	0.77	110	105
$\text{Log10LF30Day}(0.3) = -1.072 + 0.837 \cdot \text{Log10}(\text{DA})$	0.65	169	160
Virginia basins in the Piedmont region, except those within the Mesozoic Basins			
$\text{Log10LF1Day}(0.9) = -0.699 + 0.991 \cdot \text{Log10}(\text{DA})$	0.83	112	109
$\text{Log10LF1Day}(0.8) = -0.901 + 1.021 \cdot \text{Log10}(\text{DA})$	0.80	135	131
$\text{Log10LF1Day}(0.7) = -1.06 + 1.044 \cdot \text{Log10}(\text{DA})$	0.78	156	151
$\text{Log10LF1Day}(0.6) = -1.209 + 1.067 \cdot \text{Log10}(\text{DA})$	0.76	178	173
$\text{Log10LF1Day}(0.5) = -1.367 + 1.091 \cdot \text{Log10}(\text{DA})$	0.74	207	199
$\text{Log10LF4Day}(0.9) = -0.353 + 0.86 \cdot \text{Log10}(\text{DA})$	0.71	130	126
$\text{Log10LF4Day}(0.8) = -0.477 + 0.868 \cdot \text{Log10}(\text{DA})$	0.68	148	142
$\text{Log10LF4Day}(0.7) = -0.588 + 0.878 \cdot \text{Log10}(\text{DA})$	0.65	167	160
$\text{Log10LF4Day}(0.6) = -0.705 + 0.892 \cdot \text{Log10}(\text{DA})$	0.63	189	181
$\text{Log10LF4Day}(0.5) = -0.84 + 0.911 \cdot \text{Log10}(\text{DA})$	0.60	220	209
$\text{Log10LF4Day}(0.4) = -1.03 + 0.947 \cdot \text{Log10}(\text{DA})$	0.57	274	259
$\text{Log10LF7Day}(0.9) = -0.252 + 0.857 \cdot \text{Log10}(\text{DA})$	0.78	101	98
$\text{Log10LF7Day}(0.8) = -0.38 + 0.869 \cdot \text{Log10}(\text{DA})$	0.75	113	109
$\text{Log10LF7Day}(0.7) = -0.483 + 0.878 \cdot \text{Log10}(\text{DA})$	0.73	123	119
$\text{Log10LF7Day}(0.6) = -0.583 + 0.888 \cdot \text{Log10}(\text{DA})$	0.72	134	130
$\text{Log10LF7Day}(0.5) = -0.683 + 0.898 \cdot \text{Log10}(\text{DA})$	0.70	146	141
$\text{Log10LF7Day}(0.4) = -0.796 + 0.911 \cdot \text{Log10}(\text{DA})$	0.69	159	153
$\text{Log10LF7Day}(0.3) = -0.926 + 0.924 \cdot \text{Log10}(\text{DA})$	0.67	175	169
$\text{Log10LF7Day}(0.2) = -1.102 + 0.945 \cdot \text{Log10}(\text{DA})$	0.65	199	190
$\text{Log10LF7Day}(0.1) = -1.385 + 0.981 \cdot \text{Log10}(\text{DA})$	0.63	242	231
$\text{Log10LF7Day}(0.05) = -1.654 + 1.015 \cdot \text{Log10}(\text{DA})$	0.60	302	286
$\text{Log10LF30Day}(0.9) = -0.336 + 0.944 \cdot \text{Log10}(\text{DA})$	0.88	82	80
$\text{Log10LF30Day}(0.8) = -0.514 + 0.97 \cdot \text{Log10}(\text{DA})$	0.87	93	91
$\text{Log10LF30Day}(0.7) = -0.667 + 0.994 \cdot \text{Log10}(\text{DA})$	0.85	106	103

Table 10. Regional regression equations for estimating low flows of streams in Virginia.—Continued

[DA, basin drainage area in square miles]

	Pseudo R-square ^a	Average standard error of prediction ^a (percent)	Standard model error ^a (percent)
Virginia basins in the Piedmont region, except those within the Mesozoic Basins (Continued)			
$\text{Log10LF30Day}(0.6) = -0.807 + 1.017 \cdot \text{Log10}(\text{DA})$	0.84	119	116
$\text{Log10LF30Day}(0.5) = -0.963 + 1.047 \cdot \text{Log10}(\text{DA})$	0.82	136	133
$\text{Log10LF30Day}(0.4) = -1.101 + 1.065 \cdot \text{Log10}(\text{DA})$	0.80	156	152
Virginia basins in the Blue Ridge region			
$\text{Log10LF1Day}(0.9) = -0.705 + 1.107 \cdot \text{Log10}(\text{DA})$	0.93	44	43
$\text{Log10LF1Day}(0.8) = -0.881 + 1.137 \cdot \text{Log10}(\text{DA})$	0.91	54	53
$\text{Log10LF1Day}(0.7) = -1.025 + 1.162 \cdot \text{Log10}(\text{DA})$	0.89	63	61
$\text{Log10LF1Day}(0.6) = -1.162 + 1.188 \cdot \text{Log10}(\text{DA})$	0.87	72	70
$\text{Log10LF1Day}(0.5) = -1.305 + 1.215 \cdot \text{Log10}(\text{DA})$	0.85	81	79
$\text{Log10LF1Day}(0.4) = -1.462 + 1.247 \cdot \text{Log10}(\text{DA})$	0.83	92	89
$\text{Log10LF1Day}(0.3) = -1.651 + 1.286 \cdot \text{Log10}(\text{DA})$	0.81	106	102
$\text{Log10LF1Day}(0.2) = -1.892 + 1.338 \cdot \text{Log10}(\text{DA})$	0.78	126	121
$\text{Log10LF1Day}(0.1) = -2.293 + 1.429 \cdot \text{Log10}(\text{DA})$	0.75	167	160
$\text{Log10LF4Day}(0.9) = -0.689 + 1.118 \cdot \text{Log10}(\text{DA})$	0.93	45	43
$\text{Log10LF4Day}(0.8) = -0.858 + 1.148 \cdot \text{Log10}(\text{DA})$	0.91	55	53
$\text{Log10LF4Day}(0.7) = -0.998 + 1.174 \cdot \text{Log10}(\text{DA})$	0.89	64	62
$\text{Log10LF4Day}(0.6) = -1.134 + 1.201 \cdot \text{Log10}(\text{DA})$	0.87	73	71
$\text{Log10LF4Day}(0.5) = -1.274 + 1.229 \cdot \text{Log10}(\text{DA})$	0.85	83	80
$\text{Log10LF4Day}(0.4) = -1.427 + 1.26 \cdot \text{Log10}(\text{DA})$	0.83	94	91
$\text{Log10LF4Day}(0.3) = -1.611 + 1.3 \cdot \text{Log10}(\text{DA})$	0.81	108	104
$\text{Log10LF4Day}(0.2) = -1.854 + 1.353 \cdot \text{Log10}(\text{DA})$	0.78	128	124
$\text{Log10LF4Day}(0.1) = -2.25 + 1.445 \cdot \text{Log10}(\text{DA})$	0.75	169	162
$\text{Log10LF4Day}(0.05) = -2.682 + 1.554 \cdot \text{Log10}(\text{DA})$	0.72	228	216
$\text{Log10LF7Day}(0.9) = -0.657 + 1.119 \cdot \text{Log10}(\text{DA})$	0.93	44	43
$\text{Log10LF7Day}(0.8) = -0.83 + 1.15 \cdot \text{Log10}(\text{DA})$	0.91	54	53
$\text{Log10LF7Day}(0.7) = -0.971 + 1.177 \cdot \text{Log10}(\text{DA})$	0.89	63	61
$\text{Log10LF7Day}(0.6) = -1.107 + 1.204 \cdot \text{Log10}(\text{DA})$	0.87	72	70
$\text{Log10LF7Day}(0.5) = -1.246 + 1.232 \cdot \text{Log10}(\text{DA})$	0.85	82	80
$\text{Log10LF7Day}(0.4) = -1.4 + 1.264 \cdot \text{Log10}(\text{DA})$	0.83	93	90
$\text{Log10LF7Day}(0.3) = -1.582 + 1.303 \cdot \text{Log10}(\text{DA})$	0.81	107	104
$\text{Log10LF7Day}(0.2) = -1.82 + 1.355 \cdot \text{Log10}(\text{DA})$	0.79	127	122
$\text{Log10LF7Day}(0.1) = -2.199 + 1.441 \cdot \text{Log10}(\text{DA})$	0.75	165	158
$\text{Log10LF7Day}(0.05) = -2.589 + 1.535 \cdot \text{Log10}(\text{DA})$	0.72	217	206
$\text{Log10LF30Day}(0.9) = -0.489 + 1.096 \cdot \text{Log10}(\text{DA})$	0.95	35	34
$\text{Log10LF30Day}(0.8) = -0.661 + 1.126 \cdot \text{Log10}(\text{DA})$	0.93	43	42
$\text{Log10LF30Day}(0.7) = -0.798 + 1.151 \cdot \text{Log10}(\text{DA})$	0.92	51	49
$\text{Log10LF30Day}(0.6) = -0.924 + 1.174 \cdot \text{Log10}(\text{DA})$	0.90	58	57
$\text{Log10LF30Day}(0.5) = -1.049 + 1.198 \cdot \text{Log10}(\text{DA})$	0.88	66	64
$\text{Log10LF30Day}(0.4) = -1.184 + 1.225 \cdot \text{Log10}(\text{DA})$	0.87	75	72
$\text{Log10LF30Day}(0.3) = -1.34 + 1.258 \cdot \text{Log10}(\text{DA})$	0.85	85	83
$\text{Log10LF30Day}(0.2) = -1.533 + 1.298 \cdot \text{Log10}(\text{DA})$	0.82	100	96
$\text{Log10LF30Day}(0.1) = -1.829 + 1.361 \cdot \text{Log10}(\text{DA})$	0.79	126	121
$\text{Log10LF30Day}(0.05) = -2.111 + 1.425 \cdot \text{Log10}(\text{DA})$	0.76	156	149
$\text{Log10LF30Day}(0.02) = -2.462 + 1.508 \cdot \text{Log10}(\text{DA})$	0.72	206	196
$\text{Log10LF30Day}(0.01) = -2.703 + 1.564 \cdot \text{Log10}(\text{DA})$	0.70	252	238
$\text{Log10LF30Day}(0.005) = -2.855 + 1.589 \cdot \text{Log10}(\text{DA})$	0.68	294	277
Virginia basins in the Valley and Ridge region			
$\text{Log10LF1Day}(0.9) = -0.794 + 1.064 \cdot \text{Log10}(\text{DA})$	0.88	54	52
$\text{Log10LF1Day}(0.8) = -0.907 + 1.081 \cdot \text{Log10}(\text{DA})$	0.86	60	58
$\text{Log10LF1Day}(0.7) = -0.993 + 1.094 \cdot \text{Log10}(\text{DA})$	0.85	65	63
$\text{Log10LF1Day}(0.6) = -1.071 + 1.106 \cdot \text{Log10}(\text{DA})$	0.84	69	68

Table 10. Regional regression equations for estimating low flows of streams in Virginia.—Continued

[DA, basin drainage area in square miles]

	Pseudo R-square ^a	Average standard error of prediction ^a (percent)	Standard model error ^a (percent)
Virginia basins in the Valley and Ridge region (Continued)			
$\text{Log10LF1Day}(0.5) = -1.148 + 1.119 \cdot \text{Log10}(\text{DA})$	0.82	74	72
$\text{Log10LF1Day}(0.4) = -1.227 + 1.132 \cdot \text{Log10}(\text{DA})$	0.81	79	77
$\text{Log10LF1Day}(0.3) = -1.316 + 1.147 \cdot \text{Log10}(\text{DA})$	0.80	86	83
$\text{Log10LF1Day}(0.2) = -1.427 + 1.166 \cdot \text{Log10}(\text{DA})$	0.78	94	92
$\text{Log10LF1Day}(0.1) = -1.592 + 1.195 \cdot \text{Log10}(\text{DA})$	0.75	109	106
$\text{Log10LF1Day}(0.05) = -1.747 + 1.224 \cdot \text{Log10}(\text{DA})$	0.71	128	124
$\text{Log10LF4Day}(0.9) = -0.781 + 1.068 \cdot \text{Log10}(\text{DA})$	0.89	52	51
$\text{Log10LF4Day}(0.8) = -0.894 + 1.084 \cdot \text{Log10}(\text{DA})$	0.87	58	57
$\text{Log10LF4Day}(0.7) = -0.98 + 1.097 \cdot \text{Log10}(\text{DA})$	0.85	63	62
$\text{Log10LF4Day}(0.6) = -1.056 + 1.109 \cdot \text{Log10}(\text{DA})$	0.84	68	66
$\text{Log10LF4Day}(0.5) = -1.13 + 1.121 \cdot \text{Log10}(\text{DA})$	0.83	73	71
$\text{Log10LF4Day}(0.4) = -1.206 + 1.134 \cdot \text{Log10}(\text{DA})$	0.82	78	76
$\text{Log10LF4Day}(0.3) = -1.292 + 1.15 \cdot \text{Log10}(\text{DA})$	0.80	84	82
$\text{Log10LF4Day}(0.2) = -1.397 + 1.169 \cdot \text{Log10}(\text{DA})$	0.78	93	90
$\text{Log10LF4Day}(0.1) = -1.547 + 1.197 \cdot \text{Log10}(\text{DA})$	0.75	107	104
$\text{Log10LF4Day}(0.05) = -1.68 + 1.224 \cdot \text{Log10}(\text{DA})$	0.73	121	117
$\text{Log10LF4Day}(0.02) = -1.84 + 1.257 \cdot \text{Log10}(\text{DA})$	0.70	142	137
$\text{Log10LF4Day}(0.01) = -1.959 + 1.283 \cdot \text{Log10}(\text{DA})$	0.68	160	155
$\text{Log10LF4Day}(0.005) = -2.052 + 1.301 \cdot \text{Log10}(\text{DA})$	0.66	179	172
$\text{Log10LF4Day}(0.002) = -2.19 + 1.332 \cdot \text{Log10}(\text{DA})$	0.63	209	201
$\text{Log10LF4Day}(0.001) = -2.289 + 1.354 \cdot \text{Log10}(\text{DA})$	0.61	233	223
$\text{Log10LF7Day}(0.9) = -0.767 + 1.066 \cdot \text{Log10}(\text{DA})$	0.89	51	50
$\text{Log10LF7Day}(0.8) = -0.883 + 1.083 \cdot \text{Log10}(\text{DA})$	0.88	57	55
$\text{Log10LF7Day}(0.7) = -0.97 + 1.096 \cdot \text{Log10}(\text{DA})$	0.86	62	60
$\text{Log10LF7Day}(0.6) = -1.047 + 1.109 \cdot \text{Log10}(\text{DA})$	0.85	66	65
$\text{Log10LF7Day}(0.5) = -1.121 + 1.121 \cdot \text{Log10}(\text{DA})$	0.84	71	69
$\text{Log10LF7Day}(0.4) = -1.197 + 1.134 \cdot \text{Log10}(\text{DA})$	0.82	76	74
$\text{Log10LF7Day}(0.3) = -1.281 + 1.148 \cdot \text{Log10}(\text{DA})$	0.81	82	80
$\text{Log10LF7Day}(0.2) = -1.385 + 1.168 \cdot \text{Log10}(\text{DA})$	0.79	90	88
$\text{Log10LF7Day}(0.1) = -1.533 + 1.196 \cdot \text{Log10}(\text{DA})$	0.77	103	100
$\text{Log10LF7Day}(0.05) = -1.659 + 1.221 \cdot \text{Log10}(\text{DA})$	0.74	117	113
$\text{Log10LF7Day}(0.02) = -1.81 + 1.251 \cdot \text{Log10}(\text{DA})$	0.71	135	131
$\text{Log10LF7Day}(0.01) = -1.91 + 1.271 \cdot \text{Log10}(\text{DA})$	0.69	151	146
$\text{Log10LF7Day}(0.005) = -2.011 + 1.293 \cdot \text{Log10}(\text{DA})$	0.67	168	162
$\text{Log10LF7Day}(0.002) = -2.14 + 1.321 \cdot \text{Log10}(\text{DA})$	0.65	194	186
$\text{Log10LF7Day}(0.001) = -2.23 + 1.341 \cdot \text{Log10}(\text{DA})$	0.63	216	207
$\text{Log10LF30Day}(0.9) = -0.614 + 1.046 \cdot \text{Log10}(\text{DA})$	0.92	41	41
$\text{Log10LF30Day}(0.8) = -0.75 + 1.066 \cdot \text{Log10}(\text{DA})$	0.90	48	47
$\text{Log10LF30Day}(0.7) = -0.846 + 1.08 \cdot \text{Log10}(\text{DA})$	0.88	53	52
$\text{Log10LF30Day}(0.6) = -0.926 + 1.093 \cdot \text{Log10}(\text{DA})$	0.87	58	57
$\text{Log10LF30Day}(0.5) = -1.002 + 1.105 \cdot \text{Log10}(\text{DA})$	0.86	63	61
$\text{Log10LF30Day}(0.4) = -1.075 + 1.116 \cdot \text{Log10}(\text{DA})$	0.84	68	66
$\text{Log10LF30Day}(0.3) = -1.154 + 1.129 \cdot \text{Log10}(\text{DA})$	0.83	73	72
$\text{Log10LF30Day}(0.2) = -1.245 + 1.144 \cdot \text{Log10}(\text{DA})$	0.81	80	78
$\text{Log10LF30Day}(0.1) = -1.372 + 1.167 \cdot \text{Log10}(\text{DA})$	0.79	91	89
$\text{Log10LF30Day}(0.05) = -1.474 + 1.185 \cdot \text{Log10}(\text{DA})$	0.76	101	98
$\text{Log10LF30Day}(0.02) = -1.588 + 1.205 \cdot \text{Log10}(\text{DA})$	0.74	114	111
$\text{Log10LF30Day}(0.01) = -1.669 + 1.221 \cdot \text{Log10}(\text{DA})$	0.72	124	120
$\text{Log10LF30Day}(0.005) = -1.737 + 1.234 \cdot \text{Log10}(\text{DA})$	0.71	134	130
$\text{Log10LF30Day}(0.002) = -1.818 + 1.249 \cdot \text{Log10}(\text{DA})$	0.69	148	143
$\text{Log10LF30Day}(0.001) = -1.888 + 1.265 \cdot \text{Log10}(\text{DA})$	0.67	160	154

Table 10. Regional regression equations for estimating low flows of streams in Virginia.—Continued

[DA, basin drainage area in square miles]

	Pseudo R-square ^a	Average standard error of prediction ^a (percent)	Standard model error ^a (percent)
Virginia basins in the Appalachian Plateaus region			
$\text{Log10LF1Day}(0.9) = -0.413 + 0.836 \cdot \text{Log10}(\text{DA})$	0.91	29	26
$\text{Log10LF1Day}(0.8) = -0.557 + 0.847 \cdot \text{Log10}(\text{DA})$	0.86	36	33
$\text{Log10LF1Day}(0.7) = -0.68 + 0.859 \cdot \text{Log10}(\text{DA})$	0.82	43	40
$\text{Log10LF1Day}(0.6) = -0.801 + 0.874 \cdot \text{Log10}(\text{DA})$	0.77	51	47
$\text{Log10LF1Day}(0.5) = -0.933 + 0.894 \cdot \text{Log10}(\text{DA})$	0.72	60	55
$\text{Log10LF1Day}(0.4) = -1.079 + 0.917 \cdot \text{Log10}(\text{DA})$	0.68	70	64
$\text{Log10LF1Day}(0.3) = -1.264 + 0.951 \cdot \text{Log10}(\text{DA})$	0.63	84	76
$\text{Log10LF1Day}(0.2) = -1.516 + 1.002 \cdot \text{Log10}(\text{DA})$	0.57	106	96
$\text{Log10LF1Day}(0.1) = -2.104 + 1.158 \cdot \text{Log10}(\text{DA})$	0.44	200	174
$\text{Log10LF4Day}(0.9) = -0.434 + 0.864 \cdot \text{Log10}(\text{DA})$	0.91	30	27
$\text{Log10LF4Day}(0.8) = -0.554 + 0.864 \cdot \text{Log10}(\text{DA})$	0.87	37	34
$\text{Log10LF4Day}(0.7) = -0.661 + 0.87 \cdot \text{Log10}(\text{DA})$	0.82	44	40
$\text{Log10LF4Day}(0.6) = -0.766 + 0.878 \cdot \text{Log10}(\text{DA})$	0.78	52	47
$\text{Log10LF4Day}(0.5) = -0.882 + 0.89 \cdot \text{Log10}(\text{DA})$	0.73	60	55
$\text{Log10LF4Day}(0.4) = -1.015 + 0.907 \cdot \text{Log10}(\text{DA})$	0.69	70	63
$\text{Log10LF4Day}(0.3) = -1.179 + 0.933 \cdot \text{Log10}(\text{DA})$	0.64	82	75
$\text{Log10LF4Day}(0.2) = -1.393 + 0.967 \cdot \text{Log10}(\text{DA})$	0.58	101	91
$\text{Log10LF4Day}(0.1) = -1.758 + 1.037 \cdot \text{Log10}(\text{DA})$	0.51	139	122
$\text{Log10LF4Day}(0.05) = -2.138 + 1.121 \cdot \text{Log10}(\text{DA})$	0.46	190	163
$\text{Log10LF4Day}(0.02) = -2.573 + 1.212 \cdot \text{Log10}(\text{DA})$	0.41	288	238
$\text{Log10LF4Day}(0.01) = -3.074 + 1.356 \cdot \text{Log10}(\text{DA})$	0.39	433	342
$\text{Log10LF7Day}(0.9) = -0.461 + 0.887 \cdot \text{Log10}(\text{DA})$	0.92	30	27
$\text{Log10LF7Day}(0.8) = -0.556 + 0.878 \cdot \text{Log10}(\text{DA})$	0.87	37	33
$\text{Log10LF7Day}(0.7) = -0.643 + 0.875 \cdot \text{Log10}(\text{DA})$	0.83	43	39
$\text{Log10LF7Day}(0.6) = -0.731 + 0.876 \cdot \text{Log10}(\text{DA})$	0.79	50	46
$\text{Log10LF7Day}(0.5) = -0.829 + 0.881 \cdot \text{Log10}(\text{DA})$	0.74	57	52
$\text{Log10LF7Day}(0.4) = -0.941 + 0.89 \cdot \text{Log10}(\text{DA})$	0.70	66	60
$\text{Log10LF7Day}(0.3) = -1.081 + 0.906 \cdot \text{Log10}(\text{DA})$	0.65	77	70
$\text{Log10LF7Day}(0.2) = -1.275 + 0.933 \cdot \text{Log10}(\text{DA})$	0.59	94	84
$\text{Log10LF7Day}(0.1) = -1.598 + 0.986 \cdot \text{Log10}(\text{DA})$	0.51	127	113
$\text{Log10LF7Day}(0.05) = -1.902 + 1.04 \cdot \text{Log10}(\text{DA})$	0.45	171	148
$\text{Log10LF7Day}(0.02) = -2.301 + 1.117 \cdot \text{Log10}(\text{DA})$	0.39	256	214
$\text{Log10LF7Day}(0.01) = -2.583 + 1.17 \cdot \text{Log10}(\text{DA})$	0.35	353	285
$\text{Log10LF7Day}(0.005) = -2.87 + 1.227 \cdot \text{Log10}(\text{DA})$	0.32	505	390
$\text{Log10LF30Day}(0.9) = -0.505 + 0.986 \cdot \text{Log10}(\text{DA})$	0.97	21	19
$\text{Log10LF30Day}(0.8) = -0.57 + 0.962 \cdot \text{Log10}(\text{DA})$	0.95	25	23
$\text{Log10LF30Day}(0.7) = -0.624 + 0.944 \cdot \text{Log10}(\text{DA})$	0.92	30	27
$\text{Log10LF30Day}(0.6) = -0.678 + 0.931 \cdot \text{Log10}(\text{DA})$	0.90	34	31
$\text{Log10LF30Day}(0.5) = -0.732 + 0.917 \cdot \text{Log10}(\text{DA})$	0.87	39	36
$\text{Log10LF30Day}(0.4) = -0.792 + 0.905 \cdot \text{Log10}(\text{DA})$	0.83	45	41
$\text{Log10LF30Day}(0.3) = -0.866 + 0.894 \cdot \text{Log10}(\text{DA})$	0.78	53	48
$\text{Log10LF30Day}(0.2) = -0.96 + 0.882 \cdot \text{Log10}(\text{DA})$	0.71	64	58
$\text{Log10LF30Day}(0.1) = -1.119 + 0.873 \cdot \text{Log10}(\text{DA})$	0.59	88	79
$\text{Log10LF30Day}(0.05) = -1.263 + 0.866 \cdot \text{Log10}(\text{DA})$	0.48	117	104
$\text{Log10LF30Day}(0.02) = -1.466 + 0.871 \cdot \text{Log10}(\text{DA})$	0.36	171	149
$\text{Log10LF30Day}(0.01) = -1.597 + 0.869 \cdot \text{Log10}(\text{DA})$	0.28	230	195
$\text{Log10LF30Day}(0.005) = -1.714 + 0.863 \cdot \text{Log10}(\text{DA})$	0.22	317	260
$\text{Log10LF30Day}(0.002) = -1.884 + 0.866 \cdot \text{Log10}(\text{DA})$	0.16	491	384
$\text{Log10LF30Day}(0.001) = -2.235 + 0.963 \cdot \text{Log10}(\text{DA})$	0.14	851	621

Table 10. Regional regression equations for estimating low flows of streams in Virginia.—Continued

[DA, basin drainage area in square miles]

	Pseudo R-square ^a	Average standard error of prediction ^a (percent)	Standard model error ^a (percent)
Virginia basins in the Mesozoic Basins region			
Log10LF1Day(0.9) = -1.276 + 1.213 • Log10(DA)	0.91	71	69
Log10LF1Day(0.8) = -1.508 + 1.253 • Log10(DA)	0.89	84	81
Log10LF1Day(0.7) = -1.689 + 1.284 • Log10(DA)	0.88	96	93
Log10LF1Day(0.6) = -1.857 + 1.314 • Log10(DA)	0.86	109	106
Log10LF1Day(0.5) = -2.033 + 1.346 • Log10(DA)	0.85	126	121
Log10LF1Day(0.4) = -2.241 + 1.387 • Log10(DA)	0.82	150	145
Log10LF4Day(0.9) = -1.226 + 1.209 • Log10(DA)	0.94	70	68
Log10LF4Day(0.8) = -1.461 + 1.254 • Log10(DA)	0.93	81	79
Log10LF7Day(0.9) = -1.091 + 1.176 • Log10(DA)	0.94	67	65
Log10LF7Day(0.8) = -1.36 + 1.234 • Log10(DA)	0.93	76	74
Log10LF7Day(0.7) = -1.464 + 1.243 • Log10(DA)	0.92	85	82
Log10LF7Day(0.6) = -1.557 + 1.249 • Log10(DA)	0.91	94	91
Log10LF30Day(0.9) = -0.792 + 1.123 • Log10(DA)	0.96	52	50
Log10LF30Day(0.8) = -0.991 + 1.155 • Log10(DA)	0.95	60	58
Log10LF30Day(0.7) = -1.166 + 1.187 • Log10(DA)	0.94	66	64

^a Weighted-multiple-linear regression.

Weighting Multiple Estimates

Weighting techniques may improve flow estimates. Low-flow estimates may be improved by computing a weighted average of two independent estimates: (1) an estimate made by fitting a Log-Pearson Type III probability distribution to each vetted annual low-flow time series and adjusting it to account for zero flows, yielding an unconditional-probability curve, and (2) an estimate made by developing a regional regression equation describing streamgaging station low flows.

The idea is that if two independent estimates are weighted in inverse proportion to their variances, then the variance of the weighted average is less than the variance of either estimate. This is accomplished using the following equations:

$$Z = \frac{x(V_y) + y(V_x)}{V_y + V_x} \quad (6)$$

and

$$V_z = \frac{V_x V_y}{V_x + V_y}, \quad (7)$$

where

- x = a first independent estimate of low flow,
- y = a second independent estimate of low flow,
- Z = a weighted average estimate of low flow,
- V_x = variance of a first independent estimate of low flow,
- V_y = variance of a second independent estimate of low flow, and
- V_z = variance of a weighted average estimate of low flow.

Weighting of Independent Estimates

A weighted estimate and variance at each low-flow station was calculated using information from low-flow frequency analysis and a corresponding regional regression equation. The equations developed in 1974 by Gilroy (Interagency Advisory Committee on Water Data, 1982, p. 8-1 of appendix 1 and p. 8-1 of appendix 8) were used to determine the weighted discharge and variance of low flows at each streamgaging station. The recommended procedure assumes that the two low-flow estimates are independent, which is true in most practical situations (Interagency Advisory Committee on Water Data, 1982; Cohn and others, 2001; Berenbrock, 2002).

Low-flow estimates determined using Log-Pearson Type III frequency analysis of long-term gages were used with low-flow estimates determined by regional regression equations from table 10 to yield the weighted low-flow estimates. These three low-flow estimates from (1) Log-Pearson Type III frequency analysis, (2) regional regression analysis, and (3) weighting the combined Log-Pearson Type III and regional regression estimates are listed in table 4 for long-term, continuous-record streamgaging stations.

Low-Flow Characteristics

Low-flow characteristics are found in tables 4, 11, and 12 (CD in pocket). Low-flow regression equations are found in tables 5, 6, and 10.

Table 4 lists low-flow characteristics determined by low-flow frequency analysis of non-exceedance probabilities for long-term, continuous-record streamgaging stations. Table 4 also lists low-flow characteristics determined by regional regression equations, and weighted estimates of low-flow characteristics that combine the low-flow characteristics from low-flow frequency analysis, adjusted for zero flows, and regional regression equations. Table 10 lists preferred low-flow regional regression equations. These equations use basin drainage area as the chief explanatory variable. Candidate single- and multi-parameter regional regression equations, not listed in this report, were developed for each P-percent chance low flow for each of six regions. Equations with significant explanatory power, easily measured explanatory variables, ease of interpretation and use, and lower risks of explanatory variable inflation or collinearity were selected as final regional regression models. Table 5 lists equations for low-flow frequency characteristics at selected short-term, continuous-record streamgaging stations computed using the MOVE.1 method. Table 6 lists equations for low-flow frequency characteristics at selected partial-record, streamgaging stations computed using the MOVE.1 method. Table 11 lists low-flow characteristics for selected short-term, continuous record, streamgaging stations, transferred from continuous-record index stations using the MOVE.1 method. Table 12 lists low-flow characteristics for partial-record, streamgaging stations, transferred from continuous-record index stations using the MOVE.1 method. Table 3 lists daily flow-duration statistics and flow variability indices for selected streamgaging stations. Table 2 lists monthly streamflow statistics for selected continuous-record streamgaging stations.

Basin characteristics used in developing regional regression equations are summarized in tables 7 through 9. Table 7 lists statistics summarizing basin characteristics that were selected for regional regression of low flows in Virginia. Table 8 lists the names of selected basin characteristics along with their definitions and data sources. Table 9 displays basin characteristics chosen for testing in exploratory regional regression analyses.

Other Methods for Estimation at Ungaged Sites

The appropriate method for calculating low-flow estimates at an ungaged site depends on whether (1) the drainage basin lies within a single low-flow region, (2) the drainage basin crosses low-flow region boundaries, or (3) the ungaged site is located on a gaged stream.

Low-flow estimates at sites on ungaged streams that lie entirely within a single low-flow region may be calculated using the equations listed in table 10 for the appropriate region.

Low-flow estimates at sites with drainage basins that cross low-flow regional boundaries may be made by first determining the percentage of the basin in each region. Low-flow estimates are then computed for the entire basin area by using the appropriate equation for each low-flow region, then multiplying the low flow for each part of the basin by the percentage of the entire basin in that region, and summing the contributions from each low-flow region.

Low-flow estimates at an ungaged site located on a gaged stream may be adjusted using a flow-routing equation developed by Hayes, consisting of the minimum consecutive-day (d-day) discharge of interest, multiplied by a simple drainage-area ratio raised to the 1.2 power. The equation takes the form:

$$dQT_j = dQT_i \left[\frac{A_j}{A_i} \right]^{1.2} \text{ for values of } \left[\frac{A_j}{A_i} \right] \geq 0.25 \text{ and } \leq 4.0, \quad (8)$$

where

- dQT_j = the average minimum d-consecutive day discharge having a T-year recurrence interval, in cubic feet per second;
- j = the location at an ungaged site or confluence where the low-flow value is to be determined;
- i = the location at a gaged site where low-flow values have previously been determined; and
- A = drainage area, in square miles.

Any computed low-flow value that is calculated as negative is assumed to be zero. The equation is limited to drainage area ratios of no less than 0.25 and no more than 4.0 (Hayes, 1991).

Example Applications

The following four exercises provide step-by-step examples of how to perform calculations and apply the methods suggested in this report to estimate low flows. Example calculations are shown for estimating low flow by (1) using

the regression equations provided in this report, (2) using the drainage-area ratio method when a drainage basin spans two or more physiographic regions, (3) using a nearby gage for an ungaged site, and (4) using a gaged site.

Use of Regression Equations

Example 1. Estimating the 30-day averaged 1.1-year (0.9 P-percent chance) low flow at an ungaged site with a drainage basin completely contained within the Blue Ridge region.

Given: Drainage area (DA) of 7.3 mi² for this basin, measured from a 1:24,000-scale topographic map.

Solution: The regression estimate for the site is computed using the appropriate Blue Ridge regional equation in table 10 for the 30-day averaged 1.1-year (0.9 percent chance) low flow as follows:

$$\begin{aligned}\text{Log10}(30Q_{(1.1)}) &= -0.489 + 1.096 \bullet \text{Log10}(\text{DA}) \text{ (from table 10)} \\ &= -0.489 + 1.096 \bullet \text{Log10}(7.3) \\ &= -0.489 + 1.096 \bullet 0.86 \\ &= 0.46 \\ 30Q_{(1.1)} &= 10^{0.46} = 2.87 \text{ ft}^3/\text{s} \quad (9)\end{aligned}$$

Drainage-Area Ratio Method

Example 2. Estimating the 7-day averaged 2-year (0.5 P-percent chance) low flow at an ungaged site with a drainage basin that spans the Coastal Plain and Piedmont regions.

Given:

1. Drainage area (DA) of 53 mi² for the entire basin, measured from a 1:24,000-scale topographic map.
2. Twenty-seven percent of the basin is located in the Coastal Plain.
3. Seventy-three percent of the basin is located in the Piedmont.

Solution: Calculate the 2-year (0.5 P-percent chance) low-flow discharge for the basin using the two regional equations, then use the fraction of the total drainage area in each region as a weighting factor to compute a final estimate, as follows:

For the Coastal Plain region:

$$\begin{aligned}\text{Log10}(7Q_{(2)}) &= -1.106 + 0.868 \bullet \text{Log10}(\text{DA}) \text{ (from table 10)} \\ &= -1.106 + 0.868 \bullet \text{Log10}(53) \\ &= -1.106 + 0.868 \bullet 1.72 \\ &= 0.39 \\ 7Q_{(2)} &= 10^{0.39} = 2.46 \text{ ft}^3/\text{s} \quad (10)\end{aligned}$$

For the Piedmont Region:

$$\begin{aligned}\text{Log10}(7Q_{(2)}) &= -0.683 + 0.898 \bullet \text{Log10}(\text{DA}) \text{ (from table 10)} \\ &= -0.683 + 0.898 \bullet \text{Log10}(53) \\ &= -0.683 + 0.898 \bullet 1.72 \\ &= 0.86 \\ 7Q_{(2)} &= 10^{0.86} = 7.27 \text{ ft}^3/\text{s} \quad (11)\end{aligned}$$

The combined estimate for the basin $Q_{(7Q2)}$:

$$\begin{aligned}(Q_{(7Q2)r1} \bullet \text{fraction}_{r1}) + (Q_{(7Q2)r2} \bullet \text{fraction}_{r2}) &= (2.46 \bullet 0.27) \\ + (7.27 \bullet 0.73) &= 5.97 \text{ ft}^3/\text{s} \quad (12)\end{aligned}$$

Ungaged Site with Nearby Gage

Example 3. Estimating the 4-day averaged 50-year (0.02 P-percent chance) low flow at an ungaged site on the New River, located upstream from the New River gage below Route 11 at Radford, Virginia, streamgaging station number 03171000.

Given:

1. Drainage area (A_g) of 1,141 mi² for the basin above the ungaged site, measured from a 1:24,000-scale topographic map.
2. Drainage area (A_g) of 2,767 mi² for the basin above the gaged site, measured from a 1:24,000-scale topographic map.

Solution: Using eq 8 and the measured discharge at streamgaging station number 03171000 from table 4, the 4Q50 low flow at the ungaged site =

$$751 \left[\frac{1,141}{2,767} \right]^{1.2} = 259 \text{ ft}^3/\text{s}.$$

Gaged Site

Example 4. Estimating the 7-day averaged 100-year low flow at a gaged site on the North Fork of the Rivanna River at Route 606, near Earlysville, Virginia.

Given: Because this is a gaged site, the 7-day averaged 100-year low flow may be read directly from table 4 (Low-flow characteristics of streamgaging stations in Virginia, p. 27).

Solution: In table 4, find streamgaging station number 02032640 in the left hand column of the 7-day averaged low-flow discharge section of the table, identifying the gage on the North Fork of the Rivanna River at Route 606, near Earlysville, Virginia. Read across to find the low-flow discharge of 0.14 ft³/s corresponding to the P-percent chance low-flow probability of 0.01 (100-yr recurrence interval): $7Q_{(100)} = 0.14 \text{ ft}^3/\text{s}$.

Summary

This report provides P-percent chance estimates of 1-, 4-, 7-, and 30-day averaged non-exceedance probabilities adjusted for instances of zero flow, and regional regression equations organized by physiographic region that may be used to estimate annual non-exceedance probability low flows using basin characteristics. Regression equations developed using the Maintenance of Variance with Extension (MOVE.1) method describe the line of organic correlation (LOC) with an appropriate index-site for low flows at 136 short-term, continuous-record streamgaging stations and 613 partial-record, streamgaging stations. Monthly streamflow statistics computed on the individual daily mean streamflows of selected continuous-record streamgaging stations and statistics describing flow-duration are also presented. Regional regression equations estimate P-percent chance low flows using basin characteristics. Methods are explained. Text, figures, and lists are provided summarizing low-flow sites selected for study, delineated physiographic regions, statistics associated with low-flow basin characteristics, regional regression equations, weighted low-flow estimates, streamgaging station low-flow values, basin characteristic definitions, and basin characteristic datasources.

Regional regression analyses of low-flow response associated with explanatory basin characteristics provide insights into the nature of low flows across Virginia. Regional regression equations describing low flow as a function of basin drainage area and other explanatory basin characteristics are identified across the range of 1-, 4-, 7-, and 30-day average P-percent chance low flows within each region identified for study.

Candidate regional regression equations describing each 1-, 4-, 7-, and 30-day average P-percent chance low flow as a function of basin drainage area in the Coastal Plain yielded median R-square of 0.58, 0.59, 0.65, and 0.65 and median root mean square error of 0.61, 0.63, 0.55, and 0.53, respectively.

Candidate regional regression equations describing each 1-, 4-, 7-, and 30-day average P-percent chance low flow as a function of basin drainage area in the Piedmont, excluding the Mesozoic Basins located within the Piedmont physiographic region, yielded median R-square of 0.65, 0.66, 0.68, and 0.70, and median root mean square error of 0.67, 0.66, 0.65, and 0.61, respectively.

Candidate regional regression equations describing each 1-, 4-, 7-, and 30-day average P-percent chance low flow as a function of basin drainage area in the Mesozoic Basins yielded median R-square of 0.80, 0.81, 0.82, and 0.86, and median root mean square error of 0.48, 0.48, 0.47, and 0.40, respectively.

Candidate regional regression equations describing each 1-, 4-, 7-, and 30-day average P-percent chance low flow as a function of basin drainage area in the Blue Ridge yielded median R-square of 0.74, 0.79, 0.79, and 0.83, and median root mean square error of 0.53, 0.47, 0.48, and 0.41, respectively.

Candidate regional regression equations describing each 1-, 4-, 7-, and 30-day average P-percent chance low flow as a function of basin drainage area in the Valley and Ridge yielded median R-square of 0.76, 0.78, 0.77, and 0.80, and median root mean square error of 0.40, 0.39, 0.39, and 0.36, respectively.

Candidate regional regression equations describing each 1-, 4-, 7-, and 30-day average P-percent chance low flow as a function of basin drainage area in the Appalachian Plateaus yielded median R-square of 0.49, 0.59, 0.57, and 0.68, and median root mean square error of 0.45, 0.32, 0.33, and 0.25, respectively.

Estimates of magnitude, frequency, and duration of low flows provide insights into the dynamics and variability of water moving through Virginia's unique stream systems. This information can be used in management decisionmaking while providing a basis for analysis of future streamflow response to changes in ecosystem and climate.

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Glossary

[Unless otherwise noted, definitions are based on Langbein, W.B., and Iseri, K.T, 1995, Hydrologic definitions, available at USGS Web site <http://water.usgs.gov/wsc/glossary.html>]

Cubic feet per second (ft³/s) A measure of the rate of water discharge representing a volume of 1 cubic foot of water passing a given point in 1 second.

Discharge The volume of water that passes a given point within a given period of time.

Drainage area The area measured in a horizontal plane and enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into a stream, upstream from a specified location.

Gage A water-level measuring device at a streamflow-gaging station.

Gage height The water-surface elevation referred to an arbitrary gage datum. Gage height is often used interchangeably with the more general term *stage* although *gage height* is more appropriate when used with a reading on a gage.

Hydrologic unit A geographic area representing part or all of a surface-water drainage basin or distinct hydrologic feature as delineated on a State Hydrologic Unit Map prepared by the U.S. Geological Survey.

Location A description of the placement of a streamflow-gaging station. Location may include the latitude, longitude, datum, county, and hydrologic unit code of the station.

Low-flow frequency curve A graph showing the magnitude and frequency of minimum flows for a period of given length. Frequency is usually expressed as the average interval, in years, between recurrences of an annual minimum flow equal to or less than that shown by the magnitude scale.

Regulation The artificial manipulation of the flow of a stream.

Stage-discharge relation The relation between gage height and the rate at which water flows in a stream. It is defined by measurements of stage and discharge, by theoretical assumptions based on hydraulic properties of the stream channel or manmade flow-confining structures, or by a combination of both.

Streamgaging or streamflow-gaging station A particular site on a stream, canal, lake, or reservoir where systematic observations of water heights and water discharges are made.

Water year The 12-month period from October 1 through September 30. The date of the water year is designated by the calendar year in which the period ends and which includes 9 of the 12 months. A water year beginning October 1, 2005, and ending September 30, 2006, is called the “2006 water year.”

Table 4. Low-flow characteristics of streamgaging stations in Virginia.

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					Non-exceedance probability											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01
					1-day averaged, adjusted low flow (ft ³ /s)											
01484800	(p) Guy Creek at Route 606 near Nassawadox, Va.	1.9	32	8	0.220	0.150	0.100	0.070	0.050	0.030	0.010	0.000	0.000	0.000	0.000	0.000
01484800	(r) Guy Creek at Route 606 near Nassawadox, Va.	1.9	32	8	0.258	0.176	0.123	0.087	0.061	0.038	--	--	--	--	--	--
01484800	(w) Guy Creek at Route 606 near Nassawadox, Va.	1.9	32	8	0.225	0.153	0.103	0.072	0.051	0.031	--	--	--	--	--	--
01613900	(p) Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	1.70	1.36	1.12	0.940	0.780	0.640	0.510	0.380	0.240	0.160	0.090	0.060
01613900	(r) Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	3.05	2.46	2.10	1.81	1.57	1.36	1.15	0.942	0.698	0.529	--	--
01613900	(w) Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	1.74	1.39	1.15	0.963	0.801	0.659	0.526	0.394	0.251	0.168	--	--
01614830	(p) Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	6.49	4.35	3.28	2.59	2.09	1.69	1.36	1.05	0.750	0.570	0.430	0.300
01614830	(r) Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	2.91	2.35	1.99	1.72	1.49	1.29	1.10	0.893	0.661	0.501	--	--
01614830	(w) Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	6.39	4.29	3.24	2.57	2.07	1.68	1.35	1.05	0.748	0.568	--	--
01615000	(p) Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	11.5	8.35	6.52	5.21	4.19	3.34	2.59	1.90	1.20	0.800	0.490	0.350
01615000	(r) Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	12.1	10.0	8.67	7.60	6.71	5.90	5.11	4.27	3.29	2.59	--	--
01615000	(w) Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	11.5	8.40	6.58	5.28	4.26	3.41	2.66	1.96	1.25	0.844	--	--
01615500	(p) Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	2.12	1.98	1.87	1.77	1.68	1.59	1.50	1.38	1.23	1.10	0.970	0.890
01615500	(r) Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	1.06	0.842	0.707	0.604	0.517	0.441	0.369	0.296	0.213	0.157	--	--
01615500	(w) Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	2.10	1.96	1.85	1.75	1.66	1.57	1.48	1.36	1.21	1.08	--	--
01616000	(p) Abrams Creek above Route 659 near Winchester, Va.	17	24	0	13.4	11.7	10.5	9.58	8.78	8.04	7.29	6.49	5.50	4.78	4.06	3.63
01616000	(r) Abrams Creek above Route 659 near Winchester, Va.	17	24	0	3.27	2.65	2.25	1.95	1.69	1.47	1.25	1.02	0.756	0.574	--	--
01616000	(w) Abrams Creek above Route 659 near Winchester, Va.	17	24	0	13.2	11.5	10.3	9.42	8.63	7.90	7.17	6.38	5.41	4.70	--	--
01616100	(p) Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	6.41	5.50	4.91	4.45	4.06	3.69	3.33	2.95	2.49	2.16	1.83	1.64
01616100	(r) Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	2.06	1.65	1.40	1.20	1.04	0.895	0.756	0.613	0.449	0.337	--	--
01616100	(w) Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	6.31	5.42	4.83	4.38	4.00	3.63	3.28	2.90	2.45	2.13	--	--
01620500	(p) North River above Forest Road near Stokesville, Va.	17.3	59	0	2.04	1.38	1.04	0.820	0.650	0.520	0.410	0.310	0.210	0.150	0.100	0.080
01620500	(r) North River above Forest Road near Stokesville, Va.	17.3	59	0	3.34	2.70	2.30	1.99	1.73	1.49	1.27	1.04	0.772	0.587	--	--
01620500	(w) North River above Forest Road near Stokesville, Va.	17.3	59	0	2.08	1.42	1.08	0.853	0.680	0.547	0.433	0.329	0.224	0.161	--	--
01621050	(p) Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	4.20	2.41	1.67	1.25	0.970	0.760	0.600	0.470	0.340	0.270	0.210	0.190
01621050	(r) Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	2.72	2.20	1.87	1.61	1.40	1.20	1.02	0.832	0.615	0.465	--	--
01621050	(w) Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	4.15	2.40	1.68	1.26	0.983	0.774	0.613	0.481	0.348	0.275	--	--
01622000	(p) North River along Route 693 near Burkettown, Va.	376	75	0	97.3	79.3	68.9	61.3	55.1	49.7	44.7	39.6	33.7	29.7	25.9	23.8
01622000	(r) North River along Route 693 near Burkettown, Va.	376	75	0	88.3	75.3	66.7	59.9	54.2	48.8	43.4	37.6	30.6	25.4	--	--
01622000	(w) North River along Route 693 near Burkettown, Va.	376	75	0	97.1	79.3	68.8	61.3	55.1	49.7	44.6	39.5	33.6	29.6	--	--
01624000	(p) Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	4	0.420	0.220	0.130	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
01624000	(r) Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	4	1.82	1.46	1.24	1.06	0.916	0.786	0.663	0.536	0.392	0.293	--	--
01624000	(w) Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	4	0.461	0.256	0.162	0.098	0.026	0.022	0.018	0.014	0.010	0.007	--	--
01624300	(p) Middle River at Route 742 near Verona, Va.	179	18	0	60.5	51.7	46.4	42.4	39.0	36.0	33.1	30.1	26.5	23.9	21.4	20.0
01624300	(r) Middle River at Route 742 near Verona, Va.	179	18	0	40.1	33.8	29.6	26.3	23.6	21.0	18.5	15.8	12.6	10.2	--	--
01624300	(w) Middle River at Route 742 near Verona, Va.	179	18	0	60.0	51.4	46.0	42.1	38.7	35.7	32.8	29.8	26.2	23.7	--	--
01624800	(p) Christians Creek at Route 794 near Fishersville, Va.	73	29	0	27.4	23.5	21.0	19.1	17.4	15.9	14.5	12.9	11.0	9.68	8.36	7.57
01624800	(r) Christians Creek at Route 794 near Fishersville, Va.	73	29	0	15.4	12.8	11.1	9.77	8.65	7.63	6.63	5.57	4.31	3.42	--	--
01624800	(w) Christians Creek at Route 794 near Fishersville, Va.	73	29	0	27.2	23.2	20.8	18.9	17.2	15.7	14.3	12.8	10.9	9.57	--	--
01625000	(p) Middle River at Route 769 near Grottoes, Va.	373	78	0	114	101	91.8	83.9	76.6	69.6	62.3	54.3	44.1	36.5	29.0	24.6
01625000	(r) Middle River at Route 769 near Grottoes, Va.	373	78	0	87.6	74.6	66.1	59.3	53.7	48.3	43.0	37.3	30.3	25.2	--	--
01625000	(w) Middle River at Route 769 near Grottoes, Va.	373	78	0	114	101	91.2	83.3	76.1	69.1	61.9	53.9	43.8	36.3	--	--
01625900	(p) Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	1	--	--	--	--	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
01625900	(r) Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	1	12.0	8.92	7.02	5.64	4.49	3.52	2.63	1.83	1.02	--	--	--
01625900	(w) Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	1	--	--	--	--	--	--	--	--	--	--	--	--

Table 4. (1-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					Non-exceedance probability													
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
1-day averaged, adjusted low flow (ft³/s)																		
01626000	(p) South River at Route 664 near Waynesboro, Va.	127	54	0	44.1	38.9	35.6	33.1	30.9	28.8	26.8	24.7	22.1	20.2	18.3	17.1	16.1	
01626000	(r) South River at Route 664 near Waynesboro, Va.	127	54	0	27.8	23.3	20.3	18.0	16.1	14.3	12.5	10.6	8.36	6.73	--	--	--	
01626000	(w) South River at Route 664 near Waynesboro, Va.	127	54	0	43.7	38.6	35.3	32.7	30.5	28.5	26.5	24.4	21.8	19.9	--	--	--	
01626500	(p) South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	51.8	44.6	40.2	36.8	34.0	31.4	28.9	26.3	23.1	20.9	18.7	17.4	16.3	
01626500	(r) South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	29.2	24.5	21.4	19.0	16.9	15.0	13.2	11.2	8.83	7.12	--	--	--	
01626500	(w) South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	51.3	44.2	39.8	36.4	33.6	31.1	28.6	26.0	22.9	20.6	--	--	--	
01626850	(p) South River at Hopeman Parkway near Dooms, Va.	148	22	0	72.7	64.6	59.9	56.6	54.0	51.8	49.8	47.8	45.7	44.4	43.3	42.7	42.3	
01626850	(r) South River at Hopeman Parkway near Dooms, Va.	148	22	0	32.7	27.5	24.1	21.3	19.1	17.0	14.9	12.7	10.0	8.12	--	--	--	
01626850	(w) South River at Hopeman Parkway near Dooms, Va.	148	22	0	71.8	63.8	59.2	55.9	53.3	51.1	49.1	47.1	45.0	43.7	--	--	--	
01627500	(p) South River at Route 778 at Harrison, Va.	212	65	0	85.5	77.6	72.0	67.2	62.8	58.5	54.1	49.0	42.4	37.4	32.1	28.8	26.0	
01627500	(r) South River at Route 778 at Harrison, Va.	212	65	0	48.0	40.5	35.6	31.8	28.5	25.5	22.5	19.3	15.4	12.6	--	--	--	
01627500	(w) South River at Route 778 at Harrison, Va.	212	65	0	84.7	76.8	71.2	66.5	62.1	57.9	53.4	48.5	41.9	36.9	--	--	--	
01628060	(p) White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	11	0.030	0.020	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
01628060	(r) White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	11	0.413	0.281	0.205	0.152	0.112	0.079	0.053	0.031	0.013	--	--	--	--	
01628060	(w) White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	11	0.040	0.026	0.014	0.003	0.002	0.002	0.001	0.001	0.000	--	--	--	--	
01628500	(p) South Fork Shenandoah River below Lower Lewis Run near Lynnwood, Va.	1,079	75	0	350	299	267	242	222	203	184	165	142	125	109	99.3	91.3	
01628500	(r) South Fork Shenandoah River below Lower Lewis Run near Lynnwood, Va.	1,079	75	0	271	235	211	192	176	161	146	129	108	92.3	--	--	--	
01628500	(w) South Fork Shenandoah River below Lower Lewis Run near Lynnwood, Va.	1,079	75	0	349	298	266	241	221	202	184	164	141	125	--	--	--	
01629500	(p) South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	474	402	357	323	295	270	245	220	190	169	148	136	126	
01629500	(r) South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	350	305	275	251	231	211	192	170	144	124	--	--	--	
01629500	(w) South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	472	399	355	322	294	269	244	219	189	168	--	--	--	
01630700	(p) Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	3.27	2.04	1.48	1.14	0.900	0.720	0.570	0.440	0.310	0.240	0.190	0.160	0.140	
01630700	(r) Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	5.59	4.08	3.16	2.49	1.94	1.49	1.09	0.730	0.382	--	--	--	--	
01630700	(w) Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	3.34	2.10	1.53	1.18	0.928	0.739	0.582	0.446	0.311	--	--	--	--	
01631000	(p) South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	494	419	373	338	309	282	256	230	197	175	153	140	129	
01631000	(r) South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	422	369	333	304	280	257	234	209	177	153	--	--	--	
01631000	(w) South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	492	418	372	337	308	281	256	229	197	174	--	--	--	
01632000	(p) North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	9.65	6.41	4.71	3.59	2.76	2.11	1.57	1.10	0.660	0.420	0.250	0.180	0.130	
01632000	(r) North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	47.5	40.1	35.3	31.4	28.2	25.2	22.3	19.1	15.2	12.5	--	--	--	
01632000	(w) North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	10.9	7.52	5.71	4.48	3.58	2.84	2.21	1.65	1.08	0.755	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					Non-exceedance probability										0.02	0.01	0.005
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05			
					1-day averaged, adjusted low flow (ft ³ /s)												
01632082	(p) Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	11.8	9.42	7.96	6.87	5.98	5.19	4.46	3.71	2.86	2.30	1.79	1.51	1.29
01632082	(r) Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	9.38	7.72	6.65	5.82	5.12	4.49	3.87	3.22	2.46	1.93	--	--	--
01632082	(w) Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	11.8	9.38	7.93	6.85	5.96	5.17	4.45	3.70	2.85	2.29	--	--	--
01632900	(p) Smith Creek at Route 616 near New Market, Va.	93.6	45	0	25.6	20.7	17.6	15.3	13.4	11.7	10.1	8.47	6.58	5.31	4.15	3.50	2.99
01632900	(r) Smith Creek at Route 616 near New Market, Va.	93.6	45	0	20.1	16.7	14.6	12.9	11.4	10.1	8.81	7.44	5.80	4.63	--	--	--
01632900	(w) Smith Creek at Route 616 near New Market, Va.	93.6	45	0	25.5	20.6	17.5	15.3	13.4	11.7	10.1	8.45	6.56	5.30	--	--	--
01633000	(p) North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	74.2	62.4	53.3	45.6	38.5	31.9	25.4	18.8	11.6	7.29	4.02	2.59	1.67
01633000	(r) North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	122	104	92.7	83.5	75.8	68.6	61.3	53.5	43.8	36.7	--	--	--
01633000	(w) North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	75.5	63.5	54.4	46.5	39.5	32.8	26.3	19.6	12.3	7.95	--	--	--
01633500	(p) Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	10.1	8.73	7.94	7.37	6.92	6.53	6.17	5.81	5.41	5.15	4.92	4.79	4.70
01633500	(r) Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	16.5	13.7	11.9	10.4	9.25	8.16	7.10	5.97	4.63	3.68	--	--	--
01633500	(w) Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	10.2	8.83	8.02	7.43	6.97	6.56	6.19	5.81	5.40	5.12	--	--	--
01634000	(p) North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	153	129	113	102	92.1	83.3	74.8	66.0	55.5	48.1	40.9	36.7	33.3
01634000	(r) North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	189	163	146	132	121	110	98.8	86.8	72.0	61.1	--	--	--
01634000	(w) North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	154	129	114	102	92.7	83.9	75.3	66.4	55.8	48.3	--	--	--
01634500	(p) Cedar Creek above Route 628 near Winchester, Va.	102	68	0	13.2	10.8	9.38	8.30	7.40	6.59	5.82	5.02	4.09	3.44	2.83	2.49	2.20
01634500	(r) Cedar Creek above Route 628 near Winchester, Va.	102	68	0	22.0	18.4	16.0	14.1	12.6	11.1	9.72	8.22	6.43	5.15	--	--	--
01634500	(w) Cedar Creek above Route 628 near Winchester, Va.	102	68	0	13.4	11.0	9.53	8.43	7.51	6.69	5.90	5.09	4.14	3.47	--	--	--
01635090	(p) Cedar Creek above Route 11 near Middletown, Va.	154	6	0	39.4	29.4	24.0	20.4	17.7	15.4	13.4	11.4	9.31	7.97	6.79	6.14	5.63
01635090	(r) Cedar Creek above Route 11 near Middletown, Va.	154	6	0	34.2	28.7	25.1	22.3	19.9	17.8	15.6	13.3	10.5	8.52	--	--	--
01635090	(w) Cedar Creek above Route 11 near Middletown, Va.	154	6	0	39.3	29.3	24.1	20.5	17.7	15.4	13.4	11.4	9.34	7.98	--	--	--
01635500	(p) Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	4.99	3.94	3.30	2.83	2.44	2.10	1.79	1.47	1.12	0.880	0.670	0.560	0.470
01635500	(r) Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	18.5	15.4	13.4	11.8	10.5	9.24	8.05	6.79	5.28	4.21	--	--	--
01635500	(w) Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	5.32	4.21	3.54	3.04	2.62	2.26	1.93	1.59	1.21	0.946	--	--	--
01636210	(p) Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	1.13	0.740	0.550	0.420	0.330	0.260	0.200	0.150	0.100	0.070	0.050	0.040	0.030
01636210	(r) Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	3.66	2.64	2.03	1.58	1.22	0.927	0.665	0.438	0.221	--	--	--	--
01636210	(w) Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	1.21	0.800	0.594	0.454	0.355	0.277	0.211	0.157	0.102	--	--	--	--
01636266	(p) Manassas Run at Route 79 near Linden, Va.	5.54	4	0	2.04	1.31	1.00	0.820	0.700	0.600	0.530	0.470	0.410	0.380	0.350	0.340	0.340
01636266	(r) Manassas Run at Route 79 near Linden, Va.	5.54	4	0	1.31	0.921	0.690	0.526	0.397	0.292	0.202	0.127	0.059	--	--	--	--
01636266	(w) Manassas Run at Route 79 near Linden, Va.	5.54	4	0	2.01	1.29	0.988	0.809	0.689	0.589	0.520	0.460	0.401	--	--	--	--
01636316	(p) Spout Run at Route 621 near Millwood, Va.	21.4	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01636316	(r) Spout Run at Route 621 near Millwood, Va.	21.4	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01636316	(w) Spout Run at Route 621 near Millwood, Va.	21.4	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01638350	(p) South Fork Catotcin Creek at Route 698 near Waterford, Va.	31.6	5	0	9.34	4.85	2.92	1.85	1.19	0.740	0.440	0.230	0.090	0.040	0.010	0.010	0.000
01638350	(r) South Fork Catotcin Creek at Route 698 near Waterford, Va.	31.6	5	0	9.02	6.67	5.22	4.17	3.29	2.56	1.89	1.30	0.708	--	--	--	--
01638350	(w) South Fork Catotcin Creek at Route 698 near Waterford, Va.	31.6	5	0	9.31	5.00	3.10	2.03	1.34	0.866	0.534	0.297	0.123	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
1-day averaged, adjusted low flow (ft ³ /s)																	
(p)	North Fork Catotcin Creek at Route 681 bridge near Waterford, Va.	23.1	5	1	5.20	2.27	1.16	0.620	0.320	0.140	0.050	0.000	0.000	0.000	0.000	0.000	
(r)	North Fork Catotcin Creek at Route 681 bridge near Waterford, Va.	23.1	5	1	6.38	4.67	3.63	2.87	2.25	1.73	1.27	0.856	0.452	--	--	--	
(w)	North Fork Catotcin Creek at Route 681 bridge near Waterford, Va.	23.1	5	1	5.35	2.56	1.45	0.877	0.530	0.303	0.166	0.079	0.036	--	--	--	
(p)	Catotcin Creek at Route 663 at Taylorstown, Va.	89.5	35	0	15.1	10.1	7.23	5.28	3.84	2.72	1.83	1.10	0.510	0.250	0.100	0.060	
(r)	Catotcin Creek at Route 663 at Taylorstown, Va.	89.5	35	0	28.6	21.8	17.5	14.3	11.7	9.37	7.23	5.24	3.13	--	--	--	
(w)	Catotcin Creek at Route 663 at Taylorstown, Va.	89.5	35	0	15.8	10.6	7.67	5.67	4.16	2.97	2.02	1.24	0.585	--	--	--	
(p)	Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	2.77	1.92	1.51	1.24	1.05	0.900	0.770	0.650	0.530	0.450	0.390	0.360	
(r)	Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	1.94	1.38	1.04	0.800	0.609	0.453	0.318	0.203	0.097	--	--	--	
(w)	Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	2.75	1.91	1.50	1.23	1.04	0.891	0.761	0.642	0.523	--	--	--	
(p)	Goose Creek at Route 611 near Middleburg, Va.	122	32	3	20.6	11.2	6.87	4.31	2.68	1.57	0.820	0.320	0.010	0.000	0.000	0.000	
(r)	Goose Creek at Route 611 near Middleburg, Va.	122	32	3	40.2	31.0	25.1	20.7	17.0	13.8	10.8	7.94	4.88	--	--	--	
(w)	Goose Creek at Route 611 near Middleburg, Va.	122	32	3	22.2	12.8	8.21	5.50	3.66	2.36	1.42	0.763	0.250	--	--	--	
(p)	North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	15.1	7.83	5.06	3.57	2.63	1.97	1.47	1.07	0.720	0.540	0.400	0.340	
(r)	North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	11.1	8.25	6.49	5.20	4.13	3.23	2.41	1.67	0.925	--	--	--	
(w)	North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	14.9	7.85	5.11	3.63	2.68	2.01	1.50	1.09	0.725	--	--	--	
(p)	Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	1	9.23	2.14	0.760	0.310	0.130	0.050	0.020	0.000	0.000	0.000	0.000	0.000	
(r)	Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	1	14.1	10.5	8.32	6.71	5.36	4.22	3.17	2.23	1.26	--	--	--	
(w)	Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	1	11.1	5.26	3.47	2.58	1.92	1.42	1.000	0.675	0.336	--	--	--	
(p)	Goose Creek above Route 621 near Leesburg, Va.	332	78	0	40.6	24.2	16.4	11.7	8.43	6.04	4.19	2.70	1.44	0.840	0.450	0.290	
(r)	Goose Creek above Route 621 near Leesburg, Va.	332	78	0	122	96.7	80.3	68.1	57.3	48.1	39.0	30.3	20.4	--	--	--	
(w)	Goose Creek above Route 621 near Leesburg, Va.	332	78	0	44.4	27.3	19.0	14.0	10.3	7.55	5.35	3.59	1.96	--	--	--	
(p)	Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	10.1	7.03	5.46	4.41	3.62	2.98	2.43	1.92	1.39	1.07	0.800	0.670	
(r)	Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	10.1	7.07	5.33	4.12	3.16	2.34	--	--	--	--	--	--	
(w)	Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	10.1	7.03	5.45	4.40	3.60	2.95	--	--	--	--	--	--	
(p)	Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
(r)	Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	10	0.067	0.040	0.027	0.019	0.013	--	--	--	--	--	--	--	
(w)	Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	10	0.003	0.002	0.001	0.001	0.000	--	--	--	--	--	--	--	
(p)	Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	18.6	15.9	13.6	11.4	9.47	7.58	5.75	3.94	2.09	1.12	0.490	0.260	
(r)	Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	0.158	0.099	0.068	0.048	0.033	--	--	--	--	--	--	--	
(w)	Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	17.9	15.3	13.0	11.0	9.15	--	--	--	--	--	--	--	
(p)	Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	18.6	15.9	13.6	11.4	9.47	7.58	5.75	3.94	2.09	1.12	0.490	0.260	
(r)	Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	11.1	7.91	6.02	4.69	3.59	--	--	--	--	--	--	--	
(w)	Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	18.3	15.6	13.3	11.2	9.27	--	--	--	--	--	--	--	
(p)	Fourmile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	3.18	2.47	2.08	1.80	1.58	1.40	1.23	1.07	0.880	0.760	0.650	0.540	
(r)	Fourmile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	1.59	1.06	0.746	0.533	0.375	0.234	--	--	--	--	--	--	
(w)	Fourmile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	3.03	2.34	1.96	1.69	1.48	1.32	--	--	--	--	--	--	
(p)	Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	5.24	4.12	3.48	3.01	2.63	2.31	2.01	1.71	1.36	1.14	0.930	0.820	
(r)	Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	4.11	2.73	1.92	1.38	0.970	0.607	--	--	--	--	--	--	
(w)	Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	5.13	3.99	3.34	2.87	2.50	2.19	--	--	--	--	--	--	
(p)	Accotink Creek above Route 620 near Amandale, Va.	23.9	59	2	5.38	4.08	3.15	2.43	1.82	1.31	0.870	0.490	0.170	0.040	0.000	0.000	
(r)	Accotink Creek above Route 620 near Amandale, Va.	23.9	59	2	4.65	3.21	2.39	1.83	1.37	--	--	--	--	--	--	--	
(w)	Accotink Creek above Route 620 near Amandale, Va.	23.9	59	2	5.34	4.03	3.11	2.40	1.80	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	1-day averaged, adjusted low flow (ft ³ /s)	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
01654500	(p) Long Branch (Little Run) at Route 620 near Annandale, Va.	3.72	8	2	1.17	1.00	0.890	0.800	0.730	0.650	0.540	0.000	0.000	0.000	0.000	0.000	0.000		
01654500	(r) Long Branch (Little Run) at Route 620 near Annandale, Va.	3.72	8	2	0.735	0.480	0.343	0.251	0.180	--	--	--	--	--	--	--	--		
01654500	(w) Long Branch (Little Run) at Route 620 near Annandale, Va.	3.72	8	2	1.16	0.986	0.875	0.786	0.717	--	--	--	--	--	--	--	--		
01655000	(p) Accotink Creek at Army Engineer Road near Accotink Station, Va.	37.1	6	0	8.14	5.63	4.27	3.34	2.65	2.08	1.60	1.17	0.740	0.500	0.320	0.230	0.180		
01655000	(r) Accotink Creek at Army Engineer Road near Accotink Station, Va.	37.1	6	0	4.48	2.97	2.09	1.50	1.06	0.662	--	--	--	--	--	--	--		
01655000	(w) Accotink Creek at Army Engineer Road near Accotink Station, Va.	37.1	6	0	7.69	5.31	4.02	3.14	2.49	1.95	--	--	--	--	--	--	--		
01655500	(p) Cedar Run at Route 672 near Warrenton, Va.	13.1	35	2	1.39	0.870	0.620	0.460	0.340	0.250	0.170	0.110	0.050	0.000	0.000	0.000	0.000		
01655500	(r) Cedar Run at Route 672 near Warrenton, Va.	13.1	35	2	3.40	2.45	1.88	1.46	1.13	0.854	0.611	0.401	0.201	--	--	--	--		
01655500	(w) Cedar Run at Route 672 near Warrenton, Va.	13.1	35	2	1.47	0.927	0.663	0.494	0.365	0.268	0.182	0.118	0.053	--	--	--	--		
01656000	(p) Cedar Run at Route 806 near Catlett, Va.	93.4	51	8	3.41	1.96	1.25	0.800	0.510	0.300	0.140	0.040	0.000	0.000	0.000	0.000	0.000		
01656000	(r) Cedar Run at Route 806 near Catlett, Va.	93.4	51	8	13.0	9.14	6.93	5.40	4.16	3.10	--	--	--	--	--	--	--		
01656000	(w) Cedar Run at Route 806 near Catlett, Va.	93.4	51	8	4.44	2.71	1.83	1.25	0.853	0.550	--	--	--	--	--	--	--		
01656100	(p) Cedar Run at Route 611 near Aden, Va.	155	15	0	7.30	4.38	3.04	2.23	1.67	1.26	0.930	0.650	0.400	0.270	0.180	0.130	0.100		
01656100	(r) Cedar Run at Route 611 near Aden, Va.	155	15	0	24.0	17.2	13.3	10.5	8.23	6.27	--	--	--	--	--	--	--		
01656100	(w) Cedar Run at Route 611 near Aden, Va.	155	15	0	8.43	5.22	3.69	2.74	2.05	1.54	--	--	--	--	--	--	--		
01656120	(p) Cedar Run at Route 646 near Aden, Va.	175	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01656120	(r) Cedar Run at Route 646 near Aden, Va.	175	2	0	27.8	20.1	15.5	12.3	9.69	7.41	--	--	--	--	--	--	--		
01656120	(w) Cedar Run at Route 646 near Aden, Va.	175	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01656500	(p) Broad Run at Route 29 at Buckland, Va.	50.2	34	0	8.08	5.74	4.40	3.46	2.73	2.13	1.62	1.15	0.690	0.440	0.260	0.180	0.130		
01656500	(r) Broad Run at Route 29 at Buckland, Va.	50.2	34	0	15.1	11.3	8.94	7.22	5.77	4.56	3.44	2.42	1.37	--	--	--	--		
01656500	(w) Broad Run at Route 29 at Buckland, Va.	50.2	34	0	8.31	5.91	4.53	3.57	2.81	2.19	1.66	1.18	0.703	--	--	--	--		
01656650	(p) Broad Run at Route 619 near Bristow, Va.	89.6	11	0	9.51	6.38	4.83	3.83	3.10	2.52	2.03	1.59	1.14	0.880	0.660	0.550	0.470		
01656650	(r) Broad Run at Route 619 near Bristow, Va.	89.6	11	0	28.6	21.8	17.5	14.4	11.7	9.39	7.24	5.25	3.14	--	--	--	--		
01656650	(w) Broad Run at Route 619 near Bristow, Va.	89.6	11	0	10.1	6.82	5.17	4.11	3.31	2.68	2.14	1.67	1.18	--	--	--	--		
01656700	(p) Occoquan River (Creek) below Route 234 near Manassas, Va.	343	11	0	16.2	11.2	8.28	6.20	4.61	3.34	2.30	1.42	0.670	0.340	0.140	0.080	0.040		
01656700	(r) Occoquan River (Creek) below Route 234 near Manassas, Va.	343	11	0	63.0	46.6	36.8	29.8	24.0	18.9	--	--	--	--	--	--	--		
01656700	(w) Occoquan River (Creek) below Route 234 near Manassas, Va.	343	11	0	19.9	14.0	10.4	7.89	5.94	4.35	--	--	--	--	--	--	--		
01656725	(p) Bull Run at Route 705 near Catharpin, Va.	25.7	16	5	1.20	0.500	0.250	0.130	0.060	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
01656725	(r) Bull Run at Route 705 near Catharpin, Va.	25.7	16	5	2.72	1.81	1.32	0.990	0.732	0.518	--	--	--	--	--	--	--		
01656725	(w) Bull Run at Route 705 near Catharpin, Va.	25.7	16	5	1.43	0.691	0.401	0.247	0.148	0.082	--	--	--	--	--	--	--		
01656960	(p) Cub Run at Route 658 near Bull Run, Va.	49.7	13	0	5.31	3.46	2.45	1.79	1.30	0.930	0.630	0.390	0.190	0.100	0.040	0.030	0.010		
01656960	(r) Cub Run at Route 658 near Bull Run, Va.	49.7	13	0	6.05	4.15	3.08	2.36	1.78	1.29	--	--	--	--	--	--	--		
01656960	(w) Cub Run at Route 658 near Bull Run, Va.	49.7	13	0	5.37	3.52	2.50	1.83	1.33	0.955	--	--	--	--	--	--	--		
01657000	(p) Bull Run at Route 616 near Manassas, Va.	146	30	0	6.39	3.85	2.63	1.89	1.38	1.00	0.700	0.460	0.250	0.150	0.080	0.050	0.040		
01657000	(r) Bull Run at Route 616 near Manassas, Va.	146	30	0	22.4	16.0	12.3	9.70	7.59	5.77	--	--	--	--	--	--	--		
01657000	(w) Bull Run at Route 616 near Manassas, Va.	146	30	0	7.62	4.76	3.33	2.44	1.80	1.30	--	--	--	--	--	--	--		
01657020	(p) Bull Run at Route 28 near Manassas Park, Va.	147	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01657020	(r) Bull Run at Route 28 near Manassas Park, Va.	147	2	0	22.5	16.1	12.4	9.79	7.66	5.82	--	--	--	--	--	--	--		
01657020	(w) Bull Run at Route 28 near Manassas Park, Va.	147	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					1-day averaged, adjusted low flow (ft ³ /s)												
		0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005			
01657415 (p)	Bull Run above Yates Ford near Clifton, Va.	185	11	0	16.9	13.9	12.2	10.9	9.85	8.92	8.04	7.15	6.11	5.40	4.72	4.33	4.01
01657415 (r)	Bull Run above Yates Ford near Clifton, Va.	185	11	0	29.8	21.5	16.7	13.2	10.4	8.01	--	--	--	--	--	--	--
01657415 (w)	Bull Run above Yates Ford near Clifton, Va.	185	11	0	17.4	14.2	12.4	11.0	9.87	8.89	--	--	--	--	--	--	--
01657500 (p)	Ocoquan River (Creek) near Ocoquan (site now in Ocoquan Reservoir), Va.	570	22	0	40.3	33.8	28.6	24.1	20.0	16.1	12.4	8.70	4.87	2.77	1.33	0.770	0.440
01657500 (r)	Ocoquan River (Creek) near Ocoquan (site now in Ocoquan Reservoir), Va.	570	22	0	117	88.1	70.7	58.1	47.5	38.1	--	--	--	--	--	--	--
01657500 (w)	Ocoquan River (Creek) near Ocoquan (site now in Ocoquan Reservoir), Va.	570	22	0	44.6	36.7	30.8	25.8	21.3	17.1	--	--	--	--	--	--	--
01657655 (p)	Hooses Run above Route 641 near Ocoquan, Va.	3.92	7	0	0.280	0.150	0.090	0.060	0.040	0.030	0.020	0.010	0.010	0.010	0.000	0.000	0.000
01657655 (r)	Hooses Run above Route 641 near Ocoquan, Va.	3.92	7	0	0.517	0.350	0.245	0.174	0.122	0.076	--	--	--	--	--	--	--
01657655 (w)	Hooses Run above Route 641 near Ocoquan, Va.	3.92	7	0	0.323	0.185	0.116	0.078	0.052	0.036	--	--	--	--	--	--	--
01658500 (p)	South Fork Quantico Creek at Route 619 near Independent Hill, Va.	7.62	55	16	0.430	0.250	0.160	0.110	0.070	0.050	0.010	0.000	0.000	0.000	0.000	0.000	0.000
01658500 (r)	South Fork Quantico Creek at Route 619 near Independent Hill, Va.	7.62	55	16	1.50	0.999	0.726	0.540	0.394	--	--	--	--	--	--	--	--
01658500 (w)	South Fork Quantico Creek at Route 619 near Independent Hill, Va.	7.62	55	16	0.479	0.283	0.184	0.127	0.082	--	--	--	--	--	--	--	--
01658698 (p)	Little Creek at Mocking Bird Road at Triangle, Va.	2.06	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01658698 (r)	Little Creek at Mocking Bird Road at Triangle, Va.	2.06	2	0	0.409	0.263	0.185	0.134	0.094	--	--	--	--	--	--	--	--
01658698 (w)	Little Creek at Mocking Bird Road at Triangle, Va.	2.06	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01658705 (p)	Little Creek at Geiger Road at Quantico, Va.	3.28	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01658705 (r)	Little Creek at Geiger Road at Quantico, Va.	3.28	2	0	0.649	0.422	0.301	0.220	0.157	--	--	--	--	--	--	--	--
01658705 (w)	Little Creek at Geiger Road at Quantico, Va.	3.28	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01659000 (p)	North Branch Chopawamsic Creek above Marine Road 1 near Independent Hill, Va.	5.69	8	2	0.310	0.220	0.160	0.110	0.070	0.040	0.010	0.000	0.000	0.000	0.000	0.000	0.000
01659000 (r)	North Branch Chopawamsic Creek above Marine Road 1 near Independent Hill, Va.	5.69	8	2	1.12	0.741	0.535	0.395	0.286	--	--	--	--	--	--	--	--
01659000 (w)	North Branch Chopawamsic Creek above Marine Road 1 near Independent Hill, Va.	5.69	8	2	0.352	0.246	0.178	0.123	0.079	--	--	--	--	--	--	--	--
01660000 (p)	South Branch Chopawamsic Creek below Marine Road 1 near Garrisonville, Va.	2.46	8	0	0.380	0.250	0.190	0.140	0.110	0.080	0.060	0.040	0.020	0.010	0.010	0.000	0.000
01660000 (r)	South Branch Chopawamsic Creek below Marine Road 1 near Garrisonville, Va.	2.46	8	0	0.488	0.315	0.223	0.161	0.115	--	--	--	--	--	--	--	--
01660000 (w)	South Branch Chopawamsic Creek below Marine Road 1 near Garrisonville, Va.	2.46	8	0	0.385	0.253	0.191	0.141	0.110	--	--	--	--	--	--	--	--
01660100 (p)	Chopawamsic Creek at Russell Road near Joplin, Va.	22.1	5	1	2.51	1.15	0.610	0.330	0.170	0.080	0.020	0.000	0.000	0.000	0.000	0.000	0.000
01660100 (r)	Chopawamsic Creek at Russell Road near Joplin, Va.	22.1	5	1	2.72	1.81	1.28	0.913	0.644	0.402	--	--	--	--	--	--	--
01660100 (w)	Chopawamsic Creek at Russell Road near Joplin, Va.	22.1	5	1	2.59	1.39	0.843	0.527	0.324	0.175	--	--	--	--	--	--	--
01660400 (p)	Aquia Creek at Route 641 near Garrisonville, Va.	35	32	4	4.35	2.24	1.31	0.790	0.470	0.260	0.130	0.040	0.000	0.000	0.000	0.000	0.000
01660400 (r)	Aquia Creek at Route 641 near Garrisonville, Va.	35	32	4	6.78	4.74	3.56	2.74	2.08	--	--	--	--	--	--	--	--
01660400 (w)	Aquia Creek at Route 641 near Garrisonville, Va.	35	32	4	4.61	2.50	1.53	0.976	0.615	--	--	--	--	--	--	--	--
01660500 (p)	Beaverdam Run at Marine Road 2 near Garrisonville, Va.	13.2	11	0	1.52	0.810	0.500	0.320	0.210	0.140	0.090	0.050	0.020	0.010	0.000	0.000	0.000
01660500 (r)	Beaverdam Run at Marine Road 2 near Garrisonville, Va.	13.2	11	0	2.58	1.75	1.29	0.970	0.717	--	--	--	--	--	--	--	--
01660500 (w)	Beaverdam Run at Marine Road 2 near Garrisonville, Va.	13.2	11	0	1.62	0.891	0.565	0.371	0.248	--	--	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
1-day averaged, adjusted low flow (ft ³ /s)																	
01661800	(p) Bush Mill Stream at Route 601 near Heathsville, Va.	6.77	20	1	1.74	1.23	0.920	0.690	0.510	0.360	0.240	0.140	0.050	0.000	0.000		
01661800	(r) Bush Mill Stream at Route 601 near Heathsville, Va.	6.77	20	1	0.873	0.588	0.412	0.294	0.207	0.128	--	--	--	--	--		
01661800	(w) Bush Mill Stream at Route 601 near Heathsville, Va.	6.77	20	1	1.60	1.13	0.846	0.635	0.470	0.333	--	--	--	--	--		
01661900	(p) Carter Run off Route 691 near Marshall, Va.	20.4	5	0	4.74	3.05	2.25	1.75	1.40	1.13	0.910	0.710	0.510	0.400	0.310		
01661900	(r) Carter Run off Route 691 near Marshall, Va.	20.4	5	0	5.56	4.06	3.14	2.48	1.93	1.48	1.08	0.725	0.379	--	0.260		
01661900	(w) Carter Run off Route 691 near Marshall, Va.	20.4	5	0	4.77	3.08	2.27	1.77	1.41	1.14	0.914	0.710	0.508	--	--		
01662000	(p) Rappahannock River at Route 211 near Warrenton, Va.	195	43	0	39.4	26.7	19.4	14.5	10.7	7.81	5.42	3.42	1.69	0.900	0.410		
01662000	(r) Rappahannock River at Route 211 near Warrenton, Va.	195	43	0	67.6	52.8	43.3	36.2	30.0	24.8	19.7	14.9	9.54	--	0.230		
01662000	(w) Rappahannock River at Route 211 near Warrenton, Va.	195	43	0	40.6	27.7	20.4	15.3	11.4	8.39	5.87	3.77	1.89	--	--		
01662500	(p) Rush River at old Route 522 at Washington, Va.	14.6	23	6	0.710	0.470	0.350	0.260	0.200	0.140	0.080	0.000	0.000	0.000	0.000		
01662500	(r) Rush River at old Route 522 at Washington, Va.	14.6	23	6	3.84	2.77	2.13	1.66	1.29	0.977	0.702	0.463	0.235	--	--		
01662500	(w) Rush River at old Route 522 at Washington, Va.	14.6	23	6	--	--	--	--	--	--	--	--	--	--	--		
01662800	(p) Battle Run at Route 729 near Laurel Mills, Va.	25.8	45	1	5.87	3.83	2.72	1.98	1.44	1.02	0.680	0.410	0.180	0.000	0.000		
01662800	(r) Battle Run at Route 729 near Laurel Mills, Va.	25.8	45	1	7.21	5.30	4.12	3.27	2.57	1.99	1.46	0.993	0.530	--	--		
01662800	(w) Battle Run at Route 729 near Laurel Mills, Va.	25.8	45	1	5.93	3.89	2.78	2.03	1.48	1.05	0.706	0.429	0.190	--	--		
01663000	(p) Thornton River at Route 729 near Laurel Mills, Va.	139	12	0	50.1	30.4	20.8	14.7	10.6	7.45	5.06	3.15	1.57	0.860	0.420		
01663000	(r) Thornton River at Route 729 near Laurel Mills, Va.	139	12	0	46.5	35.9	29.2	24.2	19.9	16.2	12.7	9.45	5.88	--	0.250		
01663000	(w) Thornton River at Route 729 near Laurel Mills, Va.	139	12	0	49.9	30.7	21.1	15.1	10.9	7.78	5.33	3.36	1.69	--	0.160		
01663500	(p) Hazel River at Route 229 at Rixeyville, Va.	285	53	0	84.8	54.5	38.6	28.3	20.8	15.1	10.6	6.77	3.51	1.97	0.980		
01663500	(r) Hazel River at Route 229 at Rixeyville, Va.	285	53	0	103	81.3	67.2	56.8	47.6	39.7	32.1	24.7	16.4	--	0.600		
01663500	(w) Hazel River at Route 229 at Rixeyville, Va.	285	53	0	85.6	55.6	39.8	29.4	21.8	16.0	11.2	7.32	3.84	--	0.380		
01664000	(p) Rappahannock River at Route 29 (Alternate) at Remington, Va.	619	64	0	148	96.6	69.8	52.4	39.8	29.9	21.9	15.0	8.66	5.40	3.11		
01664000	(r) Rappahannock River at Route 29 (Alternate) at Remington, Va.	619	64	0	243	196	166	143	122	105	86.9	69.7	49.7	--	2.12		
01664000	(w) Rappahannock River at Route 29 (Alternate) at Remington, Va.	619	64	0	152	100	73.0	55.4	42.3	32.1	23.6	16.4	9.56	--	1.48		
01664500	(p) Rappahannock River at Route 620 at Kellys Ford near Remington, Va.	641	24	0	166	130	104	81.7	62.9	46.4	32.0	19.3	8.40	3.72	1.29		
01664500	(r) Rappahannock River at Route 620 at Kellys Ford near Remington, Va.	641	24	0	252	204	172	149	127	109	90.9	73.0	52.2	--	0.580		
01664500	(w) Rappahannock River at Route 620 at Kellys Ford near Remington, Va.	641	24	0	169	134	106	84.3	65.3	48.6	33.9	21.0	9.56	--	0.260		
01665000	(p) Mountain Run at Route 641 near Culpeper, Va.	16.1	47	0	3.75	3.17	2.71	2.31	1.94	1.59	1.25	0.910	0.540	0.320	0.170		
01665000	(r) Mountain Run at Route 641 near Culpeper, Va.	16.1	47	0	4.28	3.10	2.38	1.87	1.45	1.10	0.796	0.528	0.270	--	0.100		
01665000	(w) Mountain Run at Route 641 near Culpeper, Va.	16.1	47	0	--	--	--	--	--	--	--	--	--	--	--		
01665500	(p) Rapidan River below Route 29 near Ruckersville, Va.	115	60	0	35.9	26.8	21.0	16.7	13.3	10.4	7.79	5.41	3.10	1.86	0.990		
01665500	(r) Rapidan River below Route 29 near Ruckersville, Va.	115	60	0	37.7	29.0	23.4	19.3	15.8	12.8	9.98	7.33	4.48	--	0.630		
01665500	(w) Rapidan River below Route 29 near Ruckersville, Va.	115	60	0	36.0	26.8	21.1	16.8	13.4	10.4	7.84	5.46	3.13	--	0.410		
01666500	(p) Robinson (Robertson) River at Route 614 near Locust Dale, Va.	179	63	0	70.9	52.2	40.8	32.6	26.0	20.4	15.5	11.0	6.59	4.15	2.36		
01666500	(r) Robinson (Robertson) River at Route 614 near Locust Dale, Va.	179	63	0	28.6	20.6	16.0	12.7	9.98	7.65	--	--	--	--	1.58		
01666500	(w) Robinson (Robertson) River at Route 614 near Locust Dale, Va.	179	63	0	69.5	51.2	40.1	32.0	25.5	20.1	--	--	--	--	1.07		
01667000	(p) Rapidan River below Route 615 at Rapidan, Va.	445	4	0	80.6	56.7	46.0	39.6	35.0	31.6	28.8	26.5	24.4	23.3	22.4		
01667000	(r) Rapidan River below Route 615 at Rapidan, Va.	445	4	0	86.4	64.6	51.5	42.0	34.0	27.1	--	--	--	--	22.3		
01667000	(w) Rapidan River below Route 615 at Rapidan, Va.	445	4	0	80.7	56.9	46.2	39.6	35.0	31.5	--	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	
					1-day averaged, adjusted low flow (ft³/s)												
01667500	(p) Rapidan River above Route 522 near Culpeper, Va.	468	75	0	151	117	93.7	75.1	59.4	45.7	33.5	22.3	11.6	6.26	2.85	1.60	0.900
01667500	(r) Rapidan River above Route 522 near Culpeper, Va.	468	75	0	91.8	68.8	54.9	44.8	36.4	29.0	--	--	--	--	--	--	--
01667500	(w) Rapidan River above Route 522 near Culpeper, Va.	468	75	0	149	116	92.5	74.1	58.7	45.3	--	--	--	--	--	--	--
01667870	(p) Mountain Run at Route 611 near Burr Hill, Va.	28.8	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01667870	(r) Mountain Run at Route 611 near Burr Hill, Va.	28.8	2	0	3.51	2.34	1.64	1.18	0.830	0.519	--	--	--	--	--	--	--
01667870	(w) Mountain Run at Route 611 near Burr Hill, Va.	28.8	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01668000	(p) Rappahannock River below Motts Run near Fredericksburg, Va.	1,595	99	0	371	298	245	202	164	130	98.7	68.6	38.3	22.0	10.8	6.40	3.81
01668000	(r) Rappahannock River below Motts Run near Fredericksburg, Va.	1,595	99	0	166	107	75.6	54.8	39.1	24.9	--	--	--	--	--	--	--
01668000	(w) Rappahannock River below Motts Run near Fredericksburg, Va.	1,595	99	0	364	292	240	197	161	128	--	--	--	--	--	--	--
01668500	(p) Cat Point Creek below Route 637 near Montross, Va.	45.6	55	4	7.11	4.33	2.92	2.03	1.41	0.950	0.590	0.310	0.080	0.000	0.000	0.000	0.000
01668500	(r) Cat Point Creek below Route 637 near Montross, Va.	45.6	55	4	5.46	3.62	2.54	1.83	1.29	0.808	--	--	--	--	--	--	--
01668500	(w) Cat Point Creek below Route 637 near Montross, Va.	45.6	55	4	6.81	4.21	2.86	2.00	1.39	0.931	--	--	--	--	--	--	--
01668800	(p) Hoskins Creek at Route 717 near Tappahannock, Va.	15.4	19	0	6.14	4.45	3.45	2.74	2.18	1.71	1.30	0.920	0.550	0.350	0.200	0.140	0.090
01668800	(r) Hoskins Creek at Route 717 near Tappahannock, Va.	15.4	19	0	1.92	1.29	0.903	0.646	0.455	0.284	--	--	--	--	--	--	--
01668800	(w) Hoskins Creek at Route 717 near Tappahannock, Va.	15.4	19	0	5.61	4.07	3.16	2.51	2.00	1.58	--	--	--	--	--	--	--
01669000	(p) Piscataway Creek at Route 691 near Tappahannock, Va.	27.9	55	2	8.94	6.48	4.92	3.76	2.84	2.08	1.43	0.860	0.340	0.090	0.000	0.000	0.000
01669000	(r) Piscataway Creek at Route 691 near Tappahannock, Va.	27.9	55	2	3.41	2.27	1.59	1.14	0.805	0.503	--	--	--	--	--	--	--
01669000	(w) Piscataway Creek at Route 691 near Tappahannock, Va.	27.9	55	2	8.12	5.88	4.47	3.42	2.59	1.91	--	--	--	--	--	--	--
01669500	(p) Dragon Swamp at Route 602 near Church View, Va.	86	37	3	16.3	8.86	5.58	3.70	2.47	1.61	0.990	0.510	0.110	0.000	0.000	0.000	0.000
01669500	(r) Dragon Swamp at Route 602 near Church View, Va.	86	37	3	10.0	6.62	4.66	3.35	2.37	1.49	--	--	--	--	--	--	--
01669500	(w) Dragon Swamp at Route 602 near Church View, Va.	86	37	3	15.1	8.43	5.41	3.64	2.45	1.59	--	--	--	--	--	--	--
01669520	(p) Dragon Swamp at Route 603 at Mascot, Va.	109	25	1	29.3	13.4	7.14	3.97	2.20	1.16	0.550	0.200	0.040	0.000	0.000	0.000	0.000
01669520	(r) Dragon Swamp at Route 603 at Mascot, Va.	109	25	1	12.6	8.29	5.84	4.21	2.98	1.87	--	--	--	--	--	--	--
01669520	(w) Dragon Swamp at Route 603 at Mascot, Va.	109	25	1	20.6	10.8	6.49	4.08	2.57	1.47	--	--	--	--	--	--	--
01670000	(p) Beaverdam Swamp above Route 606 near Ark, Va.	7.15	38	6	1.16	0.760	0.550	0.410	0.300	0.220	0.140	0.070	0.000	0.000	0.000	0.000	0.000
01670000	(r) Beaverdam Swamp above Route 606 near Ark, Va.	7.15	38	6	0.920	0.620	0.435	0.310	0.218	0.135	--	--	--	--	--	--	--
01670000	(w) Beaverdam Swamp above Route 606 near Ark, Va.	7.15	38	6	1.13	0.743	0.536	0.399	0.291	0.212	--	--	--	--	--	--	--
01670180	(p) Pamunkey Creek at Route 669 at Lahore, Va.	41.9	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01670180	(r) Pamunkey Creek at Route 669 at Lahore, Va.	41.9	2	0	8.10	5.69	4.30	3.33	2.53	--	--	--	--	--	--	--	--
01670180	(w) Pamunkey Creek at Route 669 at Lahore, Va.	41.9	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01670300	(p) Contrary Creek below Route 522 near Mineral, Va.	5.58	10	0	0.640	0.370	0.260	0.190	0.140	0.110	0.080	0.060	0.040	0.030	0.020	0.020	0.010
01670300	(r) Contrary Creek below Route 522 near Mineral, Va.	5.58	10	0	1.10	0.727	0.524	0.387	0.280	--	--	--	--	--	--	--	--
01670300	(w) Contrary Creek below Route 522 near Mineral, Va.	5.58	10	0	0.662	0.386	0.271	0.198	0.145	--	--	--	--	--	--	--	--
01670400	(p) North Anna River at Route 601 near Partlow, Va.	342	16	0	44.7	43.3	42.4	41.7	41.0	40.4	39.8	39.2	38.3	37.7	37.0	36.6	36.3
01670400	(r) North Anna River at Route 601 near Partlow, Va.	342	16	0	64.9	48.6	38.5	31.2	25.0	--	--	--	--	--	--	--	--
01670400	(w) North Anna River at Route 601 near Partlow, Va.	342	16	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01671000	(p) North Anna River near Doswell, Va.	440	56	0	81.3	65.0	53.2	43.5	35.2	27.7	20.8	14.2	7.72	4.32	2.05	1.18	0.690
01671000	(r) North Anna River near Doswell, Va.	440	56	0	48.2	31.3	22.1	16.0	11.4	7.18	--	--	--	--	--	--	--
01671000	(w) North Anna River near Doswell, Va.	440	56	0	77.1	60.8	49.5	40.4	32.6	25.7	--	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued
[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20			
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05			
1-day averaged, adjusted low flow (ft³/s)																	
02011400 (p)	Jackson River along Route 603 near Bacova, Va.	157	31	0	37.2	31.9	28.6	26.2	24.1	22.2	20.4	18.5	16.2	14.5	12.9	12.0	11.2
02011400 (r)	Jackson River along Route 603 near Bacova, Va.	157	31	0	34.9	29.3	25.7	22.8	20.4	18.1	15.9	13.6	10.8	8.73	--	--	--
02011400 (w)	Jackson River along Route 603 near Bacova, Va.	157	31	0	37.1	31.8	28.6	26.1	24.0	22.1	20.3	18.4	16.1	14.4	--	--	--
02011460 (p)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	7.59	5.88	4.89	4.18	3.61	3.11	2.65	2.20	1.70	1.37	1.07	0.910	0.790
02011460 (r)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	12.7	10.5	9.11	7.99	7.06	6.21	5.38	4.51	3.47	2.74	--	--	--
02011460 (w)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02011470 (p)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	13.6	13.6	13.5	13.2	12.7	11.9	10.9	9.26	6.68	4.58	2.61	1.64	0.990
02011470 (r)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	16.0	13.3	11.5	10.2	9.00	7.93	6.90	5.80	4.50	3.57	--	--	--
02011470 (w)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02011480 (p)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	11.0	7.66	6.01	4.92	4.12	3.47	2.92	2.40	1.86	1.54	1.25	1.11	0.990
02011480 (r)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	19.0	15.8	13.7	12.1	10.7	9.50	8.27	6.98	5.43	4.33	--	--	--
02011480 (w)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	11.2	7.86	6.20	5.10	4.28	3.62	3.05	2.51	1.94	1.60	--	--	--
02011490 (p)	Little Back Creek near Sunrise, Va.	4.9	21	0	2.89	2.63	2.45	2.29	2.15	2.01	1.87	1.71	1.49	1.33	1.16	1.05	0.960
02011490 (r)	Little Back Creek near Sunrise, Va.	4.9	21	0	0.872	0.690	0.578	0.492	0.421	0.358	0.299	0.239	0.171	0.125	--	--	--
02011490 (w)	Little Back Creek near Sunrise, Va.	4.9	21	0	2.85	2.59	2.41	2.25	2.11	1.98	1.84	1.68	1.47	1.31	--	--	--
02011500 (p)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	21.5	17.2	14.5	12.4	10.5	8.92	7.39	5.84	4.11	3.00	2.05	1.57	1.21
02011500 (r)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	29.5	24.7	21.6	19.1	17.1	15.2	13.3	11.3	8.91	7.19	--	--	--
02011500 (w)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	21.7	17.4	14.7	12.5	10.7	9.07	7.53	5.96	4.21	3.09	--	--	--
02011800 (p)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	179	164	152	140	130	118	106	92.6	74.0	59.9	45.7	37.5	30.8
02011800 (r)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	80.6	68.6	60.7	54.4	49.2	44.2	39.3	34.0	27.6	22.9	--	--	--
02011800 (w)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	176	162	150	139	128	117	105	91.4	73.1	59.2	--	--	--
02011950 (p)	Johnson Spring near Hot Springs, Va.	--	6	0	0.570	0.530	0.500	0.480	0.460	0.430	0.410	0.380	0.340	0.310	0.280	0.260	0.240
02011950 (r)	Johnson Spring near Hot Springs, Va.	--	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02011950 (w)	Johnson Spring near Hot Springs, Va.	--	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02012000 (p)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	8.43	7.43	6.87	6.47	6.16	5.90	5.67	5.44	5.21	5.07	4.95	4.90	4.86
02012000 (r)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	2.10	1.69	1.43	1.23	1.06	0.914	0.772	0.626	0.459	0.345	--	--	--
02012000 (w)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	8.30	7.31	6.76	6.36	6.06	5.80	5.57	5.35	5.12	4.99	--	--	--
02012500 (p)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	108	95.5	87.9	82.2	77.5	73.3	69.3	65.2	60.3	56.9	53.7	51.8	50.3
02012500 (r)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	96.8	82.7	73.3	65.9	59.7	53.8	48.0	41.6	33.9	28.3	--	--	--
02012500 (w)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	108	95.2	87.6	81.9	77.2	72.9	68.9	64.7	59.8	56.4	--	--	--
02013000 (p)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	22.1	19.1	17.2	15.8	14.6	13.5	12.5	11.4	10.1	9.19	8.30	7.78	7.35
02013000 (r)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	36.1	30.3	26.6	23.6	21.1	18.8	16.5	14.1	11.2	9.07	--	--	--
02013000 (w)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	22.4	19.3	17.4	15.9	14.7	13.6	12.5	11.4	10.1	9.19	--	--	--
02013100 (p)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	250	231	215	200	186	171	155	136	110	90.4	70.2	58.2	48.3
02013100 (r)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	148	127	114	103	93.4	84.6	75.9	66.4	54.7	46.1	--	--	--
02013100 (w)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	247	228	213	198	184	169	153	134	109	89.6	--	--	--
02014000 (p)	Potts Creek at Route 18 near Covington, Va.	153	68	0	34.2	29.5	26.7	24.6	22.9	21.4	19.9	18.5	16.8	15.6	14.4	13.8	13.2
02014000 (r)	Potts Creek at Route 18 near Covington, Va.	153	68	0	33.9	28.5	24.9	22.1	19.8	17.6	15.5	13.2	10.4	8.45	--	--	--
02014000 (w)	Potts Creek at Route 18 near Covington, Va.	153	68	0	34.2	29.4	26.6	24.5	22.8	21.3	19.8	18.4	16.6	15.4	--	--	--
02014500 (p)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	3.29	2.65	2.31	2.07	1.88	1.72	1.58	1.44	1.29	1.19	1.11	1.06	1.02
02014500 (r)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	2.32	1.87	1.58	1.36	1.18	1.02	0.859	0.698	0.513	0.386	--	--	--
02014500 (w)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	3.27	2.63	2.29	2.06	1.87	1.71	1.57	1.43	1.28	1.18	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05			
					1-day averaged, adjusted low flow (ft/s)												
02015700 (p)	Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	42.4	37.3	34.3	32.2	30.5	28.9	27.5	26.1	24.5	23.4	22.5	21.9	21.5
02015700 (r)	Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	23.9	19.9	17.4	15.4	13.7	12.1	10.6	8.98	7.04	5.65	--	--	--
02015700 (w)	Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	42.0	36.9	34.0	31.8	30.1	28.6	27.2	25.8	24.2	23.1	--	--	--
02016000 (p)	Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	102	89.7	82.0	76.3	71.4	67.0	62.7	58.3	52.9	49.1	45.3	43.1	41.2
02016000 (r)	Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	110	93.9	83.4	75.0	68.0	61.4	54.9	47.7	39.0	32.6	--	--	--
02016000 (w)	Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02016500 (p)	James River below Route 220 at Lick Run, Va.	1,371	81	0	390	336	303	279	258	240	222	204	182	167	152	143	135
02016500 (r)	James River below Route 220 at Lick Run, Va.	1,371	81	0	350	305	275	250	230	211	192	170	143	124	--	--	--
02016500 (w)	James River below Route 220 at Lick Run, Va.	1,371	81	0	389	335	303	278	258	239	222	203	181	166	--	--	--
02017000 (p)	Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	4.98	4.06	3.52	3.11	2.78	2.49	2.22	1.94	1.62	1.39	1.18	1.06	0.970
02017000 (r)	Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	2.52	2.03	1.72	1.49	1.29	1.11	0.940	0.765	0.564	0.425	--	--	--
02017000 (w)	Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	4.92	4.01	3.48	3.07	2.75	2.46	2.19	1.92	1.60	1.37	--	--	--
02017500 (p)	Johns Creek at Route 615 at New Castle, Va.	105	80	0	16.0	13.6	12.2	11.1	10.3	9.51	8.80	8.08	7.24	6.66	6.12	5.80	5.54
02017500 (r)	Johns Creek at Route 615 at New Castle, Va.	105	80	0	22.7	19.0	16.5	14.6	13.0	11.5	10.1	8.51	6.66	5.33	--	--	--
02017500 (w)	Johns Creek at Route 615 at New Castle, Va.	105	80	0	16.2	13.7	12.3	11.2	10.3	9.55	8.83	8.09	7.23	6.64	--	--	--
02018000 (p)	Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	60.2	52.5	47.8	44.2	41.2	38.4	35.7	32.9	29.5	27.1	24.7	23.2	22.0
02018000 (r)	Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	76.6	65.2	57.7	51.6	46.6	41.9	37.3	32.2	26.1	21.6	--	--	--
02018000 (w)	Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	60.5	52.8	48.0	44.4	41.3	38.5	35.8	32.9	29.4	27.0	--	--	--
02018500 (p)	Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	5.82	4.98	4.35	3.80	3.29	2.81	2.33	1.81	1.22	0.840	0.520	0.370	0.260
02018500 (r)	Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	6.91	5.66	4.86	4.24	3.72	3.24	2.79	2.31	1.75	1.36	--	--	--
02018500 (w)	Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	5.85	5.00	4.36	3.81	3.30	2.82	2.34	1.82	1.23	0.851	--	--	--
02019000 (p)	Catawba Creek near Fincastle, Va.	104	8	0	21.1	17.0	14.4	12.4	10.7	9.20	7.77	6.32	4.67	3.58	2.61	2.10	1.70
02019000 (r)	Catawba Creek near Fincastle, Va.	104	8	0	22.5	18.8	16.4	14.4	12.9	11.4	9.94	8.41	6.58	5.27	--	--	--
02019000 (w)	Catawba Creek near Fincastle, Va.	104	8	0	21.1	17.0	14.4	12.4	10.8	9.25	7.82	6.37	4.71	3.61	--	--	--
02019500 (p)	James River at Route 11 at Buchanan, Va.	2,073	96	0	574	503	459	424	394	366	339	310	274	248	222	206	193
02019500 (r)	James River at Route 11 at Buchanan, Va.	2,073	96	0	543	477	432	396	366	337	308	276	235	205	--	--	--
02019500 (w)	James River at Route 11 at Buchanan, Va.	2,073	96	0	573	503	458	423	393	366	339	309	274	247	--	--	--
02020500 (p)	Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	2	11.5	8.71	6.96	5.64	4.56	3.63	2.78	1.96	1.09	0.520	0.000	0.000	0.000
02020500 (r)	Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	2	31.1	26.1	22.8	20.2	18.1	16.1	14.1	12.0	9.47	7.65	--	--	--
02020500 (w)	Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	2	12.1	9.20	7.40	6.04	4.93	3.96	3.08	2.22	1.30	0.688	--	--	--
02021000 (p)	Calpasture River below Mill Creek at Goshen, Va.	186	12	0	16.7	14.6	13.3	12.3	11.4	10.6	9.84	8.98	7.93	7.15	6.38	5.91	5.52
02021000 (r)	Calpasture River below Mill Creek at Goshen, Va.	186	12	0	41.8	35.2	30.9	27.5	24.6	22.0	19.4	16.6	13.2	10.7	--	--	--
02021000 (w)	Calpasture River below Mill Creek at Goshen, Va.	186	12	0	17.2	15.1	13.7	12.6	11.7	10.9	10.0	9.13	8.03	7.21	--	--	--
02021500 (p)	Maury River above Route 39 at Rockbridge Baths, Va.	329	78	0	39.3	32.8	28.7	25.5	22.8	20.3	17.9	15.5	12.5	10.4	8.47	7.34	6.43
02021500 (r)	Maury River above Route 39 at Rockbridge Baths, Va.	329	78	0	76.6	65.2	57.7	51.6	46.6	41.9	37.3	32.2	26.1	21.6	--	--	--
02021500 (w)	Maury River above Route 39 at Rockbridge Baths, Va.	329	78	0	40.1	33.5	29.3	26.0	23.3	20.8	18.3	15.8	12.8	10.6	--	--	--
02022500 (p)	Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	9.36	8.29	7.58	7.02	6.52	6.06	5.59	5.08	4.44	3.96	3.48	3.19	2.94
02022500 (r)	Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	7.08	5.80	4.98	4.35	3.81	3.33	2.86	2.37	1.80	1.39	--	--	--
02022500 (w)	Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	9.31	8.24	7.53	6.96	6.46	6.00	5.54	5.03	4.39	3.91	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					Non-exceedance probability											
					1-day averaged, adjusted low flow (ft³/s)											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01
02023000	(p) Maury (North) River above Route 631 near Lexington, Va.	481	33	0	95.2	81.7	73.3	67.0	61.6	56.7	51.9	47.0	41.0	36.7	32.5	30.0
02023000	(r) Maury (North) River above Route 631 near Lexington, Va.	481	33	0	115	98.3	87.4	78.6	71.3	64.4	57.6	50.2	41.0	34.4	--	--
02023000	(w) Maury (North) River above Route 631 near Lexington, Va.	481	33	0	95.7	82.1	73.6	67.2	61.8	56.8	52.0	47.0	41.0	36.6	--	--
02023500	(p) South River at Route 631 near Riverside, Va.	112	10	0	25.2	22.3	20.4	19.0	17.8	16.7	15.6	14.4	12.9	11.9	10.8	10.2
02023500	(r) South River at Route 631 near Riverside, Va.	112	10	0	36.6	28.1	22.7	18.7	15.3	12.4	9.64	7.08	4.32	--	--	--
02023500	(w) South River at Route 631 near Riverside, Va.	112	10	0	25.4	22.4	20.5	19.0	17.7	16.6	15.5	14.3	12.8	--	--	--
02024000	(p) Maury River near Buena Vista, Va.	647	67	0	141	123	111	101	91.5	82.9	74.2	64.8	53.0	44.3	35.8	30.8
02024000	(r) Maury River near Buena Vista, Va.	647	67	0	157	135	121	109	99.4	90.1	80.9	70.9	58.5	49.4	--	--
02024000	(w) Maury River near Buena Vista, Va.	647	67	0	141	123	111	101	91.7	83.1	74.4	64.9	53.1	44.4	--	--
02024500	(p) Maury (North) River at Route 130 near Glasgow, Va.	837	7	0	213	176	156	143	132	123	115	108	99.8	94.8	90.6	88.5
02024500	(r) Maury (North) River at Route 130 near Glasgow, Va.	837	7	0	339	277	235	204	176	152	128	104	76.5	--	--	--
02024500	(w) Maury (North) River at Route 130 near Glasgow, Va.	837	7	0	216	178	158	144	133	124	116	108	99.4	--	--	--
02024915	(p) Pedlar River at Forest Road 39 near Buena Vista, Va.	27.1	4	0	14.3	11.0	9.12	7.78	6.71	5.79	4.95	4.13	3.22	2.63	2.10	1.80
02024915	(r) Pedlar River at Forest Road 39 near Buena Vista, Va.	27.1	4	0	7.61	5.60	4.37	3.47	2.73	2.11	1.56	1.06	0.568	--	--	--
02024915	(w) Pedlar River at Forest Road 39 near Buena Vista, Va.	27.1	4	0	14.1	10.9	9.01	7.68	6.63	5.72	4.89	4.08	3.18	--	--	--
02025000	(p) Pedlar River at Route 635 near Pedlar Mills, Va.	94.6	13	0	20.8	15.2	12.1	9.96	8.30	6.91	5.68	4.52	3.28	2.52	1.87	1.53
02025000	(r) Pedlar River at Route 635 near Pedlar Mills, Va.	94.6	13	0	30.4	23.2	18.7	15.3	12.5	10.0	7.76	5.65	3.39	--	--	--
02025000	(w) Pedlar River at Route 635 near Pedlar Mills, Va.	94.6	13	0	21.1	15.4	12.3	10.1	8.40	6.98	5.72	4.54	3.28	--	--	--
02025500	(p) James River at Holcomb(s) Rock, Va.	3,256	79	0	863	737	658	596	543	494	447	397	336	293	250	225
02025500	(r) James River at Holcomb(s) Rock, Va.	3,256	79	0	878	777	708	652	606	562	516	466	403	357	--	--
02025500	(w) James River at Holcomb(s) Rock, Va.	3,256	79	0	863	738	659	597	544	496	449	398	338	294	--	--
02026000	(p) James River above Route 60 at Bent Creek, Va.	3,649	81	0	1,028	875	778	701	635	575	516	453	376	322	268	237
02026000	(r) James River above Route 60 at Bent Creek, Va.	3,649	81	0	991	878	802	739	689	639	589	533	462	410	--	--
02026000	(w) James River above Route 60 at Bent Creek, Va.	3,649	81	0	1,027	876	778	702	637	576	517	454	378	323	--	--
02026500	(p) Tye River at Roseland, Va.	69	9	0	32.6	24.7	19.6	15.8	12.6	9.93	7.52	5.27	3.05	1.84	0.990	0.630
02026500	(r) Tye River at Roseland, Va.	69	9	0	21.4	16.2	12.9	10.5	8.50	6.78	5.17	3.70	2.16	--	--	--
02026500	(w) Tye River at Roseland, Va.	69	9	0	32.2	24.4	19.4	15.6	12.5	9.85	7.46	5.23	3.03	--	--	--
02027000	(p) Tye River at Route 158 near Lovington, Va.	93	68	0	37.8	29.9	24.4	20.1	16.3	13.0	9.97	7.04	4.07	2.44	1.28	0.790
02027000	(r) Tye River at Route 158 near Lovington, Va.	93	68	0	29.8	22.8	18.3	15.0	12.2	9.83	7.59	5.52	3.31	--	--	--
02027000	(w) Tye River at Route 158 near Lovington, Va.	93	68	0	37.5	29.7	24.2	19.9	16.2	12.9	9.92	7.01	4.06	--	--	--
02027500	(p) Piney River at Route 151 at Piney River, Va.	47.7	57	0	18.0	13.7	11.0	8.93	7.30	5.89	4.62	3.41	2.16	1.43	0.870	0.610
02027500	(r) Piney River at Route 151 at Piney River, Va.	47.7	57	0	14.2	10.7	8.42	6.79	5.43	4.28	3.22	2.26	1.28	--	--	--
02027500	(w) Piney River at Route 151 at Piney River, Va.	47.7	57	0	17.9	13.6	10.9	8.87	7.25	5.85	4.59	3.39	2.14	--	--	--
02027800	(p) Buffalo River at Route 657 near Tye River, Va.	148	34	0	63.3	48.8	39.7	32.8	27.1	22.1	17.5	13.1	8.50	5.75	3.57	2.55
02027800	(r) Buffalo River at Route 657 near Tye River, Va.	148	34	0	49.8	38.6	31.4	26.1	21.5	17.6	13.8	10.3	6.43	--	--	--
02027800	(w) Buffalo River at Route 657 near Tye River, Va.	148	34	0	62.9	48.6	39.5	32.6	26.9	22.0	17.5	13.1	8.46	--	--	--
02028000	(p) Tye (Buffalo) River near Norwood, Va.	355	19	0	145	111	91.6	77.9	67.1	57.8	49.4	41.1	31.9	26.0	20.7	17.8
02028000	(r) Tye (Buffalo) River near Norwood, Va.	355	19	0	131	104	86.8	73.7	62.2	52.3	42.5	33.1	22.5	--	--	--
02028000	(w) Tye (Buffalo) River near Norwood, Va.	355	19	0	144	111	91.5	77.8	67.0	57.7	49.2	40.9	31.8	--	--	--
02028500	(p) Rockfish River at Route 634 near Greenfield, Va.	94.8	63	0	30.4	25.3	21.0	17.2	13.7	10.5	7.51	4.73	2.18	1.01	0.360	0.170
02028500	(r) Rockfish River at Route 634 near Greenfield, Va.	94.8	63	0	30.4	23.3	18.7	15.4	12.5	10.1	7.78	5.66	3.40	--	--	--
02028500	(w) Rockfish River at Route 634 near Greenfield, Va.	94.8	63	0	30.4	25.2	20.9	17.1	13.7	10.5	7.52	4.76	2.21	--	--	--
02029000	(p) James River below Route 20 at Scottsville, Va.	4,581	82	0	1,322	1,100	964	863	778	703	630	556	468	406	347	313
02029000	(r) James River below Route 20 at Scottsville, Va.	4,581	82	0	1,461	1,200	1,027	898	785	687	--	--	--	--	--	--
02029000	(w) James River below Route 20 at Scottsville, Va.	4,581	82	0	1,328	1,104	967	864	779	702	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)										
					Non-exceedance probability										
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	
1-day averaged, adjusted low flow (ft³/s)															
02029500	(p) Hardware River at Route 618 near Scottsville, Va.	104	11	0	45.6	31.6	23.6	18.1	14.0	10.6	7.75	5.26	2.95	1.76	0.610
02029500	(r) Hardware River at Route 618 near Scottsville, Va.	104	11	0	33.7	25.8	20.8	17.1	14.0	11.3	8.77	6.41	3.88	--	--
02029500	(w) Hardware River at Route 618 near Scottsville, Va.	104	11	0	45.2	31.4	23.5	18.1	14.0	10.6	7.78	5.29	2.97	--	--
02030000	(p) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	1	39.2	35.5	31.5	27.3	22.9	18.4	13.8	9.04	4.11	1.62	0.000
02030000	(r) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	1	38.1	29.3	23.7	19.5	16.0	13.0	10.1	7.42	4.54	--	--
02030000	(w) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	1	39.2	35.3	31.2	27.0	22.7	18.3	13.7	9.00	4.12	--	--
02030500	(p) Slate River above Route 676 near Arvonnia, Va.	226	67	0	68.2	53.4	43.6	35.9	29.5	23.8	18.5	13.4	8.14	5.15	1.28
02030500	(r) Slate River above Route 676 near Arvonnia, Va.	226	67	0	43.0	31.8	25.0	20.1	15.9	--	--	--	--	--	--
02030500	(w) Slate River above Route 676 near Arvonnia, Va.	226	67	0	67.2	52.6	43.0	35.4	29.0	--	--	--	--	--	--
02031000	(p) Meehums River at Route 614 near White Hall (Ivy), Va.	95.3	36	1	32.6	25.4	20.4	16.5	13.2	10.3	7.66	5.13	2.56	1.07	0.000
02031000	(r) Meehums River at Route 614 near White Hall (Ivy), Va.	95.3	36	1	30.6	23.4	18.8	15.5	12.6	10.1	7.84	5.70	3.43	--	--
02031000	(w) Meehums River at Route 614 near White Hall (Ivy), Va.	95.3	36	1	32.5	25.3	20.4	16.5	13.2	10.3	7.66	5.14	2.58	--	--
02031500	(p) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	3	0.620	0.480	0.370	0.290	0.210	0.130	0.050	0.000	0.000	0.000	0.000
02031500	(r) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	3	2.86	2.05	1.56	1.21	0.933	0.702	0.499	0.325	0.161	--	--
02031500	(w) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	3	0.687	0.524	0.402	0.314	0.228	0.143	0.060	0.007	0.003	--	--
02032250	(p) Moormans River at Route 601 near Free Union, Va.	77	18	0	9.99	6.80	5.04	3.84	2.93	2.21	1.61	1.09	0.610	0.370	0.130
02032250	(r) Moormans River at Route 601 near Free Union, Va.	77	18	0	24.2	18.4	14.7	12.0	9.71	7.77	5.96	4.29	2.53	--	--
02032250	(w) Moormans River at Route 601 near Free Union, Va.	77	18	0	10.5	7.21	5.36	4.11	3.14	2.37	1.73	1.17	0.652	--	--
02032400	(p) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	6.60	4.37	3.25	2.53	2.00	1.58	1.23	0.920	0.620	0.450	0.190
02032400	(r) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	9.94	7.37	5.78	4.62	3.66	2.86	2.12	1.46	0.803	--	--
02032400	(w) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	6.71	4.46	3.32	2.59	2.04	1.61	1.25	0.932	0.623	--	--
02032500	(p) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	35.5	22.3	15.8	11.8	8.85	6.64	4.86	3.35	1.97	1.26	0.750
02032500	(r) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	75.3	59.0	48.4	40.6	33.8	28.0	22.3	16.9	11.0	--	--
02032500	(w) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	37.0	23.6	16.9	12.7	9.64	7.28	5.34	3.71	2.17	--	--
02032515	(p) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	35.9	25.5	19.9	16.1	13.2	10.8	8.71	6.78	4.79	3.59	2.09
02032515	(r) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	92.6	72.9	60.2	50.7	42.4	35.3	28.3	21.7	14.3	--	--
02032515	(w) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	37.5	26.7	20.9	16.9	13.9	11.3	9.12	7.08	4.95	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05			
					1-day averaged, adjusted low flow (ft³/s)												
02032640	(p) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	24.0	16.3	11.8	8.67	6.34	4.52	3.05	1.85	0.850	0.420	0.170	0.090	0.050
02032640	(r) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	35.2	27.0	21.8	17.9	14.6	11.8	9.20	6.74	4.10	--	--	--	--
02032640	(w) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	24.5	16.7	12.2	9.06	6.68	4.80	3.27	2.02	0.943	--	--	--	--
02032680	(p) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	56.9	43.2	34.6	28.2	23.0	18.5	14.4	10.6	6.59	4.31	2.57	1.77	1.24
02032680	(r) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	59.6	46.4	37.9	31.6	26.1	21.5	17.0	12.8	8.10	--	--	--	--
02032680	(w) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	57.0	43.3	34.7	28.3	23.1	18.6	14.5	10.6	6.62	--	--	--	--
02033500	(p) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	60.3	46.8	37.4	29.9	23.5	18.0	13.1	8.55	4.34	2.27	1.00	0.540	0.290
02033500	(r) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	193	155	130	112	94.9	80.7	66.6	52.8	36.9	--	--	--	--
02033500	(w) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	65.2	50.7	40.5	32.5	25.7	19.8	14.5	9.71	5.06	--	--	--	--
02034000	(p) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	190	144	115	94.3	77.5	63.0	49.9	37.4	24.4	16.7	10.6	7.66	5.64
02034000	(r) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	262	212	179	155	133	114	94.9	76.4	54.8	--	--	--	--
02034000	(w) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	192	145	117	95.9	78.8	64.1	50.8	38.2	24.9	--	--	--	--
02034500	(p) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	58.1	44.7	35.9	29.2	23.6	18.7	14.3	10.1	5.93	3.63	1.97	1.26	0.820
02034500	(r) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	49.8	37.0	29.2	23.5	18.7	--	--	--	--	--	--	--	--
02034500	(w) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	57.8	44.4	35.7	29.0	23.4	--	--	--	--	--	--	--	--
02035000	(p) James River at Route 45 at Cartersville, Va.	6,252	108	0	1,841	1,535	1,340	1,191	1,064	948	836	720	581	484	392	340	297
02035000	(r) James River at Route 45 at Cartersville, Va.	6,252	108	0	2,131	1,772	1,531	1,352	1,192	1,057	--	--	--	--	--	--	--
02035000	(w) James River at Route 45 at Cartersville, Va.	6,252	108	0	1,854	1,545	1,348	1,197	1,069	952	--	--	--	--	--	--	--
02036500	(p) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	3.86	2.92	2.29	1.80	1.40	1.06	0.760	0.490	0.250	0.130	0.060	0.030	0.020
02036500	(r) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	4.36	3.00	2.24	1.70	1.28	--	--	--	--	--	--	--	--
02036500	(w) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	3.88	2.92	2.29	1.80	1.40	--	--	--	--	--	--	--	--
02037500	(p) James River above Route 147 near Richmond, Va.	6,753	72	0	1,953	1,380	1,017	753	548	385	253	146	60.9	26.6	9.30	4.28	1.99
02037500	(r) James River above Route 147 near Richmond, Va.	6,753	72	0	2,340	1,951	1,691	1,496	1,323	1,176	--	--	--	--	--	--	--
02037500	(w) James River above Route 147 near Richmond, Va.	6,753	72	0	1,989	1,431	1,075	815	610	445	--	--	--	--	--	--	--
02038000	(p) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	2.65	2.62	2.51	2.33	2.09	1.78	1.40	0.960	0.460	0.200	0.060	0.020	0.010
02038000	(r) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	4.01	2.67	1.87	1.34	0.948	0.593	--	--	--	--	--	--	--
02038000	(w) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	2.83	2.63	2.43	2.22	1.97	1.67	--	--	--	--	--	--	--
02038500	(p) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	6.00	3.18	2.01	1.35	0.930	0.650	0.430	0.270	0.140	0.080	0.050	0.030	0.020
02038500	(r) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	6.34	4.20	2.95	2.12	1.50	0.939	--	--	--	--	--	--	--
02038500	(w) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	6.07	3.37	2.18	1.48	1.02	0.692	--	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200		
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
					1-day averaged, adjusted low flow (ft³/s)														
02038850	(p) Holiday Creek above Route 614 near Andersonville, Va	8.54	39	0	2.79	2.41	2.07	1.77	1.48	1.19	0.920	0.630	0.340	0.190	0.080	0.050	0.020		
02038850	(r) Holiday Creek above Route 614 near Andersonville, Va	8.54	39	0	1.68	1.12	0.817	0.609	0.446	--	--	--	--	--	--	--	--		
02038850	(w) Holiday Creek above Route 614 near Andersonville, Va	8.54	39	0	2.75	2.36	2.02	1.73	1.45	--	--	--	--	--	--	--	--		
02039000	(p) Buffalo Creek at Route 658 near Hampden Sydney, Va.	69.6	60	0	22.0	21.2	19.8	18.2	16.1	13.8	11.1	7.99	4.35	2.27	0.900	0.430	0.200		
02039000	(r) Buffalo Creek at Route 658 near Hampden Sydney, Va.	69.6	60	0	13.4	9.56	7.31	5.72	4.40	--	--	--	--	--	--	--	--		
02039000	(w) Buffalo Creek at Route 658 near Hampden Sydney, Va.	69.6	60	0	21.7	20.8	19.4	17.7	15.8	--	--	--	--	--	--	--	--		
02039500	(p) Appomattox River at Route 45 at Farmville, Va.	302	79	0	65.7	65.4	64.8	62.6	58.6	52.3	43.3	31.1	15.5	6.80	1.95	0.680	0.220		
02039500	(r) Appomattox River at Route 45 at Farmville, Va.	302	79	0	57.4	42.8	33.8	27.4	21.8	--	--	--	--	--	--	--	--		
02039500	(w) Appomattox River at Route 45 at Farmville, Va.	302	79	0	65.4	64.5	63.6	61.4	57.3	--	--	--	--	--	--	--	--		
02040000	(p) Appomattox River at railroad bridge at Mattoax, Va.	725	80	0	174	146	125	107	90.8	75.4	60.3	44.8	27.9	17.7	9.87	6.40	4.17		
02040000	(r) Appomattox River at railroad bridge at Mattoax, Va.	725	80	0	137	105	84.4	69.7	56.7	--	--	--	--	--	--	--	--		
02040000	(w) Appomattox River at railroad bridge at Mattoax, Va.	725	80	0	172	145	124	106	89.8	--	--	--	--	--	--	--	--		
02041000	(p) Deep Creek above Route 153 near Mannboro, Va.	158	60	1	28.1	20.2	15.0	11.1	8.12	5.69	3.70	2.08	0.780	0.270	0.020	0.000	0.000		
02041000	(r) Deep Creek above Route 153 near Mannboro, Va.	158	60	1	30.2	22.1	17.2	13.7	10.8	--	--	--	--	--	--	--	--		
02041000	(w) Deep Creek above Route 153 near Mannboro, Va.	158	60	1	28.2	20.3	15.1	11.3	8.26	--	--	--	--	--	--	--	--		
02041500	(p) Appomattox River near Petersburg, Va.	1,333	36	0	295	231	191	161	136	114	94.1	74.0	52.0	38.1	26.3	20.3	15.9		
02041500	(r) Appomattox River near Petersburg, Va.	1,333	36	0	250	195	159	133	110	--	--	--	--	--	--	--	--		
02041500	(w) Appomattox River near Petersburg, Va.	1,333	36	0	293	230	190	160	135	--	--	--	--	--	--	--	--		
02041650	(p) Appomattox River at Route 600 at Matoaca, Va.	1,342	37	0	244	184	149	124	104	87.4	72.0	57.2	41.1	31.1	22.5	18.0	14.7		
02041650	(r) Appomattox River at Route 600 at Matoaca, Va.	1,342	37	0	252	196	160	134	111	--	--	--	--	--	--	--	--		
02041650	(w) Appomattox River at Route 600 at Matoaca, Va.	1,342	37	0	244	184	150	125	105	--	--	--	--	--	--	--	--		
02042500	(p) Chickahominy River at Route 618 near Providence Forge, Va.	251	65	0	37.5	25.9	18.8	13.7	9.85	6.83	4.43	2.52	1.03	0.440	0.150	0.070	0.030		
02042500	(r) Chickahominy River at Route 618 near Providence Forge, Va.	251	65	0	28.1	18.3	13.0	9.34	6.63	4.18	--	--	--	--	--	--	--		
02042500	(w) Chickahominy River at Route 618 near Providence Forge, Va.	251	65	0	35.7	24.5	17.7	12.9	9.32	6.44	--	--	--	--	--	--	--		
02044000	(p) Nottoway River at Route 723 near Burkeville, Va.	38.7	39	2	3.33	2.12	1.48	1.06	0.760	0.530	0.340	0.190	0.070	0.000	0.000	0.000	0.000		
02044000	(r) Nottoway River at Route 723 near Burkeville, Va.	38.7	39	2	7.49	5.25	3.96	3.06	2.32	--	--	--	--	--	--	--	--		
02044000	(w) Nottoway River at Route 723 near Burkeville, Va.	38.7	39	2	3.57	2.29	1.61	1.16	0.834	--	--	--	--	--	--	--	--		
02044500	(p) Nottoway River at Route 612 near Rawlings, Va.	317	56	0	77.5	55.5	41.7	31.6	23.7	17.3	12.0	7.40	3.49	1.73	0.720	0.380	0.200		
02044500	(r) Nottoway River at Route 612 near Rawlings, Va.	317	56	0	60.2	44.9	35.6	28.8	23.0	--	--	--	--	--	--	--	--		
02044500	(w) Nottoway River at Route 612 near Rawlings, Va.	317	56	0	76.6	54.9	41.4	31.5	23.7	--	--	--	--	--	--	--	--		
02045500	(p) Nottoway River at Route 301 near Stony Creek, Va.	577	75	0	108	76.4	58.4	45.7	36.0	28.0	21.1	14.9	8.86	5.60	3.23	2.20	1.52		
02045500	(r) Nottoway River at Route 301 near Stony Creek, Va.	577	75	0	62.6	40.5	28.7	20.7	14.7	9.33	--	--	--	--	--	--	--		
02045500	(w) Nottoway River at Route 301 near Stony Creek, Va.	577	75	0	102	71.9	54.9	42.9	33.7	26.2	--	--	--	--	--	--	--		
02046000	(p) Stony Creek at Route 1 near (at) Dinwiddie, Va.	113	59	1	9.46	5.68	3.84	2.71	1.92	1.34	0.900	0.550	0.250	0.120	0.020	0.000	0.000		
02046000	(r) Stony Creek at Route 1 near (at) Dinwiddie, Va.	113	59	1	21.7	15.7	12.1	9.59	7.46	--	--	--	--	--	--	--	--		
02046000	(w) Stony Creek at Route 1 near (at) Dinwiddie, Va.	113	59	1	10.2	6.26	4.30	3.07	2.20	--	--	--	--	--	--	--	--		
02047000	(p) Nottoway River above Route 653 near Sebrell, Va.	1,441	65	0	188	130	99.4	79.4	64.5	52.4	42.1	32.6	22.9	17.2	12.5	10.1	8.33		
02047000	(r) Nottoway River above Route 653 near Sebrell, Va.	1,441	65	0	151	96.8	68.6	49.8	35.5	22.5	--	--	--	--	--	--	--		
02047000	(w) Nottoway River above Route 653 near Sebrell, Va.	1,441	65	0	183	126	96.2	76.5	61.8	49.9	--	--	--	--	--	--	--		
02047500	(p) Blackwater River at Route 617 near Dendron, Va.	290	61	24	9.79	3.80	1.81	0.880	0.370	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
02047500	(r) Blackwater River at Route 617 near Dendron, Va.	290	61	24	32.3	21.0	14.9	10.7	7.62	4.81	--	--	--	--	--	--	--		
02047500	(w) Blackwater River at Route 617 near Dendron, Va.	290	61	24	15.6	8.13	4.96	3.16	1.97	0.980	--	--	--	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					Non-exceedance probability											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05		
					1-day averaged, adjusted low flow (ft³/s)											
02048000	(p) Blackwater River at Route 460 at Zuni, Va.	451	45	4	19.1	9.78	5.67	3.39	2.00	1.11	0.550	0.190	0.010	0.000	0.000	0.000
02048000	(r) Blackwater River at Route 460 at Zuni, Va.	451	45	4	49.4	32.0	22.7	16.4	11.6	7.36	--	--	--	--	--	--
02048000	(w) Blackwater River at Route 460 at Zuni, Va.	451	45	4	29.5	17.2	11.2	7.44	4.88	2.80	--	--	--	--	--	--
02049500	(p) Blackwater River near Franklin, Va.	613	60	1	30.5	14.9	8.66	5.37	3.39	2.11	1.24	0.650	0.250	0.090	0.010	0.000
02049500	(r) Blackwater River near Franklin, Va.	613	60	1	66.3	42.9	30.4	22.0	15.6	9.89	--	--	--	--	--	--
02049500	(w) Blackwater River near Franklin, Va.	613	60	1	40.8	22.7	14.5	9.65	6.40	3.83	--	--	--	--	--	--
02050500	(p) North Meherrin River at Route 687 near Keyesville, Va.	9.06	12	0	1.39	0.910	0.680	0.540	0.450	0.370	0.310	0.250	0.200	0.160	0.140	0.110
02050500	(r) North Meherrin River at Route 687 near Keyesville, Va.	9.06	12	0	1.78	1.19	0.869	0.649	0.476	--	--	--	--	--	--	--
02050500	(w) North Meherrin River at Route 687 near Keyesville, Va.	9.06	12	0	1.40	0.920	0.686	0.543	0.451	--	--	--	--	--	--	--
02051000	(p) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	2	5.73	4.02	3.04	2.36	1.84	1.40	1.03	0.700	0.360	0.150	0.000	0.000
02051000	(r) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	2	10.8	7.65	5.82	4.53	3.47	--	--	--	--	--	--	--
02051000	(w) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	2	5.95	4.17	3.15	2.44	1.90	--	--	--	--	--	--	--
02051500	(p) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	102	80.2	65.4	53.9	44.3	35.7	27.8	20.2	12.3	7.83	4.44	2.95
02051500	(r) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	104	79.2	63.5	52.1	42.1	--	--	--	--	--	--	--
02051500	(w) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	102	80.2	65.4	53.9	44.2	--	--	--	--	--	--	--
02051600	(p) Great Creek at Route 763 (old Route 618) near Cochran, Va.	30.8	27	0	5.48	4.05	3.14	2.46	1.91	1.46	1.06	0.700	0.370	0.200	0.100	0.060
02051600	(r) Great Creek at Route 763 (old Route 618) near Cochran, Va.	30.8	27	0	5.97	4.16	3.12	2.39	1.81	--	--	--	--	--	--	--
02051600	(w) Great Creek at Route 763 (old Route 618) near Cochran, Va.	30.8	27	0	5.50	4.05	3.14	2.46	1.91	--	--	--	--	--	--	--
02052000	(p) Meherrin River at Route 301 at Emporia, Va.	744	56	0	102	69.4	52.7	41.6	33.4	26.8	21.2	16.1	11.0	8.00	5.61	4.42
02052000	(r) Meherrin River at Route 301 at Emporia, Va.	744	56	0	79.9	51.6	36.5	26.4	18.8	11.9	--	--	--	--	--	3.56
02052000	(w) Meherrin River at Route 301 at Emporia, Va.	744	56	0	99.1	67.3	50.9	40.0	32.0	25.5	--	--	--	--	--	--
02052500	(p) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	13	2.85	1.75	1.14	0.730	0.430	0.190	0.000	0.000	0.000	0.000	0.000	0.000
02052500	(r) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	13	8.10	5.34	3.76	2.70	1.91	1.20	--	--	--	--	--	--
02052500	(w) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	13	3.70	2.31	1.53	1.01	0.629	0.310	--	--	--	--	--	--
02053000	(p) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	15.6	10.4	7.45	5.49	4.04	2.91	2.00	1.25	0.610	0.320	0.140	0.080
02053000	(r) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	11.2	7.34	5.17	3.72	2.63	1.65	--	--	--	--	--	--
02053000	(w) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	14.9	9.88	7.10	5.23	3.85	2.76	--	--	--	--	--	--
02053800	(p) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	36.8	31.1	27.4	24.5	22.0	19.6	17.3	14.9	11.9	9.81	7.82	6.67
02053800	(r) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	35.5	27.3	22.0	18.1	14.8	12.0	9.31	6.82	4.15	--	--	--
02053800	(w) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	36.7	31.1	27.3	24.4	21.8	19.5	17.2	14.7	11.8	--	--	--
02054500	(p) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	64.6	55.5	49.4	44.6	40.4	36.4	32.5	28.3	23.2	19.5	15.8	13.7
02054500	(r) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	58.2	49.3	43.4	38.8	34.9	31.3	27.7	23.8	19.1	15.7	--	--
02054500	(w) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	64.5	55.3	49.3	44.5	40.2	36.3	32.4	28.2	23.1	19.4	--	--
02054530	(p) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	85.7	72.2	63.1	55.9	49.5	43.6	37.8	31.7	24.4	19.3	14.6	11.9
02054530	(r) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	64.8	55.0	48.5	43.4	39.1	35.1	31.1	26.8	21.6	17.8	--	--
02054530	(w) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	85.2	71.8	62.8	55.6	49.3	43.4	37.7	31.6	24.3	19.3	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					1-day averaged, adjusted low flow (ft/s)														
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
02055000	(p) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	101	84.0	73.6	65.6	58.9	52.9	47.1	41.0	33.8	28.7	23.9	21.1	18.8		
02055000	(r) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	90.3	77.0	68.3	61.3	55.4	49.9	44.5	38.6	31.4	26.1	--	--	--		
02055000	(w) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	100	83.8	73.4	65.5	58.9	52.8	47.0	40.9	33.7	28.7	--	--	--		
02055100	(p) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	4.23	3.42	2.90	2.51	2.18	1.88	1.59	1.30	0.970	0.750	0.560	0.450	0.370		
02055100	(r) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	2.20	1.77	1.50	1.29	1.12	0.960	0.811	0.658	0.484	0.363	--	--	--		
02055100	(w) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	4.18	3.38	2.87	2.48	2.16	1.86	1.57	1.29	0.960	0.742	--	--	--		
02056000	(p) Roanoke River below powerplant at Niagara, Va.	509	80	0	156	144	132	119	107	93.3	78.6	61.8	41.0	27.1	15.6	10.2	6.59		
02056000	(r) Roanoke River below powerplant at Niagara, Va.	509	80	0	122	104	92.9	83.7	76.0	68.7	61.5	53.6	43.9	36.8	--	--	--		
02056000	(w) Roanoke River below powerplant at Niagara, Va.	509	80	0	155	143	131	119	106	92.7	78.2	61.6	41.1	27.3	--	--	--		
02056650	(p) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	13.4	11.1	9.39	7.93	6.61	5.39	4.22	3.04	1.80	1.09	0.570	0.350	0.220		
02056650	(r) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	16.9	12.7	10.1	8.18	6.56	5.20	3.94	2.79	1.60	--	--	--	--		
02056650	(w) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	13.5	11.2	9.41	7.94	6.61	5.39	4.21	3.03	1.80	--	--	--	--		
02056900	(p) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	53.4	43.2	36.3	30.8	26.0	21.7	17.5	13.4	8.84	6.04	3.76	2.68	1.92		
02056900	(r) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	37.7	29.0	23.4	19.3	15.8	12.8	9.98	7.33	4.48	--	--	--	--		
02056900	(w) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	53.0	42.9	36.0	30.5	25.8	21.5	17.4	13.3	8.77	--	--	--	--		
02057000	(p) Blackwater River near Union Hall, Va.	208	37	0	109	88.6	75.7	65.7	57.2	49.4	42.0	34.4	25.6	19.8	14.5	11.7	9.48		
02057000	(r) Blackwater River near Union Hall, Va.	208	37	0	72.6	56.8	46.6	39.1	32.5	26.8	21.4	16.2	10.5	--	--	--	--		
02057000	(w) Blackwater River near Union Hall, Va.	208	37	0	108	87.8	75.0	65.1	56.6	49.0	41.6	34.1	25.4	--	--	--	--		
02057500	(p) Roanoke River near Toshes, Va.	1,017	36	0	363	309	273	244	218	195	171	146	115	93.3	72.7	61.1	51.7		
02057500	(r) Roanoke River near Toshes, Va.	1,017	36	0	421	345	295	257	223	194	165	135	101	--	--	--	--		
02057500	(w) Roanoke River near Toshes, Va.	1,017	36	0	365	310	274	244	218	194	171	145	115	--	--	--	--		
02058000	(p) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	30.2	25.7	22.9	20.7	18.8	17.1	15.4	13.6	11.5	9.92	8.40	7.51	6.77		
02058000	(r) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	11.5	8.16	6.21	4.84	3.71	--	--	--	--	--	--	--	--		
02058000	(w) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	29.6	25.2	22.5	20.3	18.5	--	--	--	--	--	--	--	--		
02058400	(p) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	186	156	135	119	104	89.7	76.0	61.6	44.8	33.5	23.4	18.1	14.1		
02058400	(r) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	130	103	85.6	72.7	61.3	51.5	41.9	32.6	22.1	--	--	--	--		
02058400	(w) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	185	155	134	118	103	89.0	75.4	61.1	44.4	--	--	--	--		
02058500	(p) Pigg River along Route 605 near Toshes, Va.	382	32	0	195	168	149	133	118	104	90.6	75.7	57.5	44.9	33.0	26.5	21.4		
02058500	(r) Pigg River along Route 605 near Toshes, Va.	382	32	0	142	113	94.5	80.4	68.0	57.3	46.7	36.5	24.9	--	--	--	--		
02058500	(w) Pigg River along Route 605 near Toshes, Va.	382	32	0	194	167	147	131	117	104	89.8	75.0	57.1	--	--	--	--		
02059500	(p) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	69.2	59.5	52.4	46.4	40.9	35.6	30.3	24.6	17.8	13.2	9.03	6.87	5.25		
02059500	(r) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	64.9	50.7	41.5	34.6	28.7	23.7	18.8	14.2	9.05	--	--	--	--		
02059500	(w) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	69.1	59.3	52.1	46.1	40.6	35.4	30.1	24.4	17.7	--	--	--	--		
02060500	(p) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	798	595	474	387	317	258	205	154	102	70.4	45.6	33.6	25.2		
02060500	(r) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	783	654	566	501	441	391	339	287	225	--	--	--	--		
02060500	(w) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	797	597	477	390	320	261	207	157	104	--	--	--	--		
02061000	(p) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	37.4	27.3	21.8	18.0	15.1	12.6	10.4	8.37	6.18	4.82	3.65	3.03	2.56		
02061000	(r) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	37.3	28.7	23.2	19.1	15.6	12.7	9.87	7.25	4.43	--	--	--	--		
02061000	(w) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	37.4	27.3	21.8	18.0	15.1	12.6	10.4	8.35	6.15	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					Non-exceedance probability												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
1-day averaged, adjusted low flow (ft³/s)																	
02061500	(p) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	107	98.9	89.9	80.0	69.4	58.1	45.9	32.7	17.8	9.51	4.01	2.04	1.02
02061500	(r) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	115	91.1	75.5	64.0	53.8	45.0	36.5	28.2	18.9	--	--	--	--
02061500	(w) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	107	98.7	89.5	79.6	69.0	57.8	45.7	32.6	17.8	--	--	--	--
02062500	(p) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	975	767	643	552	478	413	353	292	224	179	139	117	99.6
02062500	(r) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,091	919	801	715	635	568	498	428	345	--	--	--	--
02062500	(w) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	978	771	647	556	481	416	355	295	226	--	--	--	--
02064000	(p) Falling River at Route 643 near Naruna, Va.	165	69	0	54.5	48.2	42.6	37.5	32.5	27.5	22.3	16.9	10.5	6.63	3.61	2.28	1.43
02064000	(r) Falling River at Route 643 near Naruna, Va.	165	69	0	31.5	23.1	18.0	14.4	11.3	--	--	--	--	--	--	--	--
02064000	(w) Falling River at Route 643 near Naruna, Va.	165	69	0	53.7	47.3	41.8	36.8	31.9	--	--	--	--	--	--	--	--
02065200	(p) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	517	424	368	327	292	262	233	203	169	145	123	110	99.3
02065200	(r) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	1,231	1,040	910	815	725	651	573	496	404	--	--	--	--
02065200	(w) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	535	438	380	337	301	269	239	208	172	--	--	--	--
02065500	(p) Cub Creek at Route 40 at Phenix, Va.	97.6	59	1	39.7	32.6	27.8	24.0	20.6	17.5	14.5	11.4	7.74	5.16	2.03	0.000	0.000
02065500	(r) Cub Creek at Route 40 at Phenix, Va.	97.6	59	1	18.7	13.5	10.4	8.20	6.36	--	--	--	--	--	--	--	--
02065500	(w) Cub Creek at Route 40 at Phenix, Va.	97.6	59	1	39.0	32.0	27.3	23.5	20.2	--	--	--	--	--	--	--	--
02066000	(p) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	1,142	918	780	676	591	514	442	369	285	228	177	149	126
02066000	(r) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	862	696	588	507	437	376	--	--	--	--	--	--	--
02066000	(w) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	1,129	908	772	670	585	509	--	--	--	--	--	--	--
02066500	(p) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	30.2	19.9	14.1	10.2	7.33	5.13	3.40	2.01	0.900	0.430	0.170	0.090	0.050
02066500	(r) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	25.8	18.8	14.6	11.6	9.06	--	--	--	--	--	--	--	--
02066500	(w) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	29.9	19.8	14.1	10.3	7.42	--	--	--	--	--	--	--	--
02067000	(p) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,400	1,199	1,057	939	833	733	632	524	394	304	221	175	140
02067000	(r) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	955	774	655	567	490	422	--	--	--	--	--	--	--
02067000	(w) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,380	1,181	1,040	924	820	721	--	--	--	--	--	--	--
02069700	(p) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	70.9	61.5	54.8	49.2	44.1	39.2	34.3	28.9	22.3	17.7	13.2	10.7	8.78
02069700	(r) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	16.4	11.8	9.06	7.12	5.51	--	--	--	--	--	--	--	--
02069700	(w) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	69.3	60.1	53.5	48.1	43.1	--	--	--	--	--	--	--	--
02070000	(p) North Mayo River below Route 629 near Spencer, Va.	108	77	0	70.8	61.6	54.9	49.2	44.0	38.9	33.7	28.1	21.2	16.4	11.9	9.40	7.48
02070000	(r) North Mayo River below Route 629 near Spencer, Va.	108	77	0	20.7	15.0	11.6	9.13	7.10	--	--	--	--	--	--	--	--
02070000	(w) North Mayo River below Route 629 near Spencer, Va.	108	77	0	69.3	60.3	53.7	48.1	43.0	--	--	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					Non-exceedance probability													
					1-day averaged, adjusted low flow (ft³/s)													
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
02071530	(p) Smith River at Smith River Church (Route 798) near Woolwine, Va.	26.3	11	0	22.8	16.8	13.6	11.5	9.96	8.66	7.52	6.44	5.28	4.56	3.92	3.57	3.30	
02071530	(r) Smith River at Smith River Church (Route 798) near Woolwine, Va.	26.3	11	0	7.36	5.41	4.22	3.35	2.63	2.04	1.50	1.02	0.545	--	--	--	--	
02071530	(w) Smith River at Smith River Church (Route 798) near Woolwine, Va.	26.3	11	0	22.4	16.5	13.4	11.4	9.80	8.53	7.41	6.34	5.21	--	--	--	--	
02072000	(p) Smith River below Philpott Dam near Philpott, Va.	215	59	0	70.3	54.9	47.4	42.6	39.2	36.5	34.3	32.4	30.6	29.8	29.2	29.1	29.0	
02072000	(r) Smith River below Philpott Dam near Philpott, Va.	215	59	0	75.3	59.0	48.4	40.6	33.8	28.0	22.3	16.9	11.0	--	--	--	--	
02072000	(w) Smith River below Philpott Dam near Philpott, Va.	215	59	0	70.4	55.0	47.4	42.6	39.1	36.3	34.1	32.1	30.3	--	--	--	--	
02072500	(p) Smith River at Route 666 (north) at Bassett, Va.	259	67	0	106	84.9	74.4	67.6	62.6	58.6	55.3	52.4	49.7	48.2	47.3	47.0	46.9	
02072500	(r) Smith River at Route 666 (north) at Bassett, Va.	259	67	0	92.6	72.9	60.2	50.7	42.4	35.3	28.3	21.7	14.3	--	--	--	--	
02072500	(w) Smith River at Route 666 (north) at Bassett, Va.	259	67	0	106	84.7	74.1	67.3	62.2	58.2	54.9	51.9	49.2	--	--	--	--	
02073000	(p) Smith River below Route 58 at Martinsville, Va.	379	76	0	145	114	94.8	81.0	69.9	60.2	51.1	42.2	32.2	25.6	19.7	16.5	14.0	
02073000	(r) Smith River below Route 58 at Martinsville, Va.	379	76	0	141	112	93.6	79.7	67.3	56.7	46.3	36.2	24.7	--	--	--	--	
02073000	(w) Smith River below Route 58 at Martinsville, Va.	379	76	0	145	114	94.8	81.0	69.8	60.1	51.0	42.1	32.0	--	--	--	--	
02073500	(p) Leatherwood Creek at Route 650 near Martinsville (Old Liberty), Va.	68.4	8	0	16.0	11.4	8.77	6.93	5.51	4.33	3.31	2.38	1.47	0.960	0.580	0.410	0.290	
02073500	(r) Leatherwood Creek at Route 650 near Martinsville (Old Liberty), Va.	68.4	8	0	13.2	9.39	7.17	5.61	4.32	--	--	--	--	--	--	--	--	
02073500	(w) Leatherwood Creek at Route 650 near Martinsville (Old Liberty), Va.	68.4	8	0	15.9	11.3	8.71	6.88	5.47	--	--	--	--	--	--	--	--	
02074500	(p) Sandy River above Route 863 near Danville, Va.	111	76	0	49.5	40.9	35.3	31.0	27.2	23.8	20.5	17.0	13.0	10.3	7.73	6.34	5.26	
02074500	(r) Sandy River above Route 863 near Danville, Va.	111	76	0	21.3	15.4	11.9	9.41	7.32	--	--	--	--	--	--	--	--	
02074500	(w) Sandy River above Route 863 near Danville, Va.	111	76	0	48.6	40.1	34.6	30.4	26.7	--	--	--	--	--	--	--	--	
02075000	(p) Dan River at railroad bridge at Danville, Va.	2,060	60	0	822	721	649	588	533	479	424	363	287	232	179	149	124	
02075000	(r) Dan River at railroad bridge at Danville, Va.	2,060	60	0	385	304	251	212	177	--	--	--	--	--	--	--	--	
02075000	(w) Dan River at railroad bridge at Danville, Va.	2,060	60	0	808	709	638	578	524	--	--	--	--	--	--	--	--	
02075045	(p) Dan River at wastewater outfall near Danville, Va.	2,116	11	0	918	718	595	504	429	362	301	240	172	129	92.1	72.7	58.2	
02075045	(r) Dan River at wastewater outfall near Danville, Va.	2,116	11	0	395	312	258	218	182	--	--	--	--	--	--	--	--	
02075045	(w) Dan River at wastewater outfall near Danville, Va.	2,116	11	0	900	705	585	496	422	--	--	--	--	--	--	--	--	
02075500	(p) Dan River at Route 658 at Paces, Va.	2,587	56	0	991	831	727	646	576	511	448	382	303	248	196	166	142	
02075500	(r) Dan River at Route 658 at Paces, Va.	2,587	56	0	482	383	318	271	227	--	--	--	--	--	--	--	--	
02075500	(w) Dan River at Route 658 at Paces, Va.	2,587	56	0	975	818	716	636	567	--	--	--	--	--	--	--	--	
02076500	(p) Georges Creek at Route 40 near Greta, Va.	9.18	47	0	5.22	4.44	3.90	3.47	3.09	2.73	2.37	1.99	1.53	1.21	0.910	0.750	0.610	
02076500	(r) Georges Creek at Route 40 near Greta, Va.	9.18	47	0	1.80	1.21	0.881	0.658	0.482	--	--	--	--	--	--	--	--	
02076500	(w) Georges Creek at Route 40 near Greta, Va.	9.18	47	0	5.11	4.34	3.81	3.39	3.02	--	--	--	--	--	--	--	--	
02077000	(p) Banister River at Route 360 (Business) at Halifax, Va.	547	77	0	132	99.2	80.2	66.4	55.4	45.9	37.4	29.1	20.3	14.9	10.3	8.02	6.33	
02077000	(r) Banister River at Route 360 (Business) at Halifax, Va.	547	77	0	103	78.4	62.9	51.6	41.7	--	--	--	--	--	--	--	--	
02077000	(w) Banister River at Route 360 (Business) at Halifax, Va.	547	77	0	131	98.5	79.6	66.0	55.0	--	--	--	--	--	--	--	--	
02077500	(p) Hyco River at Route 501 near Denniston, Va.	288	59	0	27.3	22.6	18.7	15.2	12.1	9.24	6.60	4.15	1.91	0.880	0.320	0.150	0.070	
02077500	(r) Hyco River at Route 501 near Denniston, Va.	288	59	0	54.7	40.7	32.2	26.0	20.7	--	--	--	--	--	--	--	--	
02077500	(w) Hyco River at Route 501 near Denniston, Va.	288	59	0	28.6	23.4	19.3	15.7	12.5	--	--	--	--	--	--	--	--	
02078000	(p) Hyco River at Route 738 near Omega, Va.	412	15	0	33.5	21.6	15.7	12.0	9.26	7.17	5.44	3.94	2.51	1.73	1.14	0.860	0.660	
02078000	(r) Hyco River at Route 738 near Omega, Va.	412	15	0	78.0	58.7	46.8	38.1	30.6	--	--	--	--	--	--	--	--	
02078000	(w) Hyco River at Route 738 near Omega, Va.	412	15	0	35.5	23.1	16.9	12.9	10.0	--	--	--	--	--	--	--	--	
02079000	(p) Roanoke River at Route 58 at Clarksville, Va.	7,393	16	0	3.122	2.640	2.347	2.127	1.943	1.779	1.622	1.459	1.265	1,128	996	919	855	
02079000	(r) Roanoke River at Route 58 at Clarksville, Va.	7,393	16	0	1.365	1.120	953	830	714	--	--	--	--	--	--	--	--	
02079000	(w) Roanoke River at Route 58 at Clarksville, Va.	7,393	16	0	3,070	2,597	2,309	2,094	1,914	--	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)									
					Non-exceedance probability									
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	1-day averaged, adjusted low flow (ft ³ /s)
02079640	(p) Allen Creek at Route 58 near Boydton, Va.	53.5	39	4	5.08	2.92	1.90	1.28	0.870	0.560	0.340	0.160	0.000	0.000
02079640	(r) Allen Creek at Route 58 near Boydton, Va.	53.5	39	4	10.3	7.31	5.55	4.32	3.30	--	--	--	--	--
02079640	(w) Allen Creek at Route 58 near Boydton, Va.	53.5	39	4	5.42	3.19	2.12	1.45	1.00	--	--	--	--	--
03164000	(p) New River at Route 94 near Galax, Va.	1,141	76	0	852	741	669	611	561	514	468	418	356	310
03164000	(r) New River at Route 94 near Galax, Va.	1,141	76	0	478	394	337	295	257	224	191	158	119	--
03164000	(w) New River at Route 94 near Galax, Va.	1,141	76	0	843	734	662	605	555	509	463	413	352	--
03164500	(p) New River at railroad bridge near Grayson, Va.	1,174	3	0	561	503	465	436	411	387	363	339	307	284
03164500	(r) New River at railroad bridge near Grayson, Va.	1,174	3	0	493	407	348	305	266	232	198	164	124	--
03164500	(w) New River at railroad bridge near Grayson, Va.	1,174	3	0	559	501	463	434	408	384	361	336	305	--
03165000	(p) Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	36.7	31.7	28.4	26.0	23.8	21.8	19.9	17.8	15.3	13.5
03165000	(r) Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	11.5	8.57	6.74	5.41	4.30	3.37	2.52	1.75	0.970	--
03165000	(w) Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	36.1	31.1	28.0	25.5	23.4	21.5	19.6	17.6	15.1	--
03165500	(p) New River at Ivanhoe, Va.	1,350	59	0	801	668	585	523	470	422	376	328	271	231
03165500	(r) New River at Ivanhoe, Va.	1,350	59	0	576	477	410	360	315	276	237	198	151	--
03165500	(w) New River at Ivanhoe, Va.	1,350	59	0	796	664	582	519	467	419	373	326	269	--
03166800	(p) Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	0.130	0.100	0.080	0.070	0.060	0.050	0.040	0.030	0.020	0.010
03166800	(r) Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	1.30	1.04	0.874	0.748	0.643	0.550	0.461	0.371	0.268	0.199
03166800	(w) Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	0.160	0.124	0.100	0.087	0.074	0.062	0.050	0.038	0.026	0.024
03167000	(p) Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	86.1	79.3	74.1	69.5	65.2	60.8	56.0	50.6	43.2	37.4
03167000	(r) Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	59.2	50.1	44.2	39.5	35.5	31.8	28.2	24.3	19.5	16.0
03167000	(w) Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	85.5	78.7	73.5	68.9	64.5	60.2	55.5	50.1	42.7	37.0
03167500	(p) Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	197	172	156	143	133	122	112	102	88.5	78.8
03167500	(r) Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	95.8	75.5	62.3	52.6	44.0	36.6	29.5	22.6	14.9	--
03167500	(w) Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	195	170	154	142	131	121	111	100	87.5	--
03168000	(p) New River along Route 653 at Allisonia, Va.	2,212	76	0	1,216	1,064	968	894	830	772	715	654	580	526
03168000	(r) New River along Route 653 at Allisonia, Va.	2,212	76	0	995	836	727	648	574	512	447	383	307	--
03168000	(w) New River along Route 653 at Allisonia, Va.	2,212	76	0	1,211	1,059	963	889	826	768	711	650	576	--
03168500	(p) Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	4.06	2.66	2.02	1.64	1.37	1.16	0.990	0.840	0.690	0.600
03168500	(r) Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	12.7	10.5	9.09	7.98	7.05	6.20	5.37	4.50	3.47	2.73
03168500	(w) Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	4.28	2.86	2.20	1.80	1.51	1.28	1.10	0.926	0.752	0.646
03170000	(p) Little River at Route 693 at Grayson-ton, Va.	309	78	0	165	140	124	111	101	91.1	81.8	72.0	60.1	51.8
03170000	(r) Little River at Route 693 at Grayson-ton, Va.	309	78	0	113	89.1	73.8	62.5	52.5	44.0	35.6	27.5	18.4	--
03170000	(w) Little River at Route 693 at Grayson-ton, Va.	309	78	0	164	139	123	110	99.8	90.3	81.0	71.2	59.6	--
03171000	(p) New River below Route 11 at Radford, Va.	2,767	75	0	1,245	1,101	1,014	950	897	850	805	758	704	667
03171000	(r) New River below Route 11 at Radford, Va.	2,767	75	0	1,274	1,078	943	845	753	676	596	517	422	--
03171000	(w) New River below Route 11 at Radford, Va.	2,767	75	0	1,246	1,100	1,013	948	894	846	801	755	700	--
03171500	(p) New River at Route 730 at Eggleston, Va.	2,961	61	0	1,419	1,240	1,129	1,045	974	909	846	780	701	643
03171500	(r) New River at Route 730 at Eggleston, Va.	2,961	61	0	1,374	1,164	1,020	916	818	736	651	566	465	--
03171500	(w) New River at Route 730 at Eggleston, Va.	2,961	61	0	1,418	1,239	1,127	1,042	971	906	843	777	697	--
03173000	(p) Walker Creek below Route 100 at Bane, Va.	299	68	0	62.8	52.9	47.3	43.2	39.9	37.1	34.4	31.8	28.8	26.8
03173000	(r) Walker Creek below Route 100 at Bane, Va.	299	68	0	69.2	58.8	51.9	46.5	41.9	37.6	33.4	28.8	23.3	19.2
03173000	(w) Walker Creek below Route 100 at Bane, Va.	299	68	0	62.9	53.1	47.4	43.3	40.0	37.1	34.4	31.7	28.7	26.7

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200		
					Non-exceedance probability														
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
1-day averaged, adjusted low flow (ft ³ /s)																			
03175500 (p)	Wolf Creek at Route 724 near Narrows, Va.	223	75	0	50.0	43.1	38.6	35.0	31.9	29.0	26.2	23.1	19.3	16.6	13.9	12.4	11.0		
03175500 (r)	Wolf Creek at Route 724 near Narrows, Va.	223	75	0	50.7	42.8	37.7	33.6	30.2	27.0	23.9	20.5	16.4	13.4	--	--	--		
03175500 (w)	Wolf Creek at Route 724 near Narrows, Va.	223	75	0	50.0	43.1	38.6	35.0	31.9	29.0	26.1	23.1	19.3	16.6	--	--	--		
03176500 (p)	New River at Route 460 at Glen Lyn, Va.	3,783	79	0	1,670	1,481	1,362	1,270	1,191	1,118	1,047	971	878	810	742	701	666		
03176500 (r)	New River at Route 460 at Glen Lyn, Va.	3,783	79	0	1,802	1,538	1,357	1,226	1,102	999	891	785	660	--	--	--	--		
03176500 (w)	New River at Route 460 at Glen Lyn, Va.	3,783	79	0	1,673	1,483	1,362	1,269	1,189	1,116	1,044	968	875	--	--	--	--		
03177700 (p)	Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	13.4	11.2	9.88	8.95	8.20	7.55	6.94	6.33	5.63	5.16	4.72	4.47	4.27		
03177700 (r)	Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	8.07	6.63	5.70	4.98	4.38	3.83	3.29	2.74	2.08	1.62	--	--	--		
03177700 (w)	Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	13.3	11.1	9.79	8.87	8.12	7.47	6.87	6.26	5.56	5.10	--	--	--		
03177710 (p)	Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	13.4	12.1	11.3	10.6	9.91	9.30	8.67	7.98	7.07	6.38	5.67	5.22	4.84		
03177710 (r)	Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	9.07	7.46	6.43	5.62	4.95	4.33	3.74	3.11	2.37	1.85	--	--	--		
03177710 (w)	Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	13.3	12.0	11.1	10.4	9.81	9.20	8.57	7.89	6.98	6.30	--	--	--		
03207500 (p)	Levisa Fork along Route 460 near Grundy, Va.	239	34	0	19.4	13.5	9.98	7.55	5.70	4.21	2.97	1.91	0.980	0.530	0.250	0.150	0.090		
03207500 (r)	Levisa Fork along Route 460 near Grundy, Va.	239	34	0	37.6	28.7	23.1	19.0	15.6	12.6	9.95	7.36	4.47	--	--	--	--		
03207500 (w)	Levisa Fork along Route 460 near Grundy, Va.	239	34	0	32.5	24.2	19.0	15.2	12.1	9.34	6.95	4.73	2.45	--	--	--	--		
03207800 (p)	Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	45.3	37.4	32.2	28.1	24.6	21.4	18.3	15.1	11.3	8.78	6.48	5.23	4.27		
03207800 (r)	Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	45.1	34.5	27.8	22.9	19.0	15.4	12.2	9.16	5.75	--	--	--	--		
03207800 (w)	Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	45.2	35.6	29.7	25.2	21.6	18.5	15.6	12.7	9.59	--	--	--	--		
03208500 (p)	Russell Fork below Route 63 at Haysi, Va.	286	79	0	30.2	20.8	15.4	11.6	8.68	6.38	4.48	2.86	1.44	0.770	0.360	0.210	0.120		
03208500 (r)	Russell Fork below Route 63 at Haysi, Va.	286	79	0	43.7	33.4	26.9	22.2	18.3	14.9	11.8	8.82	5.50	--	--	--	--		
03208500 (w)	Russell Fork below Route 63 at Haysi, Va.	286	79	0	39.9	29.7	23.4	18.7	14.9	11.6	8.70	5.98	3.17	--	--	--	--		
03208700 (p)	North Fork Pound River below dam at Pound, Va.	18.5	25	0	5.40	3.64	2.59	1.86	1.31	0.900	0.570	0.320	0.120	0.050	0.020	0.010	0.000		
03208700 (r)	North Fork Pound River below dam at Pound, Va.	18.5	25	0	4.43	3.28	2.56	2.03	1.58	1.21	0.873	0.567	0.231	--	--	--	--		
03208700 (w)	North Fork Pound River below dam at Pound, Va.	18.5	25	0	4.63	3.36	2.57	1.98	1.51	1.12	0.772	0.473	0.178	--	--	--	--		
03208800 (p)	Pound River above Indian Creek, at Pound, Va.	36.7	12	0	7.29	6.63	5.97	5.31	4.64	3.93	3.18	2.36	1.41	0.840	0.420	0.240	0.140		
03208800 (r)	Pound River above Indian Creek, at Pound, Va.	36.7	12	0	7.85	5.87	4.61	3.69	2.92	2.27	1.67	1.13	0.510	--	--	--	--		
03208800 (w)	Pound River above Indian Creek, at Pound, Va.	36.7	12	0	7.65	6.15	5.15	4.37	3.69	3.07	2.46	1.84	1.11	--	--	--	--		
03208850 (p)	Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	10.4	9.66	8.92	8.17	7.36	6.50	5.55	4.43	3.02	2.05	1.21	0.810	0.540		
03208850 (r)	Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	12.0	9.04	7.16	5.76	4.62	3.63	2.72	1.88	0.923	--	--	--	--		
03208850 (w)	Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03208900 (p)	Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	13.6	11.4	9.82	8.55	7.42	6.36	5.32	4.24	2.99	2.16	1.45	1.09	0.820		
03208900 (r)	Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	15.1	11.4	9.05	7.31	5.89	4.66	3.53	2.47	1.27	--	--	--	--		
03208900 (w)	Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	14.5	11.4	9.37	7.86	6.60	5.51	4.50	3.52	2.45	--	--	--	--		
03208950 (p)	Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	13.6	10.3	8.31	6.85	5.67	4.66	3.73	2.85	1.91	1.35	0.890	0.670	0.500		
03208950 (r)	Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	12.9	9.70	7.69	6.20	4.97	3.91	2.95	2.04	1.02	--	--	--	--		
03208950 (w)	Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	13.2	9.93	7.93	6.47	5.28	4.27	3.35	2.50	1.61	--	--	--	--		
03209000 (p)	Pound River near Haysi, Va.	221	79	0	39.2	25.9	18.4	13.3	9.54	6.66	4.40	2.59	1.14	0.540	0.210	0.110	0.060		
03209000 (r)	Pound River near Haysi, Va.	221	79	0	35.2	26.8	21.6	17.7	14.6	11.8	9.24	6.81	4.08	--	--	--	--		
03209000 (w)	Pound River near Haysi, Va.	221	79	0	36.1	26.6	20.7	16.5	13.1	10.1	7.46	5.05	2.57	--	--	--	--		
03209200 (p)	Russell Fork at Route 611 at Bartlick, Va.	526	19	0	99.7	82.8	69.9	58.9	49.0	39.7	30.9	22.1	12.8	7.60	3.88	2.35	1.43		
03209200 (r)	Russell Fork at Route 611 at Bartlick, Va.	526	19	0	72.7	55.9	45.4	37.8	31.6	26.1	21.1	16.2	11.1	--	--	--	--		
03209200 (w)	Russell Fork at Route 611 at Bartlick, Va.	526	19	0	82.0	65.5	54.6	46.2	39.0	32.4	26.0	19.5	12.2	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
1-day averaged, adjusted low flow (ft³/s)																		
03471500	(p) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	34.5	30.9	28.3	26.2	24.3	22.4	20.5	18.3	15.6	13.5	11.4	10.1	8.98	
03471500	(r) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	16.2	13.5	11.7	10.3	9.13	8.05	7.00	5.89	4.57	3.62	--	--	--	
03471500	(w) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
03472500	(p) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	14.8	12.6	11.1	9.79	8.65	7.57	6.50	5.35	3.98	3.04	2.18	1.71	1.36	
03472500	(r) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	11.6	9.54	8.24	7.23	6.38	5.60	4.85	4.05	3.11	2.45	--	--	--	
03472500	(w) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	14.7	12.5	11.0	9.73	8.60	7.53	6.46	5.32	3.96	3.03	--	--	--	
03473000	(p) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	133	117	106	98.5	91.7	85.5	79.4	72.9	64.9	59.1	53.3	49.8	46.9	
03473000	(r) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	70.2	59.6	52.7	47.1	42.5	38.2	33.9	29.3	23.6	19.5	--	--	--	
03473000	(w) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	131	115	105	97.4	90.7	84.5	78.5	72.1	64.1	58.4	--	--	--	
03473500	(p) Middle Fork Holston River at Route 679 at Grose-close, Va.	7.4	11	0	3.79	3.56	3.39	3.25	3.11	2.98	2.83	2.66	2.43	2.25	2.04	1.91	1.80	
03473500	(r) Middle Fork Holston River at Route 679 at Grose-close, Va.	7.4	11	0	1.35	1.08	0.908	0.777	0.668	0.571	0.480	0.386	0.280	0.207	--	--	--	
03473500	(w) Middle Fork Holston River at Route 679 at Grose-close, Va.	7.4	11	0	3.74	3.51	3.34	3.20	3.06	2.93	2.78	2.62	2.39	2.21	--	--	--	
03474000	(p) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	46.0	40.2	36.6	33.9	31.5	29.3	27.2	25.0	22.3	20.3	18.3	17.1	16.1	
03474000	(r) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	29.0	24.3	21.2	18.8	16.8	14.9	13.1	11.1	8.75	7.06	--	--	--	
03474000	(w) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	45.6	39.9	36.3	33.6	31.2	29.0	26.9	24.7	22.0	20.0	--	--	--	
03474500	(p) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	55.9	47.1	41.3	36.9	33.0	29.5	26.1	22.5	18.1	15.1	12.1	10.5	9.10	
03474500	(r) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	33.9	28.5	24.9	22.1	19.8	17.6	15.5	13.2	10.4	8.45	--	--	--	
03474500	(w) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	55.4	46.6	41.0	36.5	32.7	29.2	25.8	22.3	17.9	14.9	--	--	--	
03475000	(p) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	81.8	69.9	61.0	53.4	46.4	39.8	33.1	26.1	17.9	12.5	7.98	5.73	4.14	
03475000	(r) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	46.6	39.3	34.5	30.8	27.6	24.7	21.8	18.7	14.9	12.2	--	--	--	
03475000	(w) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	81.0	69.2	60.4	52.9	46.0	39.4	32.9	25.9	17.8	12.5	--	--	--	
03477500	(p) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	6.80	5.76	5.15	4.71	4.35	4.04	3.75	3.45	3.11	2.87	2.65	2.53	2.43	
03477500	(r) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	2.60	2.10	1.78	1.54	1.33	1.15	0.972	0.791	0.584	0.441	--	--	--	
03477500	(w) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	6.71	5.68	5.08	4.64	4.29	3.98	3.69	3.40	3.06	2.83	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200		
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
1-day averaged, adjusted low flow (ft³/s)																			
03478400	(p) Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	14.2	12.7	11.7	11.0	10.4	9.78	9.24	8.66	7.96	7.47	6.97	6.68	6.44		
03478400	(r) Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	5.34	4.35	3.73	3.24	2.83	2.46	2.11	1.74	1.31	1.01	--	--	--		
03478400	(w) Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	14.0	12.5	11.5	10.8	10.2	9.63	9.10	8.53	7.84	7.36	--	--	--		
03488000	(p) North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	43.7	42.6	41.0	39.0	36.5	33.6	29.9	25.1	18.3	13.1	8.13	5.59	3.79		
03488000	(r) North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	50.2	42.4	37.3	33.3	29.9	26.7	23.6	20.3	16.2	13.3	--	--	--		
03488000	(w) North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	43.8	42.6	40.9	38.9	36.4	33.4	29.7	25.0	18.3	13.1	--	--	--		
03489500	(p) North Fork Holston River at Route 615 at Mendota, Va.	493	10	0	119	99.7	87.0	77.2	68.7	60.9	53.4	45.5	36.0	29.5	23.3	19.8	17.0		
03489500	(r) North Fork Holston River at Route 615 at Mendota, Va.	493	10	0	118	101	89.7	80.8	73.3	66.3	59.3	51.6	42.3	35.4	--	--	--		
03489500	(w) North Fork Holston River at Route 615 at Mendota, Va.	493	10	0	119	99.7	87.1	77.2	68.8	61.0	53.5	45.6	36.1	29.6	--	--	--		
03489900	(p) Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	18.0	14.6	12.4	10.8	9.42	8.18	7.00	5.80	4.41	3.48	2.64	2.18	1.82		
03489900	(r) Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	16.9	14.1	12.2	10.8	9.53	8.41	7.32	6.16	4.78	3.80	--	--	--		
03489900	(w) Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	17.9	14.6	12.4	10.8	9.42	8.19	7.01	5.81	4.42	3.49	--	--	--		
03490000	(p) North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	140	116	102	92.1	83.6	76.1	68.9	61.6	53.1	47.1	41.5	38.2	35.5		
03490000	(r) North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	164	141	126	114	104	93.9	84.4	74.0	61.1	51.6	--	--	--		
03490000	(w) North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	140	117	103	92.5	84.0	76.4	69.2	61.9	53.2	47.2	--	--	--		
03521500	(p) Clinch River along Route 707 at Richlands, Va.	137	43	0	33.3	27.9	24.6	22.1	19.9	18.0	16.1	14.2	11.8	10.2	8.60	7.67	6.91		
03521500	(r) Clinch River along Route 707 at Richlands, Va.	137	43	0	30.2	25.3	22.1	19.6	17.5	15.6	13.6	11.6	9.15	7.38	--	--	--		
03521500	(w) Clinch River along Route 707 at Richlands, Va.	137	43	0	33.2	27.9	24.6	22.0	19.9	17.9	16.1	14.1	11.8	10.1	--	--	--		
03524000	(p) Clinch River above Route 661 at Cleveland, Va.	533	86	0	122	102	90.4	81.6	74.3	67.8	61.6	55.3	47.8	42.6	37.5	34.6	32.2		
03524000	(r) Clinch River above Route 661 at Cleveland, Va.	533	86	0	128	110	97.7	88.1	80.0	72.4	64.8	56.5	46.4	39.0	--	--	--		
03524000	(w) Clinch River above Route 661 at Cleveland, Va.	533	86	0	122	102	90.5	81.7	74.4	67.9	61.7	55.3	47.7	42.5	--	--	--		
03524500	(p) Guest River at Route 72 at Coeburn, Va.	87.2	12	0	15.9	10.6	7.99	6.29	5.05	4.06	3.23	2.48	1.73	1.29	0.940	0.760	0.630		
03524500	(r) Guest River at Route 72 at Coeburn, Va.	87.2	12	0	16.2	12.2	9.70	7.85	6.34	5.02	3.81	2.68	1.39	--	--	--	--		
03524500	(w) Guest River at Route 72 at Coeburn, Va.	87.2	12	0	16.1	11.6	9.06	7.23	5.79	4.57	3.52	2.57	1.61	--	--	--	--		
03525000	(p) Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03525000	(r) Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	9.07	7.40	6.36	5.59	4.93	4.34	3.77	3.20	2.52	2.07	1.64	1.40	1.21		
03525000	(w) Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03526000	(p) Copper Creek at Route 619 near Gate City, Va.	106	26	0	33.9	30.7	28.4	26.4	24.6	22.9	21.1	19.0	16.3	14.3	12.1	10.8	9.72		
03526000	(r) Copper Creek at Route 619 near Gate City, Va.	106	26	0	23.0	19.2	16.7	14.8	13.1	11.6	10.2	8.60	6.73	5.39	--	--	--		
03526000	(w) Copper Creek at Route 619 near Gate City, Va.	106	26	0	33.7	30.4	28.1	26.2	24.4	22.6	20.8	18.8	16.1	14.1	--	--	--		
03527000	(p) Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	245	203	179	161	146	133	121	108	93.8	83.9	74.5	69.1	64.7		
03527000	(r) Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	283	246	221	201	184	168	152	135	113	97.0	--	--	--		
03527000	(w) Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	246	204	180	161	147	134	121	109	94.2	84.2	--	--	--		
03527500	(p) North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03527500	(r) North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03527500	(w) North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03529500	(p) Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	29.8	24.2	20.6	17.9	15.6	13.5	11.6	9.53	7.21	5.65	4.24	3.48	2.88		
03529500	(r) Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	20.0	15.1	12.0	9.77	7.93	6.31	4.84	3.45	1.86	--	--	--	--		
03529500	(w) Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	23.8	18.8	15.7	13.4	11.6	10.0	8.54	7.12	5.56	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued
[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					Non-exceedance probability											
					1-day averaged, adjusted low flow (ft ³ /s)											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01
03530000	(p) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--	--
03530000	(r) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--	--
03530000	(w) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--	--
03530500	(p) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	1	8.33	6.60	5.31	4.25	3.31	2.47	1.69	0.930	0.110	0.000	0.000	0.000
03530500	(r) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	1	13.7	10.3	8.15	6.58	5.29	4.17	3.15	2.19	1.10	--	--	--
03530500	(w) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	1	12.0	9.06	7.16	5.71	4.50	3.43	2.46	1.53	0.485	--	--	--
03531000	(p) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	50.6	37.0	30.1	25.6	22.1	19.3	16.9	14.6	12.1	10.6	9.27	8.56
03531000	(r) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	44.2	33.8	27.2	22.4	18.6	15.1	12.0	8.94	5.59	--	--	--
03531000	(w) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	46.7	35.1	28.5	23.8	20.2	17.2	14.7	12.3	10.1	--	--	--
03531500	(p) Powell River at Route 70 near Jonesville, Va.	319	75	0	72.2	60.0	52.5	46.8	42.1	37.9	33.8	29.6	24.6	21.2	17.8	15.9
03531500	(r) Powell River at Route 70 near Jonesville, Va.	319	75	0	47.9	36.6	29.6	24.4	20.2	16.5	13.1	9.84	6.24	--	--	--
03531500	(w) Powell River at Route 70 near Jonesville, Va.	319	75	0	57.7	46.4	39.6	34.8	30.9	27.7	24.8	22.0	19.2	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					4-day averaged, adjusted low flow (ft ³ /s)													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005						
01484800	(p) Guy Creek at Route 606 near Nassawadox, Va.	1.9	32	8	0.240	0.170	0.120	0.090	0.070	0.040	0.020	0.000	0.000	0.000	0.000	0.000		
01484800	(r) Guy Creek at Route 606 near Nassawadox, Va.	1.9	32	8	0.444	0.314	0.229	0.169	0.125	0.085	--	--	--	--	--	--		
01484800	(w) Guy Creek at Route 606 near Nassawadox, Va.	1.9	32	8	0.265	0.187	0.132	0.098	0.076	0.044	--	--	--	--	--	--		
01613900	(p) Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	1.78	1.37	1.12	0.940	0.800	0.670	0.550	0.440	0.310	0.240	0.170	0.130		
01613900	(r) Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	3.18	2.56	2.18	1.89	1.65	1.43	1.23	1.02	0.778	0.617	0.468	0.382		
01613900	(w) Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	1.82	1.40	1.15	0.963	0.821	0.688	0.566	0.453	0.320	0.248	0.176	0.135		
01614830	(p) Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	6.55	4.47	3.42	2.73	2.21	1.80	1.45	1.13	0.810	0.620	0.460	0.380		
01614830	(r) Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	3.03	2.44	2.07	1.80	1.57	1.36	1.17	0.965	0.737	0.584	0.442	0.361		
01614830	(w) Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	6.45	4.41	3.38	2.71	2.19	1.79	1.44	1.13	0.808	0.619	0.460	0.380		
01615000	(p) Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	12.0	9.15	7.40	6.08	5.00	4.06	3.20	2.38	1.52	1.02	0.630	0.440		
01615000	(r) Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	12.0	9.19	7.44	6.13	5.06	4.12	3.26	2.44	1.57	1.07	0.670	0.474		
01615500	(p) Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	2.42	2.29	2.18	2.08	1.97	1.85	1.71	1.55	1.31	1.12	0.900	0.770		
01615500	(r) Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	1.10	0.873	0.733	0.628	0.541	0.465	0.392	0.319	0.237	0.183	0.134	0.107		
01615500	(w) Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	2.39	2.26	2.15	2.05	1.94	1.82	1.68	1.53	1.29	1.10	0.887	0.759		
01616000	(p) Abrams Creek above Route 659 near Winchester, Va.	17	24	0	13.7	11.9	10.8	9.94	9.19	8.49	7.81	7.08	6.18	5.52	4.87	4.48		
01616000	(r) Abrams Creek above Route 659 near Winchester, Va.	17	24	0	3.41	2.75	2.34	2.04	1.78	1.55	1.33	1.10	0.843	0.670	0.509	0.417		
01616000	(w) Abrams Creek above Route 659 near Winchester, Va.	17	24	0	13.5	11.7	10.6	9.78	9.04	8.35	7.68	6.96	6.08	5.43	4.79	4.41		
01616100	(p) Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	6.62	5.66	5.04	4.57	4.16	3.78	3.42	3.03	2.55	2.21	1.88	1.69		
01616100	(r) Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	2.14	1.72	1.45	1.26	1.09	0.944	0.805	0.661	0.501	0.393	0.294	0.238		
01616100	(w) Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	6.52	5.57	4.96	4.50	4.09	3.72	3.37	2.98	2.51	2.18	1.85	1.67		
01620500	(p) North River above Forest Road near Stokesville, Va.	17.3	59	0	2.17	1.46	1.10	0.860	0.690	0.550	0.430	0.320	0.220	0.160	0.110	0.080		
01620500	(r) North River above Forest Road near Stokesville, Va.	17.3	59	0	3.48	2.81	2.39	2.07	1.81	1.58	1.35	1.12	0.861	0.684	0.520	0.426		
01620500	(w) North River above Forest Road near Stokesville, Va.	17.3	59	0	2.21	1.50	1.14	0.894	0.722	0.579	0.455	0.341	0.236	0.173	0.120	0.088		
01621050	(p) Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	4.46	2.58	1.80	1.35	1.05	0.830	0.650	0.510	0.370	0.300	0.240	0.210		
01621050	(r) Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	2.84	2.28	1.94	1.68	1.46	1.27	1.09	0.899	0.685	0.542	0.410	0.334		
01621050	(w) Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	4.41	2.57	1.80	1.36	1.06	0.843	0.663	0.521	0.379	0.306	0.244	0.213		
01622000	(p) North River along Route 693 near Burkettown, Va.	376	75	0	101	83.0	72.5	64.8	58.6	53.2	48.2	43.2	37.4	33.4	29.7	27.6		
01622000	(r) North River along Route 693 near Burkettown, Va.	376	75	0	93.2	79.0	70.0	63.1	57.1	51.8	46.7	41.1	34.3	29.7	24.9	22.1		
01622000	(w) North River along Route 693 near Burkettown, Va.	376	75	0	101	82.9	72.4	64.8	58.6	53.2	48.2	43.1	37.3	33.3	29.6	27.5		
01624000	(p) Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	1	0.500	0.310	0.220	0.160	0.130	0.090	0.070	0.040	0.000	0.000	0.000	0.000		
01624000	(r) Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	1	1.90	1.52	1.28	1.11	0.959	0.829	0.705	0.578	0.437	0.342	0.255	0.206		
01624000	(w) Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	1	0.543	0.346	0.251	0.188	0.154	0.111	0.088	0.055	0.012	0.009	0.006	0.005		
01624300	(p) Middle River at Route 742 near Verona, Va.	179	18	0	62.8	53.6	48.0	43.8	40.4	37.3	34.4	31.3	27.7	25.1	22.7	21.2		
01624300	(r) Middle River at Route 742 near Verona, Va.	179	18	0	42.2	35.3	31.0	27.7	24.9	22.3	19.9	17.2	14.1	12.0	9.81	8.54		
01624300	(w) Middle River at Route 742 near Verona, Va.	179	18	0	62.3	53.2	47.6	43.5	40.1	37.0	34.1	31.0	27.4	24.9	22.4	21.0		
01624800	(p) Christians Creek at Route 794 near Fishersville, Va.	73	29	0	28.5	24.3	21.7	19.7	18.1	16.5	15.0	13.5	11.6	10.2	8.88	8.10		
01624800	(r) Christians Creek at Route 794 near Fishersville, Va.	73	29	0	16.2	13.4	11.6	10.2	9.09	8.07	7.09	6.04	4.82	3.99	3.18	2.70		
01624800	(w) Christians Creek at Route 794 near Fishersville, Va.	73	29	0	28.2	24.1	21.5	19.5	17.9	16.3	14.9	13.3	11.4	10.1	8.78	8.01		
01625000	(p) Middle River at Route 769 near Grottoes, Va.	373	78	0	118	105	95.1	87.1	79.7	72.7	65.5	57.5	47.3	39.8	32.2	27.8		
01625000	(r) Middle River at Route 769 near Grottoes, Va.	373	78	0	92.4	78.3	69.4	62.5	56.6	51.3	46.3	40.7	34.0	29.4	24.7	21.9		
01625000	(w) Middle River at Route 769 near Grottoes, Va.	373	78	0	118	104	94.6	86.5	79.2	72.2	65.1	57.1	47.0	39.6	32.1	27.7		
01625900	(p) Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	1	--	--	--	--	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
01625900	(r) Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	1	12.9	9.80	7.81	6.32	5.08	4.00	3.04	2.11	1.20	0.662	--	--		
01625900	(w) Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	1	--	--	--	--	--	--	--	--	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
4-day averaged, adjusted low flow (ft³/s)																	
01626000	(p) South River at Route 664 near Waynesboro, Va.	127	54	0	45.3	39.7	36.2	33.6	31.4	29.4	27.4	25.4	23.0	21.3	19.6	18.6	17.7
01626000	(r) South River at Route 664 near Waynesboro, Va.	127	54	0	29.2	24.4	21.3	18.9	16.9	15.1	13.4	11.5	9.36	7.85	6.38	5.50	4.84
01626000	(w) South River at Route 664 near Waynesboro, Va.	127	54	0	45.0	39.3	35.9	33.3	31.1	29.1	27.2	25.1	22.7	21.0	19.3	18.4	17.5
01626500	(p) South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	53.4	46.3	41.9	38.6	35.8	33.3	30.8	28.3	25.2	23.0	20.8	19.5	18.4
01626500	(r) South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	30.7	25.6	22.4	19.9	17.8	15.9	14.1	12.2	9.89	8.31	6.76	5.83	5.14
01626500	(w) South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	52.9	45.8	41.5	38.2	35.4	32.9	30.5	28.0	24.9	22.7	20.5	19.3	18.2
01626850	(p) South River at Hopeman Parkway near Dooms, Va.	148	22	0	75.0	66.3	61.5	58.1	55.3	53.1	51.0	49.0	46.9	45.6	44.6	44.1	43.7
01626850	(r) South River at Hopeman Parkway near Dooms, Va.	148	22	0	34.4	28.7	25.2	22.4	20.1	18.0	16.0	13.8	11.2	9.47	7.73	6.69	5.91
01626850	(w) South River at Hopeman Parkway near Dooms, Va.	148	22	0	74.1	65.5	60.7	57.3	54.6	52.3	50.3	48.3	46.2	45.0	43.9	43.4	43.1
01627500	(p) South River at Route 778 at Harrison, Va.	212	65	0	88.3	79.6	73.8	69.1	64.9	60.9	56.9	52.5	46.8	42.6	38.2	35.4	33.1
01627500	(r) South River at Route 778 at Harrison, Va.	212	65	0	50.5	42.4	37.3	33.4	30.0	27.0	24.2	21.0	17.3	14.7	12.1	10.6	9.43
01627500	(w) South River at Route 778 at Harrison, Va.	212	65	0	87.5	78.8	73.0	68.3	64.2	60.2	56.2	51.9	46.3	42.1	37.7	35.0	32.7
01628060	(p) White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	11	0.030	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
01628060	(r) White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	11	0.432	0.299	0.220	0.164	0.121	0.087	0.058	0.035	0.015	0.006	--	--	--
01628060	(w) White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	11	0.040	0.026	0.024	0.004	0.002	0.002	0.001	0.001	0.000	0.000	--	--	--
01628500	(p) South Fork Shenandoah River below Lower Lewis Run near Lynwood, Va.	1,079	75	0	358	306	273	249	228	209	190	171	148	131	115	105	97.3
01628500	(r) South Fork Shenandoah River below Lower Lewis Run near Lynwood, Va.	1,079	75	0	287	248	222	203	186	171	157	141	121	108	93.9	85.6	78.3
01628500	(w) South Fork Shenandoah River below Lower Lewis Run near Lynwood, Va.	1,079	75	0	356	305	272	248	227	208	190	170	147	131	114	105	96.9
01629500	(p) South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	492	419	375	342	315	290	267	243	215	195	176	165	156
01629500	(r) South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	371	321	290	265	244	225	207	186	162	145	127	116	107
01629500	(w) South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	489	417	373	340	313	289	266	242	214	194	175	164	155
01630700	(p) Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	3.74	2.17	1.53	1.17	0.930	0.760	0.620	0.510	0.400	0.340	0.290	0.270	0.260
01630700	(r) Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	5.99	4.45	3.48	2.76	2.18	1.68	1.24	0.833	0.442	0.227	--	--	--
01630700	(w) Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	3.81	2.24	1.59	1.21	0.963	0.783	0.634	0.517	0.401	0.338	--	--	--
01631000	(p) South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	528	453	406	372	343	317	292	266	235	213	192	179	169
01631000	(r) South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	447	388	351	322	297	274	253	229	199	179	158	146	134
01631000	(w) South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	527	451	405	371	342	316	291	265	234	212	191	178	168
01632000	(p) North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	10.3	6.89	5.08	3.89	3.01	2.31	1.74	1.23	0.750	0.490	0.300	0.210	0.150
01632000	(r) North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	50.0	42.0	36.9	33.1	29.7	26.8	23.9	20.8	17.1	14.5	12.0	10.5	9.32
01632000	(w) North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	11.6	8.03	6.10	4.81	3.85	3.07	2.42	1.81	1.22	0.873	0.609	0.471	0.372

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
4-day averaged, adjusted low flow (ft³/s)																		
01632082	(p) Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	12.6	9.80	8.20	7.07	6.16	5.38	4.66	3.95	3.16	2.64	2.16	1.90	1.69	
01632082	(r) Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	9.81	8.04	6.93	6.09	5.38	4.75	4.14	3.49	2.75	2.25	1.76	1.48	1.28	
01632082	(w) Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	12.5	9.76	8.17	7.05	6.14	5.37	4.65	3.94	3.15	2.63	2.15	1.89	1.68	
01632900	(p) Smith Creek at Route 616 near New Market, Va.	93.6	45	0	26.4	21.3	18.1	15.8	13.9	12.2	10.5	8.91	7.02	5.75	4.58	3.92	3.40	
01632900	(r) Smith Creek at Route 616 near New Market, Va.	93.6	45	0	21.1	17.5	15.2	13.5	12.0	10.7	9.44	8.08	6.50	5.41	4.34	3.72	3.26	
01632900	(w) Smith Creek at Route 616 near New Market, Va.	93.6	45	0	26.3	21.2	18.1	15.7	13.8	12.1	10.5	8.89	7.01	5.74	4.58	3.92	3.40	
01633000	(p) North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	78.1	64.6	55.0	47.0	39.9	33.4	27.1	20.7	13.5	9.07	5.51	3.83	2.68	
01633000	(r) North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	128	109	97.3	88.1	80.0	72.9	66.0	58.4	49.2	42.9	36.4	32.6	29.4	
01633000	(w) North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	79.4	65.8	56.0	48.0	40.9	34.4	28.0	21.5	14.3	9.80	6.15	4.40	3.19	
01633500	(p) Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	10.7	9.12	8.24	7.62	7.11	6.68	6.28	5.89	5.44	5.15	4.89	4.75	4.64	
01633500	(r) Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	17.2	14.3	12.4	10.9	9.73	8.64	7.60	6.48	5.18	4.29	3.43	2.92	2.55	
01633500	(w) Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	10.8	9.23	8.33	7.69	7.16	6.72	6.31	5.90	5.44	5.13	4.86	4.72	4.61	
01634000	(p) North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	161	136	121	110	99.8	91.0	82.4	73.5	62.8	55.2	47.8	43.5	39.9	
01634000	(r) North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	200	172	154	140	128	117	107	94.9	80.9	71.3	61.4	55.5	50.5	
01634000	(w) North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	162	137	122	110	100	91.5	82.9	73.9	63.2	55.5	48.1	43.7	40.1	
01634500	(p) Cedar Creek above Route 628 near Winchester, Va.	102	68	0	13.9	11.4	9.91	8.77	7.83	6.98	6.17	5.35	4.38	3.71	3.07	2.71	2.42	
01634500	(r) Cedar Creek above Route 628 near Winchester, Va.	102	68	0	23.1	19.2	16.7	14.8	13.2	11.8	10.4	8.93	7.20	6.01	4.84	4.15	3.64	
01634500	(w) Cedar Creek above Route 628 near Winchester, Va.	102	68	0	14.1	11.6	10.1	8.90	7.95	7.08	6.26	5.42	4.44	3.75	3.10	2.74	2.44	
01635090	(p) Cedar Creek above Route 11 near Middletown, Va.	154	6	0	40.3	30.3	25.1	21.5	18.8	16.5	14.5	12.6	10.5	9.22	8.05	7.41	6.91	
01635090	(r) Cedar Creek above Route 11 near Middletown, Va.	154	6	0	35.9	30.0	26.3	23.4	21.0	18.8	16.7	14.5	11.8	9.94	8.12	7.04	6.22	
01635090	(w) Cedar Creek above Route 11 near Middletown, Va.	154	6	0	40.2	30.3	25.1	21.6	18.8	16.6	14.6	12.6	10.6	9.23	8.05	7.40	6.90	
01635500	(p) Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	5.49	4.36	3.68	3.17	2.75	2.38	2.04	1.69	1.29	1.03	0.790	0.660	0.560	
01635500	(r) Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	19.4	16.1	14.0	12.4	11.0	9.79	8.62	7.37	5.91	4.91	3.93	3.36	2.94	
01635500	(w) Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	5.83	4.64	3.92	3.38	2.94	2.55	2.19	1.81	1.39	1.11	0.851	0.710	0.602	
01636210	(p) Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	1.27	0.890	0.680	0.540	0.440	0.350	0.280	0.210	0.140	0.100	0.070	0.060	0.040	
01636210	(r) Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	3.91	2.87	2.23	1.75	1.36	1.04	0.757	0.497	0.255	0.126	--	--	--	
01636210	(w) Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	1.35	0.947	0.722	0.572	0.463	0.366	0.290	0.216	0.142	0.100	--	--	--	
01636266	(p) Manassas Run at Route 79 near Linden, Va.	5.54	4	0	2.63	1.58	1.15	0.920	0.760	0.640	0.550	0.480	0.410	0.380	0.350	0.340	0.340	
01636266	(r) Manassas Run at Route 79 near Linden, Va.	5.54	4	0	1.39	0.990	0.750	0.574	0.436	0.323	0.227	0.142	0.067	0.030	--	--	--	
01636266	(w) Manassas Run at Route 79 near Linden, Va.	5.54	4	0	2.56	1.55	1.13	0.904	0.746	0.627	0.538	0.467	0.399	0.370	--	--	--	
01636316	(p) Spout Run at Route 621 near Millwood, Va.	21.4	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
01636316	(r) Spout Run at Route 621 near Millwood, Va.	21.4	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
01636316	(w) Spout Run at Route 621 near Millwood, Va.	21.4	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
01638350	(p) South Fork Catocin Creek at Route 698 near Waterford, Va.	31.6	5	0	10.8	5.21	3.07	1.95	1.27	0.830	0.520	0.300	0.140	0.080	0.040	0.020	0.010	
01638350	(r) South Fork Catocin Creek at Route 698 near Waterford, Va.	31.6	5	0	9.72	7.31	5.79	4.65	3.71	2.90	2.18	1.50	0.826	0.445	--	--	--	
01638350	(w) South Fork Catocin Creek at Route 698 near Waterford, Va.	31.6	5	0	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
					4-day averaged, adjusted low flow (ft ³ /s)												
01638420	(p) North Fork Catotcin Creek at Route 681 bridge near Waterford, Va.	23.1	5	1	5.76	2.53	1.36	0.770	0.440	0.230	0.100	0.000	0.000	0.000	0.000	0.000	0.000
01638420	(r) North Fork Catotcin Creek at Route 681 bridge near Waterford, Va.	23.1	5	1	6.85	5.10	4.01	3.19	2.52	1.96	1.45	0.979	0.525	0.274	--	--	--
01638420	(w) North Fork Catotcin Creek at Route 681 bridge near Waterford, Va.	23.1	5	1	5.85	2.73	1.56	0.946	0.583	0.342	0.181	0.057	0.026	0.013	--	--	--
01638480	(p) Catotcin Creek at Route 663 at Taylors town, Va.	89.5	35	0	16.9	11.2	7.99	5.84	4.25	3.02	2.04	1.25	0.580	0.290	0.130	0.070	0.040
01638480	(r) Catotcin Creek at Route 663 at Taylors town, Va.	89.5	35	0	31.1	24.1	19.7	16.2	13.3	10.8	8.44	6.12	3.72	2.24	--	--	--
01638480	(w) Catotcin Creek at Route 663 at Taylors town, Va.	89.5	35	0	17.6	11.8	8.50	6.28	4.62	3.31	2.27	1.42	0.670	0.342	--	--	--
01643590	(p) Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	2.94	2.03	1.59	1.31	1.10	0.940	0.800	0.680	0.550	0.470	0.400	0.370	0.340
01643590	(r) Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	2.06	1.48	1.13	0.876	0.673	0.504	0.358	0.229	0.111	0.051	--	--	--
01643590	(w) Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	2.92	2.02	1.58	1.30	1.09	0.931	0.791	0.672	0.543	0.464	--	--	--
01643700	(p) Goose Creek at Route 611 near Middleburg, Va.	122	32	3	22.9	12.7	7.84	4.95	3.07	1.80	0.930	0.350	0.010	0.000	0.000	0.000	0.000
01643700	(r) Goose Creek at Route 611 near Middleburg, Va.	122	32	3	44.0	34.4	28.3	23.5	19.5	15.9	12.6	9.31	5.82	3.63	--	--	--
01643700	(w) Goose Creek at Route 611 near Middleburg, Va.	122	32	3	24.6	14.4	9.35	6.30	4.20	2.71	1.63	0.871	0.296	0.167	--	--	--
01643805	(p) North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	16.5	8.58	5.59	3.98	2.96	2.24	1.70	1.27	0.880	0.680	0.520	0.450	0.400
01643805	(r) North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	12.0	9.06	7.21	5.82	4.67	3.67	2.78	1.93	1.08	0.595	--	--	--
01643805	(w) North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	16.3	8.60	5.65	4.04	3.02	2.28	1.73	1.29	0.885	0.678	--	--	--
01643880	(p) Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	1	11.1	2.59	0.920	0.380	0.160	0.060	0.020	0.000	0.000	0.000	0.000	0.000	0.000
01643880	(r) Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	1	15.2	11.6	9.27	7.52	6.07	4.81	3.67	2.58	1.48	0.830	--	--	--
01643880	(w) Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	1	12.7	5.94	3.92	2.91	2.18	1.62	1.15	0.780	0.394	0.210	--	--	--
01644000	(p) Goose Creek above Route 621 near Leesburg, Va.	332	78	0	44.9	26.8	18.2	13.0	9.36	6.70	4.64	2.99	1.58	0.920	0.490	0.320	0.210
01644000	(r) Goose Creek above Route 621 near Leesburg, Va.	332	78	0	135	109	91.6	78.3	66.8	56.2	46.4	36.1	24.7	17.2	--	--	--
01644000	(w) Goose Creek above Route 621 near Leesburg, Va.	332	78	0	49.1	30.4	21.2	15.6	11.6	8.48	6.03	4.06	2.21	1.33	--	--	--
01644280	(p) Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	12.0	8.00	6.03	4.78	3.87	3.15	2.54	2.00	1.45	1.13	0.860	0.730	0.630
01644280	(r) Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	11.2	7.91	--	--	--	--	--	--	--	--	--	--	--
01644280	(w) Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	12.0	8.00	--	--	--	--	--	--	--	--	--	--	--
01644295	(p) Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	8	0.020	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
01644295	(r) Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	8	0.171	0.127	0.098	0.073	0.053	0.033	--	--	--	--	--	--	--
01644295	(w) Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	8	0.027	0.015	0.004	0.003	0.002	0.001	--	--	--	--	--	--	--
01645784	(p) Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	19.5	16.7	14.3	12.2	10.2	8.20	6.29	4.37	2.38	1.31	0.590	0.330	0.180
01645784	(r) Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	0.362	0.272	0.210	0.160	0.117	0.075	--	--	--	--	--	--	--
01645784	(w) Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	18.8	16.1	13.8	11.8	9.82	7.94	--	--	--	--	--	--	--
01646000	(p) Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	19.5	16.7	14.3	12.2	10.2	8.20	6.29	4.37	2.38	1.31	0.590	0.330	0.180
01646000	(r) Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	14.5	11.3	9.10	7.36	5.82	4.35	--	--	--	--	--	--	--
01646000	(w) Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	19.3	16.5	14.1	12.0	10.0	8.07	--	--	--	--	--	--	--
01652500	(p) Fournile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	3.49	2.81	2.41	2.11	1.87	1.66	1.46	1.25	1.02	0.860	0.710	0.630	0.560
01652500	(r) Fournile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	2.39	1.64	1.19	0.873	0.634	0.423	--	--	--	--	--	--	--
01652500	(w) Fournile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	3.38	2.70	2.30	2.01	1.77	1.57	--	--	--	--	--	--	--
01653000	(p) Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	5.76	4.60	3.91	3.40	2.99	2.63	2.29	1.95	1.56	1.29	1.05	0.920	0.810
01653000	(r) Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	5.77	3.91	2.81	2.06	1.49	0.980	--	--	--	--	--	--	--
01653000	(w) Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	5.76	4.54	3.81	3.29	2.87	2.51	--	--	--	--	--	--	--
01654000	(p) Accotink Creek above Route 620 near Annandale, Va.	23.9	59	2	5.83	4.41	3.43	2.66	2.02	1.48	1.01	0.590	0.220	0.050	0.000	0.000	0.000
01654000	(r) Accotink Creek above Route 620 near Annandale, Va.	23.9	59	2	6.80	5.24	4.19	3.35	2.60	1.89	--	--	--	--	--	--	--
01654000	(w) Accotink Creek above Route 620 near Annandale, Va.	23.9	59	2	5.88	4.45	3.47	2.69	2.05	1.50	--	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					4-day averaged, adjusted low flow (ft ³ /s)												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
01657415 (p)	Bull Run above Yates Ford near Clifton, Va.	185	11	0	19.3	15.5	13.4	11.9	10.8	9.79	8.90	8.04	7.09	6.46	5.90	5.59	5.35
01657415 (r)	Bull Run above Yates Ford near Clifton, Va.	185	11	0	32.7	24.1	--	--	--	--	--	--	--	--	--	--	--
01657415 (w)	Bull Run above Yates Ford near Clifton, Va.	185	11	0	19.9	15.8	--	--	--	--	--	--	--	--	--	--	--
01657500 (p)	Occoquan River (Creek) near Occoquan (site now in Occoquan Reservoir), Va.	570	22	0	42.8	39.7	36.2	32.4	28.3	23.9	19.2	13.9	7.89	4.38	1.96	1.04	0.550
01657500 (r)	Occoquan River (Creek) near Occoquan (site now in Occoquan Reservoir), Va.	570	22	0	128	98.8	--	--	--	--	--	--	--	--	--	--	--
01657500 (w)	Occoquan River (Creek) near Occoquan (site now in Occoquan Reservoir), Va.	570	22	0	47.2	42.7	--	--	--	--	--	--	--	--	--	--	--
01657655 (p)	Hoopes Run above Route 641 near Occoquan, Va.	3.92	7	0	0.340	0.190	0.120	0.080	0.060	0.040	0.030	0.020	0.010	0.010	0.000	0.000	0.000
01657655 (r)	Hoopes Run above Route 641 near Occoquan, Va.	3.92	7	0	0.845	0.592	0.430	0.317	0.232	0.157	--	--	--	--	--	--	--
01657655 (w)	Hoopes Run above Route 641 near Occoquan, Va.	3.92	7	0	0.431	0.260	0.171	0.118	0.086	0.056	--	--	--	--	--	--	--
01658500 (p)	South Fork Quantico Creek at Route 619 near Independent Hill, Va.	7.62	55	15	0.510	0.300	0.200	0.130	0.080	0.040	0.010	0.000	0.000	0.000	0.000	0.000	0.000
01658500 (r)	South Fork Quantico Creek at Route 619 near Independent Hill, Va.	7.62	55	15	2.54	1.94	1.54	1.21	0.919	0.639	--	--	--	--	--	--	--
01658500 (w)	South Fork Quantico Creek at Route 619 near Independent Hill, Va.	7.62	55	15	0.622	0.386	0.267	0.181	0.118	0.067	--	--	--	--	--	--	--
01658698 (p)	Little Creek at Mocking Bird Road at Triangle, Va.	2.06	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01658698 (r)	Little Creek at Mocking Bird Road at Triangle, Va.	2.06	2	0	0.826	0.624	0.487	0.376	0.279	0.185	--	--	--	--	--	--	--
01658698 (w)	Little Creek at Mocking Bird Road at Triangle, Va.	2.06	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01659000 (p)	North Branch Chopawamsic Creek above Marine Road 1 near Independent Hill, Va.	5.69	8	2	0.380	0.270	0.190	0.140	0.090	0.050	0.020	0.000	0.000	0.000	0.000	0.000	0.000
01659000 (r)	North Branch Chopawamsic Creek above Marine Road 1 near Independent Hill, Va.	5.69	8	2	1.98	1.51	1.19	0.930	0.705	0.484	--	--	--	--	--	--	--
01659000 (w)	North Branch Chopawamsic Creek above Marine Road 1 near Independent Hill, Va.	5.69	8	2	0.460	0.329	0.235	0.174	0.115	0.068	--	--	--	--	--	--	--
01660000 (p)	South Branch Chopawamsic Creek below Marine Road 1 near Garrisonville, Va.	2.46	8	0	0.410	0.290	0.220	0.170	0.140	0.100	0.080	0.050	0.030	0.020	0.010	0.010	0.000
01660000 (r)	South Branch Chopawamsic Creek below Marine Road 1 near Garrisonville, Va.	2.46	8	0	0.962	0.728	0.569	0.440	0.328	0.219	--	--	--	--	--	--	--
01660000 (w)	South Branch Chopawamsic Creek below Marine Road 1 near Garrisonville, Va.	2.46	8	0	0.434	0.308	0.234	0.180	0.147	0.104	--	--	--	--	--	--	--
01660100 (p)	Chopawamsic Creek at Russell Road near Joplin, Va.	22.1	5	1	3.62	1.55	0.780	0.410	0.200	0.090	0.030	0.000	0.000	0.000	0.000	0.000	0.000
01660100 (r)	Chopawamsic Creek at Russell Road near Joplin, Va.	22.1	5	1	3.94	2.69	1.93	1.42	1.03	0.681	--	--	--	--	--	--	--
01660100 (w)	Chopawamsic Creek at Russell Road near Joplin, Va.	22.1	5	1	3.76	2.02	1.24	0.801	0.508	0.291	--	--	--	--	--	--	--
01660400 (p)	Aquia Creek at Route 641 near Garrisonville, Va.	35	32	1	5.57	2.78	1.59	0.940	0.560	0.320	0.160	0.070	0.020	0.000	0.000	0.000	0.000
01660400 (r)	Aquia Creek at Route 641 near Garrisonville, Va.	35	32	1	9.44	7.30	5.86	4.70	3.69	2.71	--	--	--	--	--	--	--
01660400 (w)	Aquia Creek at Route 641 near Garrisonville, Va.	35	32	1	6.25	3.54	2.28	1.52	1.02	0.667	--	--	--	--	--	--	--
01660500 (p)	Beaverdam Run at Marine Road 2 near Garrisonville, Va.	13.2	11	0	1.55	1.03	0.730	0.530	0.370	0.260	0.170	0.090	0.040	0.020	0.010	0.000	0.000
01660500 (r)	Beaverdam Run at Marine Road 2 near Garrisonville, Va.	13.2	11	0	4.08	3.13	2.49	1.97	1.52	1.07	--	--	--	--	--	--	--
01660500 (w)	Beaverdam Run at Marine Road 2 near Garrisonville, Va.	13.2	11	0	1.73	1.17	0.844	0.619	0.437	0.307	--	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200		
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
					4-day averaged, adjusted low flow (ft ³ /s)														
02011400 (p)	Jackson River along Route 603 near Bacova, Va.	157	31	0	38.0	32.5	29.1	26.6	24.4	22.5	20.7	18.8	16.5	14.9	13.3	12.4	11.6		
02011400 (r)	Jackson River along Route 603 near Bacova, Va.	157	31	0	36.7	30.6	26.8	23.9	21.5	19.2	17.1	14.8	12.1	10.2	8.32	7.22	6.38		
02011400 (w)	Jackson River along Route 603 near Bacova, Va.	157	31	0	38.0	32.4	29.1	26.5	24.4	22.5	20.6	18.7	16.4	14.8	13.2	12.3	11.5		
02011460 (p)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	8.15	6.21	5.13	4.37	3.77	3.27	2.80	2.35	1.86	1.54	1.25	1.09	0.970		
02011460 (r)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	13.3	11.0	9.50	8.38	7.42	6.57	5.76	4.89	3.88	3.19	2.53	2.14	1.86		
02011460 (w)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	8.27	6.32	5.23	4.46	3.85	3.34	2.87	2.41	1.90	1.57	1.27	1.11	0.986		
02011470 (p)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	14.3	14.3	14.1	13.8	13.2	12.4	11.2	9.56	6.92	4.78	2.76	1.76	1.09		
02011470 (r)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	16.8	13.9	12.0	10.6	9.46	8.40	7.38	6.29	5.03	4.16	3.32	2.83	2.47		
02011470 (w)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	14.4	14.3	14.1	13.7	13.1	12.3	11.2	9.49	6.88	4.77	2.77	1.78	1.11		
02011480 (p)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	11.6	8.54	6.88	5.74	4.86	4.13	3.47	2.85	2.18	1.76	1.39	1.19	1.04		
02011480 (r)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	19.9	16.5	14.3	12.7	11.3	10.1	8.86	7.58	6.08	5.05	4.05	3.46	3.03		
02011480 (w)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	11.8	8.73	7.06	5.91	5.01	4.27	3.59	2.96	2.26	1.83	1.44	1.23	1.08		
02011490 (p)	Little Back Creek near Sunrise, Va.	4.9	21	0	2.95	2.71	2.54	2.39	2.26	2.13	1.99	1.83	1.62	1.45	1.27	1.16	1.07		
02011490 (r)	Little Back Creek near Sunrise, Va.	4.9	21	0	0.904	0.715	0.599	0.512	0.440	0.377	0.317	0.257	0.190	0.146	0.107	0.084	0.070		
02011490 (w)	Little Back Creek near Sunrise, Va.	4.9	21	0	2.91	2.67	2.50	2.35	2.22	2.09	1.96	1.80	1.59	1.43	1.25	1.14	1.05		
02011500 (p)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	22.4	18.0	15.1	12.9	11.0	9.34	7.76	6.17	4.39	3.24	2.25	1.74	1.36		
02011500 (r)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	31.0	25.8	22.6	20.1	18.0	16.1	14.3	12.3	9.98	8.39	6.82	5.89	5.19		
02011500 (w)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	22.7	18.2	15.3	13.0	11.2	9.50	7.91	6.31	4.51	3.35	2.34	1.82	1.43		
02011800 (p)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	187	170	157	145	133	121	109	94.4	75.5	61.2	46.9	38.6	31.9		
02011800 (r)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	85.0	71.9	63.7	57.3	51.9	47.0	42.3	37.1	31.0	26.7	22.4	19.8	17.8		
02011800 (w)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	185	168	155	143	131	120	107	93.3	74.6	60.5	46.5	38.3	31.6		
02011950 (p)	Johnson Spring near Hot Springs, Va.	--	6	0	0.580	0.530	0.510	0.480	0.470	0.450	0.430	0.410	0.380	0.360	0.340	0.330	0.310		
02011950 (r)	Johnson Spring near Hot Springs, Va.	--	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02011950 (w)	Johnson Spring near Hot Springs, Va.	--	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02012000 (p)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	8.71	7.69	7.12	6.73	6.42	6.16	5.93	5.72	5.49	5.36	5.27	5.22	5.19		
02012000 (r)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	2.19	1.75	1.48	1.28	1.11	0.963	0.821	0.675	0.512	0.402	0.301	0.244	0.206		
02012000 (w)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	8.57	7.57	7.00	6.62	6.31	6.06	5.83	5.62	5.40	5.27	5.19	5.14	5.11		
02012500 (p)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	112	98.4	90.5	84.6	79.8	75.5	71.4	67.2	62.3	58.9	55.7	53.9	52.4		
02012500 (r)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	102	86.7	77.0	69.4	62.9	57.1	51.6	45.4	38.1	33.0	27.8	24.7	22.2		
02012500 (w)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	111	98.2	90.2	84.3	79.4	75.1	71.0	66.8	61.8	58.4	55.2	53.4	51.9		
02013000 (p)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	22.9	19.7	17.8	16.4	15.1	14.0	13.0	11.9	10.5	9.56	8.63	8.08	7.62		
02013000 (r)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	37.9	31.7	27.8	24.8	22.2	19.9	17.7	15.3	12.5	10.6	8.66	7.51	6.65		
02013000 (w)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	23.2	20.0	18.0	16.5	15.3	14.1	13.1	11.9	10.5	9.58	8.63	8.07	7.60		
02013100 (p)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	253	234	219	204	190	175	159	139	113	93.1	72.4	60.0	49.9		
02013100 (r)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	157	134	119	108	98.6	90.0	81.8	72.6	61.5	53.8	46.0	41.3	37.5		
02013100 (w)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	251	232	216	202	188	173	157	138	112	92.4	71.9	59.7	49.7		
02014000 (p)	Potts Creek at Route 18 near Covington, Va.	153	68	0	35.5	30.5	27.6	25.4	23.7	22.1	20.6	19.1	17.3	16.1	14.9	14.2	13.7		
02014000 (r)	Potts Creek at Route 18 near Covington, Va.	153	68	0	35.7	29.8	26.1	23.3	20.8	18.7	16.6	14.4	11.7	9.86	8.06	6.98	6.17		
02014000 (w)	Potts Creek at Route 18 near Covington, Va.	153	68	0	35.5	30.5	27.6	25.4	23.6	22.0	20.5	19.0	17.2	15.9	14.8	14.1	13.5		
02014500 (p)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	3.36	2.69	2.33	2.08	1.89	1.73	1.59	1.45	1.30	1.21	1.13	1.08	1.05		
02014500 (r)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	2.42	1.94	1.64	1.42	1.24	1.07	0.915	0.754	0.572	0.451	0.339	0.275	0.232		
02014500 (w)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	3.34	2.67	2.32	2.07	1.88	1.72	1.58	1.44	1.29	1.20	1.12	1.07	1.04		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					4-day averaged, adjusted low flow (ft ³ /s)													
					0.9	1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
02015700	(p) Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	43.7	38.3	35.1	32.9	31.1	29.6	28.1	26.7	25.2	24.2	23.3	22.9	22.5	
02015700	(r) Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	25.1	20.8	18.2	16.1	14.4	12.9	11.4	9.76	7.88	6.59	5.32	4.57	4.02	
02015700	(w) Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	43.3	37.9	34.8	32.5	30.8	29.2	27.8	26.4	24.9	23.9	23.0	22.5	22.2	
02016000	(p) Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	105	91.8	84.0	78.1	73.1	68.6	64.3	59.9	54.5	50.7	47.0	44.9	43.1	
02016000	(r) Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	116	98.5	87.5	79.1	71.8	65.3	59.1	52.1	43.8	38.1	32.2	28.7	25.9	
02016000	(w) Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	105	92.0	84.0	78.1	73.1	68.6	64.2	59.7	54.3	50.5	46.8	44.6	42.8	
02016500	(p) James River below Route 220 at Lick Run, Va.	1,371	81	0	399	345	311	286	266	247	229	210	188	172	156	147	140	
02016500	(r) James River below Route 220 at Lick Run, Va.	1,371	81	0	371	321	289	265	244	225	207	186	161	144	127	116	107	
02016500	(w) James River below Route 220 at Lick Run, Va.	1,371	81	0	399	344	311	286	265	246	228	209	187	171	156	147	139	
02017000	(p) Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	5.23	4.29	3.73	3.32	2.99	2.69	2.42	2.13	1.81	1.58	1.37	1.25	1.15	
02017000	(r) Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	2.63	2.11	1.79	1.55	1.35	1.17	1.00	0.826	0.628	0.496	0.374	0.304	0.257	
02017000	(w) Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	5.17	4.24	3.69	3.28	2.95	2.66	2.39	2.10	1.79	1.56	1.35	1.23	1.14	
02017500	(p) Johns Creek at Route 615 at New Castle, Va.	105	80	0	16.6	14.1	12.7	11.6	10.7	9.90	9.15	8.40	7.51	6.89	6.31	5.97	5.69	
02017500	(r) Johns Creek at Route 615 at New Castle, Va.	105	80	0	23.9	19.8	17.3	15.3	13.7	12.2	10.8	9.24	7.45	6.22	5.02	4.31	3.78	
02017500	(w) Johns Creek at Route 615 at New Castle, Va.	105	80	0	16.8	14.2	12.7	11.6	10.7	9.95	9.18	8.42	7.51	6.88	6.29	5.94	5.66	
02018000	(p) Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	61.8	54.0	49.1	45.3	42.2	39.4	36.6	33.7	30.1	27.6	25.1	23.7	22.4	
02018000	(r) Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	80.8	68.3	60.4	54.4	49.2	44.5	40.1	35.1	29.2	25.2	21.1	18.6	16.7	
02018000	(w) Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	62.2	54.3	49.3	45.5	42.3	39.5	36.6	33.7	30.1	27.6	25.1	23.6	22.3	
02018500	(p) Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	6.12	5.34	4.72	4.18	3.67	3.17	2.66	2.11	1.46	1.03	0.650	0.470	0.340	
02018500	(r) Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	7.22	5.89	5.06	4.43	3.90	3.43	2.98	2.50	1.95	1.58	1.23	1.03	0.882	
02018500	(w) Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	6.15	5.35	4.73	4.19	3.68	3.18	2.67	2.12	1.47	1.04	0.661	0.480	0.350	
02019000	(p) Catawba Creek near Fincastle, Va.	104	8	0	21.7	18.1	15.6	13.7	11.9	10.3	8.76	7.12	5.20	3.91	2.76	2.15	1.69	
02019000	(r) Catawba Creek near Fincastle, Va.	104	8	0	23.6	19.6	17.1	15.2	13.5	12.1	10.7	9.14	7.37	6.15	4.96	4.25	3.73	
02019000	(w) Catawba Creek near Fincastle, Va.	104	8	0	21.7	18.1	15.7	13.7	12.0	10.4	8.80	7.16	5.25	3.95	2.80	2.19	1.73	
02019500	(p) James River at Route 11 at Buchanan, Va.	2,073	96	0	585	513	467	431	401	373	345	316	280	254	228	212	199	
02019500	(r) James River at Route 11 at Buchanan, Va.	2,073	96	0	577	503	455	419	387	359	333	302	265	240	213	198	183	
02019500	(w) James River at Route 11 at Buchanan, Va.	2,073	96	0	585	513	467	431	401	372	345	316	280	254	228	212	199	
02020500	(p) Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	0	12.5	9.24	7.33	5.94	4.83	3.88	3.04	2.25	1.44	0.970	0.600	0.430	0.320	
02020500	(r) Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	0	32.7	27.3	23.9	21.3	19.0	17.0	15.1	13.0	10.6	8.93	7.27	6.29	5.55	
02020500	(w) Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	0	13.0	9.74	7.79	6.36	5.22	4.23	3.36	2.53	1.67	1.16	0.752	0.558	0.429	
02021000	(p) Calpasture River below Mill Creek at Goshen, Va.	186	12	0	19.5	16.8	15.1	13.7	12.6	11.5	10.5	9.33	7.97	6.98	6.01	5.43	4.94	
02021000	(r) Calpasture River below Mill Creek at Goshen, Va.	186	12	0	43.9	36.8	32.3	28.9	25.9	23.3	20.8	18.0	14.8	12.5	10.3	8.97	7.95	
02021000	(w) Calpasture River below Mill Creek at Goshen, Va.	186	12	0	20.0	17.2	15.4	14.0	12.9	11.7	10.7	9.50	8.10	7.08	6.09	5.49	4.99	
02021500	(p) Maury River above Route 39 at Rockbridge Baths, Va.	329	78	0	41.6	34.6	30.1	26.8	23.9	21.3	18.8	16.2	13.1	11.0	8.94	7.78	6.84	
02021500	(r) Maury River above Route 39 at Rockbridge Baths, Va.	329	78	0	80.8	68.3	60.4	54.4	49.2	44.5	40.1	35.1	29.2	25.2	21.1	18.6	16.7	
02021500	(w) Maury River above Route 39 at Rockbridge Baths, Va.	329	78	0	42.5	35.3	30.8	27.4	24.4	21.8	19.2	16.6	13.4	11.2	9.16	7.97	7.01	
02022500	(p) Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	9.71	8.60	7.87	7.29	6.79	6.32	5.85	5.34	4.70	4.23	3.75	3.46	3.21	
02022500	(r) Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	7.40	6.04	5.19	4.55	4.00	3.52	3.06	2.57	2.01	1.63	1.27	1.06	0.909	
02022500	(w) Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	9.66	8.55	7.81	7.23	6.73	6.26	5.79	5.29	4.65	4.18	3.71	3.42	3.17	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
4-day averaged, adjusted low flow (ft ³ /s)																		
02029500	(p) Hardware River at Route 618 near Scottsville, Va.	104	11	0	52.2	38.2	29.4	23.0	17.8	13.6	9.86	6.56	3.50	1.96	0.960	0.570	0.340	
02029500	(r) Hardware River at Route 618 near Scottsville, Va.	104	11	0	36.8	28.7	23.4	19.4	16.0	13.0	10.3	7.50	4.62	2.83	--	--	--	
02029500	(w) Hardware River at Route 618 near Scottsville, Va.	104	11	0	51.6	37.8	29.2	22.8	17.8	13.5	9.87	6.58	3.52	1.98	--	--	--	
02030000	(p) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	0	32.8	32.6	31.7	29.6	26.3	21.9	16.4	10.1	3.81	1.22	0.230	0.060	0.010	
02030000	(r) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	0	41.6	32.5	26.6	22.2	18.3	14.9	11.8	8.69	5.41	3.36	--	--	--	
02030000	(w) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	0	33.2	32.6	31.5	29.3	26.0	21.6	16.3	10.1	3.86	1.28	--	--	--	
02030500	(p) Slate River above Route 676 near Arvonnia, Va.	226	67	0	70.8	56.1	46.1	38.3	31.6	25.6	20.1	14.7	9.07	5.80	3.32	2.21	1.49	
02030500	(r) Slate River above Route 676 near Arvonnia, Va.	226	67	0	46.9	36.8	30.1	24.8	20.2	15.8	--	--	--	--	--	--	--	
02030500	(w) Slate River above Route 676 near Arvonnia, Va.	226	67	0	69.9	55.4	45.5	37.8	31.2	25.3	--	--	--	--	--	--	--	
02031000	(p) Mechums River at Route 614 near White Hall (Ivy), Va.	95.3	36	1	34.4	26.7	21.5	17.4	14.0	11.0	8.24	5.60	2.88	1.26	0.000	0.000	0.000	
02031000	(r) Mechums River at Route 614 near White Hall (Ivy), Va.	95.3	36	1	33.4	25.9	21.2	17.5	14.4	11.7	9.16	6.66	4.07	2.47	--	--	--	
02031000	(w) Mechums River at Route 614 near White Hall (Ivy), Va.	95.3	36	1	34.3	26.6	21.5	17.4	14.0	11.0	8.26	5.62	2.90	1.28	--	--	--	
02031500	(p) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	2	0.740	0.540	0.420	0.320	0.240	0.170	0.100	0.030	0.000	0.000	0.000	0.000	0.000	
02031500	(r) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	2	3.05	2.22	1.71	1.34	1.04	0.785	0.566	0.368	0.185	0.089	--	--	--	
02031500	(w) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	2	0.815	0.592	0.458	0.349	0.262	0.186	0.111	0.038	0.004	0.002	--	--	--	
02032250	(p) Moormans River at Route 601 near Free Union, Va.	77	18	0	10.9	7.41	5.48	4.17	3.20	2.42	1.77	1.21	0.690	0.420	0.230	0.150	0.100	
02032250	(r) Moormans River at Route 601 near Free Union, Va.	77	18	0	26.3	20.3	16.5	13.5	11.1	8.91	6.94	4.99	2.99	1.78	--	--	--	
02032250	(w) Moormans River at Route 601 near Free Union, Va.	77	18	0	11.5	7.86	5.84	4.47	3.44	2.61	1.91	1.31	0.740	0.447	--	--	--	
02032400	(p) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	7.21	4.77	3.55	2.77	2.20	1.75	1.38	1.04	0.710	0.520	0.370	0.290	0.240	
02032400	(r) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	10.7	8.08	6.42	5.16	4.13	3.24	2.44	1.69	0.938	0.510	--	--	--	
02032400	(w) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	7.32	4.87	3.63	2.84	2.25	1.79	1.40	1.05	0.714	0.520	--	--	--	
02032500	(p) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	38.2	24.2	17.4	13.0	9.94	7.57	5.64	3.98	2.45	1.63	1.02	0.750	0.560	
02032500	(r) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	82.9	66.0	55.0	46.5	39.1	32.5	26.4	20.0	13.2	8.76	--	--	--	
02032500	(w) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	39.8	25.6	18.6	14.1	10.8	8.28	6.19	4.39	2.68	1.77	--	--	--	
02032515	(p) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	53.7	38.6	30.3	24.6	20.2	16.5	13.3	10.3	7.14	5.26	3.70	2.92	2.35	
02032515	(r) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	102	81.7	68.4	58.1	49.2	41.1	33.6	25.8	17.3	11.7	--	--	--	
02032515	(w) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	55.1	39.8	31.3	25.4	20.9	17.1	13.7	10.6	7.31	5.36	--	--	--	

Table 4. (4-day averaged, adjusted low flow)

ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)																									
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200													
																		Non-exceedance probability												
																		4-day averaged, adjusted low flow (ft ³ /s)												
0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005																		
22032640	(p) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	27.4	18.4	13.3	9.76	7.13	5.08	3.43	2.08	0.960	0.480	0.200	0.110	0.060													
22032640	(r) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	38.4	29.9	24.5	20.3	16.8	13.6	10.8	7.89	4.88	3.01	--	--	--													
22032640	(w) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	28.0	19.0	13.8	10.2	7.52	5.41	3.69	2.28	1.07	0.547	--	--	--													
22032680	(p) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	60.3	45.5	36.4	29.7	24.3	19.7	15.5	11.5	7.38	4.98	3.09	2.21	1.60													
22032680	(r) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	65.5	51.8	42.9	36.0	30.2	24.9	20.0	15.0	9.72	6.31	--	--	--													
22032680	(w) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	60.5	45.6	36.6	29.9	24.4	19.8	15.6	11.6	7.42	5.00	--	--	--													
22033500	(p) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	67.8	51.9	41.1	32.6	25.6	19.6	14.2	9.31	4.78	2.54	1.14	0.630	0.350													
22033500	(r) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	214	175	149	129	111	94.8	79.6	63.3	45.1	32.8	--	--	--													
22033500	(w) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	73.3	56.3	44.7	35.8	28.3	21.7	15.9	10.7	5.67	3.16	--	--	--													
22034000	(p) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	205	156	126	104	85.4	69.4	54.9	41.0	26.4	17.9	11.1	7.91	5.72													
22034000	(r) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	292	240	206	180	156	134	114	91.9	67.2	50.4	--	--	--													
22034000	(w) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	207	159	128	106	87.1	70.9	56.2	42.0	27.1	18.4	--	--	--													
22034500	(p) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	61.7	47.5	38.3	31.2	25.4	20.3	15.7	11.3	6.80	4.28	2.41	1.60	1.07													
22034500	(r) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	53.3	41.9	34.3	28.3	23.1	18.2	--	--	--	--	--	--	--													
22034500	(w) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	61.4	47.3	38.1	31.1	25.3	20.2	--	--	--	--	--	--	--													
22035000	(p) James River at Route 45 at Cartersville, Va.	6,252	108	0	1,973	1,646	1,439	1,280	1,146	1,023	904	781	633	530	432	376	330													
22035000	(r) James River at Route 45 at Cartersville, Va.	6,252	108	0	2,309	1,992	--	--	--	--	--	--	--	--	--	--	--													
22035000	(w) James River at Route 45 at Cartersville, Va.	6,252	108	0	1,987	1,660	--	--	--	--	--	--	--	--	--	--	--													
22036500	(p) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	4.09	3.14	2.49	1.97	1.54	1.17	0.840	0.540	0.270	0.140	0.060	0.030	0.020													
22036500	(r) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	6.43	4.95	3.96	3.16	2.46	1.77	--	--	--	--	--	--	--													
22036500	(w) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	4.20	3.22	2.55	2.02	1.58	1.19	--	--	--	--	--	--	--													
22037500	(p) James River above Route 147 near Richmond, Va.	6,753	72	0	2,100	1,532	1,153	868	641	455	302	175	73.0	31.6	10.8	4.88	2.21													
22037500	(r) James River above Route 147 near Richmond, Va.	6,753	72	0	2,534	2,194	--	--	--	--	--	--	--	--	--	--	--													
22037500	(w) James River above Route 147 near Richmond, Va.	6,753	72	0	2,139	1,590	--	--	--	--	--	--	--	--	--	--	--													
22038000	(p) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	2.77	2.74	2.64	2.46	2.21	1.89	1.50	1.03	0.490	0.210	0.060	0.020	0.010													
22038000	(r) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	5.64	3.83	2.75	2.02	1.46	0.960	--	--	--	--	--	--	--													
22038000	(w) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	3.14	2.88	2.65	2.41	2.13	1.80	--	--	--	--	--	--	--													
22038500	(p) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	6.49	3.68	2.42	1.68	1.19	0.830	0.570	0.360	0.190	0.110	0.060	0.040	0.030													
22038500	(r) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	8.63	5.81	4.16	3.05	2.19	1.44	--	--	--	--	--	--	--													
22038500	(w) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	6.87	4.05	2.71	1.90	1.34	0.911	--	--	--	--	--	--	--													

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					4-day averaged, adjusted low flow (ft³/s)													
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
02038850	(p) Holiday Creek above Route 614 near Andersonville, Va.	8.54	39	0	2.96	2.56	2.21	1.88	1.57	1.27	0.970	0.670	0.360	0.190	0.090	0.050	0.020	
02038850	(r) Holiday Creek above Route 614 near Andersonville, Va.	8.54	39	0	2.81	2.15	1.70	1.34	1.02	0.711	--	--	--	--	--	--	--	
02038850	(w) Holiday Creek above Route 614 near Andersonville, Va.	8.54	39	0	2.95	2.54	2.19	1.86	1.55	1.25	--	--	--	--	--	--	--	
02039000	(p) Buffalo Creek at Route 658 near Hampden Sydney, Va.	69.6	60	0	23.3	22.2	20.7	18.8	16.7	14.2	11.5	8.32	4.64	2.50	1.05	0.530	0.260	
02039000	(r) Buffalo Creek at Route 658 near Hampden Sydney, Va.	69.6	60	0	17.0	13.3	10.7	8.68	6.90	5.19	--	--	--	--	--	--	--	
02039000	(w) Buffalo Creek at Route 658 near Hampden Sydney, Va.	69.6	60	0	23.1	21.9	20.3	18.5	16.4	13.9	--	--	--	--	--	--	--	
02039500	(p) Appomattox River at Route 45 at Farmville, Va.	302	79	0	66.2	65.1	64.9	63.6	60.4	54.9	46.4	34.1	17.4	7.66	2.16	0.740	0.230	
02039500	(r) Appomattox River at Route 45 at Farmville, Va.	302	79	0	60.2	47.4	38.9	32.1	26.3	20.8	--	--	--	--	--	--	--	
02039500	(w) Appomattox River at Route 45 at Farmville, Va.	302	79	0	65.9	64.4	63.9	62.4	59.3	53.8	--	--	--	--	--	--	--	
02040000	(p) Appomattox River at railroad bridge at Mattoax, Va.	725	80	0	182	153	132	113	96.2	80.2	64.5	48.3	30.4	19.5	11.1	7.27	4.79	
02040000	(r) Appomattox River at railroad bridge at Mattoax, Va.	725	80	0	128	101	83.8	70.2	58.3	47.7	--	--	--	--	--	--	--	
02040000	(w) Appomattox River at railroad bridge at Mattoax, Va.	725	80	0	180	151	130	112	95.1	79.2	--	--	--	--	--	--	--	
02041000	(p) Deep Creek above Route 153 near Mannboro, Va.	158	60	0	25.8	21.5	17.4	13.6	10.2	7.08	4.44	2.28	0.710	0.220	0.040	0.010	0.000	
02041000	(r) Deep Creek above Route 153 near Mannboro, Va.	158	60	0	34.5	27.0	22.0	18.0	14.6	11.3	--	--	--	--	--	--	--	
02041000	(w) Deep Creek above Route 153 near Mannboro, Va.	158	60	0	26.5	22.0	17.8	13.9	10.5	7.39	--	--	--	--	--	--	--	
02041500	(p) Appomattox River near Petersburg, Va.	1,333	36	0	314	246	204	172	145	122	99.9	78.3	54.6	39.7	27.1	20.8	16.1	
02041500	(r) Appomattox River near Petersburg, Va.	1,333	36	0	216	172	143	121	102	85.0	--	--	--	--	--	--	--	
02041500	(w) Appomattox River near Petersburg, Va.	1,333	36	0	311	244	202	170	144	121	--	--	--	--	--	--	--	
02041650	(p) Appomattox River at Route 600 at Matoaca, Va.	1,342	37	0	255	196	160	134	114	95.6	79.1	63.1	45.5	34.4	24.8	19.9	16.1	
02041650	(r) Appomattox River at Route 600 at Matoaca, Va.	1,342	37	0	217	173	144	122	102	85.5	--	--	--	--	--	--	--	
02041650	(w) Appomattox River at Route 600 at Matoaca, Va.	1,342	37	0	254	195	160	134	113	95.3	--	--	--	--	--	--	--	
02042500	(p) Chickahominy River at Route 618 near Providence Forge, Va.	251	65	0	39.1	27.6	20.4	15.1	11.0	7.71	5.06	2.92	1.22	0.530	0.190	0.090	0.040	
02042500	(r) Chickahominy River at Route 618 near Providence Forge, Va.	251	65	0	34.3	22.5	16.0	11.7	8.31	5.36	--	--	--	--	--	--	--	
02042500	(w) Chickahominy River at Route 618 near Providence Forge, Va.	251	65	0	38.2	26.7	19.6	14.5	10.6	7.38	--	--	--	--	--	--	--	
02044000	(p) Nottoway River at Route 723 near Burkeville, Va.	38.7	39	2	3.62	2.35	1.66	1.20	0.870	0.610	0.400	0.230	0.080	0.000	0.000	0.000	0.000	
02044000	(r) Nottoway River at Route 723 near Burkeville, Va.	38.7	39	2	10.3	7.96	6.40	5.14	4.04	2.98	--	--	--	--	--	--	--	
02044000	(w) Nottoway River at Route 723 near Burkeville, Va.	38.7	39	2	4.00	2.65	1.90	1.39	1.02	0.718	--	--	--	--	--	--	--	
02044500	(p) Nottoway River at Route 612 near Rawlings, Va.	317	56	0	81.1	58.0	43.7	33.3	25.2	18.5	13.0	8.19	4.00	2.06	0.900	0.490	0.270	
02044500	(r) Nottoway River at Route 612 near Rawlings, Va.	317	56	0	62.8	49.4	40.5	33.6	27.4	21.8	--	--	--	--	--	--	--	
02044500	(w) Nottoway River at Route 612 near Rawlings, Va.	317	56	0	80.1	57.5	43.5	33.3	25.3	18.7	--	--	--	--	--	--	--	
02045500	(p) Nottoway River at Route 301 near Stony Creek, Va.	577	75	0	115	81.6	62.6	49.4	39.1	30.7	23.4	16.8	10.3	6.72	4.03	2.82	2.01	
02045500	(r) Nottoway River at Route 301 near Stony Creek, Va.	577	75	0	71.9	46.7	33.1	24.0	17.0	10.9	--	--	--	--	--	--	--	
02045500	(w) Nottoway River at Route 301 near Stony Creek, Va.	577	75	0	110	77.4	59.3	46.6	36.9	28.9	--	--	--	--	--	--	--	
02046000	(p) Stony Creek at Route 1 near (at) Dinwiddie, Va.	113	59	0	10.1	6.86	4.89	3.51	2.49	1.70	1.08	0.600	0.230	0.100	0.030	0.010	0.010	
02046000	(r) Stony Creek at Route 1 near (at) Dinwiddie, Va.	113	59	0	25.9	20.2	16.4	13.4	10.7	8.21	--	--	--	--	--	--	--	
02046000	(w) Stony Creek at Route 1 near (at) Dinwiddie, Va.	113	59	0	11.3	7.84	5.70	4.18	3.02	2.11	--	--	--	--	--	--	--	
02047000	(p) Nottoway River above Route 653 near Sebrell, Va.	1,441	65	0	199	137	105	83.5	67.7	55.1	44.2	34.3	24.2	18.3	13.4	10.9	9.02	
02047000	(r) Nottoway River above Route 653 near Sebrell, Va.	1,441	65	0	162	104	73.3	53.2	37.4	23.6	--	--	--	--	--	--	--	
02047000	(w) Nottoway River above Route 653 near Sebrell, Va.	1,441	65	0	195	133	101	80.5	64.9	52.4	--	--	--	--	--	--	--	
02047500	(p) Blackwater River at Route 617 near Dendron, Va.	290	61	24	13.3	5.41	2.62	1.27	0.520	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
02047500	(r) Blackwater River at Route 617 near Dendron, Va.	290	61	24	39.0	25.6	18.2	13.2	9.41	6.06	--	--	--	--	--	--	--	
02047500	(w) Blackwater River at Route 617 near Dendron, Va.	290	61	24	19.8	10.3	6.27	3.97	2.43	1.20	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
					4-day averaged, adjusted low flow (ft³/s)												
02048000	(p) Blackwater River at Route 460 at Zuni, Va.	451	45	3	22.2	11.1	6.42	3.85	2.29	1.31	0.670	0.270	0.040	0.000	0.000	0.000	
02048000	(r) Blackwater River at Route 460 at Zuni, Va.	451	45	3	57.7	37.6	26.7	19.4	13.8	8.82	--	--	--	--	--	--	
02048000	(w) Blackwater River at Route 460 at Zuni, Va.	451	45	3	34.4	20.0	13.0	8.70	5.71	3.34	--	--	--	--	--	--	
02049500	(p) Blackwater River near Franklin, Va.	613	60	0	34.4	16.7	9.93	6.36	4.19	2.76	1.77	1.05	0.510	0.280	0.140	0.060	
02049500	(r) Blackwater River near Franklin, Va.	613	60	0	75.8	49.2	34.8	25.3	17.9	11.4	--	--	--	--	--	--	
02049500	(w) Blackwater River near Franklin, Va.	613	60	0	44.3	24.3	15.5	10.4	6.98	4.34	--	--	--	--	--	--	
02050500	(p) North Meherrin River at Route 687 near Keyesville, Va.	9.06	12	0	1.53	1.00	0.750	0.600	0.490	0.400	0.330	0.270	0.200	0.170	0.130	0.110	
02050500	(r) North Meherrin River at Route 687 near Keyesville, Va.	9.06	12	0	2.95	2.26	1.79	1.41	1.08	0.752	--	--	--	--	--	--	
02050500	(w) North Meherrin River at Route 687 near Keyesville, Va.	9.06	12	0	1.58	1.04	0.785	0.626	0.508	0.411	--	--	--	--	--	--	
02051000	(p) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	1	5.11	4.53	3.90	3.24	2.59	1.95	1.33	0.760	0.260	0.070	0.000	0.000	
02051000	(r) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	1	14.1	11.0	8.85	7.15	5.66	4.22	--	--	--	--	--	--	
02051000	(w) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	1	5.63	4.88	4.16	3.44	2.74	2.06	--	--	--	--	--	--	
02051500	(p) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	109	86.3	71.0	58.9	48.6	39.4	30.9	22.5	13.8	8.76	4.96	3.28	
02051500	(r) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	101	80.0	66.0	55.1	45.5	36.9	--	--	--	--	--	--	
02051500	(w) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	108	86.1	70.9	58.8	48.5	39.4	--	--	--	--	--	--	
02051600	(p) Great Creek at Route 763 (old Route 618) near Cochran, Va.	30.8	27	0	5.86	4.30	3.33	2.62	2.05	1.57	1.16	0.780	0.430	0.250	0.130	0.080	
02051600	(r) Great Creek at Route 763 (old Route 618) near Cochran, Va.	30.8	27	0	8.46	6.53	5.24	4.20	3.28	2.40	--	--	--	--	--	--	
02051600	(w) Great Creek at Route 763 (old Route 618) near Cochran, Va.	30.8	27	0	5.98	4.40	3.41	2.68	2.10	1.60	--	--	--	--	--	--	
02052000	(p) Meherrin River at Route 301 at Emporia, Va.	744	56	0	118	87.4	69.8	57.2	47.4	39.0	31.5	24.4	16.9	12.4	8.61	6.70	
02052000	(r) Meherrin River at Route 301 at Emporia, Va.	744	56	0	90.1	58.3	41.2	30.0	21.2	13.5	--	--	--	--	--	5.31	
02052000	(w) Meherrin River at Route 301 at Emporia, Va.	744	56	0	115	84.3	66.9	54.6	45.0	37.0	--	--	--	--	--	--	
02052500	(p) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	12	3.07	2.22	1.54	0.980	0.540	0.210	0.010	0.000	0.000	0.000	0.000	0.000	
02052500	(r) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	12	10.8	7.25	5.19	3.80	2.73	1.78	--	--	--	--	--	--	
02052500	(w) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	12	4.75	3.28	2.28	1.52	0.941	0.467	--	--	--	--	--	--	
02053000	(p) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	16.5	11.6	8.62	6.52	4.90	3.60	2.51	1.59	0.780	0.410	0.180	0.060	
02053000	(r) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	14.5	9.71	6.94	5.07	3.63	2.37	--	--	--	--	--	--	
02053000	(w) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	16.2	11.3	8.38	6.32	4.74	3.46	--	--	--	--	--	--	
02053800	(p) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	37.7	32.0	28.3	25.4	22.8	20.4	18.0	15.5	12.4	10.3	8.20	7.00	
02053800	(r) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	38.8	30.3	24.8	20.6	17.0	13.8	10.9	7.99	4.94	3.05	--	--	
02053800	(w) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	37.7	32.0	28.2	25.2	22.7	20.3	17.9	15.4	12.3	10.2	--	--	
02054500	(p) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	67.9	57.9	51.4	46.3	41.8	37.8	33.8	29.5	24.3	20.6	17.0	15.0	
02054500	(r) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	61.3	51.6	45.5	40.8	36.8	33.2	29.8	26.0	21.5	18.3	15.2	13.4	
02054500	(w) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	67.7	57.7	51.2	46.1	41.7	37.7	33.7	29.4	24.3	20.6	17.0	14.9	
02054530	(p) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	88.7	74.2	64.6	57.2	50.7	44.8	39.1	33.0	25.8	20.8	16.2	13.5	
02054530	(r) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	68.3	57.6	50.8	45.7	41.2	37.2	33.4	29.2	24.2	20.8	17.3	15.2	
02054530	(w) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	88.2	73.8	64.3	56.9	50.5	44.7	38.9	32.9	25.8	20.8	16.2	13.6	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					0.9	1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	0.05	0.02	0.01	0.005	
4-day averaged, adjusted low flow (ft ³ /s)																			
02055000	(p) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	106	89.6	78.9	70.7	63.7	57.3	51.0	44.5	36.6	31.1	25.8	22.7	20.1		
02055000	(r) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	95.3	80.8	71.6	64.6	58.5	53.0	47.9	42.1	35.2	30.4	25.6	22.7	20.4		
02055000	(w) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	106	89.4	78.7	70.5	63.5	57.2	51.0	44.4	36.6	31.1	25.7	22.7	20.1		
02055100	(p) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	4.45	3.57	3.02	2.60	2.25	1.94	1.64	1.35	1.01	0.780	0.580	0.470	0.390		
02055100	(r) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	2.29	1.84	1.56	1.34	1.17	1.01	0.864	0.711	0.539	0.424	0.318	0.258	0.218		
02055100	(w) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	4.40	3.53	2.99	2.57	2.23	1.92	1.62	1.34	1.00	0.773	0.575	0.466	0.387		
02056000	(p) Roanoke River below powerplant at Niagara, Va.	509	80	0	173	154	141	130	120	111	102	91.8	78.9	69.3	59.5	53.5	48.5		
02056000	(r) Roanoke River below powerplant at Niagara, Va.	509	80	0	129	110	97.6	88.3	80.2	73.0	66.2	58.5	49.3	43.0	36.5	32.6	29.5		
02056000	(w) Roanoke River below powerplant at Niagara, Va.	509	80	0	172	153	140	129	120	110	101	91.2	78.4	68.8	59.1	53.2	48.2		
02056650	(p) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	14.4	11.7	9.79	8.23	6.86	5.61	4.43	3.25	2.00	1.27	--	--	--		
02056650	(r) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	18.4	14.0	11.3	9.20	7.46	5.94	4.57	3.23	1.88	1.08	--	--	--		
02056650	(w) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	14.6	11.8	9.83	8.25	6.87	5.62	4.43	3.25	2.00	1.27	--	--	--		
02056900	(p) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	55.2	44.7	37.6	31.9	27.1	22.7	18.5	14.3	9.63	6.72	4.31	3.13	2.30		
02056900	(r) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	41.2	32.2	26.4	21.9	18.1	14.8	11.7	8.59	5.34	3.31	--	--	--		
02056900	(w) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	54.8	44.3	37.3	31.7	26.9	22.5	18.4	14.2	9.56	6.67	--	--	--		
02057000	(p) Blackwater River near Union Hall, Va.	208	37	0	113	93.7	80.9	70.8	62.1	54.1	46.3	38.3	28.9	22.5	16.7	13.5	11.0		
02057000	(r) Blackwater River near Union Hall, Va.	208	37	0	79.9	63.6	52.9	44.7	37.6	31.2	25.3	19.2	12.6	8.32	--	--	--		
02057000	(w) Blackwater River near Union Hall, Va.	208	37	0	112	93.0	80.3	70.2	61.6	53.6	46.0	38.0	28.6	22.3	--	--	--		
02057500	(p) Roanoke River near Tushes, Va.	1,017	36	0	395	333	293	262	236	212	188	163	133	112	92.2	80.5	70.9		
02057500	(r) Roanoke River near Tushes, Va.	1,017	36	0	471	393	341	300	264	230	199	164	125	98.0	--	--	--		
02057500	(w) Roanoke River near Tushes, Va.	1,017	36	0	397	334	294	263	236	212	188	163	133	112	--	--	--		
02058000	(p) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	31.9	27.4	24.4	22.1	20.2	18.4	16.6	14.7	12.4	10.7	9.07	8.10	7.30		
02058000	(r) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	14.9	11.6	9.35	7.56	5.99	4.48	--	--	--	--	--	--	--		
02058000	(w) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	31.4	26.9	24.0	21.8	19.8	18.0	--	--	--	--	--	--	--		
02058400	(p) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	193	162	141	124	108	94.0	79.9	64.9	47.4	35.5	25.0	19.4	15.2		
02058400	(r) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	143	116	97.8	83.7	71.5	60.3	49.9	38.9	26.8	18.8	--	--	--		
02058400	(w) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	192	161	140	123	108	93.4	79.3	64.5	47.1	35.3	--	--	--		
02058500	(p) Pigg River along Route 605 near Tushes, Va.	382	32	0	204	177	157	141	126	112	97.9	82.4	63.5	50.0	37.3	30.3	24.7		
02058500	(r) Pigg River along Route 605 near Tushes, Va.	382	32	0	158	128	108	92.7	79.3	67.1	55.7	43.6	30.3	21.4	--	--	--		
02058500	(w) Pigg River along Route 605 near Tushes, Va.	382	32	0	203	175	156	140	125	111	97.1	81.8	63.0	49.6	--	--	--		
02059500	(p) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	72.6	62.1	54.5	48.3	42.7	37.3	32.0	26.3	19.5	14.8	10.5	8.23	6.48		
02059500	(r) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	71.4	56.6	47.0	39.6	33.2	27.4	22.2	16.7	10.9	7.11	--	--	--		
02059500	(w) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	72.6	61.9	54.4	48.1	42.5	37.1	31.8	26.1	19.3	14.7	--	--	--		
02060500	(p) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	799	667	579	508	447	390	334	276	207	161	118	94.7	76.8		
02060500	(r) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	882	748	659	589	526	467	412	350	280	234	--	--	--		
02060500	(w) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	801	669	581	510	449	392	336	277	208	162	--	--	--		
02061000	(p) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	38.2	28.3	22.8	19.0	16.0	13.5	11.3	9.12	6.81	5.35	4.09	3.42	2.91		
02061000	(r) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	40.8	31.9	26.1	21.7	17.9	14.6	11.6	8.49	5.28	3.27	--	--	--		
02061000	(w) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	38.3	28.4	22.9	19.1	16.1	13.5	11.3	9.11	6.79	5.32	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
4-day averaged, adjusted low flow (ft ³ /s)																	
02061500	(p) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	116	106	94.8	83.7	72.2	60.2	47.6	34.0	19.0	10.4	4.64	2.47	1.30
02061500	(r) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	127	102	86.1	73.5	62.6	52.6	43.3	33.6	22.9	15.9	--	--	--
02061500	(w) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	116	105	94.5	83.4	71.9	60.0	47.5	34.0	19.1	10.5	--	--	--
02062500	(p) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,024	854	745	661	589	523	459	392	313	258	205	176	152
02062500	(r) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,233	1,055	936	844	761	681	608	525	432	373	--	--	--
02062500	(w) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,029	859	749	665	592	526	462	395	315	259	--	--	--
02064000	(p) Falling River at Route 643 near Naruna, Va.	165	69	0	55.8	49.9	44.6	39.6	34.6	29.6	24.3	18.6	11.9	7.61	4.23	2.71	1.73
02064000	(r) Falling River at Route 643 near Naruna, Va.	165	69	0	35.8	28.0	22.9	18.7	15.1	11.7	--	--	--	--	--	--	--
02064000	(w) Falling River at Route 643 near Naruna, Va.	165	69	0	55.1	49.2	43.9	39.0	34.1	29.1	--	--	--	--	--	--	--
02065200	(p) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	733	648	585	530	479	430	378	321	249	197	147	119	97.0
02065200	(r) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	1,393	1,196	1,064	963	870	781	701	609	506	442	--	--	--
02065200	(w) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	749	661	595	539	487	436	384	326	253	200	--	--	--
02065500	(p) Cub Creek at Route 40 at Phenix, Va.	97.6	59	0	25.9	22.7	22.3	22.3	21.9	20.5	17.8	13.2	6.21	2.31	0.460	0.110	0.020
02065500	(r) Cub Creek at Route 40 at Phenix, Va.	97.6	59	0	22.8	17.8	14.4	11.7	9.38	7.15	--	--	--	--	--	--	--
02065500	(w) Cub Creek at Route 40 at Phenix, Va.	97.6	59	0	25.7	22.5	22.0	21.9	21.4	20.0	--	--	--	--	--	--	--
02066000	(p) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	1,217	1,051	934	838	752	670	588	499	389	311	237	195	162
02066000	(r) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	937	782	--	--	--	--	--	--	--	--	--	--	--
02066000	(w) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	1,204	1,039	--	--	--	--	--	--	--	--	--	--	--
02066500	(p) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	31.8	21.1	15.1	11.0	7.94	5.60	3.74	2.24	1.01	0.490	0.200	0.110	0.060
02066500	(r) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	30.1	23.6	19.2	15.7	12.6	9.71	--	--	--	--	--	--	--
02066500	(w) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	31.7	21.3	15.3	11.2	8.18	5.81	--	--	--	--	--	--	--
02067000	(p) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,485	1,265	1,111	985	872	765	659	545	409	315	229	182	146
02067000	(r) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,038	869	--	--	--	--	--	--	--	--	--	--	--
02067000	(w) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,465	1,248	--	--	--	--	--	--	--	--	--	--	--
02069700	(p) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	73.0	63.3	56.4	50.7	45.5	40.6	35.6	30.2	23.5	18.7	14.2	11.6	9.61
02069700	(r) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	20.3	15.8	12.8	10.4	8.32	6.30	--	--	--	--	--	--	--
02069700	(w) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	71.4	61.9	55.2	49.6	44.6	39.7	--	--	--	--	--	--	--
02070000	(p) North Mayo River below Route 629 near Spencer, Va.	108	77	0	73.3	63.9	57.1	51.2	45.8	40.6	35.3	29.5	22.3	17.2	12.5	9.88	7.87
02070000	(r) North Mayo River below Route 629 near Spencer, Va.	108	77	0	24.9	19.4	15.8	12.8	10.3	7.86	--	--	--	--	--	--	--
02070000	(w) North Mayo River below Route 629 near Spencer, Va.	108	77	0	71.8	62.6	55.9	50.2	44.9	39.8	--	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
					4-day averaged, adjusted low flow (ft³/s)													
02079640	(p) Allen Creek at Route 58 near Boydton, Va.	53.5	39	4	5.36	3.15	2.09	1.43	0.990	0.660	0.400	0.200	0.000	0.000	0.000	0.000	0.000	0.000
02079640	(r) Allen Creek at Route 58 near Boydton, Va.	53.5	39	4	13.6	10.5	8.50	6.87	5.43	4.04	--	--	--	--	--	--	--	--
02079640	(w) Allen Creek at Route 58 near Boydton, Va.	53.5	39	4	5.86	3.58	2.44	1.72	1.21	0.827	--	--	--	--	--	--	--	--
03164000	(p) New River at Route 94 near Galax, Va.	1,141	76	0	875	765	693	636	587	540	493	443	381	335	289	261	238	
03164000	(r) New River at Route 94 near Galax, Va.	1,141	76	0	536	449	390	345	304	266	231	192	147	117	--	--	--	--
03164000	(w) New River at Route 94 near Galax, Va.	1,141	76	0	867	758	687	630	581	535	489	439	377	332	--	--	--	--
03164500	(p) New River at railroad bridge near Grayson, Va.	1,174	3	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03164500	(r) New River at railroad bridge near Grayson, Va.	1,174	3	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03164500	(w) New River at railroad bridge near Grayson, Va.	1,174	3	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03165000	(p) Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	38.0	33.1	30.0	27.5	25.3	23.2	21.2	19.0	16.3	14.4	12.4	11.2	10.2	
03165000	(r) Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	12.4	9.41	7.50	6.06	4.86	3.83	2.90	2.02	1.14	0.627	--	--	--	--
03165000	(w) Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	37.4	32.6	29.5	27.0	24.9	22.9	20.9	18.8	16.1	14.2	--	--	--	--
03165500	(p) New River at Ivanhoe, Va.	1,350	59	0	947	811	724	656	598	545	493	438	371	322	275	247	224	
03165500	(r) New River at Ivanhoe, Va.	1,350	59	0	647	544	475	422	374	329	287	241	188	152	--	--	--	--
03165500	(w) New River at Ivanhoe, Va.	1,350	59	0	940	805	719	651	594	541	490	435	368	320	--	--	--	--
03166800	(p) Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	0.140	0.110	0.090	0.070	0.060	0.050	0.040	0.040	0.030	0.020	0.020	0.010	0.010	
03166800	(r) Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	1.35	1.08	0.906	0.779	0.672	0.579	0.490	0.400	0.299	0.232	0.171	0.137	0.115	
03166800	(w) Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	0.170	0.134	0.110	0.087	0.075	0.062	0.050	0.048	0.036	0.024	0.023	0.012	0.012	
03167000	(p) Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	90.3	82.4	76.9	72.3	68.3	64.3	60.3	55.8	49.9	45.4	40.6	37.6	35.1	
03167000	(r) Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	62.3	52.5	46.3	41.5	37.4	33.8	30.3	26.4	21.9	18.7	15.5	13.6	12.2	
03167000	(w) Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	89.7	81.7	76.2	71.7	67.6	63.7	59.7	55.2	49.4	44.9	40.2	37.2	34.7	
03167500	(p) Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	204	180	164	152	141	131	121	110	96.2	86.1	75.9	69.7	64.4	
03167500	(r) Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	106	84.7	70.9	60.3	51.1	42.7	35.0	26.9	18.0	12.3	--	--	--	--
03167500	(w) Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	202	178	162	150	139	129	119	108	95.1	85.1	--	--	--	--
03168000	(p) New River along Route 653 at Allisonia, Va.	2,212	76	0	1,401	1,232	1,122	1,036	962	892	823	749	656	588	519	478	443	
03168000	(r) New River along Route 653 at Allisonia, Va.	2,212	76	0	1,123	959	849	764	687	613	546	469	383	328	--	--	--	--
03168000	(w) New River along Route 653 at Allisonia, Va.	2,212	76	0	1,394	1,226	1,117	1,031	956	887	818	744	652	585	--	--	--	--
03168500	(p) Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	4.53	2.93	2.22	1.79	1.49	1.26	1.08	0.910	0.750	0.660	0.580	0.550	0.520	
03168500	(r) Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	13.3	11.0	9.48	8.36	7.41	6.56	5.75	4.88	3.88	3.19	2.53	2.14	1.86	
03168500	(w) Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	4.76	3.14	2.41	1.96	1.64	1.39	1.19	1.00	0.821	0.715	0.621	0.582	0.546	
03170000	(p) Little River at Route 693 at Grayson town, Va.	309	78	0	176	149	132	119	108	97.4	87.3	76.6	63.7	54.5	45.6	40.4	36.1	
03170000	(r) Little River at Route 693 at Grayson town, Va.	309	78	0	124	100	84.2	71.9	61.1	51.3	42.3	32.7	22.3	15.4	--	--	--	--
03170000	(w) Little River at Route 693 at Grayson town, Va.	309	78	0	174	148	131	118	107	96.5	86.5	75.9	63.1	54.0	--	--	--	--
03171000	(p) New River below Route 11 at Radford, Va.	2,767	75	0	1,507	1,324	1,216	1,136	1,071	1,013	958	902	837	793	751	728	708	
03171000	(r) New River below Route 11 at Radford, Va.	2,767	75	0	1,443	1,240	1,104	1,000	904	813	730	635	529	464	--	--	--	--
03171000	(w) New River below Route 11 at Radford, Va.	2,767	75	0	1,506	1,323	1,214	1,134	1,068	1,009	954	898	833	789	--	--	--	--
03171500	(p) New River at Route 730 at Eggleston, Va.	2,961	61	0	1,631	1,444	1,325	1,233	1,153	1,080	1,007	930	834	764	694	651	615	
03171500	(r) New River at Route 730 at Eggleston, Va.	2,961	61	0	1,556	1,340	1,195	1,084	983	885	798	696	584	516	--	--	--	--
03171500	(w) New River at Route 730 at Eggleston, Va.	2,961	61	0	1,630	1,442	1,323	1,230	1,150	1,076	1,004	926	831	761	--	--	--	--
03173000	(p) Walker Creek below Route 100 at Bane, Va.	299	68	0	64.5	54.3	48.6	44.6	41.5	38.8	36.3	33.9	31.3	29.6	28.1	27.3	26.7	
03173000	(r) Walker Creek below Route 100 at Bane, Va.	299	68	0	72.9	61.6	54.4	48.9	44.2	39.9	35.9	31.4	26.1	22.4	18.7	16.5	14.8	
03173000	(w) Walker Creek below Route 100 at Bane, Va.	299	68	0	64.6	54.5	48.8	44.7	41.5	38.8	36.3	33.9	31.2	29.5	27.9	27.1	26.5	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
					4-day averaged, adjusted low flow (ft ³ /s)												
03175500	(p) Wolf Creek at Route 724 near Narrows, Va.	223	75	0	52.2	44.6	39.8	36.1	33.0	30.1	27.3	24.3	20.6	18.0	15.5	14.0	12.7
03175500	(r) Wolf Creek at Route 724 near Narrows, Va.	223	75	0	53.3	44.8	39.5	35.3	31.8	28.6	25.6	22.3	18.4	15.6	12.9	11.3	10.1
03175500	(w) Wolf Creek at Route 724 near Narrows, Va.	223	75	0	52.2	44.6	39.8	36.1	33.0	30.1	27.2	24.2	20.6	18.0	15.4	13.9	12.7
03176500	(p) New River at Route 460 at Glen Lyn, Va.	3,783	79	0	1,963	1,727	1,578	1,462	1,363	1,272	1,182	1,086	969	883	797	746	702
03176500	(r) New River at Route 460 at Glen Lyn, Va.	3,783	79	0	2,047	1,776	1,594	1,455	1,328	1,205	1,097	970	832	755	--	--	--
03176500	(w) New River at Route 460 at Glen Lyn, Va.	3,783	79	0	1,965	1,728	1,578	1,462	1,362	1,271	1,181	1,085	967	881	--	--	--
03177700	(p) Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	14.1	11.9	10.6	9.70	8.95	8.30	7.69	7.08	6.37	5.89	5.45	5.20	4.99
03177700	(r) Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	8.44	6.90	5.94	5.21	4.59	4.05	3.52	2.96	2.33	1.89	1.48	1.24	1.07
03177700	(w) Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	14.0	11.8	10.5	9.61	8.86	8.21	7.61	7.00	6.29	5.82	5.38	5.13	4.93
03177710	(p) Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	14.1	13.2	12.4	11.8	11.2	10.6	9.90	9.13	8.08	7.24	6.33	5.75	5.24
03177710	(r) Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	9.49	7.78	6.70	5.89	5.20	4.58	3.99	3.37	2.65	2.16	1.70	1.42	1.23
03177710	(w) Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	14.0	13.0	12.3	11.7	11.1	10.4	9.78	9.02	7.98	7.15	6.25	5.68	5.18
03207500	(p) Levisa Fork along Route 460 near Grundy, Va.	239	34	0	21.3	14.9	11.1	8.47	6.44	4.81	3.44	2.25	1.18	0.660	0.320	0.190	0.120
03207500	(r) Levisa Fork along Route 460 near Grundy, Va.	239	34	0	41.8	31.7	25.6	21.0	17.2	13.9	11.0	8.07	5.11	3.37	2.04	1.42	--
03207500	(w) Levisa Fork along Route 460 near Grundy, Va.	239	34	0	35.8	26.6	21.0	16.7	13.2	10.2	7.64	5.19	2.79	1.66	0.844	0.516	--
03207800	(p) Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	47.8	39.8	34.5	30.3	26.6	23.3	20.0	16.6	12.6	9.85	7.34	5.97	4.90
03207800	(r) Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	50.4	38.2	30.9	25.4	20.8	16.9	13.4	9.96	6.40	4.30	2.65	1.90	--
03207800	(w) Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	49.4	38.9	32.4	27.6	23.6	20.2	17.1	14.0	10.7	8.35	6.32	5.21	--
03208500	(p) Russell Fork below Route 63 at Haysi, Va.	286	79	0	32.6	22.5	16.6	12.6	9.51	7.05	5.01	3.25	1.69	0.940	0.450	0.270	0.160
03208500	(r) Russell Fork below Route 63 at Haysi, Va.	286	79	0	48.8	37.0	29.9	24.6	20.1	16.3	13.0	9.60	6.16	4.13	2.54	1.81	--
03208500	(w) Russell Fork below Route 63 at Haysi, Va.	286	79	0	44.1	32.7	25.7	20.5	16.3	12.6	9.50	6.50	3.54	2.13	1.10	0.685	--
03208700	(p) North Fork Pound River below dam at Pound, Va.	18.5	25	0	5.37	3.90	2.92	2.20	1.62	1.15	0.760	0.450	0.190	0.080	0.030	0.010	0.010
03208700	(r) North Fork Pound River below dam at Pound, Va.	18.5	25	0	4.58	3.47	2.76	2.22	1.76	1.36	1.01	0.680	0.360	0.192	0.092	0.044	--
03208700	(w) North Fork Pound River below dam at Pound, Va.	18.5	25	0	4.77	3.58	2.80	2.22	1.72	1.29	0.915	0.582	0.271	0.129	0.053	0.021	--
03208800	(p) Pound River above Indian Creek, at Pound, Va.	36.7	12	0	7.23	6.80	6.29	5.72	5.09	4.39	3.61	2.71	1.64	0.960	0.470	0.260	0.150
03208800	(r) Pound River above Indian Creek, at Pound, Va.	36.7	12	0	8.28	6.28	5.01	4.05	3.24	2.54	1.91	1.32	0.732	0.413	0.211	0.112	--
03208800	(w) Pound River above Indian Creek, at Pound, Va.	36.7	12	0	7.89	6.48	5.53	4.76	4.08	3.44	2.81	2.13	1.34	0.801	0.409	0.230	--
03208850	(p) Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	11.3	10.4	9.60	8.78	7.93	7.02	6.01	4.85	3.36	2.33	1.43	0.980	0.670
03208850	(r) Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	12.9	9.77	7.82	6.35	5.11	4.03	3.08	2.16	1.24	0.733	0.391	0.223	--
03208850	(w) Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	12.2	10.0	8.58	7.44	6.45	5.56	4.70	3.78	2.71	1.89	1.20	0.837	--
03208900	(p) Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	14.9	12.6	11.0	9.58	8.34	7.16	5.99	4.75	3.32	2.37	1.56	1.15	0.850
03208900	(r) Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	16.3	12.4	9.92	8.07	6.51	5.16	3.97	2.81	1.65	0.995	0.545	0.323	--
03208900	(w) Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	15.7	12.5	10.4	8.73	7.36	6.17	5.07	3.97	2.79	1.99	1.33	0.990	--
03208950	(p) Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	14.1	10.9	8.98	7.55	6.37	5.35	4.40	3.47	2.45	1.81	1.26	0.980	0.770
03208950	(r) Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	13.8	10.5	8.41	6.83	5.50	4.35	3.32	2.34	1.36	0.804	0.433	0.250	--
03208950	(w) Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	13.9	10.7	8.64	7.14	5.90	4.84	3.90	3.00	2.10	1.52	1.07	0.834	--
03209000	(p) Pound River near Haysi, Va.	221	79	0	52.3	34.1	23.9	17.0	12.1	8.31	5.39	3.10	1.32	0.600	0.230	0.110	0.060
03209000	(r) Pound River near Haysi, Va.	221	79	0	39.0	29.6	23.9	19.6	16.0	12.9	10.2	7.48	4.71	3.09	1.86	1.27	--
03209000	(w) Pound River near Haysi, Va.	221	79	0	41.9	30.6	23.9	18.9	14.9	11.5	8.53	5.75	3.04	1.76	0.871	0.517	--
03209200	(p) Russell Fork at Route 611 at Bartlick, Va.	526	19	0	107	90.5	77.2	65.5	54.8	44.7	34.9	25.0	14.5	8.50	4.27	2.55	1.52
03209200	(r) Russell Fork at Route 611 at Bartlick, Va.	526	19	0	82.6	62.7	50.8	42.0	34.6	28.4	22.9	17.3	11.6	8.17	5.31	4.13	--
03209200	(w) Russell Fork at Route 611 at Bartlick, Va.	526	19	0	91.2	72.7	60.9	51.5	43.3	36.0	29.0	21.6	13.4	8.40	4.53	2.89	--

Table 4. (4-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					Non-exceedance probability											
					4-day averaged, adjusted low flow (ft ³ /s)											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.005
03471500	(p) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	36.1	31.5	28.7	26.6	24.9	23.3	21.8	20.2	18.3	17.0	15.7	14.3
03471500	(r) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	17.0	14.1	12.2	10.8	9.60	8.53	7.50	6.39	5.11	4.23	3.38	2.51
03471500	(w) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	35.7	31.1	28.4	26.3	24.5	23.0	21.5	19.9	18.1	16.8	15.5	14.1
03472500	(p) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	15.0	13.0	11.6	10.3	9.19	8.09	6.98	5.78	4.31	3.29	2.35	1.84
03472500	(r) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	12.1	9.95	8.60	7.57	6.70	5.93	5.19	4.40	3.48	2.86	2.26	1.91
03472500	(w) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	15.0	13.0	11.5	10.3	9.13	8.04	6.94	5.75	4.29	3.28	2.35	1.84
03473000	(p) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	138	120	109	102	94.9	89.0	83.3	77.5	70.5	65.6	60.9	55.8
03473000	(r) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	74.0	62.5	55.2	49.7	44.8	40.5	36.4	31.9	26.5	22.8	19.0	16.8
03473000	(w) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	136	119	108	100	93.9	88.0	82.4	76.6	69.7	64.8	60.2	57.4
03473500	(p) Middle Fork Holston River at Route 679 at Grose-close, Va.	7.4	11	0	4.12	3.77	3.54	3.36	3.19	3.03	2.87	2.70	2.47	2.30	2.12	2.01
03473500	(r) Middle Fork Holston River at Route 679 at Grose-close, Va.	7.4	11	0	1.40	1.12	0.941	0.809	0.699	0.602	0.510	0.416	0.312	0.242	0.179	0.120
03473500	(w) Middle Fork Holston River at Route 679 at Grose-close, Va.	7.4	11	0	4.06	3.71	3.49	3.31	3.14	2.98	2.82	2.66	2.43	2.26	2.09	1.98
03474000	(p) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	46.9	41.8	38.6	36.1	34.0	32.1	30.3	28.3	26.0	24.3	22.6	21.6
03474000	(r) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	30.5	25.4	22.2	19.8	17.7	15.8	14.0	12.1	9.80	8.23	6.69	5.78
03474000	(w) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	46.6	41.4	38.2	35.8	33.7	31.8	30.0	28.0	25.7	24.0	22.3	21.3
03474500	(p) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	61.9	52.9	47.1	42.6	38.7	35.2	31.6	27.9	23.4	20.1	16.9	15.1
03474500	(r) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	35.7	29.8	26.1	23.3	20.8	18.7	16.6	14.4	11.7	9.86	8.06	6.17
03474500	(w) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	61.3	52.4	46.7	42.2	38.3	34.8	31.3	27.6	23.1	19.9	16.8	14.9
03475000	(p) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	81.4	72.2	66.0	61.0	56.7	52.6	48.4	44.0	38.3	34.1	29.8	27.2
03475000	(r) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	49.0	41.1	36.2	32.4	29.1	26.2	23.4	20.3	16.7	14.2	11.7	10.2
03475000	(w) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	80.7	71.5	65.3	60.4	56.1	52.0	47.9	43.5	37.9	33.7	29.5	26.9
03477500	(p) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	6.91	5.85	5.23	4.78	4.41	4.09	3.78	3.48	3.12	2.88	2.65	2.41
03477500	(r) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	2.71	2.18	1.85	1.60	1.39	1.21	1.04	0.855	0.651	0.514	0.388	0.316
03477500	(w) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	6.82	5.77	5.16	4.71	4.35	4.03	3.72	3.43	3.07	2.84	2.61	2.48

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	0.1	Non-exceedance probability				
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	4-day averaged, adjusted low flow (ft ³ /s)					0.005
03478400	(p) Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	14.8	13.2	12.2	11.5	10.8	10.2	9.65	9.04	8.29	7.75	7.22	7.22	6.90	6.63	
03478400	(r) Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	5.57	4.53	3.88	3.39	2.97	2.60	2.50	1.88	1.46	1.17	0.906	0.751	0.643		
03478400	(w) Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	14.6	13.0	12.0	11.3	10.6	10.1	9.50	8.90	8.16	7.63	7.11	6.80	6.54		
03488000	(p) North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	52.1	44.1	39.3	35.8	33.0	30.5	28.1	25.7	22.8	20.9	19.0	17.9	17.0		
03488000	(r) North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	52.8	44.4	39.1	35.0	31.5	28.3	25.4	22.1	18.2	15.5	12.8	11.2	9.96		
03488000	(w) North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	52.1	44.1	39.3	35.8	32.9	30.4	28.0	25.6	22.7	20.8	18.9	17.8	16.9		
03489500	(p) North Fork Holston River at Route 615 at Mendota, Va.	493	10	0	132	110	96.5	86.2	77.5	69.6	62.0	54.0	44.6	38.0	31.6	27.9	24.9		
03489500	(r) North Fork Holston River at Route 615 at Mendota, Va.	493	10	0	124	106	94.2	85.2	77.4	70.4	63.8	56.4	47.5	41.3	35.1	31.3	28.3		
03489500	(w) North Fork Holston River at Route 615 at Mendota, Va.	493	10	0	131	110	96.4	86.2	77.5	69.6	62.0	54.1	44.6	38.0	31.7	28.0	25.0		
03489900	(p) Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	18.6	15.6	13.6	12.1	10.8	9.61	8.44	7.22	5.75	4.73	3.76	3.21	2.77		
03489900	(r) Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	17.7	14.7	12.7	11.3	10.0	8.91	7.84	6.69	5.35	4.43	3.54	3.02	2.64		
03489900	(w) Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	18.6	15.5	13.6	12.1	10.8	9.59	8.43	7.21	5.74	4.72	3.76	3.21	2.77		
03490000	(p) North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	145	121	107	96.2	87.5	79.8	72.6	65.1	56.4	50.4	44.6	41.3	38.6		
03490000	(r) North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	173	148	132	120	109	99.9	90.9	80.8	68.6	60.2	51.7	46.5	42.2		
03490000	(w) North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	146	122	107	96.7	88.0	80.3	72.9	65.4	56.7	50.6	44.8	41.4	38.6		
03521500	(p) Clinch River along Route 707 at Richlands, Va.	137	43	0	34.7	29.5	26.3	24.0	22.0	20.3	18.6	16.9	14.8	13.4	12.0	11.2	10.6		
03521500	(r) Clinch River along Route 707 at Richlands, Va.	137	43	0	31.7	26.4	23.1	20.6	18.4	16.5	14.6	12.6	10.2	8.62	7.01	6.06	5.34		
03521500	(w) Clinch River along Route 707 at Richlands, Va.	137	43	0	34.6	29.4	26.3	23.9	21.9	20.2	18.5	16.8	14.8	13.3	11.9	11.1	10.5		
03524000	(p) Clinch River above Route 661 at Cleveland, Va.	533	86	0	128	107	95.0	86.0	78.6	72.0	65.8	59.4	51.9	46.7	41.7	38.8	36.4		
03524000	(r) Clinch River above Route 661 at Cleveland, Va.	533	86	0	135	115	103	92.9	84.5	76.9	69.8	61.7	52.1	45.4	38.7	34.6	31.3		
03524000	(w) Clinch River above Route 661 at Cleveland, Va.	533	86	0	128	107	95.2	86.1	78.7	72.1	65.8	59.4	51.9	46.6	41.6	38.7	36.3		
03524500	(p) Guest River at Route 72 at Coeburn, Va.	87.2	12	0	17.1	11.5	8.66	6.83	5.48	4.41	3.51	2.69	1.88	1.40	1.02	0.820	0.680		
03524500	(r) Guest River at Route 72 at Coeburn, Va.	87.2	12	0	17.5	13.3	10.6	8.67	7.00	5.56	4.28	3.04	1.80	1.09	0.601	0.361	--		
03524500	(w) Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	6.35	5.02	3.89	2.85	1.85	1.30	0.914	0.720	--		
03525000	(r) Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03525000	(w) Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03526000	(p) Copper Creek at Route 619 near Gate City, Va.	106	26	0	35.1	30.9	28.3	26.3	24.6	23.0	21.4	19.8	17.8	16.4	14.9	14.1	13.4		
03526000	(r) Copper Creek at Route 619 near Gate City, Va.	106	26	0	24.1	20.0	17.4	15.5	13.8	12.3	10.9	9.35	7.54	6.29	5.08	4.36	3.83		
03526000	(w) Copper Creek at Route 619 near Gate City, Va.	106	26	0	34.9	30.7	28.1	26.0	24.3	22.8	21.2	19.6	17.6	16.2	14.8	13.9	13.2		
03527000	(p) Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	256	212	186	167	151	138	125	112	96.7	86.3	76.3	70.6	66.0		
03527000	(r) Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	300	259	232	212	195	179	164	148	127	113	98.7	90.1	82.5		
03527000	(w) Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	257	213	187	168	152	139	126	113	97.3	86.7	76.7	71.0	66.2		
03527500	(p) North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03527500	(r) North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03527500	(w) North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03529500	(p) Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	31.7	25.8	22.0	19.2	16.7	14.5	12.4	10.2	7.70	6.03	4.51	3.68	3.04		
03529500	(r) Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	21.7	16.5	13.2	10.8	8.75	6.98	5.41	3.88	2.33	1.44	0.814	0.507	--		
03529500	(w) Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	25.6	20.2	17.0	14.5	12.5	10.8	9.26	7.70	6.04	4.78	3.70	3.08	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued
[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					4-day averaged, adjusted low flow (ft³/s)												
			0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
03530000	(p) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--		
03530000	(r) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--		
03530000	(w) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--		
03530500	(p) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	0	9.67	7.37	5.82	4.63	3.64	2.78	2.03	1.35	0.700	0.380	0.180	0.100	0.060
03530500	(r) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	0	14.7	11.1	8.93	7.25	5.84	4.63	3.54	2.50	1.46	0.868	0.470	0.274	--
03530500	(w) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	0	13.1	9.93	7.88	6.32	5.00	3.85	2.85	1.91	0.997	0.552	0.264	0.144	--
03531000	(p) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	59.4	43.5	35.3	29.7	25.5	22.0	18.9	16.0	12.9	10.9	9.15	8.21	7.48
03531000	(r) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	49.4	37.5	30.3	24.9	20.4	16.5	13.1	9.73	6.24	4.19	2.58	1.84	--
03531000	(w) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	53.2	39.9	32.4	27.0	22.8	19.3	16.3	13.5	10.8	9.03	7.68	6.99	--
03531500	(p) Powell River at Route 70 near Jonesville, Va.	319	75	0	74.3	62.0	54.5	48.7	43.9	39.5	35.3	30.9	25.7	22.0	18.5	16.5	14.8
03531500	(r) Powell River at Route 70 near Jonesville, Va.	319	75	0	53.6	40.7	32.9	27.1	22.2	18.0	14.4	10.7	6.89	4.66	2.89	2.09	--
03531500	(w) Powell River at Route 70 near Jonesville, Va.	319	75	0	62.0	49.6	42.3	37.0	32.8	29.3	26.2	23.1	20.1	17.5	15.2	13.9	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200		
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
					7-day averaged, adjusted low flow (ft ³ /s)														
01484800 (p)	Guy Creek at Route 606 near Nassawadox, Va.	1.9	32	4	0.270	0.190	0.140	0.100	0.070	0.050	0.030	0.010	0.000	0.000	0.000	0.000	0.000	0.000	
01484800 (r)	Guy Creek at Route 606 near Nassawadox, Va.	1.9	32	4	0.511	0.354	0.259	0.189	0.137	0.096	--	--	--	--	--	--	--	--	
01484800 (w)	Guy Creek at Route 606 near Nassawadox, Va.	1.9	32	4	0.311	0.217	0.158	0.113	0.079	0.056	--	--	--	--	--	--	--	--	
01613900 (p)	Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	1.87	1.42	1.17	0.990	0.840	0.720	0.610	0.500	0.380	0.300	0.230	0.200	0.170		
01613900 (r)	Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	3.26	2.62	2.22	1.93	1.68	1.46	1.25	1.04	0.801	0.643	0.493	0.414	0.349		
01613900 (w)	Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	1.90	1.45	1.20	1.01	0.860	0.737	0.625	0.512	0.389	0.307	0.235	0.204	0.173		
01614830 (p)	Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	6.67	4.59	3.53	2.83	2.31	1.89	1.53	1.20	0.860	0.660	0.490	0.400	0.340		
01614830 (r)	Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	3.11	2.49	2.11	1.84	1.60	1.39	1.19	0.989	0.759	0.608	0.466	0.391	0.329		
01614830 (w)	Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	6.57	4.53	3.49	2.80	2.29	1.88	1.52	1.19	0.858	0.659	0.489	0.400	0.340		
01615000 (p)	Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	12.5	9.72	7.93	6.56	5.42	4.42	3.50	2.61	1.67	1.11	0.680	0.480	0.340		
01615000 (r)	Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	13.0	10.7	9.21	8.13	7.20	6.37	5.56	4.75	3.78	3.13	2.50	2.15	1.87		
01615000 (w)	Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	12.5	9.75	7.96	6.60	5.47	4.47	3.55	2.66	1.72	1.16	0.720	0.515	0.371		
01615500 (p)	Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	2.72	2.52	2.37	2.22	2.08	1.94	1.78	1.59	1.34	1.14	0.920	0.790	0.680		
01615500 (r)	Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	2.69	2.49	2.34	2.19	2.05	1.91	1.75	1.57	1.32	1.12	0.906	0.779	0.671		
01615500 (w)	Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	1.13	0.893	0.748	0.641	0.552	0.475	0.401	0.327	0.244	0.191	0.142	0.117	0.097		
01616000 (p)	Abrams Creek above Route 659 near Winchester, Va.	17	24	0	14.2	12.3	11.1	10.2	9.44	8.72	8.02	7.27	6.34	5.67	5.01	4.61	4.27		
01616000 (r)	Abrams Creek above Route 659 near Winchester, Va.	17	24	0	3.50	2.82	2.39	2.08	1.81	1.58	1.35	1.13	0.868	0.697	0.536	0.451	0.380		
01616000 (w)	Abrams Creek above Route 659 near Winchester, Va.	17	24	0	13.9	12.1	10.9	10.1	9.28	8.57	7.89	7.15	6.24	5.58	4.93	4.54	4.21		
01616100 (p)	Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	6.74	5.78	5.16	4.67	4.25	3.86	3.48	3.08	2.58	2.23	1.88	1.68	1.50		
01616100 (r)	Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	2.20	1.76	1.48	1.28	1.11	0.964	0.821	0.678	0.516	0.410	0.311	0.259	0.217		
01616100 (w)	Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	6.64	5.69	5.08	4.60	4.18	3.80	3.43	3.03	2.54	2.20	1.85	1.66	1.48		
01620500 (p)	North River above Forest Road near Stokesville, Va.	17.3	59	0	2.31	1.55	1.16	0.910	0.730	0.580	0.460	0.340	0.230	0.170	0.120	0.100	0.080		
01620500 (r)	North River above Forest Road near Stokesville, Va.	17.3	59	0	3.57	2.87	2.44	2.12	1.85	1.61	1.38	1.15	0.887	0.712	0.548	0.461	0.389		
01620500 (w)	North River above Forest Road near Stokesville, Va.	17.3	59	0	2.35	1.59	1.20	0.944	0.761	0.609	0.485	0.362	0.247	0.183	0.130	0.108	0.087		
01621050 (p)	Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	4.73	2.72	1.89	1.42	1.10	0.870	0.690	0.530	0.390	0.310	0.250	0.220	0.190		
01621050 (r)	Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	2.91	2.33	1.98	1.72	1.49	1.30	1.11	0.921	0.706	0.565	0.432	0.362	0.304		
01621050 (w)	Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	4.67	2.71	1.89	1.43	1.11	0.883	0.702	0.541	0.399	0.317	0.255	0.223	0.193		
01622000 (p)	North River along Route 693 near Burkettown, Va.	376	75	0	104	85.0	74.1	66.3	60.1	54.7	49.7	44.8	39.2	35.4	32.0	30.0	28.4		
01622000 (r)	North River along Route 693 near Burkettown, Va.	376	75	0	95.1	80.5	71.2	64.4	58.3	52.9	47.3	42.0	35.2	30.6	25.8	23.1	20.8		
01622000 (w)	North River along Route 693 near Burkettown, Va.	376	75	0	104	84.9	74.0	66.3	60.0	54.7	49.7	44.7	39.1	35.4	31.8	29.9	28.3		
01624000 (p)	Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	1	0.520	0.330	0.240	0.180	0.140	0.110	0.080	0.050	0.000	0.000	0.000	0.000	0.000		
01624000 (r)	Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	1	1.95	1.55	1.31	1.13	0.979	0.846	0.720	0.593	0.450	0.356	0.270	0.224	0.187		
01624000 (w)	Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	1	0.561	0.365	0.270	0.206	0.163	0.130	0.097	0.064	0.011	0.009	0.006	0.005	0.004		
01624300 (p)	Middle River at Route 742 near Verona, Va.	179	18	0	64.0	54.8	49.2	45.0	41.4	38.3	35.2	32.0	28.3	25.6	23.0	21.5	20.2		
01624300 (r)	Middle River at Route 742 near Verona, Va.	179	18	0	43.1	36.0	31.6	28.3	25.4	22.8	20.2	17.6	14.5	12.4	10.2	8.98	7.98		
01624300 (w)	Middle River at Route 742 near Verona, Va.	179	18	0	63.6	54.4	48.8	44.6	41.1	37.9	34.9	31.8	28.0	25.4	22.8	21.3	20.0		
01624800 (p)	Christians Creek at Route 794 near Fishersville, Va.	73	29	0	29.3	24.9	22.2	20.1	18.4	16.8	15.3	13.7	11.9	10.5	9.23	8.47	7.83		
01624800 (r)	Christians Creek at Route 794 near Fishersville, Va.	73	29	0	16.6	13.6	11.8	10.5	9.29	8.24	7.21	6.19	4.96	4.13	3.32	2.87	2.50		
01624800 (w)	Christians Creek at Route 794 near Fishersville, Va.	73	29	0	29.1	24.7	22.0	19.9	18.2	16.6	15.1	13.6	11.7	10.4	9.13	8.38	7.74		
01625000 (p)	Middle River at Route 769 near Grottoes, Va.	373	78	0	121	107	97.5	89.3	81.8	74.7	67.3	59.2	48.9	41.3	33.6	29.1	25.3		
01625000 (r)	Middle River at Route 769 near Grottoes, Va.	373	78	0	94.3	79.8	70.6	63.8	57.8	52.4	46.9	41.6	34.9	30.3	25.5	22.8	20.6		
01625000 (w)	Middle River at Route 769 near Grottoes, Va.	373	78	0	121	107	96.9	88.7	81.3	74.2	66.9	58.8	48.6	41.0	33.5	29.0	25.3		
01625900 (p)	Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	1	--	--	--	--	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
01625900 (r)	Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	1	14.0	10.5	8.41	6.80	5.47	4.32	3.29	2.30	1.32	0.764	--	--	--		
01625900 (w)	Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	1	--	--	--	--	--	--	--	--	--	--	--	--	--		

Table 4. (7-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
					7-day averaged, adjusted low flow (ft³/s)												
01626000	(p) South River at Route 664 near Waynesboro, Va.	127	54	0	46.5	40.3	36.6	33.9	31.6	29.6	27.7	25.7	23.4	21.8	20.3	19.4	18.7
01626000	(r) South River at Route 664 near Waynesboro, Va.	127	54	0	29.9	24.9	21.7	19.3	17.3	15.4	13.6	11.8	9.62	8.12	6.64	5.81	5.12
01626000	(w) South River at Route 664 near Waynesboro, Va.	127	54	0	46.1	40.0	36.3	33.6	31.3	29.3	27.4	25.4	23.2	21.6	20.0	19.2	18.4
01626500	(p) South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	54.8	47.6	43.1	39.7	36.9	34.3	31.8	29.2	26.0	23.8	21.5	20.2	19.1
01626500	(r) South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	31.4	26.1	22.8	20.3	18.2	16.3	14.4	12.5	10.2	8.59	7.03	6.16	5.43
01626500	(w) South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	54.3	47.1	42.7	39.3	36.5	33.9	31.4	28.8	25.7	23.5	21.3	20.0	18.9
01626850	(p) South River at Hopeman Parkway near Dooms, Va.	148	22	0	77.6	67.9	62.6	59.0	56.1	53.7	51.7	49.7	47.7	46.5	45.6	45.2	45.0
01626850	(r) South River at Hopeman Parkway near Dooms, Va.	148	22	0	35.2	29.3	25.6	22.9	20.5	18.4	16.2	14.1	11.6	9.79	8.04	7.05	6.24
01626850	(w) South River at Hopeman Parkway near Dooms, Va.	148	22	0	76.7	67.1	61.9	58.2	55.4	53.0	51.0	49.0	47.0	45.9	45.0	44.6	44.4
01627500	(p) South River at Route 778 at Harrison, Va.	212	65	0	91.5	81.8	75.5	70.5	66.2	62.1	58.1	53.7	48.2	44.1	39.9	37.4	35.2
01627500	(r) South River at Route 778 at Harrison, Va.	212	65	0	51.6	43.3	38.0	34.1	30.7	27.6	24.5	21.5	17.8	15.2	12.6	11.1	9.93
01627500	(w) South River at Route 778 at Harrison, Va.	212	65	0	90.7	81.0	74.7	69.8	65.4	61.4	57.4	53.0	47.6	43.5	39.4	36.9	34.8
01628060	(p) White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	10	0.040	0.020	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
01628060	(r) White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	10	0.465	0.319	0.235	0.175	0.129	0.093	0.063	0.037	0.017	0.007	--	--	--
01628060	(w) White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	10	0.054	0.029	0.016	0.005	0.003	0.002	0.001	0.001	0.000	0.000	--	--	--
01628500	(p) South Fork Shenandoah River below Lower Lewis Run near Lymwood, Va.	1,079	75	0	368	312	278	252	231	212	193	174	151	135	119	110	102
01628500	(r) South Fork Shenandoah River below Lower Lewis Run near Lymwood, Va.	1,079	75	0	293	252	226	207	190	175	159	144	124	111	96.5	88.1	81.4
01628500	(w) South Fork Shenandoah River below Lower Lewis Run near Lymwood, Va.	1,079	75	0	366	311	277	251	230	211	192	173	150	134	119	109	102
01629500	(p) South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	508	431	386	352	325	300	277	253	225	206	187	176	167
01629500	(r) South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	378	327	294	271	249	229	209	190	166	148	130	120	111
01629500	(w) South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	505	429	384	351	323	299	275	252	224	205	186	175	166
01630700	(p) Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	4.23	2.41	1.70	1.30	1.04	0.860	0.710	0.590	0.480	0.420	0.380	0.360	0.350
01630700	(r) Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	6.47	4.77	3.74	2.97	2.34	1.81	1.34	0.907	0.491	0.266	--	--	--
01630700	(w) Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	4.30	2.48	1.76	1.35	1.07	0.884	0.725	0.597	0.480	0.417	--	--	--
01631000	(p) South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	549	468	420	384	355	328	303	278	247	226	206	194	184
01631000	(r) South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	455	395	356	328	303	280	256	233	204	184	162	149	139
01631000	(w) South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	547	466	419	383	354	327	302	277	247	226	205	193	184
01632000	(p) North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	11.1	7.38	5.43	4.15	3.21	2.47	1.86	1.32	0.810	0.530	0.330	0.230	0.170
01632000	(r) North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	51.1	42.9	37.6	33.8	30.4	27.3	24.3	21.2	17.6	15.0	12.4	11.0	9.81
01632000	(w) North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	12.4	8.53	6.46	5.08	4.07	3.24	2.54	1.91	1.29	0.925	0.651	0.504	0.403

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					Non-exceedance probability												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
7-day averaged, adjusted low flow (ft ³ /s)																	
01632082 (p)	Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	13.1	10.1	8.43	7.26	6.33	5.53	4.80	4.08	3.28	2.76	2.28	2.02	1.81
01632082 (r)	Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	10.1	8.22	7.07	6.22	5.49	4.85	4.21	3.58	2.83	2.33	1.85	1.58	1.37
01632082 (w)	Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	13.0	10.1	8.40	7.24	6.31	5.51	4.79	4.07	3.27	2.75	2.27	2.01	1.80
01632900 (p)	Smith Creek at Route 616 near New Market, Va.	93.6	45	0	27.2	21.8	18.5	16.1	14.2	12.4	10.8	9.14	7.25	5.97	4.79	4.13	3.60
01632900 (r)	Smith Creek at Route 616 near New Market, Va.	93.6	45	0	21.6	17.9	15.5	13.8	12.3	10.9	9.59	8.27	6.68	5.60	4.53	3.94	3.45
01632900 (w)	Smith Creek at Route 616 near New Market, Va.	93.6	45	0	27.0	21.7	18.5	16.1	14.1	12.4	10.8	9.12	7.24	5.96	4.79	4.13	3.60
01633000 (p)	North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	81.1	66.8	56.8	48.5	41.3	34.6	28.2	21.6	14.3	9.76	6.05	4.27	3.04
01633000 (r)	North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	131	112	99.0	89.9	81.7	74.4	66.9	59.6	50.5	44.1	37.6	33.8	30.7
01633000 (w)	North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	82.4	68.0	57.8	49.6	42.3	35.6	29.1	22.5	15.1	10.5	6.71	4.86	3.57
01633500 (p)	Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	10.8	9.32	8.44	7.80	7.28	6.83	6.41	5.99	5.51	5.18	4.89	4.72	4.59
01633500 (r)	Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	17.7	14.6	12.6	11.2	9.93	8.82	7.73	6.63	5.33	4.44	3.58	3.10	2.70
01633500 (w)	Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	11.0	9.43	8.53	7.87	7.33	6.87	6.44	6.00	5.51	5.17	4.87	4.69	4.56
01634000 (p)	North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	166	140	124	113	103	93.7	85.0	76.1	65.4	57.9	50.6	46.3	42.8
01634000 (r)	North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	204	175	156	143	130	119	108	96.9	83.0	73.4	63.2	57.4	52.6
01634000 (w)	North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	167	141	125	113	103	94.2	85.5	76.5	65.7	58.2	50.8	46.5	42.9
01634500 (p)	Cedar Creek above Route 628 near Winchester, Va.	102	68	0	14.7	12.0	10.4	9.18	8.19	7.30	6.46	5.60	4.60	3.91	3.26	2.89	2.59
01634500 (r)	Cedar Creek above Route 628 near Winchester, Va.	102	68	0	23.7	19.6	17.0	15.2	13.5	12.0	10.6	9.14	7.40	6.22	5.04	4.39	3.86
01634500 (w)	Cedar Creek above Route 628 near Winchester, Va.	102	68	0	14.9	12.2	10.5	9.31	8.31	7.40	6.55	5.67	4.66	3.95	3.29	2.92	2.61
01635090 (p)	Cedar Creek above Route 11 near Middletown, Va.	154	6	0	41.7	31.2	25.7	22.1	19.3	17.1	15.1	13.2	11.2	9.96	8.87	8.28	7.83
01635090 (r)	Cedar Creek above Route 11 near Middletown, Va.	154	6	0	36.7	30.6	26.8	23.9	21.4	19.2	17.0	14.8	12.1	10.3	8.44	7.42	6.57
01635090 (w)	Cedar Creek above Route 11 near Middletown, Va.	154	6	0	41.6	31.1	25.7	22.1	19.4	17.1	15.1	13.2	11.2	9.97	8.86	8.26	7.81
01635500 (p)	Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	6.00	4.77	4.02	3.46	3.00	2.60	2.22	1.83	1.40	1.11	0.850	0.710	0.600
01635500 (r)	Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	19.9	16.4	14.2	12.6	11.2	9.99	8.76	7.54	6.08	5.08	4.10	3.56	3.12
01635500 (w)	Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	6.33	5.05	4.26	3.67	3.19	2.77	2.37	1.95	1.50	1.19	0.913	0.763	0.644
01636210 (p)	Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	1.41	1.00	0.780	0.620	0.510	0.410	0.320	0.250	0.170	0.120	0.080	0.060	0.050
01636210 (r)	Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	4.22	3.08	2.39	1.87	1.47	1.12	0.815	0.541	0.284	0.148	--	--	--
01636210 (w)	Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	1.49	1.06	0.823	0.653	0.534	0.427	0.331	0.256	0.172	0.120	--	--	--
01636266 (p)	Manassas Run at Route 79 near Linden, Va.	5.54	4	0	3.24	1.81	1.27	0.980	0.790	0.660	0.560	0.480	0.410	0.380	0.350	0.340	0.340
01636266 (r)	Manassas Run at Route 79 near Linden, Va.	5.54	4	0	1.50	1.06	0.802	0.614	0.468	0.347	0.244	0.154	0.075	0.036	--	--	--
01636266 (w)	Manassas Run at Route 79 near Linden, Va.	5.54	4	0	3.15	1.77	1.25	0.963	0.776	0.647	0.548	0.468	0.399	0.370	--	--	--
01636316 (p)	Spout Run at Route 621 near Millwood, Va.	21.4	4	0	21.8	16.9	14.4	12.7	11.4	10.3	9.32	8.43	7.48	6.88	6.37	6.11	5.91
01636316 (r)	Spout Run at Route 621 near Millwood, Va.	21.4	4	0	6.79	5.01	3.93	3.12	2.47	1.91	1.42	0.961	0.523	0.284	--	--	--
01636316 (w)	Spout Run at Route 621 near Millwood, Va.	21.4	4	0	21.4	16.6	14.1	12.4	11.2	10.1	9.18	8.30	7.38	6.79	--	--	--
01638350 (p)	South Fork Catocin Creek at Route 698 near Waterford, Va.	31.6	5	0	11.7	5.41	3.15	2.00	1.32	0.880	0.580	0.360	0.190	0.110	0.060	0.040	0.030
01638350 (r)	South Fork Catocin Creek at Route 698 near Waterford, Va.	31.6	5	0	10.5	7.85	6.22	5.00	4.00	3.13	2.36	1.63	0.916	0.516	--	--	--
01638350 (w)	South Fork Catocin Creek at Route 698 near Waterford, Va.	31.6	5	0	11.6	5.56	3.33	2.17	1.47	0.997	0.665	0.419	0.219	0.125	--	--	--

Table 4. (7-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	7-day averaged, adjusted low flow (ft ³ /s)	
01638420	(p) North Fork Catoclin Creek at Route 681 bridge near Waterford, Va.	23.1	5	1	6.62	3.04	1.68	0.980	0.570	0.310	0.130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
01638420	(r) North Fork Catoclin Creek at Route 681 bridge near Waterford, Va.	23.1	5	1	7.39	5.47	4.30	3.43	2.72	2.11	1.57	1.07	0.583	0.319	--	--	--	--	--
01638420	(w) North Fork Catoclin Creek at Route 681 bridge near Waterford, Va.	23.1	5	1	6.68	3.21	1.86	1.14	0.704	0.416	0.208	0.056	0.026	0.013	--	--	--	--	--
01638480	(p) Catoclin Creek at Route 663 at Taylorstown, Va.	89.5	35	0	18.6	12.3	8.78	6.41	4.66	3.31	2.24	1.36	0.640	0.320	0.140	0.070	0.040	0.040	0.040
01638480	(r) Catoclin Creek at Route 663 at Taylorstown, Va.	89.5	35	0	33.7	26.0	21.2	17.5	14.4	11.7	9.15	6.68	4.11	2.55	--	--	--	--	--
01638480	(w) Catoclin Creek at Route 663 at Taylorstown, Va.	89.5	35	0	19.3	12.9	9.32	6.88	5.05	3.63	2.48	1.54	0.739	0.380	--	--	--	--	--
01643590	(p) Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	3.32	2.23	1.71	1.39	1.16	0.980	0.830	0.690	0.560	0.470	0.410	0.370	0.340	0.340	0.340
01643590	(r) Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	2.22	1.59	1.21	0.938	0.722	0.541	0.386	0.248	0.124	0.061	--	--	--	--	--
01643590	(w) Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	3.29	2.21	1.70	1.38	1.15	0.971	0.821	0.681	0.553	0.464	--	--	--	--	--
01643700	(p) Goose Creek at Route 611 near Middleburg, Va.	122	32	1	26.9	16.3	10.1	6.20	3.62	1.94	0.890	0.300	0.040	0.000	0.000	0.000	0.000	0.000	0.000
01643700	(r) Goose Creek at Route 611 near Middleburg, Va.	122	32	1	47.6	37.1	30.5	25.4	21.1	17.3	13.7	10.2	6.42	4.11	--	--	--	--	--
01643700	(w) Goose Creek at Route 611 near Middleburg, Va.	122	32	1	31.9	21.1	14.6	10.4	7.27	4.97	3.27	2.08	1.03	0.602	--	--	--	--	--
01643805	(p) North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	17.6	9.08	5.88	4.16	3.08	2.32	1.75	1.29	0.890	0.680	0.520	0.440	0.390	0.390	0.390
01643805	(r) North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	12.9	9.73	7.76	6.26	5.03	3.97	3.01	2.10	1.20	0.688	--	--	--	--	--
01643805	(w) North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	17.4	9.11	5.95	4.24	3.15	2.37	1.79	1.31	0.897	0.680	--	--	--	--	--
01643880	(p) Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	1	14.6	3.19	1.08	0.430	0.180	0.070	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
01643880	(r) Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	1	16.4	12.4	9.98	8.10	6.55	5.20	3.97	2.81	1.63	0.956	--	--	--	--	--
01643880	(w) Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	1	15.5	7.27	4.87	3.66	2.78	2.08	1.50	1.03	0.532	0.296	--	--	--	--	--
01644000	(p) Goose Creek above Route 621 near Leesburg, Va.	332	78	0	50.5	29.9	20.3	14.4	10.4	7.45	5.17	3.34	1.79	1.05	0.570	0.370	0.250	0.250	0.250
01644000	(r) Goose Creek above Route 621 near Leesburg, Va.	332	78	0	146	117	99.2	84.8	72.5	61.2	50.5	39.5	27.2	19.1	--	--	--	--	--
01644000	(w) Goose Creek above Route 621 near Leesburg, Va.	332	78	0	54.9	33.7	23.5	17.3	12.8	9.39	6.68	4.51	2.48	1.51	--	--	--	--	--
01644280	(p) Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	13.0	8.40	6.27	4.96	4.03	3.31	2.72	2.20	1.68	1.37	1.12	0.990	0.900	0.900	0.900
01644280	(r) Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	13.2	9.15	7.49	6.21	--	--	--	--	--	--	--	--	--	--	--
01644280	(w) Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	13.0	8.44	6.33	5.02	--	--	--	--	--	--	--	--	--	--	--
01644291	(p) Slave Run below Parking Lot Road near Reston, Va.	0.085	10	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
01644291	(r) Slave Run below Parking Lot Road near Reston, Va.	0.085	10	9	0.068	0.049	0.038	0.029	0.023	0.017	0.012	0.008	0.004	0.002	--	--	--	--	--
01644291	(w) Slave Run below Parking Lot Road near Reston, Va.	0.085	10	9	0.005	0.004	0.003	0.002	0.002	0.001	0.001	0.000	0.000	0.000	--	--	--	--	--
01644295	(p) Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	4	0.030	0.010	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
01644295	(r) Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	4	0.216	0.159	0.124	0.098	0.077	0.058	0.043	0.028	0.014	0.007	--	--	--	--	--
01644295	(w) Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	4	0.044	0.021	0.018	0.016	0.005	0.004	0.003	0.001	0.001	0.000	--	--	--	--	--
01645784	(p) Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	21.0	17.9	15.3	13.0	10.8	8.76	6.75	4.74	2.64	1.49	0.700	0.400	0.220	0.220	0.220
01645784	(r) Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	0.457	0.340	0.267	0.212	0.168	0.129	0.095	0.063	0.033	0.017	--	--	--	--	--
01645784	(w) Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	20.2	17.2	14.7	12.5	10.5	8.48	6.55	4.59	2.56	1.45	--	--	--	--	--
01646000	(p) Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	21.0	17.9	15.3	13.0	10.8	8.76	6.75	4.74	2.64	1.49	0.700	0.400	0.220	0.220	0.220
01646000	(r) Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	18.1	14.2	11.6	9.58	7.93	6.44	5.04	3.66	2.21	1.36	--	--	--	--	--
01646000	(w) Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	20.9	17.7	15.1	12.8	10.7	8.69	6.70	4.71	2.63	1.49	--	--	--	--	--
01652500	(p) Fourmile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	3.68	2.98	2.56	2.26	2.01	1.80	1.59	1.38	1.15	0.980	0.830	0.740	0.670	0.670	0.670
01652500	(r) Fourmile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	2.72	1.85	1.34	0.978	0.707	0.490	--	--	--	--	--	--	--	--	--
01652500	(w) Fourmile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	3.59	2.88	2.45	2.15	1.91	1.71	--	--	--	--	--	--	--	--	--
01653000	(p) Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	6.37	5.08	4.32	3.77	3.32	2.92	2.55	2.18	1.76	1.48	1.21	1.06	0.950	0.950	0.950
01653000	(r) Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	6.53	4.39	3.17	2.31	1.67	1.15	--	--	--	--	--	--	--	--	--
01653000	(w) Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	6.39	5.02	4.22	3.65	3.19	2.80	--	--	--	--	--	--	--	--	--
01654000	(p) Accotink Creek above Route 620 near Amandale, Va.	23.9	59	1	5.24	4.69	4.07	3.40	2.73	2.06	1.41	0.800	0.270	0.070	0.000	0.000	0.000	0.000	0.000
01654000	(r) Accotink Creek above Route 620 near Amandale, Va.	23.9	59	1	8.50	6.57	5.34	4.38	3.59	2.88	2.23	1.59	0.927	0.556	--	--	--	--	--
01654000	(w) Accotink Creek above Route 620 near Amandale, Va.	23.9	59	1	5.43	4.80	4.14	3.45	2.77	2.10	1.45	0.837	0.298	0.089	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
					7-day averaged, adjusted low flow (ft³/s)												
01654500	(p) Long Branch (Little Run) at Route 620 near Annandale, Va.	3.72	8	1	1.66	1.49	1.29	1.06	0.820	0.580	0.340	0.120	0.000	0.000	0.000	0.000	
01654500	(r) Long Branch (Little Run) at Route 620 near Annandale, Va.	3.72	8	1	1.73	1.31	1.04	0.839	0.675	0.529	0.399	0.274	0.150	0.084	--	--	
01654500	(w) Long Branch (Little Run) at Route 620 near Annandale, Va.	3.72	8	1	1.66	1.48	1.28	1.05	0.814	0.578	0.342	0.126	0.006	0.003	--	--	
01655000	(p) Accotink Creek at Army Engineer Road near Accotink Station, Va.	37.1	6	0	9.53	6.76	5.17	4.05	3.18	2.48	1.86	1.31	0.780	0.490	0.280	0.190	
01655000	(r) Accotink Creek at Army Engineer Road near Accotink Station, Va.	37.1	6	0	7.07	4.75	3.43	2.50	1.80	1.24	--	--	--	--	--	--	
01655000	(w) Accotink Creek at Army Engineer Road near Accotink Station, Va.	37.1	6	0	9.22	6.51	4.97	3.88	3.03	2.36	--	--	--	--	--	--	
01655500	(p) Cedar Run at Route 672 near Warrenton, Va.	13.1	35	1	1.81	1.25	0.940	0.710	0.540	0.400	0.280	0.180	0.090	0.040	0.000	0.000	
01655500	(r) Cedar Run at Route 672 near Warrenton, Va.	13.1	35	1	3.92	2.85	2.21	1.73	1.35	1.03	0.748	0.494	0.258	0.134	--	--	
01655500	(w) Cedar Run at Route 672 near Warrenton, Va.	13.1	35	1	1.89	1.31	0.983	0.744	0.566	0.419	0.293	0.188	0.094	0.042	--	--	
01656000	(p) Cedar Run at Route 806 near Catlett, Va.	93.4	51	7	4.61	2.90	1.95	1.32	0.870	0.540	0.280	0.090	0.000	0.000	0.000	0.000	
01656000	(r) Cedar Run at Route 806 near Catlett, Va.	93.4	51	7	16.8	11.8	9.66	8.02	--	--	--	--	--	--	--	--	
01656000	(w) Cedar Run at Route 806 near Catlett, Va.	93.4	51	7	5.79	3.74	2.65	1.91	--	--	--	--	--	--	--	--	
01656100	(p) Cedar Run at Route 611 near Aden, Va.	155	15	0	7.95	4.86	3.44	2.58	1.98	1.53	1.17	0.850	0.560	0.400	0.280	0.180	
01656100	(r) Cedar Run at Route 611 near Aden, Va.	155	15	0	30.5	22.0	18.1	15.1	--	--	--	--	--	--	--	--	
01656120	(w) Cedar Run at Route 646 near Aden, Va.	175	2	0	9.36	5.90	4.30	3.28	--	--	--	--	--	--	--	--	
01656120	(p) Cedar Run at Route 646 near Aden, Va.	175	2	0	--	--	--	--	--	--	--	--	--	--	--	--	
01656120	(w) Cedar Run at Route 646 near Aden, Va.	175	2	0	35.2	25.6	21.1	17.6	--	--	--	--	--	--	--	--	
01656500	(p) Broad Run at Route 29 at Buckland, Va.	50.2	34	0	8.89	6.39	4.96	3.95	3.16	2.51	1.94	1.41	0.890	0.590	0.370	0.260	
01656500	(r) Broad Run at Route 29 at Buckland, Va.	50.2	34	0	17.6	13.4	10.7	8.72	7.07	5.62	4.31	3.05	1.79	1.05	--	--	
01656500	(w) Broad Run at Route 29 at Buckland, Va.	50.2	34	0	9.16	6.60	5.12	4.08	3.26	2.59	1.99	1.45	0.907	0.598	--	--	
01656650	(p) Broad Run at Route 619 near Bristolow, Va.	89.6	11	0	14.0	8.96	6.62	5.17	4.14	3.35	2.69	2.11	1.54	1.21	0.940	0.700	
01656650	(r) Broad Run at Route 619 near Bristolow, Va.	89.6	11	0	33.7	26.0	21.2	17.5	14.4	11.7	9.16	6.69	4.11	2.56	--	--	
01656650	(w) Broad Run at Route 619 near Bristolow, Va.	89.6	11	0	14.6	9.46	7.02	5.50	4.40	3.55	2.83	2.21	1.59	1.23	--	--	
01656700	(p) Occoquan River (Creek) below Route 234 near Manassas, Va.	343	11	0	19.3	13.8	10.4	8.01	6.10	4.54	3.22	2.08	1.05	0.560	0.260	0.150	
01656700	(r) Occoquan River (Creek) below Route 234 near Manassas, Va.	343	11	0	77.7	58.7	48.7	40.7	--	--	--	--	--	--	--	--	
01656700	(w) Occoquan River (Creek) below Route 234 near Manassas, Va.	343	11	0	23.4	16.9	13.0	10.1	--	--	--	--	--	--	--	--	
01656725	(p) Bull Run at Route 705 near Catharpin, Va.	25.7	16	4	1.68	0.820	0.450	0.250	0.130	0.060	0.010	0.000	0.000	0.000	0.000	0.000	
01656725	(r) Bull Run at Route 705 near Catharpin, Va.	25.7	16	4	3.69	2.40	1.94	1.60	--	--	--	--	--	--	--	--	
01656725	(w) Bull Run at Route 705 near Catharpin, Va.	25.7	16	4	1.98	1.05	0.661	0.434	--	--	--	--	--	--	--	--	
01656960	(p) Cub Run at Route 658 near Bull Run, Va.	49.7	13	0	5.66	3.82	2.79	2.10	1.58	1.16	0.830	0.540	0.280	0.160	0.080	0.030	
01656960	(r) Cub Run at Route 658 near Bull Run, Va.	49.7	13	0	8.02	5.41	4.41	3.65	--	--	--	--	--	--	--	--	
01656960	(w) Cub Run at Route 658 near Bull Run, Va.	49.7	13	0	5.83	3.93	2.90	2.20	--	--	--	--	--	--	--	--	
01657000	(p) Bull Run at Route 616 near Manassas, Va.	146	30	0	7.95	5.00	3.54	2.62	1.96	1.46	1.06	0.720	0.410	0.260	0.150	0.070	
01657000	(r) Bull Run at Route 616 near Manassas, Va.	146	30	0	28.5	20.5	16.8	14.0	--	--	--	--	--	--	--	--	
01657000	(w) Bull Run at Route 616 near Manassas, Va.	146	30	0	9.37	6.04	4.40	3.33	--	--	--	--	--	--	--	--	
01657020	(p) Bull Run at Route 28 near Manassas Park, Va.	147	2	0	--	--	--	--	--	--	--	--	--	--	--	--	
01657020	(r) Bull Run at Route 28 near Manassas Park, Va.	147	2	0	28.7	20.6	17.0	14.1	--	--	--	--	--	--	--	--	
01657020	(w) Bull Run at Route 28 near Manassas Park, Va.	147	2	0	--	--	--	--	--	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	200
					Non-exceedance probability											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.005
7-day averaged, adjusted low flow (ft ³ /s)																
01657415 (p)	Bull Run above Yates Ford near Clifton, Va.	185	11	0	22.6	17.3	14.5	12.7	11.3	10.2	9.22	8.30	7.32	6.71	6.19	5.72
01657415 (r)	Bull Run above Yates Ford near Clifton, Va.	185	11	0	37.6	27.4	22.6	18.8	--	--	--	--	--	--	--	--
01657415 (w)	Bull Run above Yates Ford near Clifton, Va.	185	11	0	23.2	17.7	14.9	13.0	--	--	--	--	--	--	--	--
01657500 (p)	Occoquan River (Creek) near Occoquan (site now in Occoquan Reservoir), Va.	570	22	0	49.1	45.0	40.7	36.2	31.6	26.7	21.5	15.7	9.18	5.29	2.51	0.780
01657500 (r)	Occoquan River (Creek) near Occoquan (site now in Occoquan Reservoir), Va.	570	22	0	141	110	91.5	76.8	--	--	--	--	--	--	--	--
01657500 (w)	Occoquan River (Creek) near Occoquan (site now in Occoquan Reservoir), Va.	570	22	0	53.8	48.2	43.1	38.1	--	--	--	--	--	--	--	--
01657655 (p)	Hooes Run above Route 641 near Occoquan, Va.	3.92	7	0	0.460	0.240	0.150	0.100	0.070	0.050	0.030	0.020	0.010	0.010	0.000	0.000
01657655 (r)	Hooes Run above Route 641 near Occoquan, Va.	3.92	7	0	0.969	0.666	0.485	0.354	0.256	0.180	--	--	--	--	--	--
01657655 (w)	Hooes Run above Route 641 near Occoquan, Va.	3.92	7	0	0.560	0.321	0.211	0.145	0.101	0.069	--	--	--	--	--	--
01658500 (p)	South Fork Quantico Creek at Route 619 near Independent Hill, Va.	7.62	55	13	0.560	0.340	0.220	0.150	0.090	0.050	0.020	0.000	0.000	0.000	0.000	0.000
01658500 (r)	South Fork Quantico Creek at Route 619 near Independent Hill, Va.	7.62	55	13	3.19	2.43	1.96	1.59	1.29	1.02	0.774	0.539	0.302	0.174	--	--
01658500 (w)	South Fork Quantico Creek at Route 619 near Independent Hill, Va.	7.62	55	13	0.720	0.461	0.316	0.226	0.150	0.098	0.054	0.026	0.013	0.007	--	--
01658698 (p)	Little Creek at Mocking Bird Road at Triangle, Va.	2.06	2	0	--	--	--	--	--	--	--	--	--	--	--	--
01658698 (r)	Little Creek at Mocking Bird Road at Triangle, Va.	2.06	2	0	1.04	0.781	0.620	0.496	0.397	0.309	0.231	0.157	0.084	0.046	--	--
01658698 (w)	Little Creek at Mocking Bird Road at Triangle, Va.	2.06	2	0	--	--	--	--	--	--	--	--	--	--	--	--
01659000 (p)	North Branch Chopawamsic Creek above Marine Road 1 near Independent Hill, Va.	5.69	8	2	0.510	0.350	0.250	0.170	0.110	0.060	0.020	0.000	0.000	0.000	0.000	0.000
01659000 (r)	North Branch Chopawamsic Creek above Marine Road 1 near Independent Hill, Va.	5.69	8	2	2.48	1.89	1.51	1.22	0.989	0.780	0.591	0.409	0.227	0.130	--	--
01659000 (w)	North Branch Chopawamsic Creek above Marine Road 1 near Independent Hill, Va.	5.69	8	2	0.618	0.431	0.313	0.220	0.150	0.092	0.044	0.018	0.009	0.005	--	--
01660000 (p)	South Branch Chopawamsic Creek below Marine Road 1 near Garrisonville, Va.	2.46	8	0	0.430	0.320	0.250	0.200	0.160	0.120	0.090	0.060	0.030	0.020	0.010	0.000
01660000 (r)	South Branch Chopawamsic Creek below Marine Road 1 near Garrisonville, Va.	2.46	8	0	1.21	0.911	0.725	0.581	0.466	0.363	0.272	0.185	0.100	0.055	--	--
01660000 (w)	South Branch Chopawamsic Creek below Marine Road 1 near Garrisonville, Va.	2.46	8	0	0.464	0.344	0.269	0.214	0.171	0.129	0.096	0.064	0.032	0.021	--	--
01660100 (p)	Chopawamsic Creek at Russell Road near Joplin, Va.	22.1	5	1	4.02	1.83	0.950	0.500	0.250	0.110	0.030	0.000	0.000	0.000	0.000	0.000
01660100 (r)	Chopawamsic Creek at Russell Road near Joplin, Va.	22.1	5	1	4.47	3.02	2.19	1.59	1.15	0.794	--	--	--	--	--	--
01660100 (w)	Chopawamsic Creek at Russell Road near Joplin, Va.	22.1	5	1	4.21	2.32	1.44	0.923	0.585	0.342	--	--	--	--	--	--
01660400 (p)	Aquia Creek at Route 641 near Garrisonville, Va.	35	32	0	6.45	3.08	1.74	1.04	0.630	0.370	0.200	0.100	0.030	0.010	0.000	0.000
01660400 (r)	Aquia Creek at Route 641 near Garrisonville, Va.	35	32	0	11.8	9.16	7.46	6.14	5.05	4.08	3.17	2.28	1.35	0.819	--	--
01660400 (w)	Aquia Creek at Route 641 near Garrisonville, Va.	35	32	0	7.29	4.00	2.57	1.75	1.21	0.854	0.561	0.378	0.187	0.099	--	--
01660500 (p)	Beaverdam Run at Marine Road 2 near Garrisonville, Va.	13.2	11	0	1.74	1.21	0.880	0.640	0.460	0.320	0.200	0.110	0.050	0.020	0.010	0.000
01660500 (r)	Beaverdam Run at Marine Road 2 near Garrisonville, Va.	13.2	11	0	5.11	3.92	3.17	2.58	2.11	1.68	1.29	0.906	0.518	0.304	--	--
01660500 (w)	Beaverdam Run at Marine Road 2 near Garrisonville, Va.	13.2	11	0	1.99	1.40	1.03	0.764	0.559	0.401	0.260	0.156	0.075	0.034	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					0.9	1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100
					7-day averaged, adjusted low flow (ft ³ /s)												
01661800	(p) Bush Mill Stream at Route 601 near Heathsville, Va.	6.77	20	1	1.98	1.48	1.14	0.890	0.670	0.490	0.340	0.200	0.070	0.000	0.000	0.000	0.000
01661800	(r) Bush Mill Stream at Route 601 near Heathsville, Va.	6.77	20	1	1.57	1.07	0.781	0.570	0.412	0.287	--	--	--	--	--	--	--
01661800	(w) Bush Mill Stream at Route 601 near Heathsville, Va.	6.77	20	1	1.92	1.42	1.09	0.849	0.639	0.468	--	--	--	--	--	--	--
01661900	(p) Carter Run off Route 691 near Marshall, Va.	20.4	5	0	5.74	3.52	2.56	1.98	1.58	1.28	1.04	0.830	0.630	0.510	0.420	0.370	0.340
01661900	(r) Carter Run off Route 691 near Marshall, Va.	20.4	5	0	6.43	4.74	3.72	2.95	2.33	1.80	1.33	0.901	0.488	0.264	--	--	--
01661900	(w) Carter Run off Route 691 near Marshall, Va.	20.4	5	0	5.76	3.56	2.59	2.01	1.60	1.29	1.05	0.832	0.627	0.506	--	--	--
01662000	(p) Rappahannock River at Route 211 near Warrenton, Va.	195	43	0	47.3	31.6	22.8	16.9	12.5	9.08	6.30	3.99	1.99	1.07	0.500	0.290	0.170
01662000	(r) Rappahannock River at Route 211 near Warrenton, Va.	195	43	0	80.5	63.6	53.0	44.7	37.6	31.2	25.2	19.2	12.6	8.44	--	--	--
01662000	(w) Rappahannock River at Route 211 near Warrenton, Va.	195	43	0	48.8	32.9	24.0	18.0	13.4	9.84	6.90	4.46	2.26	1.25	--	--	--
01662500	(p) Rush River at old Route 522 at Washington, Va.	14.6	23	5	1.11	0.770	0.570	0.440	0.330	0.230	0.140	0.000	0.000	0.000	0.000	0.000	0.000
01662500	(r) Rush River at old Route 522 at Washington, Va.	14.6	23	5	4.42	3.23	2.51	1.97	1.54	1.18	0.861	0.572	0.301	0.158	--	--	--
01662500	(w) Rush River at old Route 522 at Washington, Va.	14.6	23	5	1.21	0.841	0.623	0.481	0.361	0.252	0.156	0.012	0.005	0.003	--	--	--
01662800	(p) Battle Run at Route 729 near Laurel Mills, Va.	25.8	45	1	6.93	4.54	3.26	2.41	1.79	1.30	0.910	0.570	0.280	0.130	0.000	0.000	0.000
01662800	(r) Battle Run at Route 729 near Laurel Mills, Va.	25.8	45	1	8.37	6.21	4.90	3.91	3.11	2.42	1.81	1.24	0.684	0.378	--	--	--
01662800	(w) Battle Run at Route 729 near Laurel Mills, Va.	25.8	45	1	6.99	4.60	3.32	2.46	1.83	1.34	0.937	0.589	0.290	0.136	--	--	--
01663000	(p) Thornton River at Route 729 near Laurel Mills, Va.	139	12	0	54.6	35.1	24.9	18.3	13.5	9.76	6.81	4.37	2.27	1.27	0.630	0.390	0.240
01663000	(r) Thornton River at Route 729 near Laurel Mills, Va.	139	12	0	55.1	43.1	35.6	29.7	24.8	20.4	16.2	12.1	7.75	5.02	--	--	--
01663000	(w) Thornton River at Route 729 near Laurel Mills, Va.	139	12	0	54.7	35.5	25.3	18.7	13.9	10.1	7.11	4.61	2.41	1.36	--	--	--
01663500	(p) Hazel River at Route 229 at Rixeyville, Va.	285	53	0	95.1	63.1	46.0	34.5	26.1	19.5	14.0	9.39	5.19	3.08	1.66	1.07	0.710
01663500	(r) Hazel River at Route 229 at Rixeyville, Va.	285	53	0	123	98.4	82.9	70.6	60.0	50.5	41.4	32.1	21.8	15.1	--	--	--
01663500	(w) Hazel River at Route 229 at Rixeyville, Va.	285	53	0	96.2	64.4	47.2	35.8	27.2	20.4	14.8	10.0	5.57	3.34	--	--	--
01664000	(p) Rappahannock River at Route 29 (Alternate) at Remington, Va.	619	64	0	179	116	83.5	62.6	47.4	35.7	26.1	17.9	10.4	6.52	3.78	2.60	1.83
01664000	(r) Rappahannock River at Route 29 (Alternate) at Remington, Va.	619	64	0	293	240	206	180	156	134	114	91.8	66.7	49.7	--	--	--
01664000	(w) Rappahannock River at Route 29 (Alternate) at Remington, Va.	619	64	0	184	120	87.6	66.4	50.8	38.5	28.4	19.8	11.6	7.40	--	--	--
01664500	(p) Rappahannock River at Route 620 at Kellys Ford near Remington, Va.	641	24	0	189	155	126	101	79.0	59.2	41.2	25.1	10.9	4.79	1.61	0.700	0.310
01664500	(r) Rappahannock River at Route 620 at Kellys Ford near Remington, Va.	641	24	0	305	250	215	187	163	141	119	96.2	70.1	52.4	--	--	--
01664500	(w) Rappahannock River at Route 620 at Kellys Ford near Remington, Va.	641	24	0	195	158	129	104	82.1	62.0	43.7	27.3	12.5	5.94	--	--	--
01665000	(p) Mountain Run at Route 641 near Culpeper, Va.	16.1	47	0	4.27	3.64	3.14	2.70	2.30	1.91	1.53	1.14	0.700	0.440	0.240	0.150	0.100
01665000	(r) Mountain Run at Route 641 near Culpeper, Va.	16.1	47	0	4.94	3.61	2.81	2.22	1.74	1.33	0.978	0.654	0.347	0.183	--	--	--
01665000	(w) Mountain Run at Route 641 near Culpeper, Va.	16.1	47	0	4.29	3.64	3.13	2.69	2.29	1.90	1.52	1.13	0.694	0.436	--	--	--
01665500	(p) Rapidan River below Route 29 near Ruckersville, Va.	115	60	0	41.1	30.0	23.5	18.7	15.0	11.9	9.12	6.57	4.04	2.61	1.55	1.07	0.750
01665500	(r) Rapidan River below Route 29 near Ruckersville, Va.	115	60	0	44.6	34.7	28.5	23.7	19.6	16.0	12.7	9.38	5.89	3.75	--	--	--
01665500	(w) Rapidan River below Route 29 near Ruckersville, Va.	115	60	0	41.2	30.2	23.6	18.9	15.1	12.0	9.20	6.63	4.07	2.63	--	--	--
01666500	(p) Robinson (Robertson) River at Route 614 near Locust Dale, Va.	179	63	0	81.3	61.1	48.7	39.5	32.1	25.8	20.1	14.7	9.16	6.01	3.60	2.50	1.76
01666500	(r) Robinson (Robertson) River at Route 614 near Locust Dale, Va.	179	63	0	36.2	26.3	21.7	18.1	--	--	--	--	--	--	--	--	--
01666500	(w) Robinson (Robertson) River at Route 614 near Locust Dale, Va.	179	63	0	79.9	60.1	48.0	39.0	--	--	--	--	--	--	--	--	--
01667000	(p) Rapidan River below Route 615 at Rapidan, Va.	445	4	0	106	76.6	63.5	55.6	50.0	45.9	42.6	39.8	37.5	36.4	35.8	35.7	35.7
01667000	(r) Rapidan River below Route 615 at Rapidan, Va.	445	4	0	106	80.9	67.3	56.3	--	--	--	--	--	--	--	--	--
01667000	(w) Rapidan River below Route 615 at Rapidan, Va.	445	4	0	106	76.7	63.6	55.6	--	--	--	--	--	--	--	--	--

Table 4. (7-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	7-day averaged, adjusted low flow (ft ³ /s)				
(p) 0101667500	Rapidan River above Route 522 near Culpeper, Va.	468	75	0	173	136	110	90.1	72.9	57.8	43.9	30.7	17.6	10.4	5.36	3.30	2.05
(p) 0101667500	Rapidan River above Route 522 near Culpeper, Va.	468	75	0	112	86.1	71.6	60.0	--	--	--	--	--	--	--	--	--
(w) 0101667500	Rapidan River above Route 522 near Culpeper, Va.	468	75	0	171	134	109	89.2	--	--	--	--	--	--	--	--	--
(p) 0101667870	Mountain Run at Route 611 near Burr Hill, Va.	28.8	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
(r) 0101667870	Mountain Run at Route 611 near Burr Hill, Va.	28.8	2	0	5.65	3.81	2.75	2.01	1.45	0.997	--	--	--	--	--	--	--
(w) 0101667870	Mountain Run at Route 611 near Burr Hill, Va.	28.8	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
(p) 0101668000	Rappahannock River below Motts Run near Fredericksburg, Va.	1,595	99	0	433	342	278	228	185	148	113	79.4	45.8	27.3	14.2	8.83	5.53
(r) 0101668000	Rappahannock River below Motts Run near Fredericksburg, Va.	1,595	99	0	196	127	90.4	65.6	47.2	31.3	--	--	--	--	--	--	--
(w) 0101668000	Rappahannock River below Motts Run near Fredericksburg, Va.	1,595	99	0	426	335	273	224	182	145	--	--	--	--	--	--	--
(p) 0101668500	Cat Point Creek below Route 637 near Montross, Va.	45.6	55	2	9.09	5.79	3.99	2.80	1.94	1.30	0.810	0.430	0.140	0.030	0.000	0.000	0.000
(p) 0101668500	Cat Point Creek below Route 637 near Montross, Va.	45.6	55	2	8.48	5.69	4.10	2.99	2.16	1.48	--	--	--	--	--	--	--
(w) 0101668500	Cat Point Creek below Route 637 near Montross, Va.	45.6	55	2	8.97	5.77	4.01	2.83	1.98	1.33	--	--	--	--	--	--	--
(p) 0101668800	Hoskins Creek at Route 717 near Tappahannock, Va.	15.4	19	0	7.18	5.07	3.89	3.08	2.46	1.95	1.51	1.11	0.710	0.480	0.300	0.220	0.160
(r) 0101668800	Hoskins Creek at Route 717 near Tappahannock, Va.	15.4	19	0	3.25	2.20	1.60	1.16	0.841	0.582	--	--	--	--	--	--	--
(w) 0101668800	Hoskins Creek at Route 717 near Tappahannock, Va.	15.4	19	0	6.70	4.73	3.63	2.88	2.30	1.83	--	--	--	--	--	--	--
(p) 0101669000	Piscataway Creek at Route 691 near Tappahannock, Va.	27.9	55	1	10.7	7.92	6.07	4.67	3.54	2.60	1.80	1.10	0.480	0.190	0.010	0.000	0.000
(r) 0101669000	Piscataway Creek at Route 691 near Tappahannock, Va.	27.9	55	1	5.49	3.70	2.68	1.95	1.41	0.970	--	--	--	--	--	--	--
(w) 0101669000	Piscataway Creek at Route 691 near Tappahannock, Va.	27.9	55	1	9.93	7.29	5.59	4.30	3.27	2.41	--	--	--	--	--	--	--
(p) 0101669500	Dragon Swamp at Route 602 near Church View, Va.	86	37	3	19.1	10.9	7.19	5.00	3.53	2.45	1.62	0.940	0.280	0.000	0.000	0.000	0.000
(r) 0101669500	Dragon Swamp at Route 602 near Church View, Va.	86	37	3	14.9	9.90	7.13	5.19	3.74	2.55	--	--	--	--	--	--	--
(w) 0101669500	Dragon Swamp at Route 602 near Church View, Va.	86	37	3	18.4	10.7	7.18	5.03	3.56	2.46	--	--	--	--	--	--	--
(p) 0101669520	Dragon Swamp at Route 603 at Mascot, Va.	109	25	1	33.4	15.2	8.26	4.79	2.80	1.60	0.840	0.370	0.090	0.010	0.000	0.000	0.000
(r) 0101669520	Dragon Swamp at Route 603 at Mascot, Va.	109	25	1	18.3	12.2	8.76	6.38	4.60	3.13	--	--	--	--	--	--	--
(w) 0101669520	Dragon Swamp at Route 603 at Mascot, Va.	109	25	1	27.6	14.0	8.44	5.34	3.40	2.06	--	--	--	--	--	--	--
(p) 0101670000	Beaverdam Swamp above Route 606 near Ark, Va.	7.15	38	3	1.57	1.13	0.850	0.640	0.470	0.330	0.210	0.110	0.020	0.000	0.000	0.000	0.000
(r) 0101670000	Beaverdam Swamp above Route 606 near Ark, Va.	7.15	38	3	1.65	1.13	0.819	0.598	0.432	0.301	--	--	--	--	--	--	--
(w) 0101670000	Beaverdam Swamp above Route 606 near Ark, Va.	7.15	38	3	1.58	1.13	0.845	0.634	0.465	0.327	--	--	--	--	--	--	--
(p) 0101670180	Pamunkey Creek at Route 669 at Lahore, Va.	41.9	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
(r) 0101670180	Pamunkey Creek at Route 669 at Lahore, Va.	41.9	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
(w) 0101670180	Pamunkey Creek at Route 669 at Lahore, Va.	41.9	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
(p) 0101670300	Contrary Creek below Route 522 near Mineral, Va.	5.58	10	0	0.910	0.570	0.410	0.300	0.230	0.170	0.130	0.090	0.050	0.040	0.020	0.020	0.010
(r) 0101670300	Contrary Creek below Route 522 near Mineral, Va.	5.58	10	0	2.44	1.86	1.49	1.20	0.972	0.766	0.581	0.401	0.223	0.127	--	--	--
(w) 0101670300	Contrary Creek below Route 522 near Mineral, Va.	5.58	10	0	0.982	0.628	0.456	0.337	0.259	0.193	0.146	0.102	0.056	0.043	--	--	--
(p) 0101670400	North Anna River at Route 601 near Partlow, Va.	342	16	0	48.1	46.1	44.8	43.9	43.1	42.3	41.7	40.9	40.1	39.5	39.0	38.7	38.5
(r) 0101670400	North Anna River at Route 601 near Partlow, Va.	342	16	0	83.1	66.4	55.2	46.5	39.1	32.5	26.0	19.6	12.6	8.28	--	--	--
(w) 0101670400	North Anna River at Route 601 near Partlow, Va.	342	16	0	49.0	46.6	45.1	43.9	43.0	42.1	41.3	40.5	39.5	38.9	--	--	--
(p) 0101671000	North Anna River near Doswell, Va.	440	56	0	87.9	72.8	61.2	51.5	42.7	34.5	26.7	19.0	10.9	6.44	3.25	1.95	1.18
(r) 0101671000	North Anna River near Doswell, Va.	440	56	0	62.9	41.2	29.5	21.4	15.4	10.4	--	--	--	--	--	--	--
(w) 0101671000	North Anna River near Doswell, Va.	440	56	0	84.9	69.2	57.8	48.4	40.0	32.4	--	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					Non-exceedance probability													
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
7-day averaged, adjusted low flow (ft³/s)																		
01671020	(p) North Anna River at Route 30 at Hart Corner, near Doswell, Va.	462	27	0	75.2	64.8	58.8	54.4	50.9	47.8	45.0	42.2	38.9	36.8	34.8	33.7	32.9	
01671020	(r) North Anna River at Route 30 at Hart Corner, near Doswell, Va.	462	27	0	108	86.2	71.9	60.7	51.3	42.8	34.4	26.1	16.9	11.2	--	--	--	
01671020	(w) North Anna River at Route 30 at Hart Corner, near Doswell, Va.	462	27	0	76.2	65.4	59.1	54.6	50.9	47.7	44.8	41.8	38.5	36.3	--	--	--	
01671100	(p) Little River at Route 685 near Doswell, Va.	107	43	0	15.5	9.47	6.51	4.67	3.39	2.43	1.68	1.07	0.560	0.320	0.160	0.100	0.070	
01671100	(r) Little River at Route 685 near Doswell, Va.	107	43	0	18.0	12.0	8.62	6.27	4.52	3.08	--	--	--	--	--	--	--	
01671100	(w) Little River at Route 685 near Doswell, Va.	107	43	0	15.9	9.88	6.84	4.91	3.55	2.51	--	--	--	--	--	--	--	
01671500	(p) Bunch (Hudson) Creek at Route 15 near Boswells Tavern, Va.	4.34	30	10	0.760	0.540	0.390	0.270	0.170	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
01671500	(r) Bunch (Hudson) Creek at Route 15 near Boswells Tavern, Va.	4.34	30	10	1.97	1.49	1.19	0.962	0.775	0.609	0.460	0.317	0.174	0.098	--	--	--	
01671500	(w) Bunch (Hudson) Creek at Route 15 near Boswells Tavern, Va.	4.34	30	10	0.812	0.579	0.422	0.296	0.191	0.089	0.015	0.011	0.005	0.003	--	--	--	
01672000	(p) South Anna River at Route 617 at Vontay, Va.	297	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
01672000	(r) South Anna River at Route 617 at Vontay, Va.	297	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
01672000	(w) South Anna River at Route 617 at Vontay, Va.	297	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
01672500	(p) South Anna River at Route 54 near Ashland, Va.	395	68	0	80.6	61.0	49.1	40.2	33.1	26.9	21.3	16.0	10.4	7.10	4.48	3.24	2.38	
01672500	(r) South Anna River at Route 54 near Ashland, Va.	395	68	0	94.0	75.2	62.6	52.8	44.5	37.1	29.7	22.5	14.5	9.58	--	--	--	
01672500	(w) South Anna River at Route 54 near Ashland, Va.	395	68	0	81.0	61.5	49.5	40.6	33.4	27.2	21.5	16.2	10.5	7.16	--	--	--	
01673000	(p) Pamunkey River at Route 614 near Hanover, Va.	1,078	65	0	212	167	139	118	101	85.4	71.0	56.5	40.5	30.3	21.4	16.8	13.3	
01673000	(r) Pamunkey River at Route 614 near Hanover, Va.	1,078	65	0	139	90.3	64.3	46.7	33.6	22.4	--	--	--	--	--	--	--	
01673000	(w) Pamunkey River at Route 614 near Hanover, Va.	1,078	65	0	204	160	132	112	95.1	80.7	--	--	--	--	--	--	--	
01673500	(p) Totopotomoy Creek at Route 301 near Atlee, Va.	5.77	28	0	0.680	0.440	0.330	0.250	0.200	0.150	0.120	0.090	0.060	0.040	0.030	0.020	0.020	
01673500	(r) Totopotomoy Creek at Route 301 near Atlee, Va.	5.77	28	0	1.36	0.934	0.680	0.496	0.359	0.251	--	--	--	--	--	--	--	
01673500	(w) Totopotomoy Creek at Route 301 near Atlee, Va.	5.77	28	0	0.766	0.500	0.370	0.277	0.217	0.159	--	--	--	--	--	--	--	
01673550	(p) Totopotomoy Creek at Route 606 near Studley, Va.	25.5	29	1	9.99	6.84	5.03	3.77	2.82	2.05	1.42	0.870	0.380	0.120	0.000	0.000	0.000	
01673550	(r) Totopotomoy Creek at Route 606 near Studley, Va.	25.5	29	1	5.07	3.42	2.48	1.80	1.30	0.898	--	--	--	--	--	--	--	
01673550	(w) Totopotomoy Creek at Route 606 near Studley, Va.	25.5	29	1	9.26	6.35	4.68	3.51	2.63	1.92	--	--	--	--	--	--	--	
01673638	(p) Cohoke Mill Creek near Lester Manor, Va.	8.81	7	1	7.07	4.34	2.76	1.73	1.03	0.540	0.220	0.040	0.000	0.000	0.000	0.000	0.000	
01673638	(r) Cohoke Mill Creek near Lester Manor, Va.	8.81	7	1	1.98	1.35	0.982	0.716	0.518	0.360	--	--	--	--	--	--	--	
01673638	(w) Cohoke Mill Creek near Lester Manor, Va.	8.81	7	1	5.45	3.41	2.23	1.44	0.889	0.496	--	--	--	--	--	--	--	
01673800	(p) Po River at Route 208 near Spotsylvania, Va.	77.6	44	1	7.59	4.22	2.72	1.85	1.27	0.870	0.570	0.340	0.150	0.070	0.000	0.000	0.000	
01673800	(r) Po River at Route 208 near Spotsylvania, Va.	77.6	44	1	23.3	18.3	15.0	12.5	10.3	8.43	6.61	4.83	2.94	1.84	--	--	--	
01673800	(w) Po River at Route 208 near Spotsylvania, Va.	77.6	44	1	8.65	5.12	3.47	2.47	1.77	1.28	0.877	0.581	0.288	0.151	--	--	--	
01674000	(p) Mattaponi River above Route 605 near Bowling Green, Va.	256	63	2	29.4	19.2	13.1	9.03	6.06	3.87	2.24	1.06	0.280	0.040	0.000	0.000	0.000	
01674000	(r) Mattaponi River above Route 605 near Bowling Green, Va.	256	63	2	39.0	25.7	18.4	13.4	9.65	6.51	--	--	--	--	--	--	--	
01674000	(w) Mattaponi River above Route 605 near Bowling Green, Va.	256	63	2	31.9	20.8	14.4	10.0	6.85	4.39	--	--	--	--	--	--	--	
01674500	(p) Mattaponi River near Beulahville, Va.	602	62	0	121	94.4	75.2	59.8	46.8	35.5	25.4	16.3	7.96	4.00	1.66	0.860	0.450	
01674500	(r) Mattaponi River near Beulahville, Va.	602	62	0	83.0	54.2	38.7	28.1	20.3	13.6	--	--	--	--	--	--	--	
01674500	(w) Mattaponi River near Beulahville, Va.	602	62	0	116	88.8	70.3	55.7	43.6	33.1	--	--	--	--	--	--	--	
01677000	(p) Ware Creek at Route 600 near Toano, Va.	6.29	14	1	2.54	1.78	1.35	1.05	0.820	0.630	0.460	0.300	0.130	0.000	0.000	0.000	0.000	
01677000	(r) Ware Creek at Route 600 near Toano, Va.	6.29	14	1	1.47	1.01	0.733	0.535	0.387	0.270	--	--	--	--	--	--	--	
01677000	(w) Ware Creek at Route 600 near Toano, Va.	6.29	14	1	2.41	1.69	1.28	0.995	0.776	0.598	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					Non-exceedance probability											
					7-day averaged, adjusted low flow (ft ³ /s)											
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.005
02011400 (p)	Jackson River along Route 603 near Bacova, Va.	157	31	0	39.7	33.5	29.8	27.1	24.9	22.9	21.0	19.0	16.8	15.2	13.7	12.8
02011400 (r)	Jackson River along Route 603 near Bacova, Va.	157	31	0	37.5	31.3	27.3	24.4	21.9	19.6	17.4	15.1	12.4	10.5	8.65	7.60
02011400 (w)	Jackson River along Route 603 near Bacova, Va.	157	31	0	39.7	33.5	29.8	27.0	24.8	22.8	20.9	19.0	16.7	15.1	13.6	12.7
02011460 (p)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	8.86	6.67	5.47	4.64	4.00	3.46	2.97	2.51	2.00	1.67	1.37	1.21
02011460 (r)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	13.7	11.2	9.68	8.55	7.58	6.71	5.86	5.01	3.99	3.31	2.65	2.28
02011460 (w)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	8.98	6.78	5.57	4.73	4.08	3.53	3.03	2.56	2.04	1.70	1.39	1.23
02011470 (p)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	14.8	14.8	14.6	14.2	13.5	12.7	11.5	9.73	7.03	4.86	2.83	1.81
02011470 (r)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	17.2	14.2	12.3	10.9	9.66	8.58	7.51	6.44	5.17	4.31	3.47	3.00
02011470 (w)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	14.9	14.8	14.5	14.1	13.5	12.6	11.4	9.66	6.99	4.85	2.84	1.83
02011480 (p)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	12.8	9.48	7.69	6.45	5.49	4.68	3.95	3.26	2.51	2.03	1.61	1.38
02011480 (r)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	20.4	16.8	14.6	13.0	11.5	10.3	9.01	7.76	6.25	5.23	4.23	3.67
02011480 (w)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	12.9	9.66	7.86	6.60	5.63	4.81	4.07	3.36	2.59	2.10	1.66	1.42
02011490 (p)	Little Back Creek near Sunrise, Va.	4.9	21	0	3.05	2.81	2.64	2.49	2.36	2.22	2.09	1.93	1.72	1.55	1.37	1.26
02011490 (r)	Little Back Creek near Sunrise, Va.	4.9	21	0	0.931	0.732	0.612	0.523	0.449	0.385	0.325	0.264	0.196	0.153	0.113	0.093
02011490 (w)	Little Back Creek near Sunrise, Va.	4.9	21	0	3.00	2.77	2.60	2.45	2.32	2.18	2.06	1.90	1.69	1.53	1.35	1.24
02011500 (p)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	23.4	18.7	15.7	13.4	11.4	9.72	8.10	6.47	4.64	3.46	2.43	1.90
02011500 (r)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	31.7	26.3	23.0	20.5	18.3	16.4	14.5	12.6	10.3	8.67	7.10	6.22
02011500 (w)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	23.6	18.8	15.8	13.5	11.6	9.88	8.25	6.61	4.76	3.57	2.52	1.98
02011800 (p)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	187	171	157	146	134	123	110	95.8	76.9	62.5	48.1	39.7
02011800 (r)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	86.8	73.4	64.8	58.5	53.0	48.0	42.9	37.9	31.8	27.5	23.2	20.7
02011800 (w)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	185	169	155	144	132	121	109	94.6	76.0	61.9	47.7	39.4
02011950 (p)	Johnson Spring near Hot Springs, Va.	--	6	0	0.580	0.540	0.510	0.490	0.470	0.450	0.430	0.410	0.390	0.370	0.350	0.320
02011950 (r)	Johnson Spring near Hot Springs, Va.	--	6	0	--	--	--	--	--	--	--	--	--	--	--	--
02011950 (w)	Johnson Spring near Hot Springs, Va.	--	6	0	--	--	--	--	--	--	--	--	--	--	--	--
02012000 (p)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	8.97	7.87	7.27	6.85	6.52	6.24	6.00	5.77	5.54	5.40	5.29	5.24
02012000 (r)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	2.25	1.79	1.51	1.31	1.14	0.984	0.838	0.693	0.527	0.419	0.318	0.265
02012000 (w)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	8.83	7.74	7.15	6.74	6.41	6.13	5.90	5.67	5.45	5.31	5.21	5.13
02012500 (p)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	115	101	92.9	86.7	81.7	77.2	72.9	68.6	63.5	60.1	56.8	54.9
02012500 (r)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	104	88.4	78.3	70.9	64.3	58.3	52.3	46.4	39.1	34.0	28.7	25.8
02012500 (w)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	115	101	92.6	86.4	81.3	76.8	72.5	68.1	63.1	59.6	56.3	54.5
02013000 (p)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	23.6	20.4	18.4	16.9	15.6	14.5	13.4	12.2	10.8	9.81	8.84	8.27
02013000 (r)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	38.8	32.4	28.3	25.3	22.7	20.4	18.0	15.7	12.9	10.9	9.00	7.91
02013000 (w)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	23.9	20.6	18.6	17.0	15.7	14.6	13.4	12.3	10.8	9.83	8.84	8.26
02013100 (p)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	255	237	221	207	193	178	162	142	116	95.6	74.4	61.8
02013100 (r)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	160	136	121	111	101	91.9	82.8	74.1	63.1	55.4	47.4	42.9
02013100 (w)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	253	235	219	205	191	176	160	141	115	94.8	74.0	61.5
02014000 (p)	Potts Creek at Route 18 near Covington, Va.	153	68	0	36.9	31.6	28.5	26.2	24.3	22.7	21.1	19.5	17.6	16.3	15.1	14.4
02014000 (r)	Potts Creek at Route 18 near Covington, Va.	153	68	0	36.5	30.4	26.6	23.8	21.3	19.1	16.9	14.7	12.0	10.2	8.38	7.36
02014000 (w)	Potts Creek at Route 18 near Covington, Va.	153	68	0	36.9	31.6	28.5	26.2	24.3	22.6	21.0	19.4	17.5	16.2	15.0	14.3
02014500 (p)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	3.56	2.83	2.44	2.17	1.97	1.80	1.65	1.50	1.34	1.25	1.16	1.11
02014500 (r)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	2.48	1.98	1.68	1.45	1.26	1.09	0.934	0.773	0.590	0.470	0.358	0.299
02014500 (w)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	3.54	2.81	2.42	2.15	1.95	1.79	1.64	1.49	1.33	1.24	1.15	1.10

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					0.9	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					7-day averaged, adjusted low flow (ft ³ /s)													
02015700 (p)	Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	44.8	39.0	35.7	33.4	31.6	30.0	28.5	27.1	25.6	24.6	23.8	23.3	23.0	
02015700 (r)	Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	25.7	21.3	18.5	16.5	14.7	13.1	11.5	9.98	8.10	6.82	5.54	4.84	4.25	
02015700 (w)	Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	44.4	38.6	35.4	33.1	31.2	29.6	28.2	26.8	25.3	24.3	23.4	23.0	22.7	
02016000 (p)	Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	108	94.3	86.0	79.8	74.7	70.1	65.7	61.2	55.8	52.1	48.5	46.4	44.6	
02016000 (r)	Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	118	100	89.0	80.7	73.3	66.6	59.8	53.2	45.0	39.2	33.3	29.9	27.1	
02016000 (w)	Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	108	94.4	86.1	79.8	74.7	70.0	65.6	61.0	55.6	51.8	48.2	46.1	44.4	
02016500 (p)	James River below Route 220 at Lick Run, Va.	1,371	81	0	408	352	318	293	271	252	234	214	191	175	159	150	142	
02016500 (r)	James River below Route 220 at Lick Run, Va.	1,371	81	0	378	327	294	270	249	229	209	190	166	148	130	119	111	
02016500 (w)	James River below Route 220 at Lick Run, Va.	1,371	81	0	407	352	318	292	271	252	233	214	191	174	158	149	141	
02017000 (p)	Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	5.33	4.37	3.82	3.41	3.08	2.79	2.51	2.24	1.92	1.70	1.50	1.38	1.29	
02017000 (r)	Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	2.70	2.16	1.83	1.58	1.38	1.20	1.02	0.847	0.647	0.517	0.394	0.330	0.277	
02017000 (w)	Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	5.27	4.32	3.78	3.37	3.04	2.76	2.48	2.21	1.90	1.68	1.48	1.36	1.27	
02017500 (p)	Johns Creek at Route 615 at New Castle, Va.	105	80	0	17.2	14.6	13.1	12.0	11.0	10.2	9.44	8.64	7.71	7.06	6.45	6.09	5.80	
02017500 (r)	Johns Creek at Route 615 at New Castle, Va.	105	80	0	24.4	20.2	17.6	15.6	14.0	12.4	10.9	9.46	7.66	6.44	5.23	4.56	4.00	
02017500 (w)	Johns Creek at Route 615 at New Castle, Va.	105	80	0	17.3	14.7	13.2	12.0	11.1	10.3	9.47	8.66	7.71	7.05	6.43	6.06	5.77	
02018000 (p)	Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	63.6	55.5	50.4	46.6	43.3	40.4	37.5	34.5	30.8	28.2	25.6	24.1	22.8	
02018000 (r)	Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	82.5	69.7	61.5	55.5	50.2	45.4	40.6	35.9	30.0	26.0	21.8	19.5	17.5	
02018000 (w)	Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	64.0	55.8	50.7	46.8	43.5	40.5	37.6	34.5	30.8	28.2	25.6	24.0	22.7	
02018500 (p)	Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	6.39	5.58	4.95	4.39	3.88	3.38	2.86	2.30	1.63	1.18	0.780	0.570	0.420	
02018500 (r)	Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	7.41	6.02	5.16	4.53	3.98	3.50	3.03	2.56	2.01	1.64	1.29	1.10	0.942	
02018500 (w)	Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	6.41	5.59	4.95	4.39	3.88	3.38	2.86	2.31	1.64	1.19	0.790	0.580	0.429	
02019000 (p)	Catawba Creek near Fincastle, Va.	104	8	0	22.5	18.9	16.3	14.2	12.4	10.7	9.03	7.28	5.25	3.89	2.70	2.07	1.60	
02019000 (r)	Catawba Creek near Fincastle, Va.	104	8	0	24.2	20.0	17.4	15.5	13.8	12.3	10.8	9.35	7.57	6.36	5.17	4.50	3.95	
02019000 (w)	Catawba Creek near Fincastle, Va.	104	8	0	22.6	18.9	16.3	14.3	12.4	10.7	9.07	7.32	5.30	3.94	2.75	2.12	1.64	
02019500 (p)	James River at Route 11 at Buchanan, Va.	2,073	96	0	597	523	476	440	409	380	352	322	285	258	231	215	201	
02019500 (r)	James River at Route 11 at Buchanan, Va.	2,073	96	0	587	512	462	428	395	366	336	308	271	246	218	202	189	
02019500 (w)	James River at Route 11 at Buchanan, Va.	2,073	96	0	597	523	476	440	408	380	351	321	284	257	230	214	201	
02020500 (p)	Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	0	13.1	9.59	7.60	6.20	5.10	4.18	3.36	2.59	1.78	1.29	0.890	0.690	0.550	
02020500 (r)	Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	0	33.4	27.8	24.3	21.7	19.4	17.4	15.4	13.3	10.9	9.23	7.56	6.63	5.86	
02020500 (w)	Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	0	13.7	10.1	8.04	6.60	5.47	4.52	3.66	2.85	1.99	1.47	1.04	0.814	0.656	
02021000 (p)	Calpasture River below Mill Creek at Goshen, Va.	186	12	0	20.7	17.9	16.0	14.6	13.3	12.1	11.0	9.80	8.31	7.24	6.18	5.56	5.04	
02021000 (r)	Calpasture River below Mill Creek at Goshen, Va.	186	12	0	44.9	37.6	32.9	29.5	26.5	23.8	21.1	18.4	15.2	12.9	10.7	9.43	8.38	
02021000 (w)	Calpasture River below Mill Creek at Goshen, Va.	186	12	0	21.3	18.3	16.4	14.9	13.6	12.4	11.2	9.97	8.44	7.34	6.26	5.63	5.09	
02021500 (p)	Maury River above Route 39 at Rockbridge Baths, Va.	329	78	0	44.3	36.3	31.4	27.8	24.7	22.0	19.4	16.8	13.6	11.5	9.48	8.33	7.40	
02021500 (r)	Maury River above Route 39 at Rockbridge Baths, Va.	329	78	0	82.5	69.7	61.5	55.5	50.2	45.4	40.6	35.9	30.0	26.0	21.8	19.5	17.5	
02021500 (w)	Maury River above Route 39 at Rockbridge Baths, Va.	329	78	0	45.1	37.0	32.1	28.4	25.3	22.5	19.8	17.1	14.0	11.8	9.71	8.53	7.57	
02022500 (p)	Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	9.97	8.84	8.10	7.51	6.99	6.51	6.02	5.49	4.82	4.33	3.82	3.52	3.26	
02022500 (r)	Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	7.59	6.17	5.29	4.64	4.09	3.59	3.11	2.63	2.07	1.69	1.33	1.13	0.971	
02022500 (w)	Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	9.92	8.78	8.04	7.45	6.93	6.45	5.96	5.43	4.77	4.28	3.78	3.48	3.22	

Table 4. (7-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					Non-exceedance probability											
					7-day averaged, adjusted low flow (ft ³ /s)											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01
02023000	(p) Maury (North) River above Route 631 near Lexington, Va.	481	33	0	103	88.6	79.3	72.3	66.3	60.9	55.6	50.1	43.4	38.6	33.9	31.1
02023000	(r) Maury (North) River above Route 631 near Lexington, Va.	481	33	0	124	105	93.2	84.6	76.9	69.9	62.8	55.9	47.3	41.3	35.1	31.6
02023000	(w) Maury (North) River above Route 631 near Lexington, Va.	481	33	0	104	88.9	79.6	72.5	66.5	61.1	55.8	50.2	43.4	38.6	33.9	31.1
02023500	(p) South River at Route 631 near Riverside, Va.	112	10	0	27.8	24.4	22.3	20.6	19.2	17.9	16.6	15.3	13.6	12.4	11.2	10.5
02023500	(r) South River at Route 631 near Riverside, Va.	112	10	0	43.3	33.6	27.6	22.9	19.0	15.5	12.2	9.05	5.67	3.60	--	--
02023500	(w) South River at Route 631 near Riverside, Va.	112	10	0	28.1	24.6	22.4	20.6	19.2	17.9	16.6	15.2	13.5	12.3	--	--
02024000	(p) Maury River near Buena Vista, Va.	647	67	0	152	129	115	104	94.7	86.4	78.3	69.9	59.8	52.7	45.7	41.6
02024000	(r) Maury River near Buena Vista, Va.	647	67	0	170	145	129	118	107	97.9	88.3	79.1	67.4	59.3	50.9	46.0
02024000	(w) Maury River near Buena Vista, Va.	647	67	0	153	130	115	104	95.0	86.6	78.5	70.1	60.0	52.8	45.8	41.7
02024500	(p) Maury (North) River at Route 130 near Glasgow, Va.	837	7	0	244	201	178	161	148	137	126	116	104	97.0	90.1	86.4
02024500	(r) Maury (North) River at Route 130 near Glasgow, Va.	837	7	0	411	340	294	258	226	197	168	138	103	79.0	--	--
02024500	(w) Maury (North) River at Route 130 near Glasgow, Va.	837	7	0	248	205	180	163	149	138	127	116	104	96.7	--	--
02024915	(p) Pedlar River at Forest Road 39 near Buena Vista, Va.	27.1	4	0	17.1	12.9	10.6	9.00	7.72	6.63	5.64	4.69	3.63	2.95	2.35	2.02
02024915	(r) Pedlar River at Forest Road 39 near Buena Vista, Va.	27.1	4	0	8.84	6.58	5.20	4.15	3.31	2.58	1.93	1.32	0.734	0.408	--	--
02024915	(w) Pedlar River at Forest Road 39 near Buena Vista, Va.	27.1	4	0	16.8	12.8	10.5	8.89	7.62	6.55	5.57	4.63	3.59	2.91	--	--
02025000	(p) Pedlar River at Route 635 near Pedlar Mills, Va.	94.6	13	0	23.6	17.7	14.3	11.8	9.85	8.18	6.67	5.22	3.67	2.71	1.91	1.50
02025000	(r) Pedlar River at Route 635 near Pedlar Mills, Va.	94.6	13	0	35.8	27.7	22.6	18.7	15.4	12.5	9.83	7.20	4.45	2.78	--	--
02025000	(w) Pedlar River at Route 635 near Pedlar Mills, Va.	94.6	13	0	23.9	18.0	14.5	12.0	9.98	8.28	6.73	5.26	3.68	2.71	--	--
02025500	(p) James River at Holcomb(s) Rock, Va.	3,256	79	0	947	821	742	681	629	581	534	485	424	381	337	312
02025500	(r) James River at Holcomb(s) Rock, Va.	3,256	79	0	950	834	758	706	656	611	564	522	466	427	384	359
02025500	(w) James River at Holcomb(s) Rock, Va.	3,256	79	0	947	822	742	681	629	582	535	485	425	381	338	312
02026000	(p) James River above Route 60 at Bent Creek, Va.	3,649	81	0	1,200	1,035	929	845	772	705	638	567	479	416	353	316
02026000	(r) James River above Route 60 at Bent Creek, Va.	3,649	81	0	1,072	944	859	801	745	696	643	597	534	490	443	414
02026000	(w) James River above Route 60 at Bent Creek, Va.	3,649	81	0	1,197	1,033	927	844	772	705	638	568	480	417	355	318
02026500	(p) Tye River at Roseland, Va.	69	9	0	36.2	27.4	21.8	17.7	14.2	11.3	8.61	6.12	3.63	2.26	1.25	0.820
02026500	(r) Tye River at Roseland, Va.	69	9	0	25.2	19.3	15.6	12.8	10.5	8.40	6.52	4.70	2.82	1.71	--	--
02026500	(w) Tye River at Roseland, Va.	69	9	0	35.8	27.2	21.7	17.5	14.1	11.2	8.56	6.09	3.61	2.25	--	--
02027000	(p) Tye River at Route 158 near Lovingson, Va.	93	68	0	43.3	34.0	27.7	22.7	18.5	14.7	11.3	7.98	4.64	2.79	1.48	0.930
02027000	(r) Tye River at Route 158 near Lovingson, Va.	93	68	0	35.1	27.1	22.2	18.3	15.1	12.3	9.61	7.04	4.34	2.71	--	--
02027000	(w) Tye River at Route 158 near Lovingson, Va.	93	68	0	43.0	33.8	27.6	22.6	18.4	14.7	11.2	7.96	4.63	2.79	--	--
02027500	(p) Piney River at Route 151 at Piney River, Va.	47.7	57	0	20.7	15.3	12.1	9.89	8.13	6.64	5.32	4.06	2.76	1.97	1.33	1.02
02027500	(r) Piney River at Route 151 at Piney River, Va.	47.7	57	0	16.6	12.6	10.1	8.20	6.64	5.27	4.03	2.85	1.66	0.972	--	--
02027500	(w) Piney River at Route 151 at Piney River, Va.	47.7	57	0	20.6	15.2	12.1	9.85	8.09	6.61	5.29	4.04	2.74	1.95	--	--
02027800	(p) Buffalo River at Route 657 near Tye River, Va.	148	34	0	69.0	53.4	43.4	35.9	29.7	24.2	19.2	14.4	9.27	6.25	3.86	2.74
02027800	(r) Buffalo River at Route 657 near Tye River, Va.	148	34	0	59.1	46.3	38.3	32.1	26.8	22.0	17.6	13.2	8.48	5.53	--	--
02027800	(w) Buffalo River at Route 657 near Tye River, Va.	148	34	0	68.7	53.2	43.3	35.8	29.6	24.2	19.2	14.3	9.26	6.24	--	--
02028000	(p) Tye (Buffalo) River near Norwood, Va.	355	19	0	156	123	103	88.6	76.8	66.5	56.9	47.4	36.6	29.5	23.1	19.6
02028000	(r) Tye (Buffalo) River near Norwood, Va.	355	19	0	157	127	107	91.9	78.7	66.6	55.1	43.2	29.9	21.2	--	--
02028000	(w) Tye (Buffalo) River near Norwood, Va.	355	19	0	156	123	103	88.6	76.8	66.5	56.9	47.3	36.5	29.4	--	--
02028500	(p) Rockfish River at Route 634 near Greenfield, Va.	94.8	63	0	35.8	29.3	24.1	19.6	15.6	12.0	8.70	5.60	2.71	1.33	0.520	0.260
02028500	(r) Rockfish River at Route 634 near Greenfield, Va.	94.8	63	0	35.9	27.8	22.7	18.8	15.5	12.6	9.86	7.22	4.46	2.79	--	--
02028500	(w) Rockfish River at Route 634 near Greenfield, Va.	94.8	63	0	35.8	29.2	24.0	19.6	15.6	12.0	8.73	5.64	2.75	1.36	--	--
02029000	(p) James River below Route 20 at Scottsville, Va.	4,581	82	0	1,500	1,266	1,119	1,006	910	823	738	649	542	467	393	350
02029000	(r) James River below Route 20 at Scottsville, Va.	4,581	82	0	1,638	1,438	1,221	1,036	--	--	--	--	--	--	--	--
02029000	(w) James River below Route 20 at Scottsville, Va.	4,581	82	0	1,506	1,273	1,123	1,007	--	--	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005						
7-day averaged, adjusted low flow (ft ³ /s)																		
02029500	(p) Hardware River at Route 618 near Scottsville, Va.	104	11	0	53.8	40.5	31.8	25.2	19.8	15.2	11.2	7.51	4.03	2.26	1.09	0.640	0.380	
02029500	(r) Hardware River at Route 618 near Scottsville, Va.	104	11	0	39.8	30.9	25.3	21.0	17.3	14.1	11.1	8.19	5.10	3.21	--	--	--	
02029500	(w) Hardware River at Route 618 near Scottsville, Va.	104	11	0	53.2	40.1	31.6	25.1	19.7	15.2	11.2	7.53	4.05	2.28	--	--	--	
02030000	(p) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	0	34.3	34.2	33.2	31.1	27.8	23.2	17.5	10.9	4.14	1.36	0.260	0.060	0.010	
02030000	(r) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	0	45.0	35.0	28.8	23.9	19.8	16.2	12.8	9.49	5.97	3.80	--	--	--	
02030000	(w) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	0	34.8	34.2	33.0	30.8	27.4	22.9	17.3	10.8	4.19	1.42	--	--	--	
02030500	(p) Slate River above Route 676 near Arvonnia, Va.	226	67	0	74.3	59.2	48.9	40.8	33.8	27.6	21.8	16.1	10.0	6.49	3.77	2.54	1.73	
02030500	(r) Slate River above Route 676 near Arvonnia, Va.	226	67	0	58.3	46.3	38.4	32.2	27.0	22.3	17.7	13.3	8.40	5.44	--	--	--	
02030500	(w) Slate River above Route 676 near Arvonnia, Va.	226	67	0	73.7	58.7	48.6	40.5	33.6	27.5	21.7	16.0	10.00	6.46	--	--	--	
02031000	(p) Mechums River at Route 614 near White Hall (Ivy), Va.	95.3	36	1	36.9	28.2	22.7	18.4	14.9	11.8	8.94	6.23	3.38	1.60	0.000	0.000	0.000	
02031000	(r) Mechums River at Route 614 near White Hall (Ivy), Va.	95.3	36	1	36.1	27.9	22.8	18.9	15.6	12.6	9.93	7.27	4.50	2.81	--	--	--	
02031000	(w) Mechums River at Route 614 near White Hall (Ivy), Va.	95.3	36	1	36.8	28.2	22.7	18.4	14.9	11.8	8.96	6.25	3.40	1.62	--	--	--	
02031500	(p) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	2	0.810	0.600	0.470	0.370	0.280	0.210	0.130	0.040	0.000	0.000	0.000	0.000	0.000	
02031500	(r) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	2	3.29	2.38	1.84	1.43	1.11	0.844	0.610	0.400	0.206	0.105	--	--	--	
02031500	(w) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	2	0.885	0.651	0.507	0.398	0.301	0.225	0.141	0.048	0.004	0.002	--	--	--	
02032250	(p) Moormans River at Route 601 near Free Union, Va.	77	18	0	12.5	8.24	6.03	4.57	3.50	2.65	1.96	1.35	0.790	0.500	0.290	0.200	0.140	
02032250	(r) Moormans River at Route 601 near Free Union, Va.	77	18	0	28.4	21.9	17.8	14.6	12.0	9.65	7.52	5.45	3.31	2.03	--	--	--	
02032250	(w) Moormans River at Route 601 near Free Union, Va.	77	18	0	13.0	8.71	6.41	4.89	3.76	2.85	2.11	1.45	0.844	0.531	--	--	--	
02032400	(p) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	7.86	5.25	3.94	3.08	2.46	1.96	1.54	1.17	0.800	0.580	0.410	0.330	0.260	
02032400	(r) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	11.6	8.68	6.90	5.55	4.45	3.50	2.64	1.84	1.04	0.591	--	--	--	
02032400	(w) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	7.98	5.35	4.02	3.15	2.51	2.00	1.56	1.18	0.804	0.580	--	--	--	
02032500	(p) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	40.6	26.0	18.9	14.3	11.1	8.54	6.47	4.68	2.98	2.05	1.34	1.01	0.780	
02032500	(r) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	89.7	71.2	59.5	50.3	42.4	35.3	28.7	21.9	14.5	9.80	--	--	--	
02032500	(w) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	42.3	27.5	20.1	15.4	12.0	9.26	7.02	5.09	3.21	2.20	--	--	--	
02032515	(p) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	62.2	46.2	36.9	30.3	25.1	20.7	16.7	12.9	8.94	6.51	4.50	3.49	2.74	
02032515	(r) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	111	88.2	74.0	62.9	53.4	44.7	36.5	28.2	19.0	13.0	--	--	--	
02032515	(w) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	63.5	47.3	37.9	31.2	25.8	21.2	17.1	13.2	9.11	6.61	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					7-day averaged, adjusted low flow (ft³/s)													
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
02032640	(p) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	30.9	20.4	14.6	10.7	7.78	5.56	3.78	2.32	1.11	0.570	0.250	0.140	0.080	
02032640	(r) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	41.5	32.2	26.4	21.9	18.2	14.8	11.7	8.62	5.38	3.41	--	--	--	
02032640	(w) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	31.4	20.9	15.1	11.1	8.19	5.90	4.05	2.53	1.23	0.644	--	--	--	
02032680	(p) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	63.1	47.7	38.3	31.4	25.9	21.1	16.8	12.6	8.30	5.72	3.66	2.68	1.98	
02032680	(r) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	70.8	55.8	46.4	39.0	32.7	27.0	21.7	16.4	10.7	7.08	--	--	--	
02032680	(w) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	63.3	47.9	38.5	31.6	26.0	21.2	16.9	12.7	8.34	5.74	--	--	--	
02033500	(p) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	73.1	54.8	43.3	34.7	27.7	21.8	16.5	11.6	6.75	4.12	2.24	1.45	0.950	
02033500	(r) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	232	189	162	140	121	103	86.7	69.3	49.4	36.1	--	--	--	
02033500	(w) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	78.4	59.0	46.8	37.8	30.3	23.9	18.2	12.9	7.58	4.70	--	--	--	
02034000	(p) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	217	167	135	111	91.6	74.5	59.0	44.1	28.4	19.2	11.9	8.47	6.11	
02034000	(r) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	316	260	224	195	170	147	124	101	73.6	55.2	--	--	--	
02034000	(w) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	220	169	137	113	93.5	76.2	60.4	45.2	29.2	19.8	--	--	--	
02034500	(p) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	66.1	50.6	40.7	33.2	27.0	21.7	16.8	12.1	7.41	4.72	2.71	1.82	1.24	
02034500	(r) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	66.1	52.7	43.7	36.7	30.8	25.5	20.3	15.3	9.71	6.32	--	--	--	
02034500	(w) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	66.1	50.7	40.8	33.3	27.1	21.8	16.9	12.2	7.48	4.76	--	--	--	
02035000	(p) James River at Route 45 at Cartersville, Va.	6,252	108	0	2,057	1,718	1,503	1,339	1,198	1,071	947	819	665	557	455	396	348	
02035000	(r) James River at Route 45 at Cartersville, Va.	6,252	108	0	2,361	2,110	1,797	1,528	--	--	--	--	--	--	--	--	--	
02035000	(w) James River at Route 45 at Cartersville, Va.	6,252	108	0	2,070	1,734	1,515	1,346	--	--	--	--	--	--	--	--	--	
02036500	(p) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	4.63	3.44	2.68	2.10	1.63	1.24	0.900	0.590	0.310	0.170	0.080	0.040	0.030	
02036500	(r) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	8.04	6.21	5.04	4.13	3.38	2.72	2.10	1.49	0.870	0.521	--	--	--	
02036500	(w) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	4.79	3.56	2.78	2.18	1.70	1.30	0.942	0.624	0.329	0.181	--	--	--	
02037500	(p) James River above Route 147 near Richmond, Va.	6,753	72	0	2,213	1,646	1,255	954	710	508	339	197	82.3	35.5	12.0	5.34	2.39	
02037500	(r) James River above Route 147 near Richmond, Va.	6,753	72	0	2,585	2,321	1,977	1,683	--	--	--	--	--	--	--	--	--	
02037500	(w) James River above Route 147 near Richmond, Va.	6,753	72	0	2,246	1,704	1,315	1,011	--	--	--	--	--	--	--	--	--	
02038000	(p) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	3.18	3.06	2.86	2.61	2.30	1.94	1.53	1.06	0.540	0.260	0.090	0.040	0.020	
02038000	(r) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	6.39	4.30	3.11	2.26	1.63	1.12	--	--	--	--	--	--	--	
02038000	(w) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	3.58	3.21	2.89	2.57	2.23	1.87	--	--	--	--	--	--	--	
02038500	(p) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	8.37	5.30	3.69	2.65	1.91	1.35	0.910	0.560	0.270	0.140	0.060	0.040	0.020	
02038500	(r) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	9.74	6.52	4.70	3.42	2.47	1.69	--	--	--	--	--	--	--	
02038500	(w) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	8.61	5.51	3.85	2.77	1.99	1.39	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					7-day averaged, adjusted low flow (ft ³ /s)														
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
02048000	(p) Blackwater River at Route 460 at Zuni, Va.	451	45	3	25.3	13.1	7.72	4.71	2.86	1.66	0.870	0.360	0.060	0.000	0.000	0.000	0.000	0.000	
02048000	(r) Blackwater River at Route 460 at Zuni, Va.	451	45	3	64.3	42.1	30.1	21.9	15.8	10.6	--	--	--	--	--	--	--	--	
02048000	(w) Blackwater River at Route 460 at Zuni, Va.	451	45	3	37.7	22.1	14.4	9.65	6.40	3.87	--	--	--	--	--	--	--	--	
02049500	(p) Blackwater River near Franklin, Va.	613	60	0	38.2	19.0	11.6	7.64	5.19	3.54	2.36	1.47	0.770	0.460	0.260	0.180	0.120		
02049500	(r) Blackwater River near Franklin, Va.	613	60	0	84.4	55.1	39.4	28.6	20.6	13.8	--	--	--	--	--	--	--	--	
02049500	(w) Blackwater River near Franklin, Va.	613	60	0	47.7	26.3	16.9	11.5	7.87	5.13	--	--	--	--	--	--	--	--	
02050500	(p) North Meherrin River at Route 687 near Keysville, Va.	9.06	12	0	1.66	1.10	0.830	0.660	0.540	0.440	0.360	0.280	0.210	0.170	0.130	0.110	0.100		
02050500	(r) North Meherrin River at Route 687 near Keysville, Va.	9.06	12	0	3.70	2.83	2.28	1.85	1.50	1.19	0.909	0.635	0.358	0.208	--	--	--	--	
02050500	(w) North Meherrin River at Route 687 near Keysville, Va.	9.06	12	0	1.74	1.16	0.879	0.698	0.569	0.462	0.375	0.290	0.214	0.171	--	--	--	--	
02051000	(p) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	1	6.23	5.07	4.14	3.33	2.61	1.96	1.36	0.820	0.340	0.120	0.010	0.000	0.000		
02051000	(r) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	1	17.6	13.8	11.3	9.32	7.71	6.26	4.89	3.55	2.14	1.32	--	--	--	--	
02051000	(w) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	1	6.81	5.49	4.47	3.60	2.82	2.14	1.50	0.931	0.407	0.161	--	--	--	--	
02051500	(p) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	115	91.1	75.1	62.4	51.6	41.9	32.9	24.1	14.8	9.44	5.38	3.57	2.39		
02051500	(r) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	125	101	84.0	71.1	60.2	50.3	40.5	30.8	20.2	13.5	--	--	--	--	
02051500	(w) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	115	91.4	75.4	62.7	51.9	42.2	33.1	24.3	14.9	9.54	--	--	--	--	
02051600	(p) Great Creek at Route 763 (old Route 618) near Co-chran, Va.	30.8	27	0	6.15	4.56	3.57	2.84	2.24	1.74	1.30	0.900	0.510	0.300	0.160	0.100	0.060		
02051600	(r) Great Creek at Route 763 (old Route 618) near Co-chran, Va.	30.8	27	0	10.6	8.20	6.67	5.48	4.51	3.63	2.81	2.02	1.19	0.719	--	--	--	--	
02051600	(w) Great Creek at Route 763 (old Route 618) near Co-chran, Va.	30.8	27	0	6.34	4.71	3.69	2.94	2.32	1.81	1.35	0.938	0.531	0.312	--	--	--	--	
02052000	(p) Meherrin River at Route 301 at Emporia, Va.	744	56	0	132	101	82.7	68.8	57.4	47.5	38.4	29.6	20.1	14.3	9.54	7.17	5.47		
02052000	(r) Meherrin River at Route 301 at Emporia, Va.	744	56	0	100	65.3	46.6	33.8	24.4	16.3	--	--	--	--	--	--	--	--	
02052000	(w) Meherrin River at Route 301 at Emporia, Va.	744	56	0	128	97.6	79.1	65.4	54.4	45.0	--	--	--	--	--	--	--	--	
02052500	(p) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	9	4.01	2.60	1.67	1.01	0.540	0.230	0.050	0.000	0.000	0.000	0.000	0.000	0.000		
02052500	(r) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	9	12.2	8.14	5.86	4.27	3.08	2.10	--	--	--	--	--	--	--	--	
02052500	(w) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	9	6.83	4.46	3.03	2.03	1.30	0.735	--	--	--	--	--	--	--	--	
02053000	(p) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	17.2	12.2	9.22	7.05	5.36	3.98	2.81	1.80	0.910	0.480	0.220	0.120	0.070		
02053000	(r) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	16.4	10.9	7.84	5.70	4.11	2.80	--	--	--	--	--	--	--	--	
02053000	(w) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	17.0	12.0	9.03	6.87	5.20	3.85	--	--	--	--	--	--	--	--	
02053800	(p) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	38.6	32.9	29.1	26.1	23.5	21.1	18.7	16.2	13.1	10.9	8.79	7.56	6.57		
02053800	(r) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	42.0	32.6	26.7	22.2	18.4	15.0	11.8	8.72	5.46	3.46	--	--	--	--	
02053800	(w) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	38.7	32.9	29.1	26.1	23.4	21.0	18.6	16.1	13.0	10.8	--	--	--	--	
02054500	(p) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	69.7	59.9	53.3	48.2	43.6	39.4	35.2	30.7	25.2	21.3	17.4	15.1	13.3		
02054500	(r) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	62.6	52.7	46.3	41.7	37.6	33.9	30.2	26.5	22.0	18.9	15.8	14.0	12.5		
02054500	(w) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	69.6	59.7	53.2	48.0	43.5	39.3	35.1	30.6	25.1	21.2	17.4	15.1	13.3		
02054530	(p) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	91.1	76.2	66.5	58.9	52.4	46.5	40.7	34.6	27.3	22.3	17.5	14.8	12.7		
02054530	(r) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	69.7	58.7	51.7	46.6	42.1	38.0	33.9	29.9	24.9	21.4	17.9	15.9	14.3		
02054530	(w) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	90.6	75.8	66.2	58.7	52.2	46.3	40.5	34.5	27.3	22.2	17.5	14.8	12.7		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	200
					Non-exceedance probability											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01
					7-day averaged, adjusted low flow (ft ³ /s)											
02055000	(p) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	110	92.5	81.5	73.0	65.8	59.3	52.9	46.2	38.2	32.5	27.1	23.9
02055000	(r) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	97.3	82.4	72.8	65.9	59.7	54.2	48.5	43.0	36.1	31.4	26.5	23.7
02055000	(w) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	110	92.3	81.3	72.9	65.7	59.2	52.8	46.1	38.1	32.5	27.1	23.9
02055100	(p) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	4.64	3.71	3.14	2.70	2.34	2.01	1.70	1.39	1.04	0.810	0.600	0.490
02055100	(r) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	2.35	1.88	1.59	1.37	1.19	1.03	0.882	0.729	0.555	0.442	0.336	0.280
02055100	(w) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	4.58	3.67	3.10	2.67	2.31	1.99	1.68	1.38	1.03	0.803	0.595	0.486
02056000	(p) Roanoke River below powerplant at Niagara, Va.	509	80	0	179	158	144	134	124	116	107	97.3	85.5	76.8	67.9	62.6
02056000	(r) Roanoke River below powerplant at Niagara, Va.	509	80	0	131	112	99.2	90.1	81.9	74.5	67.0	59.8	50.6	44.2	37.7	33.9
02056000	(w) Roanoke River below powerplant at Niagara, Va.	509	80	0	178	157	143	133	123	115	106	96.6	84.8	76.2	67.4	62.1
02056650	(p) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	15.4	12.5	10.5	8.82	7.39	6.08	4.84	3.60	2.27	1.48	0.860	0.580
02056650	(r) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	19.8	15.1	12.2	9.91	8.05	6.42	4.94	3.52	2.08	1.24	--	--
02056650	(w) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	15.5	12.6	10.5	8.85	7.41	6.09	4.84	3.60	2.27	1.48	--	--
02056900	(p) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	56.7	46.3	39.2	33.5	28.5	24.0	19.6	15.2	10.3	7.17	4.60	3.33
02056900	(r) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	44.6	34.7	28.5	23.7	19.6	16.0	12.7	9.38	5.89	3.75	--	--
02056900	(w) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	56.4	46.0	38.9	33.2	28.3	23.8	19.5	15.1	10.2	7.12	--	--
02057000	(p) Blackwater River near Union Hall, Va.	208	37	0	118	98.0	84.8	74.4	65.4	57.1	49.0	40.5	30.5	23.8	17.6	14.2
02057000	(r) Blackwater River near Union Hall, Va.	208	37	0	86.5	68.5	57.2	48.3	40.7	33.9	27.4	20.9	13.8	9.32	--	--
02057000	(w) Blackwater River near Union Hall, Va.	208	37	0	117	97.3	84.2	73.8	64.9	56.6	48.6	40.1	30.3	23.6	--	--
02057500	(p) Roanoke River near Tushes, Va.	1,017	36	0	409	345	305	273	247	222	198	172	142	120	98.8	86.7
02057500	(r) Roanoke River near Tushes, Va.	1,017	36	0	511	425	370	326	288	252	217	180	136	106	--	--
02057500	(w) Roanoke River near Tushes, Va.	1,017	36	0	411	347	306	275	247	222	198	172	141	120	--	--
02058000	(p) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	32.5	27.7	24.8	22.6	20.7	19.0	17.4	15.8	13.8	12.4	11.1	10.3
02058000	(r) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	18.6	14.5	11.9	9.85	8.15	6.63	5.18	3.76	2.27	1.41	--	--
02058000	(w) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	32.1	27.3	24.4	22.2	20.4	18.7	17.2	15.5	13.6	12.2	--	--
02058400	(p) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	198	168	146	129	113	98.2	83.6	68.2	49.9	37.6	26.5	20.6
02058400	(r) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	155	125	106	90.7	77.6	65.7	54.3	42.5	29.4	20.8	--	--
02058400	(w) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	197	167	145	128	112	97.5	83.1	67.7	49.6	37.4	--	--
02058500	(p) Pigg River along Route 605 near Tushes, Va.	382	32	0	214	185	164	147	131	116	102	85.7	66.2	52.5	39.5	32.2
02058500	(r) Pigg River along Route 605 near Tushes, Va.	382	32	0	171	138	117	100	86.1	73.1	60.6	47.7	33.2	23.7	--	--
02058500	(w) Pigg River along Route 605 near Tushes, Va.	382	32	0	213	184	163	146	130	116	101	85.1	65.8	52.1	--	--
02059500	(p) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	74.6	63.8	56.2	49.8	44.1	38.7	33.2	27.4	20.4	15.6	11.2	8.78
02059500	(r) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	77.2	61.0	50.8	42.8	36.0	29.8	24.1	18.3	12.0	7.98	--	--
02059500	(w) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	74.7	63.8	56.0	49.6	43.9	38.5	33.0	27.2	20.3	15.5	--	--
02060500	(p) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	867	765	688	621	558	496	432	362	273	211	152	119
02060500	(r) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	957	810	717	641	574	512	451	385	306	252	--	--
02060500	(w) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	869	766	689	621	558	497	433	362	274	211	--	--
02061000	(p) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	39.6	29.6	24.0	20.1	17.0	14.4	12.0	9.74	7.29	5.74	4.38	3.66
02061000	(r) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	44.1	34.3	28.2	23.4	19.4	15.8	12.5	9.27	5.82	3.70	--	--
02061000	(w) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	39.8	29.7	24.1	20.1	17.0	14.4	12.0	9.73	7.27	5.71	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					7-day averaged, adjusted low flow (ft ³ /s)														
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
02061500	(p) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	124	111	98.7	86.5	74.4	62.0	49.2	35.6	20.5	11.7	5.56	3.13	1.75		
02061500	(r) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	138	110	93.2	79.6	67.9	57.3	47.1	36.7	25.2	17.6	--	--	--		
02061500	(w) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	125	111	98.6	86.4	74.2	61.9	49.1	35.6	20.6	11.8	--	--	--		
02062500	(p) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,113	969	867	781	703	629	553	471	368	295	224	185	153		
02062500	(r) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,337	1,143	1,019	920	830	747	666	577	471	399	--	--	--		
02062500	(w) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,119	973	870	784	706	631	555	472	370	296	--	--	--		
02064000	(p) Falling River at Route 643 near Naruna, Va.	165	69	0	58.4	52.0	46.4	41.2	36.1	31.0	25.6	19.8	12.9	8.44	4.85	3.19	2.09		
02064000	(r) Falling River at Route 643 near Naruna, Va.	165	69	0	44.5	35.2	29.1	24.3	20.3	16.8	13.3	9.85	6.17	3.95	--	--	--		
02064000	(w) Falling River at Route 643 near Naruna, Va.	165	69	0	57.9	51.5	45.9	40.7	35.7	30.6	25.3	19.5	12.7	8.34	--	--	--		
02065200	(p) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	1,076	970	882	800	721	640	555	458	335	249	169	126	94.8		
02065200	(r) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	1,512	1,296	1,160	1,049	950	858	768	669	551	472	--	--	--		
02065200	(w) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	1,087	978	888	806	726	644	558	461	338	252	--	--	--		
02065500	(p) Cub Creek at Route 40 at Phenix, Va.	97.6	59	0	27.4	25.5	25.4	25.2	24.5	22.7	19.4	14.3	6.89	2.72	0.620	0.170	0.040		
02065500	(r) Cub Creek at Route 40 at Phenix, Va.	97.6	59	0	28.4	22.3	18.4	15.3	12.7	10.4	8.17	6.00	3.69	2.32	--	--	--		
02065500	(w) Cub Creek at Route 40 at Phenix, Va.	97.6	59	0	27.4	25.4	25.1	24.8	24.0	22.2	19.0	14.0	6.78	2.71	--	--	--		
02066000	(p) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	1,313	1,175	1,069	975	886	798	705	601	467	370	275	222	179		
02066000	(r) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	982	841	711	602	--	--	--	--	--	--	--	--	--		
02066000	(w) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	1,299	1,161	1,054	960	--	--	--	--	--	--	--	--	--		
02066500	(p) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	32.7	22.2	16.1	11.9	8.75	6.26	4.25	2.60	1.21	0.610	0.260	0.140	0.070		
02066500	(r) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	37.5	29.6	24.4	20.4	17.0	14.0	11.0	8.15	5.07	3.22	--	--	--		
02066500	(w) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	33.0	22.6	16.6	12.3	9.15	6.63	4.55	2.86	1.38	0.714	--	--	--		
02067000	(p) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,533	1,313	1,158	1,029	914	804	694	576	434	335	244	195	156		
02067000	(r) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,085	933	790	669	--	--	--	--	--	--	--	--	--		
02067000	(w) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,513	1,297	1,142	1,014	--	--	--	--	--	--	--	--	--		
02069700	(p) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	74.2	64.5	57.6	51.8	46.7	41.7	36.7	31.3	24.5	19.7	15.1	12.5	10.4		
02069700	(r) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	25.3	19.9	16.3	13.6	11.3	9.20	7.23	5.29	3.24	2.03	--	--	--		
02069700	(w) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	72.7	63.2	56.4	50.8	45.8	40.9	36.0	30.6	24.0	19.3	--	--	--		
02070000	(p) North Mayo River below Route 629 near Spencer, Va.	108	77	0	75.1	65.9	59.0	53.1	47.6	42.3	36.8	30.7	23.2	17.9	13.0	10.3	8.14		
02070000	(r) North Mayo River below Route 629 near Spencer, Va.	108	77	0	30.9	24.4	20.1	16.7	13.9	11.4	8.97	6.60	4.07	2.57	--	--	--		
02070000	(w) North Mayo River below Route 629 near Spencer, Va.	108	77	0	73.7	64.7	57.9	52.1	46.7	41.5	36.1	30.1	22.8	17.6	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					Non-exceedance probability												
					7-day averaged, adjusted low flow (ft ³ /s)												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
02071530	(p) Smith River at Smith River Church (Route 798) near Woolwine, Va.	26.3	11	0	24.6	18.4	15.2	13.0	11.3	9.95	8.72	7.55	6.29	5.49	4.78	4.40	4.09
02071530	(r) Smith River at Smith River Church (Route 798) near Woolwine, Va.	26.3	11	0	8.55	6.35	5.02	4.01	3.19	2.48	1.85	1.27	0.703	0.390	--	--	--
02071530	(w) Smith River at Smith River Church (Route 798) near Woolwine, Va.	26.3	11	0	24.2	18.1	15.0	12.8	11.2	9.80	8.60	7.44	6.21	5.42	--	--	--
02072000	(p) Smith River below Philpott Dam near Philpott, Va.	215	59	0	160	139	124	113	103	94.1	84.9	75.0	62.7	53.7	44.9	39.6	35.3
02072000	(r) Smith River below Philpott Dam near Philpott, Va.	215	59	0	89.7	71.2	59.5	50.3	42.4	35.3	28.7	21.9	14.5	9.80	--	--	--
02072000	(w) Smith River below Philpott Dam near Philpott, Va.	215	59	0	158	137	123	112	102	93.0	84.0	74.1	62.0	53.2	--	--	--
02072500	(p) Smith River at Route 666 (north) at Bassett, Va.	259	67	0	190	167	152	141	131	121	112	102	89.7	80.6	71.5	66.0	61.4
02072500	(r) Smith River at Route 666 (north) at Bassett, Va.	259	67	0	111	88.2	74.0	62.9	53.4	44.7	36.5	28.2	19.0	13.0	--	--	--
02072500	(w) Smith River at Route 666 (north) at Bassett, Va.	259	67	0	189	166	151	139	129	120	111	101	88.7	79.8	--	--	--
02073000	(p) Smith River below Route 58 at Martinsville, Va.	379	76	0	273	245	225	207	192	176	160	142	118	101	82.5	71.7	62.6
02073000	(r) Smith River below Route 58 at Martinsville, Va.	379	76	0	169	137	116	99.5	85.3	72.3	60.0	47.2	32.9	23.4	--	--	--
02073000	(w) Smith River below Route 58 at Martinsville, Va.	379	76	0	270	242	222	205	190	174	158	140	117	99.6	--	--	--
02073500	(p) Leatherwood Creek at Route 650 near Martinsville (Old Liberty), Va.	68.4	8	0	19.9	14.2	10.8	8.46	6.63	5.12	3.82	2.66	1.54	0.950	0.530	0.350	0.230
02073500	(r) Leatherwood Creek at Route 650 near Martinsville (Old Liberty), Va.	68.4	8	0	20.9	16.4	13.4	11.1	9.22	7.51	5.88	4.29	2.60	1.62	--	--	--
02073500	(w) Leatherwood Creek at Route 650 near Martinsville (Old Liberty), Va.	68.4	8	0	19.9	14.3	10.9	8.56	6.72	5.20	3.89	2.72	1.57	0.969	--	--	--
02074500	(p) Sandy River above Route 863 near Danville, Va.	111	76	0	52.6	44.2	38.6	34.2	30.3	26.8	23.3	19.6	15.2	12.1	9.27	7.68	6.42
02074500	(r) Sandy River above Route 863 near Danville, Va.	111	76	0	31.7	25.0	20.5	17.1	14.2	11.7	9.20	6.77	4.18	2.64	--	--	--
02074500	(w) Sandy River above Route 863 near Danville, Va.	111	76	0	51.9	43.6	38.1	33.7	29.9	26.4	22.9	19.3	14.9	11.9	--	--	--
02075000	(p) Dan River at railroad bridge at Danville, Va.	2,060	60	0	1,025	908	828	763	706	651	595	534	457	399	341	305	275
02075000	(r) Dan River at railroad bridge at Danville, Va.	2,060	60	0	387	316	267	229	196	167	137	107	73.4	51.2	--	--	--
02075000	(w) Dan River at railroad bridge at Danville, Va.	2,060	60	0	1,007	891	813	750	694	639	585	524	449	392	--	--	--
02075045	(p) Dan River at wastewater outfall near Danville, Va.	2,116	11	0	1,233	1,078	951	838	730	625	517	401	265	178	106	72.4	49.3
02075045	(r) Dan River at wastewater outfall near Danville, Va.	2,116	11	0	396	323	273	234	201	171	140	110	75.4	52.7	--	--	--
02075045	(w) Dan River at wastewater outfall near Danville, Va.	2,116	11	0	1,205	1,054	931	820	716	612	507	393	261	175	--	--	--
02075500	(p) Dan River at Route 658 at Paces, Va.	2,587	56	0	1,224	1,081	975	884	800	717	632	538	419	333	250	204	166
02075500	(r) Dan River at Route 658 at Paces, Va.	2,587	56	0	471	385	326	280	241	206	169	133	91.8	64.6	--	--	--
02075500	(w) Dan River at Route 658 at Paces, Va.	2,587	56	0	1,201	1,061	957	868	786	705	622	528	412	328	--	--	--
02076500	(p) Georges Creek at Route 40 near Gretna, Va.	9.18	47	0	5.46	4.67	4.15	3.74	3.38	3.05	2.72	2.38	1.95	1.65	1.36	1.18	1.04
02076500	(r) Georges Creek at Route 40 near Gretna, Va.	9.18	47	0	3.74	2.86	2.30	1.87	1.52	1.21	0.920	0.643	0.363	0.211	--	--	--
02076500	(w) Georges Creek at Route 40 near Gretna, Va.	9.18	47	0	5.41	4.62	4.10	3.69	3.33	3.01	2.68	2.34	1.92	1.62	--	--	--
02077000	(p) Banister River at Route 360 (Business) at Halifax, Va.	547	77	0	185	153	131	113	97.6	83.2	69.3	55.0	38.7	28.0	18.9	14.2	10.8
02077000	(r) Banister River at Route 360 (Business) at Halifax, Va.	547	77	0	124	99.8	83.4	70.5	59.7	49.9	40.2	30.6	20.0	13.3	--	--	--
02077000	(w) Banister River at Route 360 (Business) at Halifax, Va.	547	77	0	183	151	129	112	96.5	82.3	68.6	54.4	38.2	27.7	--	--	--
02077500	(p) Hyco River at Route 501 near Denniston, Va.	288	59	0	29.5	25.3	21.5	17.9	14.5	11.3	8.19	5.22	2.42	1.11	0.390	0.180	0.080
02077500	(r) Hyco River at Route 501 near Denniston, Va.	288	59	0	71.7	57.2	47.5	39.9	33.5	27.8	22.2	16.7	10.7	6.95	--	--	--
02077500	(w) Hyco River at Route 501 near Denniston, Va.	288	59	0	31.5	26.8	22.7	18.9	15.3	11.9	8.69	5.66	2.71	1.30	--	--	--
02078000	(p) Hyco River at Route 738 near Omega, Va.	412	15	0	41.8	28.4	21.2	16.4	12.8	9.89	7.47	5.32	3.26	2.14	1.31	0.930	0.680
02078000	(r) Hyco River at Route 738 near Omega, Va.	412	15	0	97.5	78.0	65.0	54.8	46.3	38.6	30.9	23.4	15.1	10.0	--	--	--
02078000	(w) Hyco River at Route 738 near Omega, Va.	412	15	0	44.2	30.4	22.9	17.8	13.9	10.9	8.22	5.93	3.63	2.36	--	--	--
02079000	(p) Roanoke River at Route 58 at Clarksville, Va.	7,393	16	0	3,492	2,976	2,654	2,408	2,200	2,011	1,827	1,635	1,404	1,239	1,077	982	903
02079000	(r) Roanoke River at Route 58 at Clarksville, Va.	7,393	16	0	1,158	959	820	712	618	535	445	358	257	187	--	--	--
02079000	(w) Roanoke River at Route 58 at Clarksville, Va.	7,393	16	0	3,423	2,919	2,604	2,364	2,162	1,975	1,797	1,605	1,379	1,218	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
					7-day averaged, adjusted low flow (ft³/s)												
02079640 (p)	Allen Creek at Route 58 near Boydton, Va.	53.5	39	4	5.73	3.43	2.31	1.61	1.12	0.760	0.480	0.250	0.000	0.000	0.000	0.000	
02079640 (r)	Allen Creek at Route 58 near Boydton, Va.	53.5	39	4	17.0	13.2	10.8	8.95	7.40	6.01	4.69	3.40	2.04	1.26	--	--	
02079640 (w)	Allen Creek at Route 58 near Boydton, Va.	53.5	39	4	6.36	3.96	2.75	1.97	1.41	1.000	0.658	0.391	0.084	0.048	--	--	
03164000 (p)	New River at Route 94 near Galax, Va.	1,141	76	0	903	790	716	658	607	559	512	460	396	349	302	274	
03164000 (r)	New River at Route 94 near Galax, Va.	1,141	76	0	581	485	424	375	332	291	252	210	161	127	--	--	
03164000 (w)	New River at Route 94 near Galax, Va.	1,141	76	0	895	783	710	652	602	554	507	456	393	347	--	--	
03164500 (p)	New River at railroad bridge near Grayson, Va.	1,174	3	0	--	--	--	--	--	--	--	--	--	--	--	--	
03164500 (r)	New River at railroad bridge near Grayson, Va.	1,174	3	0	--	--	--	--	--	--	--	--	--	--	--	--	
03164500 (w)	New River at railroad bridge near Grayson, Va.	1,174	3	0	--	--	--	--	--	--	--	--	--	--	--	--	
03165000 (p)	Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	39.1	34.3	31.1	28.5	26.3	24.2	22.1	19.9	17.0	15.0	12.9	11.6	
03165000 (r)	Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	13.4	10.1	8.07	6.52	5.24	4.14	3.14	2.20	1.26	0.725	--	--	
03165000 (w)	Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	38.5	33.7	30.6	28.1	25.9	23.8	21.8	19.6	16.8	14.8	--	--	
03165500 (p)	New River at Ivanhoe, Va.	1,350	59	0	1,016	876	785	715	655	599	545	487	415	364	313	283	
03165500 (r)	New River at Ivanhoe, Va.	1,350	59	0	701	589	517	459	408	360	314	264	205	164	--	--	
03165500 (w)	New River at Ivanhoe, Va.	1,350	59	0	1,009	869	780	710	650	595	541	483	412	361	--	--	
03166800 (p)	Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	0.150	0.120	0.090	0.080	0.070	0.060	0.050	0.040	0.030	0.020	0.020	0.010	
03166800 (r)	Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	1.39	1.10	0.925	0.795	0.687	0.591	0.501	0.410	0.308	0.242	0.181	0.150	
03166800 (w)	Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	0.181	0.144	0.110	0.097	0.085	0.072	0.060	0.048	0.036	0.025	0.023	0.012	
03167000 (p)	Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	92.0	84.0	78.6	74.1	70.1	66.3	62.4	58.1	52.5	48.2	43.7	40.9	
03167000 (r)	Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	63.6	53.6	47.1	42.4	38.2	34.5	30.7	27.0	22.5	19.3	16.1	14.3	
03167000 (w)	Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	91.4	83.4	77.9	73.5	69.5	65.7	61.8	57.5	51.9	47.7	43.2	40.4	
03167500 (p)	Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	208	184	169	157	146	136	126	115	101	90.3	79.8	73.4	
03167500 (r)	Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	114	91.3	76.7	65.2	55.4	46.5	38.0	29.4	19.8	13.7	--	--	
03167500 (w)	Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	206	182	167	155	144	134	124	113	99.6	89.4	--	--	
03168000 (p)	New River along Route 653 at Allisonia, Va.	2,212	76	0	1,479	1,302	1,187	1,097	1,018	945	873	795	698	627	555	511	
03168000 (r)	New River along Route 653 at Allisonia, Va.	2,212	76	0	1,218	1,039	924	832	750	673	597	515	418	351	--	--	
03168000 (w)	New River along Route 653 at Allisonia, Va.	2,212	76	0	1,473	1,296	1,182	1,091	1,013	940	868	790	694	623	--	--	
03168500 (p)	Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	4.79	3.12	2.37	1.92	1.60	1.35	1.15	0.970	0.790	0.690	0.610	0.570	
03168500 (r)	Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	13.6	11.2	9.66	8.54	7.56	6.70	5.85	5.00	3.99	3.30	2.64	2.28	
03168500 (w)	Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	5.02	3.33	2.56	2.09	1.75	1.48	1.26	1.07	0.863	0.747	0.653	0.605	
03170000 (p)	Little River at Route 693 at Grayson town (Grayson), Va.	309	78	0	183	155	138	124	113	102	91.5	80.3	66.8	57.2	47.8	42.3	
03170000 (r)	Little River at Route 693 at Grayson town (Grayson), Va.	309	78	0	135	108	91.1	77.8	66.3	55.9	46.0	35.8	24.5	17.1	--	--	
03170000 (w)	Little River at Route 693 at Grayson town (Grayson), Va.	309	78	0	181	154	137	123	112	101	90.7	79.6	66.2	56.7	--	--	
03171000 (p)	New River below Route 11 at Radford, Va.	2,767	75	0	1,700	1,484	1,355	1,258	1,178	1,107	1,039	969	886	828	772	740	
03171000 (r)	New River below Route 11 at Radford, Va.	2,767	75	0	1,565	1,344	1,203	1,089	988	893	800	698	577	495	--	--	
03171000 (w)	New River below Route 11 at Radford, Va.	2,767	75	0	1,697	1,481	1,352	1,255	1,175	1,103	1,035	964	881	824	--	--	
03171500 (p)	New River at Route 730 at Eggleston, Va.	2,961	61	0	1,763	1,559	1,428	1,326	1,238	1,156	1,076	990	883	804	726	678	
03171500 (r)	New River at Route 730 at Eggleston, Va.	2,961	61	0	1,689	1,453	1,303	1,182	1,074	973	874	765	636	549	--	--	
03171500 (w)	New River at Route 730 at Eggleston, Va.	2,961	61	0	1,761	1,556	1,425	1,323	1,235	1,153	1,073	986	879	801	--	--	
03173000 (p)	Walker Creek below Route 100 at Bane, Va.	299	68	0	66.5	55.8	49.9	45.8	42.6	39.9	37.4	35.1	32.5	30.9	29.5	28.8	
03173000 (r)	Walker Creek below Route 100 at Bane, Va.	299	68	0	74.5	62.8	55.4	49.9	45.1	40.8	36.4	32.1	26.8	23.1	19.4	17.2	
03173000 (w)	Walker Creek below Route 100 at Bane, Va.	299	68	0	66.7	56.0	50.1	45.9	42.7	39.9	37.4	35.0	32.4	30.8	29.3	28.6	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)									
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20
					Non-exceedance probability									
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05
					7-day averaged, adjusted low flow (ft ³ /s)									
03175500 (p)	Wolf Creek at Route 724 near Narrows, Va.	223	75	0	54.4	45.9	40.7	36.9	33.7	30.9	28.2	25.3	22.0	19.7
03175500 (r)	Wolf Creek at Route 724 near Narrows, Va.	223	75	0	54.5	45.7	40.2	36.1	32.5	29.2	26.0	22.8	18.9	16.2
03175500 (w)	Wolf Creek at Route 724 near Narrows, Va.	223	75	0	54.4	45.9	40.7	36.9	33.7	30.8	28.1	25.3	22.0	19.6
03176500 (p)	New River at Route 460 at Glen Lyn, Va.	3,783	79	0	2,108	1,855	1,693	1,566	1,456	1,354	1,254	1,146	1,012	915
03176500 (r)	New River at Route 460 at Glen Lyn, Va.	3,783	79	0	2,221	1,925	1,738	1,588	1,452	1,326	1,202	1,067	905	800
03176500 (w)	New River at Route 460 at Glen Lyn, Va.	3,783	79	0	2,111	1,857	1,694	1,566	1,456	1,354	1,253	1,145	1,011	913
03177700 (p)	Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	15.0	12.7	11.4	10.4	9.53	8.81	8.12	7.43	6.61	6.05
03177700 (r)	Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	8.66	7.05	6.06	5.32	4.69	4.13	3.58	3.04	2.39	1.96
03177700 (w)	Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	14.9	12.6	11.2	10.2	9.43	8.71	8.03	7.34	6.53	5.98
03177710 (p)	Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	14.7	13.6	12.9	12.3	11.7	11.1	10.4	9.68	8.68	7.88
03177710 (r)	Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	9.73	7.94	6.83	6.01	5.30	4.68	4.07	3.45	2.73	2.25
03177710 (w)	Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	14.6	13.5	12.8	12.1	11.5	10.9	10.3	9.56	8.57	7.78
03207500 (p)	Levisa Fork along Route 460 near Grundy, Va.	239	34	0	22.7	16.1	12.2	9.40	7.22	5.44	3.93	2.61	1.39	0.790
03207500 (r)	Levisa Fork along Route 460 near Grundy, Va.	239	34	0	44.5	34.1	27.4	22.5	18.5	15.0	11.9	8.79	5.59	3.73
03207500 (w)	Levisa Fork along Route 460 near Grundy, Va.	239	34	0	38.1	28.5	22.5	18.0	14.3	11.1	8.31	5.70	3.09	1.86
03207800 (p)	Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	50.7	42.6	37.1	32.7	28.8	25.2	21.7	18.0	13.6	10.5
03207800 (r)	Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	54.0	41.2	33.2	27.2	22.4	18.2	14.4	10.8	6.92	4.67
03207800 (w)	Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	52.7	41.8	34.8	29.7	25.4	21.8	18.5	15.1	11.5	8.95
03208500 (r)	Russell Fork below Route 63 at Haysi, Va.	286	79	0	35.7	24.5	18.2	13.7	10.4	7.73	5.51	3.61	1.90	1.07
03208500 (r)	Russell Fork below Route 63 at Haysi, Va.	286	79	0	52.2	39.9	32.1	26.3	21.6	17.6	13.9	10.4	6.67	4.49
03208500 (w)	Russell Fork below Route 63 at Haysi, Va.	286	79	0	47.5	35.3	27.7	22.1	17.6	13.7	10.3	7.08	3.88	2.35
03208700 (p)	North Fork Pound River below dam at Pound, Va.	18.5	25	0	5.29	4.08	3.20	2.49	1.89	1.38	0.940	0.560	0.240	0.110
03208700 (r)	North Fork Pound River below dam at Pound, Va.	18.5	25	0	4.60	3.60	2.92	2.39	1.94	1.54	1.17	0.808	0.448	0.261
03208700 (w)	North Fork Pound River below dam at Pound, Va.	18.5	25	0	4.78	3.73	3.00	2.42	1.92	1.48	1.08	0.698	0.335	0.173
03208800 (p)	Pound River above Indian Creek, at Pound, Va.	36.7	12	0	7.42	6.93	6.39	5.82	5.21	4.55	3.80	2.95	1.89	1.20
03208800 (r)	Pound River above Indian Creek, at Pound, Va.	36.7	12	0	8.45	6.57	5.32	4.36	3.54	2.83	2.17	1.53	0.881	0.531
03208800 (w)	Pound River above Indian Creek, at Pound, Va.	36.7	12	0	8.06	6.71	5.76	5.00	4.32	3.69	3.05	2.37	1.57	1.01
03208850 (p)	Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	12.3	11.0	9.95	9.01	8.11	7.20	6.24	5.16	3.81	2.85
03208850 (r)	Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	13.3	10.3	8.33	6.83	5.56	4.46	3.45	2.47	1.46	0.904
03208850 (w)	Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	12.9	10.6	9.03	7.82	6.79	5.88	5.01	4.11	3.10	2.33
03208900 (p)	Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	16.1	13.6	11.9	10.4	9.02	7.74	6.48	5.14	3.59	2.57
03208900 (r)	Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	16.9	13.1	10.6	8.67	7.07	5.68	4.42	3.18	1.91	1.20
03208900 (w)	Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	16.6	13.3	11.1	9.41	7.98	6.72	5.54	4.35	3.06	2.19
03208950 (p)	Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	14.6	11.6	9.66	8.20	6.98	5.90	4.89	3.87	2.75	2.03
03208950 (r)	Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	14.3	11.1	8.95	7.34	5.98	4.80	3.72	2.66	1.58	0.986
03208950 (w)	Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	14.4	11.3	9.24	7.71	6.44	5.35	4.35	3.37	2.37	1.73
03209000 (p)	Pound River near Haysi, Va.	221	79	0	54.7	36.2	25.7	18.5	13.2	9.13	5.95	3.44	1.47	0.670
03209000 (r)	Pound River near Haysi, Va.	221	79	0	41.5	31.8	25.6	21.0	17.2	14.0	11.0	8.17	5.17	3.44
03209000 (w)	Pound River near Haysi, Va.	221	79	0	44.5	32.8	25.6	20.3	16.1	12.4	9.24	6.26	3.32	1.94
03209200 (p)	Russell Fork at Route 611 at Bartlick, Va.	526	19	0	116	97.8	83.2	70.5	58.9	48.0	37.4	26.7	15.4	9.08
03209200 (r)	Russell Fork at Route 611 at Bartlick, Va.	526	19	0	89.6	68.1	54.7	44.9	37.0	30.2	24.2	18.4	12.2	8.47
03209200 (w)	Russell Fork at Route 611 at Bartlick, Va.	526	19	0	98.9	78.8	65.5	55.2	46.4	38.5	30.9	23.0	14.3	8.89

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)										
					Non-exceedance probability										
					7-day averaged, adjusted low flow (ft ³ /s)										
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02
03471500	(p) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	37.0	32.2	29.4	27.2	25.5	23.9	22.5	21.0	19.2	18.0	16.8
03471500	(r) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	17.4	14.4	12.4	11.0	9.80	8.70	7.62	6.54	5.25	4.38	3.53
03471500	(w) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	36.6	31.8	29.0	26.9	25.2	23.6	22.2	20.7	18.9	17.7	16.6
03472500	(p) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	15.6	13.5	11.9	10.7	9.51	8.42	7.31	6.12	4.66	3.64	2.68
03472500	(r) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	12.4	10.2	8.76	7.73	6.84	6.05	5.28	4.50	3.58	2.96	2.03
03472500	(w) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	15.5	13.4	11.9	10.6	9.45	8.37	7.27	6.09	4.64	3.63	2.67
03473000	(p) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	143	124	113	105	97.9	91.7	85.8	79.8	72.6	67.6	62.8
03473000	(r) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	75.5	63.7	56.2	50.7	45.8	41.4	37.0	32.6	27.2	23.5	19.7
03473000	(w) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	141	123	112	104	96.8	90.7	84.8	78.8	71.7	66.8	62.0
03473500	(p) Middle Fork Holston River at Route 679 at Groseclose, Va.	7.4	11	0	4.28	3.85	3.58	3.38	3.20	3.04	2.89	2.73	2.53	2.39	2.25
03473500	(r) Middle Fork Holston River at Route 679 at Groseclose, Va.	7.4	11	0	1.44	1.14	0.961	0.826	0.714	0.615	0.521	0.427	0.321	0.253	0.189
03473500	(w) Middle Fork Holston River at Route 679 at Groseclose, Va.	7.4	11	0	4.22	3.79	3.53	3.33	3.15	2.99	2.84	2.69	2.49	2.35	2.21
03474000	(p) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	47.9	42.7	39.4	37.0	34.9	33.0	31.2	29.3	26.9	25.3	23.7
03474000	(r) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	31.2	25.9	22.6	20.2	18.0	16.1	14.2	12.4	10.1	8.52	6.96
03474000	(w) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	47.5	42.3	39.1	36.6	34.5	32.7	30.8	28.9	26.6	25.0	23.4
03474500	(p) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	65.6	55.4	49.1	44.3	40.3	36.6	33.1	29.4	25.0	21.9	18.8
03474500	(r) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	36.5	30.4	26.6	23.8	21.3	19.1	16.9	14.7	12.0	10.2	8.38
03474500	(w) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	64.9	54.8	48.6	43.8	39.8	36.2	32.7	29.1	24.7	21.6	18.7
03475000	(p) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	83.7	73.7	67.5	62.8	58.9	55.3	51.8	48.1	43.7	40.5	37.4
03475000	(r) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	50.1	42.0	36.8	33.0	29.7	26.7	23.7	20.8	17.2	14.7	12.2
03475000	(w) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	83.0	73.0	66.9	62.2	58.3	54.7	51.2	47.6	43.2	40.0	36.9
03477500	(p) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	6.95	5.89	5.27	4.82	4.46	4.14	3.84	3.53	3.18	2.95	2.72
03477500	(r) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	2.78	2.23	1.89	1.64	1.42	1.24	1.06	0.876	0.671	0.536	0.409
03477500	(w) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	6.86	5.81	5.20	4.75	4.40	4.08	3.78	3.48	3.13	2.91	2.68

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	200
					Non-exceedance probability											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.005
7-day averaged, adjusted low flow (ft ³ /s)																
03478400 (p)	Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	15.2	13.6	12.6	11.8	11.1	10.5	9.89	9.25	8.48	7.92	7.37	6.76
03478400 (r)	Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	5.72	4.63	3.95	3.46	3.03	2.66	2.29	1.93	1.50	1.22	0.952	0.688
03478400 (w)	Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	15.0	13.4	12.4	11.6	10.9	10.3	9.74	9.11	8.35	7.80	7.26	6.66
03488000 (p)	North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	54.0	45.6	40.7	37.1	34.2	31.6	29.1	26.6	23.7	21.7	19.8	17.9
03488000 (r)	North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	54.0	45.3	39.8	35.7	32.1	28.9	25.7	22.6	18.7	16.0	13.3	10.5
03488000 (w)	North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	54.0	45.6	40.7	37.1	34.1	31.5	29.0	26.5	23.6	21.6	19.7	17.7
03489500 (p)	North Fork Holston River at Route 61.5 at Mendota, Va.	493	10	0	141	117	102	90.5	81.0	72.6	64.4	56.0	46.0	39.1	32.4	25.5
03489500 (r)	North Fork Holston River at Route 61.5 at Mendota, Va.	493	10	0	127	108	95.8	87.0	79.0	71.9	64.6	57.6	48.7	42.6	36.2	29.6
03489500 (w)	North Fork Holston River at Route 61.5 at Mendota, Va.	493	10	0	140	116	102	90.4	81.0	72.5	64.4	56.0	46.1	39.1	32.5	25.6
03489900 (p)	Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	18.9	16.0	14.1	12.6	11.4	10.2	9.08	7.89	6.45	5.43	4.45	3.42
03489900 (r)	Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	18.2	15.0	13.0	11.5	10.2	9.09	7.97	6.84	5.50	4.59	3.70	2.80
03489900 (w)	Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	18.9	16.0	14.1	12.6	11.3	10.2	9.06	7.87	6.43	5.41	4.44	3.41
03490000 (p)	North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	151	126	111	100	91.3	83.3	75.6	67.8	58.6	52.2	46.0	39.6
03490000 (r)	North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	176	151	134	122	112	102	92.1	82.5	70.4	62.0	53.2	44.1
03490000 (w)	North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	152	127	112	101	91.8	83.7	75.9	68.1	58.8	52.3	46.2	39.6
03521500 (p)	Clinch River along Route 707 at Richlands, Va.	137	43	0	36.1	30.8	27.6	25.2	23.2	21.4	19.7	17.9	15.8	14.3	12.8	11.3
03521500 (r)	Clinch River along Route 707 at Richlands, Va.	137	43	0	32.4	27.0	23.5	21.0	18.8	16.8	14.9	12.9	10.5	8.91	7.30	5.65
03521500 (w)	Clinch River along Route 707 at Richlands, Va.	137	43	0	36.0	30.7	27.5	25.1	23.1	21.3	19.6	17.8	15.7	14.2	12.7	11.2
03524000 (p)	Clinch River above Route 661 at Cleveland, Va.	533	86	0	134	112	99.1	89.6	81.8	74.9	68.4	61.8	54.0	48.7	43.6	38.2
03524000 (r)	Clinch River above Route 661 at Cleveland, Va.	533	86	0	138	118	104	94.8	86.2	78.5	70.7	63.1	53.5	46.8	39.9	32.7
03524000 (w)	Clinch River above Route 661 at Cleveland, Va.	533	86	0	134	112	99.2	89.7	81.9	75.0	68.4	61.8	54.0	48.6	43.5	38.2
03524500 (p)	Guest River at Route 72 at Coeburn, Va.	87.2	12	0	18.4	12.2	9.13	7.17	5.74	4.61	3.66	2.80	1.96	1.47	1.07	0.720
03524500 (r)	Guest River at Route 72 at Coeburn, Va.	87.2	12	0	18.2	14.1	11.3	9.31	7.60	6.11	4.75	3.43	2.07	1.31	0.735	0.324
03524500 (w)	Guest River at Route 72 at Coeburn, Va.	87.2	12	0	18.3	13.4	10.5	8.46	6.81	5.42	4.20	3.08	2.00	1.42	0.984	0.627
03525000 (p)	Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	--	--	--	--	--	--	--	--
03525000 (r)	Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	9.07	7.40	6.36	5.59	4.93	4.34	3.77	3.20	2.52	2.07	1.64	1.21
03525000 (w)	Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	--	--	--	--	--	--	--	--
03526000 (p)	Copper Creek at Route 619 near Gate City, Va.	106	26	0	35.7	31.4	28.8	26.8	25.1	23.5	22.0	20.3	18.4	17.0	15.5	14.0
03526000 (r)	Copper Creek at Route 619 near Gate City, Va.	106	26	0	24.7	20.4	17.8	15.8	14.1	12.6	11.1	9.56	7.75	6.51	5.29	4.61
03526000 (w)	Copper Creek at Route 619 near Gate City, Va.	106	26	0	35.4	31.2	28.6	26.5	24.8	23.3	21.7	20.1	18.2	16.8	15.4	14.5
03527000 (p)	Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	269	221	194	173	157	142	129	115	98.9	88.0	77.6	66.8
03527000 (r)	Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	305	263	236	217	199	183	166	151	130	116	101	92.7
03527000 (w)	Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	269	222	194	174	158	143	129	116	99.5	88.5	78.0	67.1
03527500 (p)	North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	3.38	2.64	2.23	1.95	1.73	1.55	1.38	1.22	1.04	0.920	0.810	0.750
03527500 (r)	North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	4.86	3.92	3.35	2.92	2.56	2.24	1.92	1.61	1.25	1.01	0.787	0.666
03527500 (w)	North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	3.41	2.67	2.25	1.97	1.75	1.56	1.39	1.23	1.04	0.922	0.810	0.749
03529500 (p)	Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	34.1	27.4	23.2	20.0	17.4	15.1	12.9	10.6	8.02	6.31	4.76	3.92
03529500 (r)	Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	22.7	17.5	14.1	11.6	9.47	7.63	5.96	4.33	2.65	1.70	0.973	0.653
03529500 (w)	Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	27.1	21.5	17.9	15.3	13.2	11.4	9.75	8.09	6.35	5.04	3.92	3.30

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					Non-exceedance probability											
					7-day averaged, adjusted low flow (ft³/s)											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.005
03530000	(p) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--	--
03530000	(r) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	9.06	7.04	5.70	4.67	3.80	3.03	2.33	1.65	0.951	0.576	0.305	0.194
03530000	(w) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--	--
03530500	(p) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	0	10.1	7.69	6.16	5.00	4.04	3.22	2.47	1.77	1.06	0.660	0.370	0.240
03530500	(r) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	0	15.2	11.8	9.50	7.79	6.35	5.10	3.96	2.84	1.69	1.06	0.586	0.384
03530500	(w) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	0	13.5	10.3	8.26	6.69	5.38	4.24	3.22	2.25	1.29	0.787	0.426	0.272
03531000	(p) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	65.2	47.8	38.7	32.5	27.8	23.9	20.4	17.2	13.7	11.4	9.49	8.43
03531000	(r) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	52.9	40.4	32.5	26.7	21.9	17.8	14.1	10.5	6.76	4.56	2.82	1.99
03531000	(w) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	57.6	43.3	35.1	29.2	24.6	20.9	17.6	14.5	11.5	9.51	7.98	7.18
03531500	(p) Powell River at Route 70 near Jonesville, Va.	319	75	0	77.6	64.7	56.7	50.6	45.5	40.9	36.4	31.8	26.3	22.5	18.8	16.7
03531500	(r) Powell River at Route 70 near Jonesville, Va.	319	75	0	57.5	43.9	35.3	29.0	23.8	19.4	15.4	11.5	7.43	5.03	3.13	2.22
03531500	(w) Powell River at Route 70 near Jonesville, Va.	319	75	0	65.7	52.6	44.7	39.0	34.4	30.7	27.3	24.0	20.7	17.9	15.5	14.1

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200		
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
30-day averaged, adjusted low flow (ft ³ /s)																			
01484800 (p)	Guy Creek at Route 606 near Nassavadox, Va.	1.9	32	2	0.340	0.260	0.200	0.170	0.140	0.110	0.080	0.060	0.030	0.000	0.000	0.000	0.000	0.000	
01484800 (r)	Guy Creek at Route 606 near Nassavadox, Va.	1.9	32	2	0.833	0.615	0.467	0.362	0.276	0.204	0.145	--	--	--	--	--	--	--	
01484800 (w)	Guy Creek at Route 606 near Nassavadox, Va.	1.9	32	2	0.395	0.298	0.227	0.189	0.153	0.118	0.085	--	--	--	--	--	--	--	
01613900 (p)	Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	2.56	1.87	1.51	1.27	1.09	0.940	0.810	0.680	0.550	0.460	0.390	0.350	0.320		
01613900 (r)	Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	4.39	3.39	2.83	2.44	2.12	1.84	1.59	1.35	1.07	0.891	0.724	0.628	0.557		
01613900 (w)	Hogue Creek at Route 614 near Hayfield, Va.	15.9	38	0	2.60	1.91	1.54	1.30	1.11	0.961	0.828	0.695	0.561	0.469	0.397	0.355	0.324		
01614830 (p)	Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	7.99	5.46	4.19	3.35	2.74	2.24	1.82	1.43	1.04	0.810	0.610	0.510	0.430		
01614830 (r)	Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	4.19	3.23	2.69	2.32	2.01	1.75	1.51	1.28	1.02	0.844	0.686	0.594	0.526		
01614830 (w)	Opequon Creek at Route 11 near Stephens City, Va.	15.2	6	0	7.89	5.40	4.15	3.32	2.72	2.23	1.81	1.43	1.04	0.811	0.612	0.512	0.432		
01615000 (p)	Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	15.7	11.9	9.58	7.93	6.60	5.47	4.44	3.45	2.40	1.75	1.21	0.930	0.730		
01615000 (r)	Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	17.1	13.5	11.5	10.1	8.88	7.85	6.90	5.94	4.87	4.14	3.46	3.06	2.76		
01615000 (w)	Opequon Creek above Route 7 near Berryville, Va.	58.2	56	0	15.8	11.9	9.63	7.98	6.66	5.53	4.50	3.51	2.46	1.80	1.26	0.973	0.769		
01615500 (p)	Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	3.30	2.95	2.72	2.54	2.38	2.24	2.09	1.93	1.73	1.58	1.43	1.33	1.26		
01615500 (r)	Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	1.55	1.18	0.968	0.824	0.706	0.609	0.519	0.433	0.336	0.275	0.219	0.187	0.163		
01615500 (w)	Abrams Creek at railroad bridge at Winchester, Va.	5.89	3	0	3.26	2.91	2.68	2.50	2.35	2.21	2.06	1.90	1.70	1.56	1.41	1.31	1.24		
01616000 (p)	Abrams Creek above Route 659 near Winchester, Va.	17	24	0	15.5	13.6	12.3	11.4	10.6	9.80	9.07	8.29	7.34	6.65	5.97	5.56	5.21		
01616000 (r)	Abrams Creek above Route 659 near Winchester, Va.	17	24	0	4.71	3.64	3.04	2.62	2.28	1.99	1.72	1.45	1.16	0.964	0.785	0.681	0.604		
01616000 (w)	Abrams Creek above Route 659 near Winchester, Va.	17	24	0	15.3	13.4	12.1	11.2	10.4	9.64	8.92	8.16	7.22	6.55	5.88	5.48	5.14		
01616100 (p)	Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	7.73	6.65	5.93	5.35	4.85	4.37	3.90	3.40	2.78	2.33	1.90	1.64	1.44		
01616100 (r)	Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	2.99	2.29	1.90	1.63	1.41	1.22	1.05	0.884	0.697	0.576	0.464	0.400	0.353		
01616100 (w)	Dry Marsh Run at Route 645 near Berryville, Va.	11	4	0	7.62	6.55	5.84	5.27	4.78	4.30	3.84	3.35	2.74	2.30	1.87	1.62	1.42		
01620500 (p)	North River above Forest Road near Stokesville, Va.	17.3	59	0	3.75	2.34	1.69	1.29	1.01	0.800	0.620	0.470	0.320	0.240	0.180	0.140	0.120		
01620500 (r)	North River above Forest Road near Stokesville, Va.	17.3	59	0	4.80	3.71	3.10	2.67	2.32	2.03	1.75	1.48	1.18	0.984	0.801	0.696	0.618		
01620500 (w)	North River above Forest Road near Stokesville, Va.	17.3	59	0	3.78	2.38	1.73	1.33	1.05	0.836	0.653	0.498	0.343	0.259	0.196	0.153	0.131		
01621050 (p)	Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	6.14	3.70	2.62	1.99	1.55	1.22	0.960	0.740	0.520	0.400	0.310	0.260	0.230		
01621050 (r)	Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	3.93	3.03	2.52	2.17	1.88	1.64	1.41	1.19	0.947	0.785	0.637	0.552	0.488		
01621050 (w)	Muddy Creek at Route 726 at Mount Clinton, Va.	14.3	13	0	6.07	3.68	2.62	2.00	1.56	1.23	0.973	0.753	0.531	0.410	0.318	0.267	0.236		
01622000 (p)	North River along Route 693 near Burkettown, Va.	376	75	0	122	97.6	84.2	74.7	67.3	61.0	55.3	49.7	43.4	39.3	35.6	33.5	31.9		
01622000 (r)	North River along Route 693 near Burkettown, Va.	376	75	0	120	98.9	86.1	77.4	69.8	62.9	56.7	50.2	43.0	37.8	32.7	29.9	27.6		
01622000 (w)	North River along Route 693 near Burkettown, Va.	376	75	0	122	97.7	84.2	74.8	67.4	61.0	55.3	49.7	43.4	39.3	35.5	33.5	31.8		
01624000 (p)	Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	0	0.600	0.370	0.270	0.210	0.160	0.130	0.100	0.080	0.060	0.040	0.030	0.030	0.020		
01624000 (r)	Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	0	2.65	2.03	1.68	1.44	1.24	1.08	0.924	0.775	0.610	0.502	0.405	0.348	0.307		
01624000 (w)	Bell Creek at Route 732 at Franks Mill near Staunton, Va.	9.81	7	0	0.663	0.420	0.312	0.246	0.192	0.157	0.123	0.099	0.074	0.052	0.039	0.037	0.026		
01624300 (p)	Middle River at Route 742 near Verona, Va.	179	18	0	70.4	59.8	53.5	48.8	44.9	41.4	38.1	34.7	30.7	27.9	25.2	23.6	22.3		
01624300 (r)	Middle River at Route 742 near Verona, Va.	179	18	0	55.3	44.8	38.6	34.4	30.7	27.5	24.5	21.5	18.1	15.7	13.4	12.1	11.0		
01624300 (w)	Middle River at Route 742 near Verona, Va.	179	18	0	70.0	59.5	53.1	48.5	44.6	41.1	37.8	34.4	30.4	27.6	24.9	23.4	22.1		
01624800 (p)	Christians Creek at Route 794 near Fishersville, Va.	73	29	0	34.0	28.2	24.8	22.3	20.3	18.5	16.9	15.2	13.2	11.9	10.6	9.84	9.24		
01624800 (r)	Christians Creek at Route 794 near Fishersville, Va.	73	29	0	21.6	17.2	14.7	12.9	11.4	10.1	8.91	7.70	6.35	5.42	4.54	4.04	3.65		
01624800 (w)	Christians Creek at Route 794 near Fishersville, Va.	73	29	0	33.8	28.0	24.6	22.1	20.1	18.4	16.7	15.0	13.1	11.7	10.5	9.74	9.15		
01625000 (p)	Middle River at Route 769 near Grottoes, Va.	373	78	0	143	122	109	98.6	89.9	81.8	74.0	65.7	55.7	48.5	41.5	37.4	34.0		
01625000 (r)	Middle River at Route 769 near Grottoes, Va.	373	78	0	119	98.0	85.4	76.7	69.1	62.4	56.2	49.8	42.6	37.5	32.4	29.6	27.3		
01625000 (w)	Middle River at Route 769 near Grottoes, Va.	373	78	0	143	122	108	98.2	89.4	81.4	73.6	65.4	55.5	48.3	41.4	37.3	33.9		
01625900 (p)	Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
01625900 (r)	Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	0	18.9	14.2	11.4	9.27	7.60	6.15	4.86	3.61	2.31	1.53	0.927	0.655	0.506		
01625900 (w)	Back Creek at Route 624 at Lyndhurst, Va.	40.8	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 4. (30-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
					30-day averaged, adjusted low flow (ft ³ /s)													
01626000 (p)	South River at Route 664 near Waynesboro, Va.	127	54	0	54.0	44.8	39.8	36.3	33.6	31.3	29.2	27.3	25.1	23.7	22.5	21.9	21.5	
01626000 (r)	South River at Route 664 near Waynesboro, Va.	127	54	0	38.6	31.1	26.7	23.6	21.0	18.7	16.6	14.5	12.1	10.4	8.85	7.94	7.23	
01626000 (w)	South River at Route 664 near Waynesboro, Va.	127	54	0	53.6	44.5	39.5	36.1	33.3	31.1	29.0	27.0	24.8	23.5	22.3	21.7	21.2	
01626500 (p)	South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	63.0	53.5	47.9	43.7	40.2	37.1	34.2	31.2	27.6	25.2	22.8	21.5	20.3	
01626500 (r)	South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	40.5	32.7	28.0	24.9	22.1	19.7	17.5	15.3	12.8	11.0	9.36	8.40	7.65	
01626500 (w)	South River (at Basic City) at Lyndhurst Road at Waynesboro, Va.	133	23	0	62.5	53.1	47.4	43.3	39.8	36.7	33.8	30.9	27.4	24.9	22.6	21.2	20.1	
01626850 (p)	South River at Hopeman Parkway near Doods, Va.	148	22	0	86.2	73.7	67.2	62.8	59.6	57.0	54.8	52.8	51.0	50.1	49.6	49.4	49.4	
01626850 (r)	South River at Hopeman Parkway near Doods, Va.	148	22	0	45.3	36.6	31.5	27.9	24.9	22.2	19.8	17.3	14.5	12.5	10.6	9.57	8.73	
01626850 (w)	South River at Hopeman Parkway near Doods, Va.	148	22	0	85.3	72.9	66.4	62.1	58.9	56.3	54.1	52.2	50.4	49.5	48.9	48.8	48.7	
01627500 (p)	South River at Route 778 at Harrison, Va.	212	65	0	106	92.8	84.6	78.2	72.9	68.0	63.2	58.2	52.1	47.8	43.4	40.9	38.7	
01627500 (r)	South River at Route 778 at Harrison, Va.	212	65	0	66.0	53.7	46.4	41.4	37.0	33.2	29.7	26.1	22.0	19.2	16.4	14.8	13.6	
01627500 (w)	South River at Route 778 at Harrison, Va.	212	65	0	105	92.0	83.8	77.5	72.1	67.3	62.6	57.6	51.6	47.2	43.0	40.4	38.3	
01628060 (p)	White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	6	0.110	0.060	0.030	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
01628060 (r)	White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	6	0.674	0.463	0.343	0.261	0.199	0.148	0.106	0.070	0.037	0.020	0.009	0.006	0.004	
01628060 (w)	White Oak Run 0.15 miles above mouth near Grottoes, Va.	1.95	16	6	0.161	0.095	0.056	0.030	0.015	0.011	0.007	0.004	0.002	0.001	0.000	0.000	0.000	
01628500 (p)	South Fork Shenandoah River below Lower Lewis Run near Lynnwood, Va.	1,079	75	0	420	350	308	278	253	231	211	190	165	148	132	123	116	
01628500 (r)	South Fork Shenandoah River below Lower Lewis Run near Lynnwood, Va.	1,079	75	0	362	304	269	245	224	204	186	168	147	132	117	108	101	
01628500 (w)	South Fork Shenandoah River below Lower Lewis Run near Lynnwood, Va.	1,079	75	0	418	349	308	277	253	231	210	189	165	148	132	123	115	
01629500 (p)	South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	582	490	436	397	365	337	311	285	254	233	214	203	193	
01629500 (r)	South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	465	393	349	319	292	267	244	221	195	175	156	145	136	
01629500 (w)	South Fork Shenandoah River at Route 211 near Luray, Va.	1,372	44	0	580	488	434	395	364	336	310	283	253	232	213	202	193	
01630700 (p)	Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	7.83	4.80	3.50	2.72	2.19	1.80	1.48	1.20	0.930	0.780	0.660	0.590	0.550	
01630700 (r)	Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	8.89	6.55	5.15	4.13	3.33	2.65	2.04	1.48	0.904	0.573	0.328	0.223	0.170	
01630700 (w)	Gooney Run at Route 622 near Glen Echo, Va.	20.5	4	0	7.86	4.85	3.54	2.76	2.22	1.82	1.49	1.21	0.930	0.777	0.655	0.585	0.545	
01631000 (p)	South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	629	532	476	435	402	373	345	318	286	264	244	232	223	
01631000 (r)	South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	559	474	421	386	354	324	298	270	239	216	192	180	169	
01631000 (w)	South Fork Shenandoah River below Route 619 at Front Royal, Va.	1,634	76	0	627	531	475	434	401	372	344	317	285	263	243	231	222	
01632000 (p)	North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	19.7	12.2	8.58	6.35	4.79	3.60	2.65	1.85	1.12	0.730	0.450	0.330	0.250	
01632000 (r)	North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	65.3	53.1	45.9	40.9	36.6	32.9	29.4	25.8	21.8	19.0	16.2	14.7	13.4	
01632000 (w)	North Fork Shenandoah River above Route 259 at Cootes Store, Va.	210	81	0	21.3	13.6	9.88	7.53	5.88	4.59	3.53	2.62	1.76	1.27	0.904	0.726	0.597	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					Non-exceedance probability													
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
30-day averaged, adjusted low flow (ft ³ /s)																		
0101632082	(p) Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	16.0	12.0	9.93	8.50	7.40	6.48	5.67	4.89	4.05	3.51	3.04	2.77	2.57	
0101632082	(r) Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	13.3	10.5	8.85	7.73	6.80	5.99	5.25	4.51	3.67	3.11	2.58	2.28	2.05	
0101632082	(w) Linville Creek below Route 786 at Broadway, Va.	45.7	20	0	15.9	12.0	9.90	8.48	7.39	6.47	5.66	4.88	4.04	3.50	3.03	2.76	2.56	
0101632900	(p) Smith Creek at Route 616 near New Market, Va.	93.6	45	0	32.0	25.2	21.3	18.5	16.2	14.2	12.4	10.5	8.47	7.10	5.83	5.13	4.56	
0101632900	(r) Smith Creek at Route 616 near New Market, Va.	93.6	45	0	28.1	22.5	19.2	16.9	15.0	13.3	11.8	10.2	8.48	7.28	6.13	5.47	4.96	
0101632900	(w) Smith Creek at Route 616 near New Market, Va.	93.6	45	0	31.9	25.2	21.3	18.4	16.2	14.2	12.4	10.5	8.47	7.10	5.84	5.14	4.57	
0101633000	(p) North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	111	84.9	69.4	58.1	49.0	41.2	34.1	27.1	19.5	14.8	10.7	8.53	6.92	
0101633000	(r) North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	165	136	119	108	97.3	88.1	79.6	70.9	61.1	54.0	47.1	43.1	40.0	
0101633000	(w) North Fork Shenandoah River at Route 698 at Mt. Jackson, Va.	508	63	0	113	86.2	70.6	59.3	50.2	42.4	35.1	28.1	20.5	15.6	11.4	9.21	7.54	
0101633500	(p) Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	12.9	11.4	10.5	9.70	9.01	8.37	7.72	7.01	6.12	5.45	4.77	4.36	4.01	
0101633500	(r) Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	23.0	18.4	15.6	13.8	12.2	10.8	9.53	8.25	6.80	5.82	4.88	4.34	3.93	
0101633500	(w) Stony Creek along Route 675 at Columbia Furnace, Va.	77.5	8	0	13.1	11.6	10.6	9.78	9.08	8.42	7.76	7.03	6.13	5.46	4.77	4.36	4.01	
0101634000	(p) North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	206	168	146	131	118	107	96.8	86.5	74.7	66.7	59.2	55.0	51.5	
0101634000	(r) North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	254	212	187	169	154	140	127	114	99.2	88.4	77.7	71.7	66.8	
0101634000	(w) North Fork Shenandoah River at Route 55 near Strasburg, Va.	770	81	0	207	169	147	131	119	108	97.4	87.0	75.2	67.1	59.6	55.3	51.8	
0101634500	(p) Cedar Creek above Route 628 near Winchester, Va.	102	68	0	20.0	15.5	13.1	11.4	10.1	8.97	7.98	7.02	5.96	5.27	4.65	4.31	4.04	
0101634500	(r) Cedar Creek above Route 628 near Winchester, Va.	102	68	0	30.7	24.6	21.1	18.6	16.5	14.7	13.0	11.3	9.38	8.06	6.80	6.07	5.52	
0101634500	(w) Cedar Creek above Route 628 near Winchester, Va.	102	68	0	20.2	15.7	13.2	11.5	10.2	9.09	8.09	7.11	6.03	5.32	4.69	4.34	4.06	
0101635090	(p) Cedar Creek above Route 11 near Middletown, Va.	154	6	0	52.9	38.3	31.4	27.1	24.0	21.5	19.5	17.8	16.0	15.1	14.4	14.1	13.9	
0101635090	(r) Cedar Creek above Route 11 near Middletown, Va.	154	6	0	47.2	38.2	32.8	29.2	26.0	23.2	20.7	18.1	15.2	13.1	11.2	10.0	9.17	
0101635090	(w) Cedar Creek above Route 11 near Middletown, Va.	154	6	0	52.8	38.2	31.4	27.1	24.0	21.6	19.6	17.8	16.0	15.0	14.3	14.0	13.8	
0101635500	(p) Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	9.31	7.25	6.04	5.16	4.45	3.84	3.28	2.72	2.09	1.68	1.31	1.11	0.950	
0101635500	(r) Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	25.8	20.6	17.6	15.5	13.8	12.2	10.8	9.35	7.74	6.63	5.57	4.97	4.50	
0101635500	(w) Passage Creek above Route 55 near Buckton, Va.	86.5	74	0	9.71	7.57	6.31	5.40	4.66	4.03	3.45	2.86	2.21	1.78	1.39	1.18	1.01	
0101636210	(p) Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	2.16	1.61	1.29	1.06	0.870	0.720	0.580	0.450	0.310	0.220	0.150	0.120	0.090	
0101636210	(r) Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	5.85	4.26	3.32	2.64	2.11	1.66	1.26	0.901	0.538	0.333	0.185	0.123	0.093	
0101636210	(w) Happy Creek at Kerfoot Avenue at Front Royal, Va.	14	28	0	2.27	1.68	1.34	1.10	0.899	0.741	0.594	0.459	0.314	0.222	0.150	0.120	0.090	
0101636266	(p) Manassas Run at Route 79 near Linden, Va.	5.54	4	0	7.22	3.95	2.73	2.07	1.66	1.36	1.14	0.960	0.800	0.710	0.660	0.630	0.620	
0101636266	(r) Manassas Run at Route 79 near Linden, Va.	5.54	4	0	2.12	1.50	1.14	0.889	0.695	0.533	0.394	0.270	0.152	0.089	0.046	0.029	0.021	
0101636266	(w) Manassas Run at Route 79 near Linden, Va.	5.54	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101636316	(p) Spout Run at Route 621 near Millwood, Va.	21.4	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101636316	(r) Spout Run at Route 621 near Millwood, Va.	21.4	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101636316	(w) Spout Run at Route 621 near Millwood, Va.	21.4	4	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101638350	(p) South Fork Catoctin Creek at Route 698 near Waterford, Va.	31.6	5	0	16.8	7.51	4.58	3.16	2.33	1.78	1.39	1.09	0.840	0.710	0.630	0.590	0.570	
0101638350	(r) South Fork Catoctin Creek at Route 698 near Waterford, Va.	31.6	5	0	14.3	10.7	8.48	6.86	5.59	4.50	3.52	2.59	1.63	1.06	0.630	0.439	0.337	
0101638350	(w) South Fork Catoctin Creek at Route 698 near Waterford, Va.	31.6	5	0	16.7	7.64	4.73	3.30	2.45	1.87	1.46	1.14	0.860	0.718	0.630	0.587	0.566	

Table 4. (30-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; cubic foot per second; mi^2 , square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
					30-day averaged, adjusted low flow (ft ³ /s)													
0101638420	(p) North Fork Catoctin Creek at Route 681 bridge near Waterford, Va.	23.1	5	0	13.3	6.79	3.89	2.30	1.34	0.750	0.380	0.160	0.040	0.010	0.000	0.000	0.000	
0101638420	(r) North Fork Catoctin Creek at Route 681 bridge near Waterford, Va.	23.1	5	0	10.1	7.49	5.91	4.75	3.84	3.06	2.37	1.73	1.06	0.679	0.393	0.269	0.205	
0101638420	(w) North Fork Catoctin Creek at Route 681 bridge near Waterford, Va.	23.1	5	0	12.7	6.92	4.24	2.72	1.75	1.11	0.672	0.382	0.165	0.086	0.040	0.026	0.018	
0101638480	(p) Catoctin Creek at Route 663 at Taylors town, Va.	89.5	35	0	27.3	17.8	12.9	9.65	7.29	5.45	3.94	2.66	1.50	0.910	0.500	0.330	0.230	
0101638480	(r) Catoctin Creek at Route 663 at Taylors town, Va.	89.5	35	0	44.7	34.4	28.1	23.3	19.5	16.1	13.0	10.0	6.72	4.68	3.03	2.24	1.76	
0101638480	(w) Catoctin Creek at Route 663 at Taylors town, Va.	89.5	35	0	28.0	18.5	13.4	10.1	7.69	5.77	4.20	2.86	1.62	0.991	0.548	0.364	0.255	
0101643590	(p) Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	4.68	2.94	2.18	1.72	1.41	1.17	0.980	0.810	0.650	0.560	0.480	0.440	0.410	
0101643590	(r) Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	3.12	2.23	1.71	1.34	1.06	0.821	0.614	0.427	0.246	0.147	0.078	0.050	0.037	
0101643590	(w) Limestone Branch at Route 15 near Leesburg, Va.	7.88	5	0	4.63	2.92	2.17	1.71	1.40	1.16	0.972	0.802	0.643	0.553	0.474	0.435	0.405	
0101643700	(p) Goose Creek at Route 611 near Middleburg, Va.	122	32	1	40.0	25.6	17.2	11.6	7.60	4.71	2.62	1.17	0.280	0.040	0.000	0.000	0.000	
0101643700	(r) Goose Creek at Route 611 near Middleburg, Va.	122	32	1	62.8	48.8	40.1	33.5	28.2	23.5	19.3	15.0	10.2	7.28	4.83	3.63	2.89	
0101643700	(w) Goose Creek at Route 611 near Middleburg, Va.	122	32	1	42.0	27.6	19.1	13.4	9.17	6.06	3.73	2.06	0.824	0.409	0.218	0.156	0.112	
0101643805	(p) North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	25.1	12.9	8.29	5.83	4.29	3.22	2.42	1.77	1.21	0.910	0.690	0.590	0.510	
0101643805	(r) North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	17.5	13.2	10.5	8.55	7.00	5.66	4.45	3.30	2.10	1.39	0.836	0.588	0.454	
0101643805	(w) North Fork Goose Creek at Route 729 near Lincoln, Va.	38.1	4	0	24.8	12.9	8.37	5.93	4.38	3.30	2.48	1.81	1.23	0.921	0.693	0.590	0.509	
0101643880	(p) Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	0	20.0	6.22	2.96	1.67	1.03	0.660	0.440	0.280	0.170	0.120	0.090	0.080	0.070	
0101643880	(r) Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	0	22.2	16.7	13.4	11.0	9.04	7.35	5.83	4.36	2.81	1.88	1.15	0.822	0.638	
0101643880	(w) Beaverdam Creek at Route 734 near Mountville, Va.	47.2	5	0	20.2	7.30	3.98	2.56	1.76	1.23	0.868	0.594	0.343	0.227	0.147	0.118	0.096	
0101644000	(p) Goose Creek above Route 621 near Leesburg, Va.	332	78	0	92.7	56.1	38.6	27.8	20.3	14.7	10.4	6.80	3.72	2.22	1.22	0.810	0.550	
0101644000	(r) Goose Creek above Route 621 near Leesburg, Va.	332	78	0	188	151	127	109	93.6	80.2	67.9	54.9	40.0	30.3	21.9	17.4	14.2	
0101644000	(w) Goose Creek above Route 621 near Leesburg, Va.	332	78	0	96.9	60.1	42.1	30.9	23.0	17.0	12.2	8.28	4.66	2.90	1.66	1.15	0.798	
0101644280	(p) Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	31.7	20.9	15.5	12.1	9.65	7.70	6.08	4.63	3.20	2.38	1.71	1.39	1.14	
0101644280	(r) Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	20.9	15.2	11.7	--	--	--	--	--	--	--	--	--	--	
0101644280	(w) Broad Run at Route 7 near Leesburg, Va.	76.1	5	0	31.1	20.6	15.3	--	--	--	--	--	--	--	--	--	--	
0101644291	(p) Stave Run below Parking Lot Road near Reston, Va.	0.085	10	1	0.030	0.020	0.020	0.010	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
0101644291	(r) Stave Run below Parking Lot Road near Reston, Va.	0.085	10	1	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101644291	(w) Stave Run below Parking Lot Road near Reston, Va.	0.085	10	1	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101644295	(p) Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	2	0.080	0.050	0.030	0.020	0.010	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
0101644295	(r) Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	2	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101644295	(w) Smilax Branch at Dulles Airport Road at Reston, Va.	0.33	11	2	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101645784	(p) Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	29.7	24.0	20.1	17.1	14.4	12.0	9.74	7.46	4.95	3.40	2.14	1.53	1.11	
0101645784	(r) Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101645784	(w) Snakeden Branch at Soapstone Drive at Reston, Va.	0.79	71	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101646000	(p) Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	29.7	24.0	20.1	17.1	14.4	12.0	9.74	7.46	4.95	3.40	2.14	1.53	1.11	
0101646000	(r) Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101646000	(w) Difficult Run below Route 193 near Great Falls, Va.	57.8	71	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101652500	(p) Fourmile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	6.53	5.42	4.72	4.18	3.73	3.32	2.92	2.51	2.03	1.69	1.37	1.19	1.04	
0101652500	(r) Fourmile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	4.72	3.36	2.50	1.90	1.43	1.03	0.706	--	--	--	--	--	--	
0101652500	(w) Fourmile Run at Shirlington Road at Alexandria, Va.	12.6	29	0	6.36	5.23	4.53	3.99	3.55	3.16	2.76	--	--	--	--	--	--	
0101653000	(p) Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	13.8	10.3	8.38	7.08	6.08	5.23	4.48	3.76	2.98	2.48	2.03	1.79	1.60	
0101653000	(r) Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	11.7	8.16	6.02	4.51	3.36	2.41	1.62	--	--	--	--	--	--	
0101653000	(w) Cameron Run below railroad bridge at Alexandria, Va.	33.9	43	0	13.6	10.1	8.16	6.85	5.85	5.02	4.27	--	--	--	--	--	--	
0101654000	(p) Accotink Creek above Route 620 near Amandale, Va.	23.9	59	0	9.74	7.86	6.57	5.53	4.64	3.83	3.07	2.30	1.48	0.980	0.590	0.410	0.280	
0101654000	(r) Accotink Creek above Route 620 near Amandale, Va.	23.9	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
0101654000	(w) Accotink Creek above Route 620 near Amandale, Va.	23.9	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	30-day averaged, adjusted low flow (ft ³ /s)	Non-exceedance probability
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
01654500	(p) Long Branch (Little Run) at Route 620 near Amandale, Va.	3.72	8	0	2.37	1.86	1.50	1.21	0.970	0.750	0.560	0.380	0.200	0.110	0.050	0.030	0.020		
01654500	(r) Long Branch (Little Run) at Route 620 near Amandale, Va.	3.72	8	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01654500	(w) Long Branch (Little Run) at Route 620 near Amandale, Va.	3.72	8	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01655000	(p) Accotink Creek at Army Engineer Road near Accotink Station, Va.	37.1	6	0	15.1	11.1	8.59	6.77	5.32	4.10	3.04	2.08	1.17	0.690	0.360	0.220	0.140		
01655000	(r) Accotink Creek at Army Engineer Road near Accotink Station, Va.	37.1	6	0	12.7	8.85	6.52	4.88	3.64	2.61	1.74	--	--	--	--	--	--		
01655000	(w) Accotink Creek at Army Engineer Road near Accotink Station, Va.	37.1	6	0	14.8	10.8	8.34	6.55	5.13	3.96	2.91	--	--	--	--	--	--		
01655500	(p) Cedar Run at Route 672 near Warrenton, Va.	13.1	35	0	2.75	2.07	1.60	1.24	0.950	0.700	0.480	0.300	0.140	0.060	0.020	0.010	0.010		
01655500	(r) Cedar Run at Route 672 near Warrenton, Va.	13.1	35	0	5.44	3.95	3.08	2.44	1.95	1.53	1.16	0.826	0.492	0.303	0.167	0.111	0.083		
01655500	(w) Cedar Run at Route 672 near Warrenton, Va.	13.1	35	0	2.87	2.15	1.66	1.29	0.986	0.728	0.502	0.316	0.149	0.066	0.023	0.012	0.011		
01656000	(p) Cedar Run at Route 806 near Catlett, Va.	93.4	51	0	9.57	7.33	5.64	4.28	3.15	2.21	1.42	0.780	0.290	0.110	0.030	0.010	0.000		
01656000	(r) Cedar Run at Route 806 near Catlett, Va.	93.4	51	0	26.3	19.3	14.9	--	--	--	--	--	--	--	--	--	--		
01656000	(w) Cedar Run at Route 806 near Catlett, Va.	93.4	51	0	11.3	8.51	6.53	--	--	--	--	--	--	--	--	--	--		
01656100	(p) Cedar Run at Route 611 near Aden, Va.	155	15	0	14.7	8.68	6.03	4.46	3.39	2.60	1.97	1.44	0.950	0.690	0.480	0.390	0.320		
01656100	(r) Cedar Run at Route 611 near Aden, Va.	155	15	0	46.5	34.6	27.2	--	--	--	--	--	--	--	--	--	--		
01656100	(w) Cedar Run at Route 611 near Aden, Va.	155	15	0	16.7	10.3	7.32	--	--	--	--	--	--	--	--	--	--		
01656120	(p) Cedar Run at Route 646 near Aden, Va.	175	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01656120	(r) Cedar Run at Route 646 near Aden, Va.	175	2	0	53.3	39.8	31.4	--	--	--	--	--	--	--	--	--	--		
01656120	(w) Cedar Run at Route 646 near Aden, Va.	175	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01656500	(p) Broad Run at Route 29 at Buckland, Va.	50.2	34	0	12.6	9.16	7.16	5.75	4.65	3.73	2.92	2.16	1.39	0.950	0.610	0.440	0.330		
01656500	(r) Broad Run at Route 29 at Buckland, Va.	50.2	34	0	23.7	17.9	14.4	11.8	9.74	7.93	6.30	4.73	3.06	2.05	1.27	0.906	0.704		
01656500	(w) Broad Run at Route 29 at Buckland, Va.	50.2	34	0	13.0	9.42	7.36	5.91	4.78	3.83	3.00	2.22	1.42	0.969	0.620	0.447	0.335		
01656650	(p) Broad Run at Route 619 near Bristow, Va.	89.6	11	0	20.1	13.7	10.5	8.31	6.71	5.43	4.33	3.34	2.34	1.75	1.26	1.02	0.840		
01656650	(r) Broad Run at Route 619 near Bristow, Va.	89.6	11	0	44.7	34.5	28.1	23.3	19.5	16.1	13.1	10.0	6.73	4.69	3.03	2.24	1.77		
01656650	(w) Broad Run at Route 619 near Bristow, Va.	89.6	11	0	20.8	14.3	10.9	8.70	7.03	5.68	4.52	3.48	2.42	1.80	1.29	1.04	0.851		
01656700	(p) Ocoquan River (Creek) below Route 234 near Manassas, Va.	343	11	0	43.7	29.0	21.6	16.8	13.4	10.6	8.29	6.24	4.21	3.06	2.14	1.68	1.36		
01656700	(r) Ocoquan River (Creek) below Route 234 near Manassas, Va.	343	11	0	114	86.5	69.7	--	--	--	--	--	--	--	--	--	--		
01656700	(w) Ocoquan River (Creek) below Route 234 near Manassas, Va.	343	11	0	47.6	32.1	24.2	--	--	--	--	--	--	--	--	--	--		
01656725	(p) Bull Run at Route 705 near Catharpin, Va.	25.7	16	1	3.51	1.93	1.17	0.720	0.440	0.250	0.130	0.050	0.010	0.000	0.000	0.000	0.000		
01656725	(r) Bull Run at Route 705 near Catharpin, Va.	25.7	16	1	6.19	4.34	3.22	--	--	--	--	--	--	--	--	--	--		
01656725	(w) Bull Run at Route 705 near Catharpin, Va.	25.7	16	1	3.99	2.35	1.52	--	--	--	--	--	--	--	--	--	--		
01656960	(p) Cub Run at Route 658 near Bull Run, Va.	49.7	13	0	7.89	5.57	4.24	3.31	2.59	2.00	1.50	1.05	0.620	0.380	0.220	0.150	0.100		
01656960	(r) Cub Run at Route 658 near Bull Run, Va.	49.7	13	0	13.0	9.30	7.04	--	--	--	--	--	--	--	--	--	--		
01656960	(w) Cub Run at Route 658 near Bull Run, Va.	49.7	13	0	8.20	5.79	4.40	--	--	--	--	--	--	--	--	--	--		
01657000	(p) Bull Run at Route 616 near Manassas, Va.	146	30	0	14.3	9.71	7.17	5.44	4.14	3.10	2.24	1.49	0.820	0.480	0.250	0.160	0.100		
01657000	(r) Bull Run at Route 616 near Manassas, Va.	146	30	0	43.5	32.3	25.3	--	--	--	--	--	--	--	--	--	--		
01657000	(w) Bull Run at Route 616 near Manassas, Va.	146	30	0	16.2	11.2	8.32	--	--	--	--	--	--	--	--	--	--		
01657020	(p) Bull Run at Route 28 near Manassas Park, Va.	147	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01657020	(r) Bull Run at Route 28 near Manassas Park, Va.	147	2	0	43.8	32.5	25.5	--	--	--	--	--	--	--	--	--	--		
01657020	(w) Bull Run at Route 28 near Manassas Park, Va.	147	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
					30-day averaged, adjusted low flow (ft ³ /s)													
01661800 (p)	Bush Mill Stream at Route 601 near Heathsville, Va.	6.77	20	0	3.76	2.65	1.99	1.52	1.16	0.870	0.620	0.400	0.210	0.120	0.060	0.030	0.020	
01661800 (r)	Bush Mill Stream at Route 601 near Heathsville, Va.	6.77	20	0	2.67	1.92	1.44	1.10	0.832	0.606	0.420	--	--	--	--	--	--	
01661800 (w)	Bush Mill Stream at Route 601 near Heathsville, Va.	6.77	20	0	3.60	2.55	1.92	1.47	1.12	0.842	0.598	--	--	--	--	--	--	
01661900 (p)	Carter Run off Route 691 near Marshall, Va.	20.4	5	0	7.93	5.07	3.76	2.95	2.39	1.96	1.60	1.28	0.970	0.790	0.640	0.560	0.510	
01661900 (r)	Carter Run off Route 691 near Marshall, Va.	20.4	5	0	8.84	6.51	5.12	4.11	3.31	2.63	2.03	1.47	0.898	0.569	0.326	0.221	0.168	
01661900 (w)	Carter Run off Route 691 near Marshall, Va.	20.4	5	0	7.96	5.11	3.80	2.98	2.41	1.98	1.61	1.28	0.969	0.786	0.635	0.555	0.506	
01662000 (p)	Rappahannock River at Route 211 near Warrenton, Va.	195	43	0	65.1	46.2	35.2	27.4	21.3	16.4	12.1	8.29	4.70	2.82	1.52	0.980	0.640	
01662000 (r)	Rappahannock River at Route 211 near Warrenton, Va.	195	43	0	105	82.7	68.8	58.1	49.5	41.8	34.7	27.5	19.4	14.2	9.80	7.56	6.08	
01662000 (w)	Rappahannock River at Route 211 near Warrenton, Va.	195	43	0	66.5	47.4	36.2	28.3	22.1	17.0	12.7	8.76	5.00	3.04	1.66	1.09	0.719	
01662500 (p)	Rush River at old Route 522 at Washington, Va.	14.6	23	1	2.83	2.05	1.56	1.19	0.890	0.640	0.430	0.250	0.090	0.010	0.000	0.000	0.000	
01662500 (r)	Rush River at old Route 522 at Washington, Va.	14.6	23	1	6.13	4.47	3.48	2.77	2.22	1.75	1.33	0.951	0.570	0.353	0.197	0.131	0.099	
01662500 (w)	Rush River at old Route 522 at Washington, Va.	14.6	23	1	2.96	2.14	1.63	1.25	0.935	0.675	0.457	0.270	0.102	0.018	0.004	0.002	0.002	
01662800 (p)	Battle Run at Route 729 near Laurel Mills, Va.	25.8	45	0	9.74	6.66	4.96	3.81	2.94	2.24	1.65	1.14	0.660	0.410	0.230	0.150	0.100	
01662800 (r)	Battle Run at Route 729 near Laurel Mills, Va.	25.8	45	0	11.4	8.48	6.71	5.41	4.39	3.51	2.73	1.99	1.24	0.795	0.464	0.320	0.244	
01662800 (w)	Battle Run at Route 729 near Laurel Mills, Va.	25.8	45	0	9.80	6.72	5.02	3.86	2.98	2.28	1.68	1.16	0.672	0.418	0.234	0.153	0.102	
01663000 (p)	Thornton River at Route 729 near Laurel Mills, Va.	139	12	0	74.2	52.4	39.5	30.5	23.4	17.7	12.9	8.58	4.65	2.68	1.36	0.840	0.520	
01663000 (r)	Thornton River at Route 729 near Laurel Mills, Va.	139	12	0	72.4	56.5	46.6	39.1	33.0	27.6	22.7	17.7	12.2	8.77	5.88	4.45	3.55	
01663000 (w)	Thornton River at Route 729 near Laurel Mills, Va.	139	12	0	74.1	52.5	39.8	30.7	23.7	18.0	13.1	8.82	4.82	2.80	1.44	0.902	0.567	
01663500 (p)	Hazel River at Route 229 at Rixeyville, Va.	285	53	0	139	95.0	71.1	55.1	43.2	33.5	25.4	18.2	11.3	7.43	4.58	3.28	2.40	
01663500 (r)	Hazel River at Route 229 at Rixeyville, Va.	285	53	0	159	127	107	90.8	78.0	66.6	56.0	45.0	32.5	24.4	17.4	13.7	11.1	
01663500 (w)	Hazel River at Route 229 at Rixeyville, Va.	285	53	0	140	96.0	72.2	56.2	44.1	34.4	26.2	18.8	11.7	7.74	4.79	3.44	2.52	
01664000 (p)	Rappahannock River at Route 29 (Alternate) at Remington, Va.	619	64	0	267	175	129	98.3	76.1	58.8	44.4	31.8	19.8	13.3	8.39	6.14	4.60	
01664000 (r)	Rappahannock River at Route 29 (Alternate) at Remington, Va.	619	64	0	372	304	260	226	197	172	149	123	93.4	73.6	56.0	46.0	38.1	
01664000 (w)	Rappahannock River at Route 29 (Alternate) at Remington, Va.	619	64	0	270	179	133	102	79.6	61.8	47.0	34.0	21.3	14.4	9.18	6.77	5.08	
01664500 (p)	Rappahannock River at Route 620 at Kellys Ford near Remington, Va.	641	24	0	282	229	188	152	121	93.1	67.2	43.2	20.8	10.2	4.02	1.99	0.980	
01664500 (r)	Rappahannock River at Route 620 at Kellys Ford near Remington, Va.	641	24	0	387	316	271	235	206	180	155	129	98.0	77.4	59.0	48.6	40.3	
01664500 (w)	Rappahannock River at Route 620 at Kellys Ford near Remington, Va.	641	24	0	286	232	191	155	124	95.7	69.6	45.5	22.6	11.6	5.03	2.81	1.60	
01665000 (p)	Mountain Run at Route 641 near Culpeper, Va.	16.1	47	0	6.33	5.19	4.39	3.73	3.16	2.64	2.14	1.63	1.06	0.720	0.440	0.310	0.220	
01665000 (r)	Mountain Run at Route 641 near Culpeper, Va.	16.1	47	0	6.82	4.99	3.90	3.11	2.49	1.97	1.51	1.08	0.651	0.406	0.228	0.153	0.116	
01665000 (w)	Mountain Run at Route 641 near Culpeper, Va.	16.1	47	0	6.34	5.18	4.38	3.71	3.14	2.63	2.13	1.62	1.05	0.715	0.437	0.308	0.219	
01665500 (p)	Rapidan River below Route 29 near Ruckersville, Va.	115	60	0	55.9	40.3	31.6	25.5	20.8	16.9	13.5	10.3	6.98	5.01	3.42	2.63	2.06	
01665500 (r)	Rapidan River below Route 29 near Ruckersville, Va.	115	60	0	58.8	45.6	37.5	31.3	26.3	21.9	17.9	13.9	9.45	6.69	4.42	3.31	2.63	
01665500 (w)	Rapidan River below Route 29 near Ruckersville, Va.	115	60	0	56.0	40.4	31.7	25.7	21.0	17.0	13.6	10.4	7.02	5.04	3.43	2.64	2.07	
01666500 (p)	Robinson (Robertson) River at Route 614 near Locust Dale, Va.	179	63	0	107	79.2	63.3	51.9	42.9	35.2	28.3	21.8	14.9	10.7	7.26	5.56	4.33	
01666500 (r)	Robinson (Robertson) River at Route 614 near Locust Dale, Va.	179	63	0	54.7	40.8	32.2	--	--	--	--	--	--	--	--	--	--	
01666500 (w)	Robinson (Robertson) River at Route 614 near Locust Dale, Va.	179	63	0	105	78.2	62.5	--	--	--	--	--	--	--	--	--	--	
01667000 (p)	Rapidan River below Route 615 at Rapidan, Va.	445	4	0	167	124	104	91.5	82.8	76.1	70.6	66.0	61.9	59.9	58.7	58.3	58.2	
01667000 (r)	Rapidan River below Route 615 at Rapidan, Va.	445	4	0	152	117	95.0	--	--	--	--	--	--	--	--	--	--	
01667000 (w)	Rapidan River below Route 615 at Rapidan, Va.	445	4	0	166	124	104	--	--	--	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
					30-day averaged, adjusted low flow (ft³/s)												
01667500 (p)	Rapidan River above Route 522 near Culpeper, Va.	468	75	0	239	181	146	119	97.6	79.1	62.3	46.3	29.7	20.0	12.4	8.83	6.38
01667500 (r)	Rapidan River above Route 522 near Culpeper, Va.	468	75	0	161	124	101	--	--	--	--	--	--	--	--	--	--
01667500 (w)	Rapidan River above Route 522 near Culpeper, Va.	468	75	0	237	180	144	--	--	--	--	--	--	--	--	--	--
01667870 (p)	Mountain Run at Route 611 near Burr Hill, Va.	28.8	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01667870 (r)	Mountain Run at Route 611 near Burr Hill, Va.	28.8	2	0	10.1	7.05	5.21	3.91	2.92	2.10	1.41	--	--	--	--	--	--
01667870 (w)	Mountain Run at Route 611 near Burr Hill, Va.	28.8	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01668000 (p)	Rappahannock River below Motts Run near Fredericksburg, Va.	1,595	99	0	639	483	387	316	259	209	165	122	78.0	52.3	32.3	22.9	16.5
01668000 (r)	Rappahannock River below Motts Run near Fredericksburg, Va.	1,595	99	0	400	258	183	132	94.8	65.8	40.6	--	--	--	--	--	--
01668000 (w)	Rappahannock River below Motts Run near Fredericksburg, Va.	1,595	99	0	632	477	382	311	255	206	162	--	--	--	--	--	--
01668500 (p)	Cat Point Creek below Route 637 near Montross, Va.	45.6	55	0	18.2	11.7	8.31	6.09	4.49	3.27	2.28	1.47	0.770	0.430	0.220	0.130	0.080
01668500 (r)	Cat Point Creek below Route 637 near Montross, Va.	45.6	55	0	15.4	10.6	7.83	5.85	4.35	3.11	2.07	--	--	--	--	--	--
01668500 (w)	Cat Point Creek below Route 637 near Montross, Va.	45.6	55	0	17.8	11.5	8.24	6.06	4.47	3.25	2.26	--	--	--	--	--	--
01668800 (p)	Hoskins Creek at Route 717 near Tappahannock, Va.	15.4	19	0	10.4	7.24	5.58	4.46	3.62	2.93	2.34	1.79	1.23	0.910	0.640	0.500	0.410
01668800 (r)	Hoskins Creek at Route 717 near Tappahannock, Va.	15.4	19	0	5.67	4.02	2.99	2.26	1.70	1.23	0.836	--	--	--	--	--	--
01668800 (w)	Hoskins Creek at Route 717 near Tappahannock, Va.	15.4	19	0	9.82	6.89	5.31	4.24	3.44	2.79	2.21	--	--	--	--	--	--
01669000 (p)	Piscataway Creek at Route 691 near Tappahannock, Va.	27.9	55	0	15.4	12.2	9.80	7.84	6.16	4.68	3.35	2.15	1.04	0.520	0.210	0.110	0.050
01669000 (r)	Piscataway Creek at Route 691 near Tappahannock, Va.	27.9	55	0	9.79	6.85	5.06	3.80	2.84	2.04	1.37	--	--	--	--	--	--
01669000 (w)	Piscataway Creek at Route 691 near Tappahannock, Va.	27.9	55	0	14.6	11.4	9.17	7.32	5.76	4.40	3.13	--	--	--	--	--	--
01669500 (p)	Dragon Swamp at Route 602 near Church View, Va.	86	37	1	34.8	23.8	17.2	12.7	9.19	6.46	4.25	2.44	0.950	0.300	0.000	0.000	0.000
01669500 (r)	Dragon Swamp at Route 602 near Church View, Va.	86	37	1	27.5	18.8	13.7	10.2	7.54	5.37	3.53	--	--	--	--	--	--
01669500 (w)	Dragon Swamp at Route 602 near Church View, Va.	86	37	1	33.5	22.9	16.7	12.3	8.95	6.32	4.16	--	--	--	--	--	--
01669520 (p)	Dragon Swamp at Route 603 at Mascot, Va.	109	25	0	62.2	31.5	18.5	11.5	7.13	4.34	2.48	1.25	0.450	0.180	0.060	0.030	0.010
01669520 (r)	Dragon Swamp at Route 603 at Mascot, Va.	109	25	0	34.1	23.3	17.0	12.6	9.26	6.58	4.30	--	--	--	--	--	--
01669520 (w)	Dragon Swamp at Route 603 at Mascot, Va.	109	25	0	52.8	28.8	18.0	11.8	7.75	4.93	2.96	--	--	--	--	--	--
01670000 (p)	Beaverdam Swamp above Route 606 near Ark, Va.	7.15	38	0	3.07	2.33	1.81	1.40	1.07	0.790	0.550	0.330	0.150	0.070	0.030	0.010	0.010
01670000 (r)	Beaverdam Swamp above Route 606 near Ark, Va.	7.15	38	0	2.81	2.02	1.51	1.15	0.872	0.635	0.440	--	--	--	--	--	--
01670000 (w)	Beaverdam Swamp above Route 606 near Ark, Va.	7.15	38	0	3.03	2.28	1.77	1.37	1.04	0.772	0.537	--	--	--	--	--	--
01670180 (p)	Panunkey Creek at Route 669 at Lahore, Va.	41.9	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01670180 (r)	Panunkey Creek at Route 669 at Lahore, Va.	41.9	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01670180 (w)	Panunkey Creek at Route 669 at Lahore, Va.	41.9	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01670300 (p)	Contrary Creek below Route 522 near Mineral, Va.	5.58	10	0	1.37	1.02	0.800	0.640	0.510	0.400	0.300	0.210	0.120	0.070	0.040	0.020	0.010
01670300 (r)	Contrary Creek below Route 522 near Mineral, Va.	5.58	10	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01670300 (w)	Contrary Creek below Route 522 near Mineral, Va.	5.58	10	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01670400 (p)	North Anna River at Route 601 near Partlow, Va.	342	16	0	54.1	51.8	50.3	49.0	47.9	46.7	45.6	44.3	42.6	41.2	39.7	38.8	38.0
01670400 (r)	North Anna River at Route 601 near Partlow, Va.	342	16	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01670400 (w)	North Anna River at Route 601 near Partlow, Va.	342	16	0	--	--	--	--	--	--	--	--	--	--	--	--	--
01671000 (p)	North Anna River near Doswell, Va.	440	56	0	131	106	88.9	74.6	62.2	50.8	40.0	29.3	18.0	11.3	6.34	4.13	2.72
01671000 (r)	North Anna River near Doswell, Va.	440	56	0	123	81.3	58.4	42.6	31.0	21.8	13.8	--	--	--	--	--	--
01671000 (w)	North Anna River near Doswell, Va.	440	56	0	130	104	85.7	71.5	59.3	48.4	37.8	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	30-day averaged, adjusted low flow (ft ³ /s)	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
01671020	(p) North Anna River at Route 30 at Hart Corner, near Doswell, Va.	462	27	0	98.0	77.9	67.7	61.1	56.1	52.1	48.8	45.7	42.7	41.0	39.8	39.3	38.9		
01671020	(r) North Anna River at Route 30 at Hart Corner, near Doswell, Va.	462	27	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01671020	(w) North Anna River at Route 30 at Hart Corner, near Doswell, Va.	462	27	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01671100	(p) Little River at Route 685 near Doswell, Va.	107	43	0	26.0	16.2	11.3	8.23	6.05	4.40	3.09	2.02	1.08	0.630	0.340	0.220	0.140		
01671100	(r) Little River at Route 685 near Doswell, Va.	107	43	0	33.6	22.9	16.7	12.4	9.11	6.47	4.23	--	--	--	--	--	--		
01671100	(w) Little River at Route 685 near Doswell, Va.	107	43	0	27.2	17.2	12.1	8.80	6.45	4.64	3.23	--	--	--	--	--	--		
01671500	(p) Bunch (Hudson) Creek at Route 15 near Boswells Tavern, Va.	4.34	30	7	1.11	0.890	0.690	0.510	0.350	0.200	0.070	0.000	0.000	0.000	0.000	0.000	0.000		
01671500	(r) Bunch (Hudson) Creek at Route 15 near Boswells Tavern, Va.	4.34	30	7	--	--	--	--	--	--	--	--	--	--	--	--	--		
01671500	(w) Bunch (Hudson) Creek at Route 15 near Boswells Tavern, Va.	4.34	30	7	--	--	--	--	--	--	--	--	--	--	--	--	--		
01672000	(p) South Anna River at Route 617 at Vontay, Va.	297	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01672000	(r) South Anna River at Route 617 at Vontay, Va.	297	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01672000	(w) South Anna River at Route 617 at Vontay, Va.	297	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01672500	(p) South Anna River at Route 54 near Ashland, Va.	395	68	0	125	92.5	73.4	59.7	48.8	39.6	31.4	23.6	15.6	10.9	7.08	5.25	3.96		
01672500	(r) South Anna River at Route 54 near Ashland, Va.	395	68	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01672500	(w) South Anna River at Route 54 near Ashland, Va.	395	68	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01673000	(p) Pamunkey River at Route 614 near Hanover, Va.	1,078	65	0	325	245	198	164	137	114	93.8	73.9	52.5	39.3	28.0	22.2	17.9		
01673000	(r) Pamunkey River at Route 614 near Hanover, Va.	1,078	65	0	279	182	129	93.4	67.5	47.0	29.3	--	--	--	--	--	--		
01673000	(w) Pamunkey River at Route 614 near Hanover, Va.	1,078	65	0	320	238	191	158	131	109	88.7	--	--	--	--	--	--		
01673500	(p) Totopotomoy Creek at Route 301 near Atlee, Va.	5.77	28	0	1.51	1.02	0.760	0.590	0.460	0.350	0.270	0.190	0.120	0.080	0.050	0.030	0.020		
01673500	(r) Totopotomoy Creek at Route 301 near Atlee, Va.	5.77	28	0	2.31	1.67	1.25	0.957	0.724	0.529	0.367	--	--	--	--	--	--		
01673500	(w) Totopotomoy Creek at Route 301 near Atlee, Va.	5.77	28	0	1.61	1.10	0.819	0.632	0.489	0.367	0.279	--	--	--	--	--	--		
01673550	(p) Totopotomoy Creek at Route 606 near Studley, Va.	25.5	29	0	12.3	9.59	7.64	6.08	4.77	3.62	2.60	1.68	0.830	0.420	0.180	0.090	0.050		
01673550	(r) Totopotomoy Creek at Route 606 near Studley, Va.	25.5	29	0	9.01	6.32	4.67	3.52	2.63	1.89	1.27	--	--	--	--	--	--		
01673550	(w) Totopotomoy Creek at Route 606 near Studley, Va.	25.5	29	0	11.9	9.14	7.25	5.76	4.52	3.44	2.46	--	--	--	--	--	--		
01673638	(p) Cohoke Mill Creek near Lester Manor, Va.	8.81	7	1	10.7	6.21	3.97	2.60	1.66	1.00	0.520	0.160	0.000	0.000	0.000	0.000	0.000		
01673638	(r) Cohoke Mill Creek near Lester Manor, Va.	8.81	7	1	3.40	2.44	1.82	1.39	1.05	0.760	0.524	--	--	--	--	--	--		
01673638	(w) Cohoke Mill Creek near Lester Manor, Va.	8.81	7	1	9.15	5.44	3.55	2.37	1.55	0.962	0.521	--	--	--	--	--	--		
01673800	(p) Po River at Route 208 near Spotsylvania, Va.	77.6	44	0	15.2	8.87	5.80	3.94	2.68	1.78	1.13	0.640	0.270	0.130	0.050	0.030	0.010		
01673800	(r) Po River at Route 208 near Spotsylvania, Va.	77.6	44	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01673800	(w) Po River at Route 208 near Spotsylvania, Va.	77.6	44	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
01674000	(p) Mattaponi River above Route 605 near Bowling Green, Va.	256	63	1	58.3	36.7	24.8	17.1	11.6	7.60	4.62	2.40	0.830	0.270	0.020	0.000	0.000		
01674000	(r) Mattaponi River above Route 605 near Bowling Green, Va.	256	63	1	74.7	50.0	36.2	26.5	19.4	13.7	8.78	--	--	--	--	--	--		
01674000	(w) Mattaponi River above Route 605 near Bowling Green, Va.	256	63	1	62.2	39.8	27.4	19.1	13.2	8.71	5.39	--	--	--	--	--	--		
01674500	(p) Mattaponi River near Beulahville, Va.	602	62	0	205	145	111	86.6	67.8	52.4	39.1	27.3	15.9	9.81	5.49	3.64	2.45		
01674500	(r) Mattaponi River near Beulahville, Va.	602	62	0	164	108	77.2	56.1	40.7	28.5	18.0	--	--	--	--	--	--		
01674500	(w) Mattaponi River near Beulahville, Va.	602	62	0	199	140	107	83.1	64.9	50.1	37.1	--	--	--	--	--	--		
01677000	(p) Ware Creek at Route 600 near Toano, Va.	6.29	14	0	3.68	2.85	2.34	1.97	1.66	1.40	1.15	0.910	0.650	0.490	0.340	0.270	0.220		
01677000	(r) Ware Creek at Route 600 near Toano, Va.	6.29	14	0	2.50	1.80	1.35	1.03	0.781	0.569	0.395	--	--	--	--	--	--		
01677000	(w) Ware Creek at Route 600 near Toano, Va.	6.29	14	0	3.56	2.74	2.24	1.88	1.58	1.34	1.09	--	--	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					Non-exceedance probability											
					30-day averaged, adjusted low flow (ft ³ /s)											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01
02011400 (p)	Jackson River along Route 603 near Bacova, Va.	157	31	0	50.4	39.8	34.1	30.3	27.3	24.9	22.7	20.6	18.4	17.0	15.8	15.1
02011400 (r)	Jackson River along Route 603 near Bacova, Va.	157	31	0	48.2	39.0	33.5	29.8	26.6	23.7	21.1	18.5	15.5	13.4	11.4	10.3
02011400 (w)	Jackson River along Route 603 near Bacova, Va.	157	31	0	50.3	39.7	34.1	30.3	27.3	24.9	22.7	20.6	18.3	16.9	15.7	15.0
02011460 (p)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	14.3	9.89	7.78	6.45	5.50	4.74	4.11	3.53	2.95	2.60	2.31	2.16
02011460 (r)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	17.9	14.2	12.1	10.6	9.33	8.25	7.26	6.26	5.14	4.37	3.65	3.24
02011460 (w)	Back Creek above Route 600 near Sunrise, Va.	60.9	32	0	14.4	10.00	7.88	6.55	5.59	4.82	4.18	3.59	3.00	2.64	2.34	2.18
02011470 (p)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	25.4	21.2	18.3	16.0	14.1	12.3	10.5	8.69	6.53	5.07	3.74	3.01
02011470 (r)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	22.4	17.9	15.2	13.4	11.9	10.5	9.27	8.02	6.61	5.65	4.74	4.21
02011470 (w)	Back Creek at Route 600 at Sunrise, Va.	75.6	22	0	25.3	21.1	18.2	16.0	14.0	12.2	10.5	8.68	6.53	5.08	3.76	3.03
02011480 (p)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	19.7	14.2	11.4	9.55	8.18	7.07	6.11	5.20	4.25	3.66	3.15	2.88
02011480 (r)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	26.5	21.2	18.1	15.9	14.1	12.5	11.1	9.61	7.96	6.82	5.74	5.11
02011480 (w)	Back Creek on Route 600, near Mountain Grove, Va.	88.6	10	0	19.8	14.3	11.5	9.70	8.32	7.20	6.22	5.30	4.33	3.72	3.20	2.92
02011490 (p)	Little Back Creek near Sunrise, Va.	4.9	21	0	3.26	2.97	2.78	2.63	2.51	2.38	2.26	2.13	1.97	1.85	1.72	1.64
02011490 (r)	Little Back Creek near Sunrise, Va.	4.9	21	0	1.28	0.968	0.793	0.674	0.576	0.496	0.422	0.350	0.271	0.221	0.175	0.149
02011490 (w)	Little Back Creek near Sunrise, Va.	4.9	21	0	3.22	2.93	2.74	2.59	2.47	2.34	2.22	2.10	1.94	1.82	1.69	1.62
02011500 (p)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	31.8	23.8	19.4	16.4	14.0	12.1	10.3	8.65	6.82	5.65	4.61	4.05
02011500 (r)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	40.8	32.9	28.3	25.1	22.3	19.9	17.7	15.4	12.9	11.1	9.44	8.48
02011500 (w)	Back Creek along Route 39 near Mountain Grove, Va.	134	54	0	32.1	24.0	19.6	16.6	14.2	12.3	10.5	8.80	6.95	5.76	4.70	4.13
02011800 (p)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	199	183	170	158	146	134	122	107	87.2	72.0	56.7	47.5
02011800 (r)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	110	90.2	78.5	70.4	63.4	57.2	51.4	45.5	38.9	34.1	29.5	26.9
02011800 (w)	Jackson River below Gathright Dam, near Hot Springs, Va.	345	32	0	197	181	168	156	144	133	120	106	86.2	71.4	56.2	47.1
02011950 (p)	Johnson Spring near Hot Springs, Va.	--	6	0	0.650	0.580	0.540	0.510	0.490	0.470	0.450	0.430	0.410	0.400	0.380	0.370
02011950 (r)	Johnson Spring near Hot Springs, Va.	--	6	0	--	--	--	--	--	--	--	--	--	--	--	--
02011950 (w)	Johnson Spring near Hot Springs, Va.	--	6	0	--	--	--	--	--	--	--	--	--	--	--	--
02012000 (p)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	10.8	9.26	8.39	7.77	7.29	6.87	6.49	6.13	5.72	5.47	5.25	5.13
02012000 (r)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	3.04	2.34	1.94	1.66	1.44	1.25	1.07	0.902	0.712	0.588	0.475	0.409
02012000 (w)	Falling Spring Creek at Route 220 near Falling Spring, Va.	11.2	3	0	10.7	9.11	8.26	7.64	7.17	6.76	6.38	6.03	5.63	5.38	5.17	5.05
02012500 (p)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	137	118	107	99.0	92.4	86.6	81.2	75.7	69.3	64.9	60.8	58.5
02012500 (r)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	132	108	94.6	85.1	76.8	69.3	62.5	55.5	47.5	41.9	36.3	33.2
02012500 (w)	Jackson River at Route 687 at Falling Spring, Va.	410	57	0	137	118	107	98.7	92.1	86.3	80.8	75.3	68.9	64.5	60.4	58.1
02013000 (p)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	28.6	24.2	21.6	19.7	18.2	16.8	15.6	14.3	12.9	11.9	11.0	10.4
02013000 (r)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	49.8	40.3	34.7	30.8	27.5	24.6	21.9	19.2	16.1	13.9	11.9	10.7
02013000 (w)	Dunlap Creek at Route 60 near Covington, Va.	162	77	0	29.1	24.5	21.8	19.9	18.4	17.0	15.7	14.4	12.9	11.9	11.0	10.4
02013100 (p)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	297	271	251	233	216	198	179	157	128	106	83.0	69.6
02013100 (r)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	200	166	146	132	119	108	98.2	87.7	75.9	67.3	58.9	54.2
02013100 (w)	Jackson River below Dunlap Creek, at Covington, Va.	612	31	0	295	269	249	231	214	196	178	156	127	105	82.6	69.3
02014000 (p)	Potts Creek at Route 18 near Covington, Va.	153	68	0	43.9	37.1	33.2	30.3	28.0	26.0	24.2	22.3	20.2	18.7	17.4	16.6
02014000 (r)	Potts Creek at Route 18 near Covington, Va.	153	68	0	46.9	37.9	32.6	29.0	25.8	23.1	20.5	18.0	15.0	13.0	11.1	9.97
02014000 (w)	Potts Creek at Route 18 near Covington, Va.	153	68	0	43.9	37.1	33.1	30.3	28.0	26.0	24.1	22.2	20.1	18.6	17.3	16.5
02014500 (p)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	4.42	3.44	2.94	2.61	2.36	2.15	1.98	1.82	1.65	1.55	1.46	1.42
02014500 (r)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	3.36	2.58	2.14	1.84	1.59	1.38	1.19	1.00	0.794	0.657	0.531	0.459
02014500 (w)	Smith Creek above old dam, near Clifton Forge, Va.	12.3	8	0	4.40	3.42	2.92	2.59	2.34	2.13	1.96	1.80	1.63	1.53	1.44	1.40

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
30-day averaged, adjusted low flow (ft ³ /s)																	
02015700 (p)	Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	53.5	44.5	39.9	36.7	34.4	32.4	30.8	29.3	27.8	27.0	26.4	26.1	26.0
02015700 (r)	Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	33.2	26.7	22.8	20.2	17.9	16.0	14.1	12.3	10.2	8.81	7.45	6.66	6.05
02015700 (w)	Bullpasture River at Route 614 at Williamsville, Va.	110	46	0	53.0	44.1	39.5	36.4	34.0	32.1	30.4	28.9	27.5	26.6	25.8	25.7	
02016000 (p)	Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	133	112	100	91.7	85.1	79.4	74.2	69.1	63.5	59.9	56.6	54.9	53.6
02016000 (r)	Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	149	123	107	96.7	87.4	79.0	71.3	63.4	54.5	48.1	41.9	38.3	35.5
02016000 (w)	Cowpasture River below Route 633 near Clifton Forge, Va.	461	81	0	134	112	100	91.8	85.1	79.4	74.1	69.0	63.3	59.7	56.4	54.6	53.3
02016500 (p)	James River below Route 220 at Lick Run, Va.	1,371	81	0	483	410	366	334	307	284	261	239	212	193	175	165	156
02016500 (r)	James River below Route 220 at Lick Run, Va.	1,371	81	0	465	393	348	318	291	267	244	221	195	175	156	145	136
02016500 (w)	James River below Route 220 at Lick Run, Va.	1,371	81	0	483	409	366	334	307	283	261	238	211	193	175	165	156
02017000 (p)	Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	6.19	5.09	4.45	3.99	3.62	3.30	3.00	2.69	2.34	2.10	1.88	1.75	1.65
02017000 (r)	Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	3.64	2.81	2.33	2.01	1.74	1.51	1.30	1.10	0.870	0.721	0.584	0.505	0.447
02017000 (w)	Meadow Creek above Route 311 at New Castle, Va.	13.3	22	0	6.13	5.04	4.40	3.95	3.58	3.26	2.96	2.66	2.31	2.07	1.86	1.73	1.63
02017500 (p)	Johns Creek at Route 615 at New Castle, Va.	105	80	0	21.9	18.2	16.1	14.6	13.3	12.2	11.2	10.2	9.02	8.21	7.46	7.03	6.68
02017500 (r)	Johns Creek at Route 615 at New Castle, Va.	105	80	0	31.6	25.4	21.7	19.2	17.0	15.2	13.4	11.7	9.70	8.34	7.04	6.29	5.72
02017500 (w)	Johns Creek at Route 615 at New Castle, Va.	105	80	0	22.1	18.4	16.2	14.7	13.4	12.3	11.3	10.2	9.03	8.21	7.45	7.02	6.66
02018000 (p)	Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	78.9	67.0	59.9	54.7	50.4	46.6	42.9	39.2	34.8	31.7	28.8	27.1	25.7
02018000 (r)	Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	104	85.8	74.6	66.9	60.2	54.2	48.7	43.1	36.8	32.3	27.9	25.4	23.4
02018000 (w)	Craig Creek at abandoned railroad bridge at Parr, Va.	329	80	0	79.5	67.4	60.3	55.0	50.6	46.7	43.0	39.2	34.8	31.7	28.8	27.1	25.6
02018500 (p)	Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	8.34	6.99	6.10	5.39	4.78	4.21	3.66	3.07	2.38	1.90	1.45	1.20	1.00
02018500 (r)	Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	9.82	7.70	6.49	5.65	4.95	4.35	3.80	3.25	2.63	2.21	1.83	1.61	1.44
02018500 (w)	Catawba Creek at Route 600 near Catawba, Va.	34.3	63	0	8.37	7.01	6.11	5.40	4.78	4.21	3.66	3.07	2.39	1.91	1.46	1.21	1.01
02019000 (p)	Catawba Creek near Fincastle, Va.	104	8	0	28.1	22.6	19.0	16.4	14.2	12.2	10.3	8.36	6.19	4.77	3.50	2.82	2.30
02019000 (r)	Catawba Creek near Fincastle, Va.	104	8	0	31.3	25.1	21.5	19.0	16.9	15.0	13.3	11.5	9.59	8.24	6.96	6.22	5.65
02019000 (w)	Catawba Creek near Fincastle, Va.	104	8	0	28.2	22.6	19.1	16.4	14.2	12.2	10.3	8.43	6.26	4.84	3.57	2.88	2.36
02019500 (p)	James River at Route 11 at Buchanan, Va.	2,073	96	0	706	604	543	497	458	424	391	357	316	288	260	244	230
02019500 (r)	James River at Route 11 at Buchanan, Va.	2,073	96	0	716	610	544	500	460	423	389	354	315	286	256	240	227
02019500 (w)	James River at Route 11 at Buchanan, Va.	2,073	96	0	706	604	543	497	458	424	391	357	316	288	260	244	230
02020500 (p)	Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	0	19.5	13.7	10.7	8.72	7.23	6.01	4.95	3.97	2.95	2.33	1.80	1.53	1.31
02020500 (r)	Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	0	43.1	34.8	29.9	26.5	23.6	21.1	18.7	16.4	13.7	11.8	10.0	9.02	8.23
02020500 (w)	Calpasture River at Route 42 above Mill Creek, at Goshen, Va.	141	66	0	20.1	14.3	11.2	9.17	7.64	6.38	5.29	4.26	3.19	2.54	1.97	1.68	1.44
02021000 (p)	Calpasture River below Mill Creek at Goshen, Va.	186	12	0	31.2	24.9	21.3	18.8	16.7	15.0	13.4	11.7	9.90	8.68	7.55	6.91	6.40
02021000 (r)	Calpasture River below Mill Creek at Goshen, Va.	186	12	0	57.5	46.7	40.3	35.9	32.0	28.7	25.6	22.5	18.9	16.4	14.0	12.6	11.6
02021000 (w)	Calpasture River below Mill Creek at Goshen, Va.	186	12	0	31.8	25.4	21.8	19.2	17.1	15.3	13.6	12.0	10.1	8.83	7.67	7.01	6.49
02021500 (p)	Mauy River above Route 39 at Rockbridge Baths, Va.	329	78	0	61.0	47.7	40.3	35.0	30.8	27.2	23.9	20.7	17.1	14.7	12.5	11.2	10.3
02021500 (r)	Mauy River above Route 39 at Rockbridge Baths, Va.	329	78	0	104	85.8	74.6	66.9	60.2	54.2	48.7	43.1	36.8	32.3	27.9	25.4	23.4
02021500 (w)	Mauy River above Route 39 at Rockbridge Baths, Va.	329	78	0	62.0	48.6	41.0	35.7	31.5	27.8	24.5	21.2	17.5	15.0	12.8	11.5	10.5
02022500 (p)	Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	12.1	10.4	9.35	8.54	7.87	7.25	6.66	6.04	5.30	4.77	4.25	3.94	3.68
02022500 (r)	Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	10.1	7.89	6.65	5.79	5.08	4.46	3.90	3.33	2.70	2.28	1.88	1.65	1.48
02022500 (w)	Kerrs Creek at Interstate 64 near Lexington, Va.	35.1	77	0	12.1	10.4	9.29	8.48	7.81	7.19	6.60	5.99	5.25	4.72	4.21	3.90	3.64

Table 4. (30-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					Non-exceedance probability										0.01	0.02	0.05
30-day averaged, adjusted low flow (ft ³ /s)																	
02029500	(p) Hardware River at Route 618 near Scottsville, Va.	104	11	0	59.0	45.2	37.3	31.6	27.1	23.3	19.7	16.3	12.5	10.0	7.81	6.62	5.69
02029500	(r) Hardware River at Route 618 near Scottsville, Va.	104	11	0	52.7	40.8	33.4	27.8	23.3	19.4	15.8	12.2	8.24	5.80	3.80	2.83	2.24
02029500	(w) Hardware River at Route 618 near Scottsville, Va.	104	11	0	58.8	45.1	37.2	31.5	27.0	23.2	19.7	16.2	12.4	9.95	7.76	6.57	5.65
02030000	(p) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	0	57.5	50.7	44.3	38.1	32.0	26.0	20.0	13.8	7.32	3.87	1.64	0.850	0.440
02030000	(r) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	0	59.4	46.1	37.9	31.6	26.6	22.1	18.1	14.0	9.57	6.77	4.48	3.36	2.66
02030000	(w) Hardware River at Route 637 below Briery Creek (Run), near Scottsville, Va.	116	66	0	57.5	50.5	44.1	37.9	31.9	25.9	19.9	13.8	7.36	3.92	1.68	0.887	0.470
02030500	(p) Slate River above Route 676 near Arvonnia, Va.	226	67	0	103	79.5	64.9	53.9	45.0	37.2	30.1	23.2	15.7	11.2	7.39	5.54	4.21
02030500	(r) Slate River above Route 676 near Arvonnia, Va.	226	67	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02030500	(w) Slate River above Route 676 near Arvonnia, Va.	226	67	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02031000	(p) Mechums River at Route 614 near White Hall (Ivy), Va.	95.3	36	0	30.8	30.7	30.1	28.5	25.8	21.9	16.9	10.9	4.41	1.53	0.320	0.080	0.020
02031000	(r) Mechums River at Route 614 near White Hall (Ivy), Va.	95.3	36	0	47.9	36.9	30.2	25.1	21.0	17.4	14.1	10.9	7.32	5.12	3.33	2.47	1.95
02031000	(w) Mechums River at Route 614 near White Hall (Ivy), Va.	95.3	36	0	31.5	31.0	30.1	28.3	25.6	21.7	16.8	10.9	4.49	1.62	0.384	0.128	0.055
02031500	(p) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	1	1.69	1.31	1.01	0.770	0.560	0.370	0.220	0.090	0.000	0.000	0.000	0.000	0.000
02031500	(r) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	1	4.58	3.31	2.57	2.03	1.61	1.26	0.955	0.674	0.397	0.242	0.132	0.087	0.065
02031500	(w) North Fork Moormans River above Charlottesville Reservoir near White Hall, Va.	11.2	11	1	1.84	1.41	1.08	0.827	0.605	0.406	0.247	0.111	0.012	0.007	0.003	0.002	0.001
02032250	(p) Moormans River at Route 601 near Free Union, Va.	77	18	0	19.4	13.1	9.85	7.68	6.06	4.77	3.68	2.70	1.75	1.21	0.790	0.590	0.450
02032250	(r) Moormans River at Route 601 near Free Union, Va.	77	18	0	37.9	29.1	23.6	19.5	16.3	13.4	10.8	8.24	5.48	3.78	2.41	1.77	1.39
02032250	(w) Moormans River at Route 601 near Free Union, Va.	77	18	0	20.0	13.6	10.3	8.02	6.34	4.99	3.85	2.83	1.82	1.26	0.815	0.608	0.463
02032400	(p) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	12.8	9.21	7.20	5.80	4.71	3.82	3.03	2.29	1.54	1.10	0.740	0.570	0.440
02032400	(r) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	15.7	11.8	9.38	7.61	6.21	5.01	3.93	2.90	1.84	1.20	0.720	0.504	0.388
02032400	(w) Buck Mountain Creek at Route 665 near Free Union, Va.	34.5	17	0	12.9	9.28	7.26	5.85	4.75	3.85	3.05	2.30	1.55	1.10	0.740	0.569	0.439
02032500	(p) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	60.2	42.1	32.4	25.7	20.6	16.5	13.0	9.69	6.42	4.53	3.02	2.30	1.78
02032500	(r) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	117	92.3	77.0	65.2	55.6	47.1	39.3	31.2	22.2	16.3	11.4	8.81	7.10
02032500	(w) South Fork Rivanna River at Route 660 near Earlysville, Va.	215	13	0	62.0	43.6	33.6	26.8	21.5	17.2	13.5	10.2	6.71	4.73	3.14	2.39	1.85
02032515	(p) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	98.4	73.3	59.1	49.2	41.3	34.7	28.8	23.0	16.9	13.0	9.72	7.98	6.65
02032515	(r) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	143	114	95.4	81.1	69.5	59.2	49.7	39.8	28.5	21.3	15.0	11.8	9.54
02032515	(w) South Fork Rivanna River at Route 29 near Charlottesville, Va.	259	17	0	99.6	74.3	60.0	49.9	42.0	35.2	29.2	23.4	17.1	13.2	9.79	8.03	6.68

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200
					Non-exceedance probability												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
30-day averaged, adjusted low flow (ft ³ /s)																	
02032640	(p) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	46.3	33.6	25.7	19.9	15.3	11.5	8.30	5.44	2.84	1.56	0.740	0.430	0.250
02032640	(r) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	54.9	42.5	34.9	29.1	24.4	20.3	16.5	12.8	8.68	6.12	4.02	3.00	2.38
02032640	(w) North Fork Rivanna River at Route 606 near Earlysville, Va.	108	13	0	46.7	33.9	26.0	20.2	15.6	11.8	8.53	5.64	2.97	1.66	0.800	0.475	0.284
02032680	(p) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	85.9	63.0	49.9	40.6	33.3	27.2	21.8	16.6	11.3	8.08	5.47	4.18	3.25
02032680	(r) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	92.6	72.8	60.4	50.9	43.2	36.4	30.1	23.7	16.6	12.1	8.26	6.33	5.07
02032680	(w) North Fork Rivanna River at Route 649 near Profit, Va.	174	22	0	86.1	63.3	50.2	40.9	33.6	27.4	21.9	16.8	11.4	8.14	5.51	4.21	3.27
02033500	(p) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	87.2	66.7	54.3	45.3	37.9	31.6	25.8	20.2	14.1	10.3	7.16	5.55	4.37
02033500	(r) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	296	240	205	177	154	133	114	94.1	70.4	54.8	40.9	33.3	27.4
02033500	(w) Rivanna River below Moores Creek near Charlottesville, Va.	503	4	0	93.0	71.2	58.0	48.5	40.6	33.8	27.6	21.6	15.0	11.0	7.61	5.90	4.63
02034000	(p) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	292	222	180	148	123	101	81.2	62.1	41.7	29.4	19.4	14.5	11.0
02034000	(r) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	401	328	282	245	214	187	162	135	103	81.2	62.1	51.3	42.5
02034000	(w) Rivanna River at Route 15 at Palmyra, Va.	663	71	0	295	225	182	151	125	103	82.9	63.5	42.7	30.2	20.0	14.9	11.3
02034500	(p) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	88.3	67.9	55.1	45.5	37.6	30.7	24.5	18.4	12.0	8.15	5.12	3.67	2.67
02034500	(r) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02034500	(w) Willis River at Route 690 at Lakeside Village (Flanagan Mills), Va.	262	56	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02035000	(p) James River at Route 45 at Cartersville, Va.	6,252	108	0	2,613	2,139	1,853	1,639	1,463	1,305	1,156	1,004	826	704	588	522	468
02035000	(r) James River at Route 45 at Cartersville, Va.	6,252	108	0	2,958	2,474	2,187	--	--	--	--	--	--	--	--	--	--
02035000	(w) James River at Route 45 at Cartersville, Va.	6,252	108	0	2,628	2,153	1,866	--	--	--	--	--	--	--	--	--	--
02036500	(p) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	7.56	5.53	4.27	3.35	2.61	1.99	1.46	0.980	0.530	0.310	0.150	0.090	0.060
02036500	(r) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02036500	(w) Fine Creek at Route 711 at Fine Creek Mills, Va.	22.4	62	0	--	--	--	--	--	--	--	--	--	--	--	--	--
02037500	(p) James River above Route 147 near Richmond, Va.	6,753	72	0	2,659	2,069	1,664	1,345	1,077	841	628	430	236	134	65.5	38.7	23.1
02037500	(r) James River above Route 147 near Richmond, Va.	6,753	72	0	3,225	2,704	2,397	--	--	--	--	--	--	--	--	--	--
02037500	(w) James River above Route 147 near Richmond, Va.	6,753	72	0	2,693	2,106	1,705	--	--	--	--	--	--	--	--	--	--
02038000	(p) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	6.30	5.62	4.93	4.24	3.56	2.87	2.17	1.47	0.740	0.370	0.140	0.070	0.030
02038000	(r) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	11.4	7.99	5.89	4.42	3.29	2.37	1.59	--	--	--	--	--	--
02038000	(w) Falling Creek at Route 651 near Chesterfield, Va.	33.1	38	0	6.96	5.91	5.04	4.26	3.53	2.82	2.11	--	--	--	--	--	--
02038500	(p) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	13.7	9.65	7.22	5.50	4.17	3.09	2.19	1.41	0.720	0.390	0.180	0.110	0.060
02038500	(r) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	17.7	12.2	8.99	6.71	4.98	3.56	2.36	--	--	--	--	--	--
02038500	(w) Falling Creek at Hopkins Road near Drewrys Bluff, Va.	53.3	19	0	14.3	10.0	7.47	5.66	4.27	3.14	2.21	--	--	--	--	--	--

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number		Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
						1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	Non-exceedance probability	30-day averaged, adjusted low flow (ft ³ /s)
						0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
02038850	(p)	Holiday Creek above Route 614 near Andersonville, Va.	8.54	39	0	3.83	3.36	2.93	2.53	2.14	1.76	1.37	0.980	0.550	0.310	0.140	0.080	0.040		
02038850	(r)	Holiday Creek above Route 614 near Andersonville, Va.	8.54	39	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02038850	(w)	Holiday Creek above Route 614 near Andersonville, Va.	8.54	39	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02039000	(p)	Buffalo Creek at Route 658 near Hampden Sydney, Va.	69.6	60	0	33.4	29.6	26.3	23.2	20.3	17.4	14.4	11.1	7.25	4.78	2.78	1.84	1.22		
02039000	(r)	Buffalo Creek at Route 658 near Hampden Sydney, Va.	69.6	60	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02039000	(w)	Buffalo Creek at Route 658 near Hampden Sydney, Va.	69.6	60	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02039500	(p)	Appomattox River at Route 45 at Farmville, Va.	302	79	0	126	108	94.1	82.6	72.0	61.8	51.7	40.9	28.2	20.0	12.9	9.32	6.79		
02039500	(r)	Appomattox River at Route 45 at Farmville, Va.	302	79	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02039500	(w)	Appomattox River at Route 45 at Farmville, Va.	302	79	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02040000	(p)	Appomattox River at railroad bridge at Mattoax, Va.	725	80	0	261	211	178	151	129	109	89.3	69.8	48.0	34.2	22.6	16.8	12.6		
02040000	(r)	Appomattox River at railroad bridge at Mattoax, Va.	725	80	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02040000	(w)	Appomattox River at railroad bridge at Mattoax, Va.	725	80	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02041000	(p)	Deep Creek above Route 153 near Mannboro, Va.	158	60	0	48.3	34.0	25.5	19.6	14.9	11.2	8.05	5.30	2.81	1.58	0.780	0.470	0.290		
02041000	(r)	Deep Creek above Route 153 near Mannboro, Va.	158	60	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02041000	(w)	Deep Creek above Route 153 near Mannboro, Va.	158	60	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02041500	(p)	Appomattox River near Petersburg, Va.	1,333	36	0	452	372	317	273	235	200	166	131	90.7	65.1	43.2	32.1	24.1		
02041500	(r)	Appomattox River near Petersburg, Va.	1,333	36	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02041500	(w)	Appomattox River near Petersburg, Va.	1,333	36	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02041650	(p)	Appomattox River at Route 600 at Matoaca, Va.	1,342	37	0	382	277	220	181	150	125	103	81.6	59.3	45.6	34.0	27.9	23.3		
02041650	(r)	Appomattox River at Route 600 at Matoaca, Va.	1,342	37	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02041650	(w)	Appomattox River at Route 600 at Matoaca, Va.	1,342	37	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02042500	(p)	Chickahominy River at Route 618 near Providence Forge, Va.	251	65	0	82.8	59.8	44.9	34.0	25.3	18.2	12.4	7.43	3.31	1.54	0.590	0.290	0.140		
02042500	(r)	Chickahominy River at Route 618 near Providence Forge, Va.	251	65	0	73.4	49.1	35.5	26.1	19.1	13.5	8.64	--	--	--	--	--	--		
02042500	(w)	Chickahominy River at Route 618 near Providence Forge, Va.	251	65	0	81.2	58.0	43.4	32.8	24.4	17.6	11.9	--	--	--	--	--	--		
02044000	(p)	Nottoway River at Route 723 near Burkeville, Va.	38.7	39	1	7.15	5.06	3.79	2.89	2.18	1.61	1.12	0.700	0.320	0.120	0.000	0.000	0.000		
02044000	(r)	Nottoway River at Route 723 near Burkeville, Va.	38.7	39	1	--	--	--	--	--	--	--	--	--	--	--	--	--		
02044000	(w)	Nottoway River at Route 723 near Burkeville, Va.	38.7	39	1	--	--	--	--	--	--	--	--	--	--	--	--	--		
02044500	(p)	Nottoway River at Route 612 near Rawlings, Va.	317	56	0	117	88.7	70.3	56.4	45.0	35.3	26.6	18.5	10.6	6.36	3.37	2.13	1.36		
02044500	(r)	Nottoway River at Route 612 near Rawlings, Va.	317	56	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02044500	(w)	Nottoway River at Route 612 near Rawlings, Va.	317	56	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02045500	(p)	Nottoway River at Route 301 near Stony Creek, Va.	577	75	0	198	140	107	84.7	67.6	53.7	41.6	30.6	19.6	13.4	8.53	6.26	4.69		
02045500	(r)	Nottoway River at Route 301 near Stony Creek, Va.	577	75	0	157	104	74.3	54.0	39.3	27.5	17.3	--	--	--	--	--	--		
02045500	(w)	Nottoway River at Route 301 near Stony Creek, Va.	577	75	0	193	135	103	81.5	64.8	51.4	39.4	--	--	--	--	--	--		
02046000	(p)	Stony Creek at Route 1 near (at) Dinwiddie, Va.	113	59	0	27.0	16.7	11.5	8.13	5.78	4.03	2.69	1.62	0.770	0.390	0.170	0.100	0.060		
02046000	(r)	Stony Creek at Route 1 near (at) Dinwiddie, Va.	113	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02046000	(w)	Stony Creek at Route 1 near (at) Dinwiddie, Va.	113	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02047000	(p)	Nottoway River above Route 653 near Sebrell, Va.	1,441	65	0	377	246	182	141	112	88.9	69.8	53.0	36.4	26.9	19.3	15.6	12.8		
02047000	(r)	Nottoway River above Route 653 near Sebrell, Va.	1,441	65	0	364	236	167	121	86.8	60.3	37.3	--	--	--	--	--	--		
02047000	(w)	Nottoway River above Route 653 near Sebrell, Va.	1,441	65	0	375	244	180	139	109	86.3	66.9	--	--	--	--	--	--		
02047500	(p)	Blackwater River at Route 617 near Dendron, Va.	290	61	15	67.6	35.3	19.3	10.2	4.77	1.71	0.250	0.000	0.000	0.000	0.000	0.000	0.000		
02047500	(r)	Blackwater River at Route 617 near Dendron, Va.	290	61	15	83.8	55.9	40.4	29.6	21.6	15.2	9.75	--	--	--	--	--	--		
02047500	(w)	Blackwater River at Route 617 near Dendron, Va.	290	61	15	74.4	43.8	27.7	17.7	11.0	6.30	3.53	--	--	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	30-day averaged, adjusted low flow (ft ³ /s)	
02048000	(p) Blackwater River at Route 460 at Zuni, Va.	451	45	1	83.0	47.5	29.1	18.0	10.9	6.16	3.11	1.24	0.260	0.040	0.000	0.000	0.000	0.000	
02048000	(r) Blackwater River at Route 460 at Zuni, Va.	451	45	1	126	83.1	59.7	43.6	31.7	22.2	14.1	--	--	--	--	--	--	0.000	
02048000	(w) Blackwater River at Route 460 at Zuni, Va.	451	45	1	102	63.0	42.0	28.4	19.0	11.9	7.13	--	--	--	--	--	--	0.000	
02049500	(p) Blackwater River near Franklin, Va.	613	60	0	118	57.5	34.5	22.4	15.0	10.1	6.62	4.07	2.09	1.22	0.670	0.450	0.320	0.320	
02049500	(r) Blackwater River near Franklin, Va.	613	60	0	166	109	78.4	57.0	41.4	28.9	18.2	--	--	--	--	--	--	0.320	
02049500	(w) Blackwater River near Franklin, Va.	613	60	0	129	68.5	43.3	29.0	19.8	13.2	8.55	--	--	--	--	--	--	0.320	
02050500	(p) North Meherrin River at Route 687 near Keyesville, Va.	9.06	12	0	2.51	1.83	1.45	1.19	0.980	0.810	0.660	0.520	0.370	0.280	0.200	0.160	0.130	0.130	
02050500	(r) North Meherrin River at Route 687 near Keyesville, Va.	9.06	12	0	--	--	--	--	--	--	--	--	--	--	--	--	--	0.130	
02050500	(w) North Meherrin River at Route 687 near Keyesville, Va.	9.06	12	0	--	--	--	--	--	--	--	--	--	--	--	--	--	0.130	
02051000	(p) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	0	10.6	8.36	6.72	5.41	4.29	3.30	2.41	1.59	0.810	0.430	0.190	0.100	0.060	0.060	
02051000	(r) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--	0.060	
02051000	(w) North Meherrin River at Route 40 near Lunenburg, Va.	56	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--	0.060	
02051500	(p) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	167	130	106	88.0	72.9	59.6	47.3	35.3	22.7	15.2	9.34	6.58	4.69	4.69	
02051500	(r) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	--	--	--	--	--	--	--	--	--	--	--	--	--	4.69	
02051500	(w) Meherrin River at Route 715 near Lawrenceville, Va.	552	78	0	--	--	--	--	--	--	--	--	--	--	--	--	--	4.69	
02051600	(p) Great Creek at Route 763 (old Route 618) near Co-chran, Va.	30.8	27	0	9.83	7.47	5.96	4.82	3.89	3.08	2.35	1.67	0.990	0.610	0.340	0.220	0.140	0.140	
02051600	(r) Great Creek at Route 763 (old Route 618) near Co-chran, Va.	30.8	27	0	--	--	--	--	--	--	--	--	--	--	--	--	--	0.140	
02051600	(w) Great Creek at Route 763 (old Route 618) near Co-chran, Va.	30.8	27	0	--	--	--	--	--	--	--	--	--	--	--	--	--	0.140	
02052000	(p) Meherrin River at Route 301 at Emporia, Va.	744	56	0	207	156	126	104	86.9	71.8	58.1	44.8	30.8	22.2	15.1	11.5	8.94	8.94	
02052000	(r) Meherrin River at Route 301 at Emporia, Va.	744	56	0	199	130	93.1	67.5	48.9	34.2	21.5	--	--	--	--	--	--	8.94	
02052000	(w) Meherrin River at Route 301 at Emporia, Va.	744	56	0	206	154	123	101	83.4	68.8	55.1	--	--	--	--	--	--	8.94	
02052500	(p) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	5	8.15	5.68	3.94	2.64	1.65	0.920	0.410	0.100	0.000	0.000	0.000	0.000	0.000	0.000	
02052500	(r) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	5	22.4	15.4	11.3	8.38	6.20	4.43	2.92	--	--	--	--	--	--	0.000	
02052500	(w) Fountains (Fontaine) Creek at Route 603 near Brink, Va.	68.7	42	5	12.7	8.68	6.12	4.29	2.90	1.79	1.04	--	--	--	--	--	--	0.000	
02053000	(p) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	29.7	20.2	15.1	11.7	9.10	7.03	5.28	3.74	2.26	1.46	0.880	0.620	0.440	0.440	
02053000	(r) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	30.4	20.7	15.1	11.2	8.28	5.89	3.86	--	--	--	--	--	--	0.440	
02053000	(w) Fountains (Fontaine) Creek at Route 639 near Emporia, Va.	95.9	9	0	29.8	20.3	15.1	11.6	9.01	6.92	5.14	--	--	--	--	--	--	0.440	
02053800	(p) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	46.5	38.9	34.3	30.8	27.8	25.2	22.6	20.0	16.9	14.6	12.5	11.3	10.3	10.3	
02053800	(r) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	55.5	43.0	35.2	29.4	24.7	20.5	16.7	12.9	8.79	6.20	4.08	3.04	2.41	2.41	
02053800	(w) South Fork Roanoke River at Route 637 near Shawsville, Va.	109	46	0	46.7	39.0	34.3	30.8	27.8	25.1	22.5	19.9	16.7	14.5	12.4	11.2	10.2	10.2	
02054500	(p) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	84.3	70.4	62.2	56.2	51.3	46.9	42.9	38.7	33.9	30.6	27.4	25.6	24.1	24.1	
02054500	(r) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	79.7	65.1	56.4	50.4	45.2	40.6	36.4	32.1	27.2	23.8	20.4	18.5	17.0	17.0	
02054500	(w) Roanoke River at Route 603 at Lafayette, Va.	254	62	0	84.2	70.3	62.0	56.0	51.1	46.8	42.7	38.6	33.8	30.4	27.3	25.5	24.0	24.0	
02054530	(p) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	107	87.4	75.6	66.9	59.8	53.5	47.5	41.5	34.5	29.7	25.1	22.5	20.4	20.4	
02054530	(r) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	88.6	72.5	62.9	56.3	50.6	45.5	40.8	36.0	30.6	26.8	23.1	20.9	19.3	19.3	
02054530	(w) Roanoke River at Route 1154 at Glenvar, Va.	281	14	0	107	87.1	75.3	66.7	59.6	53.3	47.4	41.4	34.4	29.6	25.1	22.5	20.4	20.4	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)											
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	200
					Non-exceedance probability											
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01
30-day averaged, adjusted low flow (ft ³ /s)																
02055000	(p) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	135	112	97.8	87.6	79.1	71.6	64.4	57.1	48.5	42.5	36.8	33.5
02055000	(r) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	123	101	88.1	79.2	71.4	64.4	58.0	51.5	44.0	38.8	33.6	30.7
02055000	(w) Roanoke River at Walnut Street at Roanoke, Va.	384	107	0	134	111	97.6	87.4	78.9	71.4	64.3	57.0	48.4	42.5	36.8	33.5
02055100	(p) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	5.68	4.50	3.78	3.25	2.80	2.41	2.05	1.68	1.26	0.990	0.740	0.610
02055100	(r) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	3.19	2.45	2.03	1.74	1.51	1.31	1.13	0.948	0.749	0.619	0.500	0.432
02055100	(w) Tinker Creek below railroad bridge near Daleville, Va.	11.7	49	0	5.62	4.45	3.74	3.22	2.77	2.38	2.03	1.66	1.25	0.983	0.735	0.607
02056000	(p) Roanoke River below powerplant at Niagara, Va.	509	80	0	214	186	169	156	145	134	124	113	99.8	90.1	80.6	74.9
02056000	(r) Roanoke River below powerplant at Niagara, Va.	509	80	0	165	137	119	108	97.5	88.2	79.8	71.0	61.2	54.1	47.2	43.2
02056000	(w) Roanoke River below powerplant at Niagara, Va.	509	80	0	213	185	168	155	144	133	123	112	99.0	89.5	80.0	74.3
02056650	(p) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	19.6	15.5	13.0	11.2	9.74	8.46	7.26	6.07	4.71	3.82	3.01	2.56
02056650	(r) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	26.6	20.2	16.3	13.4	11.1	9.03	7.20	5.42	3.53	2.39	1.49	1.07
02056650	(w) Back Creek at Route 660 near Dundee, Va.	55.8	32	0	19.8	15.6	13.1	11.3	9.77	8.47	7.26	6.06	4.69	3.80	2.99	2.54
02056900	(p) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	67.0	54.3	46.3	40.3	35.3	30.8	26.4	22.1	17.0	13.6	10.4	8.72
02056900	(r) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	58.8	45.6	37.5	31.3	26.3	21.9	17.9	13.9	9.45	6.69	4.42	3.31
02056900	(w) Blackwater River at Route 122 near Rocky Mount, Va.	115	30	0	66.7	54.0	46.1	40.1	35.1	30.6	26.3	21.9	16.9	13.5	10.4	8.66
02057000	(p) Blackwater River near Union Hall, Va.	208	37	0	135	115	101	89.2	79.2	69.9	60.6	50.7	38.9	30.7	23.0	18.8
02057000	(r) Blackwater River near Union Hall, Va.	208	37	0	113	88.9	74.1	62.7	53.5	45.3	37.7	29.9	21.2	15.6	10.8	8.36
02057000	(w) Blackwater River near Union Hall, Va.	208	37	0	134	114	99.9	88.6	78.7	69.4	60.2	50.4	38.6	30.5	22.8	18.6
02057500	(p) Roanoke River near Toshes, Va.	1,017	36	0	489	410	361	323	291	263	235	205	171	146	123	109
02057500	(r) Roanoke River near Toshes, Va.	1,017	36	0	641	531	461	404	358	316	277	235	184	149	118	100
02057500	(w) Roanoke River near Toshes, Va.	1,017	36	0	492	413	363	325	293	264	235	206	171	146	122	109
02058000	(p) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	40.6	32.9	28.9	26.3	24.3	22.6	21.3	20.0	18.7	18.0	17.4	17.2
02058000	(r) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	--	--	--	--	--	--	--	--	--	--	--	--
02058000	(w) Snow Creek at Route 969 at Sago, Va.	59.6	8	0	--	--	--	--	--	--	--	--	--	--	--	--
02058400	(p) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	236	197	172	152	135	119	103	86.4	66.7	53.1	40.5	33.5
02058400	(r) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	200	160	135	116	100	85.9	72.8	59.0	43.2	32.8	23.8	19.0
02058400	(w) Pigg River above Route 40 near Sandy Level, Va.	351	42	0	235	197	171	151	134	118	102	85.9	66.4	52.9	40.3	33.3
02058500	(p) Pigg River along Route 605 near Toshes, Va.	382	32	0	250	215	190	171	154	138	122	105	84.3	69.5	55.2	46.9
02058500	(r) Pigg River along Route 605 near Toshes, Va.	382	32	0	219	176	149	128	111	95.3	81.0	65.8	48.4	37.0	27.0	21.6
02058500	(w) Pigg River along Route 605 near Toshes, Va.	382	32	0	250	214	190	170	153	137	121	105	83.8	69.1	54.8	46.6
02059500	(p) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	88.6	74.5	65.3	57.9	51.6	45.8	40.1	34.1	26.9	21.9	17.1	14.4
02059500	(r) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	101	79.4	66.0	55.7	47.4	40.0	33.2	26.2	18.5	13.5	9.28	7.14
02059500	(w) Goose Creek above Route 732 near Huddleston, Va.	188	75	0	88.9	74.6	65.3	57.9	51.5	45.7	40.0	33.9	26.7	21.7	17.0	14.3
02060500	(p) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	987	873	788	716	649	583	515	440	345	276	209	171
02060500	(r) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	1,186	999	879	781	701	629	562	486	394	332	276	241
02060500	(w) Roanoke (Staunton) River at Route 29 (Alternate) at Altavista, Va.	1,782	76	0	992	876	790	717	650	584	516	441	346	277	210	172
02061000	(p) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	50.8	39.4	32.9	28.2	24.4	21.2	18.2	15.2	11.9	9.74	7.77	6.69
02061000	(r) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	58.3	45.2	37.1	31.0	26.0	21.7	17.7	13.7	9.34	6.61	4.36	3.27
02061000	(w) Big Otter River (Otter River) at Route 221 near Bedford, Va.	114	16	0	51.0	39.6	33.0	28.3	24.5	21.2	18.2	15.2	11.9	9.70	7.73	6.65

Table 4. (30-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

Station number	Station description	Drainage area (mi²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					Non-exceedance probability													
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
30-day averaged, adjusted low flow (ft³/s)																		
02061500	(p) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	162	137	118	103	88.1	74.4	60.8	46.6	30.6	20.5	12.3	8.45	5.83	
02061500	(r) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	177	142	120	102	87.9	75.2	63.5	51.3	37.3	28.1	20.2	16.0	13.0	
02061500	(w) Big Otter River (Otter River) at Route 682 near Evington, Va.	315	69	0	162	137	118	103	88.1	74.4	60.8	46.7	30.7	20.6	12.4	8.54	5.91	
02062500	(p) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,324	1,142	1,018	917	828	745	661	571	460	380	302	258	221	
02062500	(r) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,646	1,399	1,240	1,110	1,003	907	819	717	592	509	433	384	329	
02062500	(w) Roanoke (Staunton) River above Route 501 at Brookneal, Va.	2,404	82	0	1,332	1,148	1,022	921	832	748	664	573	461	381	304	259	222	
02064000	(p) Falling River at Route 643 near Naruna, Va.	165	69	0	78.1	64.7	55.6	48.4	42.2	36.4	30.8	24.9	18.2	13.7	9.69	7.58	5.98	
02064000	(r) Falling River at Route 643 near Naruna, Va.	165	69	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
02064000	(w) Falling River at Route 643 near Naruna, Va.	165	69	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
02065200	(p) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	1,387	1,227	1,106	1,002	905	810	711	602	464	364	270	216	175	
02065200	(r) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	1,856	1,583	1,407	1,262	1,144	1,037	940	826	687	595	511	456	392	
02065200	(w) Roanoke (Staunton) River at Route 620 at Clarkton, Va.	2,682	12	0	1,398	1,235	1,113	1,008	910	814	715	605	467	367	272	219	177	
02065500	(p) Cub Creek at Route 40 at Phenix, Va.	97.6	59	0	49.8	43.6	38.5	34.0	29.7	25.4	21.1	16.5	11.0	7.41	4.47	3.06	2.10	
02065500	(r) Cub Creek at Route 40 at Phenix, Va.	97.6	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
02065500	(w) Cub Creek at Route 40 at Phenix, Va.	97.6	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
02066000	(p) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	1,579	1,383	1,245	1,131	1,028	929	829	719	581	481	382	324	277	
02066000	(r) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	1,280	1,046	903	--	--	--	--	--	--	--	--	--	--	
02066000	(w) Roanoke (Staunton) River at Route 746 at Randolph, Va.	2,966	59	0	1,567	1,369	1,231	--	--	--	--	--	--	--	--	--	--	
02066500	(p) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	40.8	31.5	25.2	20.3	16.2	12.6	9.42	6.45	3.56	2.04	1.01	0.600	0.370	
02066500	(r) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
02066500	(w) Roanoke Creek at Route 612 at Saxe, Va.	135	25	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
02067000	(p) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,831	1,537	1,344	1,193	1,062	942	824	700	551	448	350	295	251	
02067000	(r) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,407	1,153	998	--	--	--	--	--	--	--	--	--	--	
02067000	(w) Roanoke (Staunton) River at Route 360 near Clover, Va.	3,227	22	0	1,813	1,521	1,330	--	--	--	--	--	--	--	--	--	--	
02069700	(p) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	84.8	72.7	64.8	58.5	53.0	47.9	42.9	37.5	30.9	26.2	21.6	18.9	16.6	
02069700	(r) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
02069700	(w) South Mayo River at Route 700 near Nettleridge, Va.	85.5	44	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
02070000	(p) North Mayo River below Route 629 near Spencer, Va.	108	77	0	85.5	74.4	66.7	60.3	54.5	49.0	43.4	37.3	29.8	24.3	19.0	16.0	13.5	
02070000	(r) North Mayo River below Route 629 near Spencer, Va.	108	77	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
02070000	(w) North Mayo River below Route 629 near Spencer, Va.	108	77	0	--	--	--	--	--	--	--	--	--	--	--	--	--	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200		
					Non-exceedance probability														
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005		
30-day averaged, adjusted low flow (ft ³ /s)																			
02071530	(p) Smith River at Smith River Church (Route 798) near Woolwine, Va.	26.3	11	0	28.6	22.2	18.7	16.2	14.3	12.7	11.2	9.74	8.13	7.09	6.13	5.60	5.18		
02071530	(r) Smith River at Smith River Church (Route 798) near Woolwine, Va.	26.3	11	0	11.7	8.67	6.86	5.53	4.49	3.59	2.79	2.04	1.27	0.817	0.478	0.329	0.252		
02071530	(w) Smith River at Smith River Church (Route 798) near Woolwine, Va.	26.3	11	0	28.2	21.9	18.4	16.0	14.1	12.5	11.0	9.61	8.03	7.01	6.06	5.54	5.13		
02072000	(p) Smith River below Philpott Dam near Philpott, Va.	215	59	0	185	160	144	131	119	109	98.3	87.0	73.0	62.9	52.8	46.9	41.9		
02072000	(r) Smith River below Philpott Dam near Philpott, Va.	215	59	0	117	92.3	77.0	65.2	55.6	47.1	39.3	31.2	22.2	16.3	11.4	8.81	7.10		
02072000	(w) Smith River below Philpott Dam near Philpott, Va.	215	59	0	183	159	142	129	118	108	97.3	86.1	72.3	62.3	52.4	46.5	41.6		
02072500	(p) Smith River at Route 666 (north) at Bassett, Va.	259	67	0	220	194	177	164	152	141	130	119	104	92.6	81.4	74.6	68.9		
02072500	(r) Smith River at Route 666 (north) at Bassett, Va.	259	67	0	143	114	95.4	81.1	69.5	59.2	49.7	39.8	28.5	21.3	15.0	11.8	9.54		
02072500	(w) Smith River at Route 666 (north) at Bassett, Va.	259	67	0	218	192	176	162	151	140	129	117	103	91.7	80.7	73.9	68.3		
02073000	(p) Smith River below Route 58 at Martinsville, Va.	379	76	0	318	286	263	243	225	207	188	167	140	119	97.7	85.0	74.3		
02073000	(r) Smith River below Route 58 at Martinsville, Va.	379	76	0	217	175	148	127	110	94.4	80.2	65.2	47.9	36.6	26.7	21.4	17.5		
02073000	(w) Smith River below Route 58 at Martinsville, Va.	379	76	0	315	283	260	241	222	205	186	165	138	118	96.9	84.3	73.7		
02073500	(p) Leatherwood Creek at Route 650 near Martinsville (Old Liberty), Va.	68.4	8	0	24.1	17.4	13.8	11.2	9.29	7.68	6.25	4.91	3.50	2.64	1.92	1.55	1.28		
02073500	(r) Leatherwood Creek at Route 650 near Martinsville (Old Liberty), Va.	68.4	8	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02073500	(w) Leatherwood Creek at Route 650 near Martinsville (Old Liberty), Va.	68.4	8	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02074500	(p) Sandy River above Route 863 near Danville, Va.	111	76	0	61.6	52.2	46.0	41.0	36.8	32.8	28.9	24.8	19.8	16.3	12.9	11.0	9.45		
02074500	(r) Sandy River above Route 863 near Danville, Va.	111	76	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02074500	(w) Sandy River above Route 863 near Danville, Va.	111	76	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02075000	(p) Dan River at railroad bridge at Danville, Va.	2,060	60	0	1,239	1,080	979	902	836	776	717	655	579	523	469	436	408		
02075000	(r) Dan River at railroad bridge at Danville, Va.	2,060	60	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02075000	(w) Dan River at railroad bridge at Danville, Va.	2,060	60	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02075045	(p) Dan River at wastewater outfall near Danville, Va.	2,116	11	0	1,502	1,270	1,106	970	850	737	624	506	366	273	189	145	113		
02075045	(r) Dan River at wastewater outfall near Danville, Va.	2,116	11	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02075045	(w) Dan River at wastewater outfall near Danville, Va.	2,116	11	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02075500	(p) Dan River at Route 658 at Paces, Va.	2,587	56	0	1,496	1,299	1,164	1,054	957	865	773	673	549	459	371	319	277		
02075500	(r) Dan River at Route 658 at Paces, Va.	2,587	56	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02075500	(w) Dan River at Route 658 at Paces, Va.	2,587	56	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02076500	(p) Georges Creek at Route 40 near Gretna, Va.	9.18	47	0	6.19	5.41	4.88	4.46	4.09	3.74	3.39	3.00	2.52	2.17	1.82	1.61	1.44		
02076500	(r) Georges Creek at Route 40 near Gretna, Va.	9.18	47	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02076500	(w) Georges Creek at Route 40 near Gretna, Va.	9.18	47	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02077000	(p) Banister River at Route 360 (Business) at Halifax, Va.	547	77	0	245	200	171	148	128	109	91.7	73.6	52.9	39.3	27.4	21.2	16.6		
02077000	(r) Banister River at Route 360 (Business) at Halifax, Va.	547	77	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02077000	(w) Banister River at Route 360 (Business) at Halifax, Va.	547	77	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02077500	(p) Hyco River at Route 501 near Denniston, Va.	288	59	0	35.1	32.9	29.9	26.4	22.5	18.3	13.8	9.14	4.30	1.93	0.630	0.260	0.100		
02077500	(r) Hyco River at Route 501 near Denniston, Va.	288	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02077500	(w) Hyco River at Route 501 near Denniston, Va.	288	59	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02078000	(p) Hyco River at Route 738 near Omega, Va.	412	15	0	76.2	57.9	46.1	37.2	29.9	23.6	18.0	12.7	7.44	4.56	2.49	1.61	1.05		
02078000	(r) Hyco River at Route 738 near Omega, Va.	412	15	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02078000	(w) Hyco River at Route 738 near Omega, Va.	412	15	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02079000	(p) Roanoke River at Route 58 at Clarksville, Va.	7,393	16	0	4,281	3,649	3,250	2,942	2,680	2,440	2,206	1,960	1,661	1,448	1,239	1,116	1,014		
02079000	(r) Roanoke River at Route 58 at Clarksville, Va.	7,393	16	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
02079000	(w) Roanoke River at Route 58 at Clarksville, Va.	7,393	16	0	--	--	--	--	--	--	--	--	--	--	--	--	--		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	30-day averaged, adjusted low flow (ft ³ /s)	
02079640	(p) Allen Creek at Route 58 near Boydton, Va.	53.5	39	1	8.68	6.37	4.73	3.46	2.44	1.63	0.980	0.480	0.130	0.020	0.000	0.000	0.000		
02079640	(r) Allen Creek at Route 58 near Boydton, Va.	53.5	39	1	--	--	--	--	--	--	--	--	--	--	--	--	--		
02079640	(w) Allen Creek at Route 58 near Boydton, Va.	53.5	39	1	--	--	--	--	--	--	--	--	--	--	--	--	--		
03164000	(p) New River at Route 94 near Galax, Va.	1,141	76	0	1,085	940	847	775	713	657	601	542	469	416	364	333	307		
03164000	(r) New River at Route 94 near Galax, Va.	1,141	76	0	727	605	526	463	411	364	321	272	215	176	141	120	101		
03164000	(w) New River at Route 94 near Galax, Va.	1,141	76	0	1,077	932	840	769	708	651	596	537	465	413	361	330	305		
03164500	(p) New River at railroad bridge near Grayson, Va.	1,174	3	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03164500	(r) New River at railroad bridge near Grayson, Va.	1,174	3	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03164500	(w) New River at railroad bridge near Grayson, Va.	1,174	3	0	--	--	--	--	--	--	--	--	--	--	--	--	--		
03165000	(p) Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	45.2	39.6	36.0	33.2	30.7	28.3	26.0	23.5	20.4	18.2	15.9	14.5	13.3		
03165000	(r) Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	18.2	13.7	10.9	8.89	7.28	5.89	4.65	3.45	2.20	1.45	0.879	0.620	0.479		
03165000	(w) Chestnut Creek above Route 89 at Galax, Va.	39.4	62	0	44.6	39.1	35.5	32.7	30.2	27.9	25.7	23.2	20.2	17.9	15.7	14.3	13.2		
03165500	(p) New River at Ivanhoe, Va.	1,350	59	0	1,256	1,079	967	881	808	742	676	608	525	465	406	371	342		
03165500	(r) New River at Ivanhoe, Va.	1,350	59	0	875	731	638	564	503	447	396	339	270	224	181	156	132		
03165500	(w) New River at Ivanhoe, Va.	1,350	59	0	1,247	1,071	960	875	802	736	672	603	521	462	403	369	340		
03166800	(p) Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	0.200	0.160	0.140	0.120	0.100	0.090	0.070	0.060	0.040	0.030	0.020	0.020	0.010		
03166800	(r) Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	1.90	1.45	1.19	1.02	0.875	0.756	0.646	0.540	0.422	0.345	0.276	0.237	0.208		
03166800	(w) Glade Creek at Route 629 at Grahams Forge, Va.	7.15	16	0	0.242	0.191	0.165	0.141	0.118	0.105	0.083	0.071	0.048	0.036	0.025	0.024	0.014		
03167000	(p) Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	104	94.2	87.7	82.6	78.1	74.0	69.9	65.5	59.9	55.8	51.6	49.1	46.9		
03167000	(r) Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	81.0	66.2	57.4	51.3	46.0	41.3	37.0	32.7	27.7	24.2	20.8	18.9	17.3		
03167000	(w) Reed Creek at Route 619 at Grahams Forge, Va.	258	85	0	104	93.6	87.1	81.9	77.5	73.4	69.3	64.8	59.3	55.3	51.1	48.6	46.4		
03167500	(p) Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	245	219	202	189	177	166	155	143	129	118	107	99.9	94.1		
03167500	(r) Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	148	118	98.8	84.1	72.1	61.4	51.6	41.4	29.7	22.2	15.7	12.4	10.0		
03167500	(w) Big Reed Island Creek below Route 693 near Allisonia, Va.	267	63	0	243	217	200	187	175	164	154	142	127	117	106	99.0	93.3		
03168000	(p) New River along Route 653 at Allisonia, Va.	2,212	76	0	1,786	1,557	1,411	1,298	1,202	1,113	1,025	932	818	735	652	603	561		
03168000	(r) New River along Route 653 at Allisonia, Va.	2,212	76	0	1,503	1,274	1,127	1,006	908	819	737	643	529	452	382	337	288		
03168000	(w) New River along Route 653 at Allisonia, Va.	2,212	76	0	1,780	1,551	1,405	1,293	1,196	1,107	1,020	928	814	731	649	600	558		
03168500	(p) Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	6.65	4.10	3.07	2.48	2.10	1.81	1.59	1.41	1.25	1.17	1.12	1.11	1.10		
03168500	(r) Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	17.9	14.2	12.0	10.6	9.32	8.24	7.24	6.25	5.13	4.36	3.64	3.23	2.91		
03168500	(w) Peak Creek below Route 11 at Pulaski, Va.	60.8	10	0	6.95	4.36	3.30	2.68	2.28	1.97	1.73	1.52	1.34	1.24	1.17	1.15	1.14		
03170000	(p) Little River at Route 693 at Grayson town (Grayson), Va.	309	78	0	220	187	166	151	137	125	113	101	86.2	75.7	65.4	59.4	54.4		
03170000	(r) Little River at Route 693 at Grayson town (Grayson), Va.	309	78	0	174	139	117	99.8	85.9	73.5	62.0	50.0	36.3	27.4	19.6	15.5	12.6		
03170000	(w) Little River at Route 693 at Grayson town (Grayson), Va.	309	78	0	219	186	165	149	136	124	112	100	85.5	75.1	64.9	58.9	54.0		
03171000	(p) New River below Route 11 at Radford, Va.	2,767	75	0	2,139	1,864	1,694	1,564	1,455	1,355	1,259	1,157	1,035	946	860	808	765		
03171000	(r) New River below Route 11 at Radford, Va.	2,767	75	0	1,921	1,639	1,458	1,309	1,187	1,078	977	860	717	622	535	479	411		
03171000	(w) New River below Route 11 at Radford, Va.	2,767	75	0	2,134	1,859	1,689	1,559	1,450	1,350	1,254	1,153	1,030	942	856	805	761		
03171500	(p) New River at Route 730 at Eggleston, Va.	2,961	61	0	2,168	1,917	1,753	1,623	1,510	1,404	1,298	1,184	1,041	935	827	762	707		
03171500	(r) New River at Route 730 at Eggleston, Va.	2,961	61	0	2,069	1,769	1,576	1,417	1,288	1,171	1,064	940	786	685	593	533	458		
03171500	(w) New River at Route 730 at Eggleston, Va.	2,961	61	0	2,165	1,914	1,749	1,619	1,506	1,400	1,295	1,180	1,037	931	825	760	704		
03173000	(p) Walker Creek below Route 100 at Bane, Va.	299	68	0	79.3	66.3	59.1	54.0	50.0	46.6	43.5	40.5	37.1	34.9	33.0	32.0	31.2		
03173000	(r) Walker Creek below Route 100 at Bane, Va.	299	68	0	94.5	77.5	67.3	60.2	54.2	48.7	43.8	38.7	32.9	28.8	24.8	22.6	20.8		
03173000	(w) Walker Creek below Route 100 at Bane, Va.	299	68	0	79.6	66.6	59.3	54.2	50.1	46.7	43.5	40.4	37.0	34.8	32.9	31.8	31.0		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)									
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20
					Non-exceedance probability									
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05
					30-day averaged, adjusted low flow (ft ³ /s)									
03175500 (p)	Wolf Creek at Route 724 near Narrows, Va.	223	75	0	69.8	57.2	50.1	44.9	40.8	37.2	33.8	30.5	26.7	24.1
03175500 (r)	Wolf Creek at Route 724 near Narrows, Va.	223	75	0	69.6	56.7	49.0	43.7	39.2	35.1	31.4	27.6	23.4	20.4
03175500 (w)	Wolf Creek at Route 724 near Narrows, Va.	223	75	0	69.8	57.2	50.0	44.9	40.7	37.1	33.8	30.4	26.6	24.0
03176500 (p)	New River at Route 460 at Glen Lyn, Va.	3,783	79	0	2,584	2,237	2,022	1,858	1,720	1,595	1,473	1,345	1,191	1,081
03176500 (r)	New River at Route 460 at Glen Lyn, Va.	3,783	79	0	2,706	2,332	2,090	1,890	1,727	1,581	1,448	1,291	1,098	971
03176500 (w)	New River at Route 460 at Glen Lyn, Va.	3,783	79	0	2,587	2,239	2,023	1,859	1,720	1,594	1,473	1,344	1,190	1,079
03177700 (p)	Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	20.2	16.3	14.2	12.7	11.5	10.6	9.66	8.79	7.82	7.20
03177700 (r)	Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	11.4	9.00	7.60	6.63	5.82	5.12	4.48	3.84	3.12	2.63
03177700 (w)	Bluestone River above wastewater outfall at Bluefield, Va.	39.7	14	0	20.0	16.2	14.1	12.6	11.4	10.4	9.55	8.69	7.73	7.12
03177710 (p)	Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	20.8	18.1	16.5	15.3	14.4	13.5	12.8	12.0	11.0	10.4
03177710 (r)	Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	12.8	10.1	8.55	7.47	6.57	5.79	5.07	4.35	3.54	3.00
03177710 (w)	Bluestone River at Route 717 at Falls Mills, Va.	44.3	17	0	20.6	17.9	16.3	15.2	14.2	13.4	12.6	11.8	10.9	10.3
03207500 (p)	Levisa Fork along Route 460 near Grundy, Va.	239	34	0	40.8	29.5	22.7	17.7	13.8	10.5	7.71	5.20	2.85	1.65
03207500 (r)	Levisa Fork along Route 460 near Grundy, Va.	239	34	0	69.2	52.2	41.8	34.4	28.1	22.9	18.2	13.7	9.06	6.26
03207500 (w)	Levisa Fork along Route 460 near Grundy, Va.	239	34	0	60.4	44.9	35.3	28.3	22.5	17.7	13.3	9.33	5.26	3.26
03207800 (p)	Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	82.4	66.0	55.8	48.1	41.6	35.8	30.4	24.9	18.6	14.4
03207800 (r)	Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	85.7	64.4	51.3	42.1	34.3	27.9	22.1	16.6	11.0	7.56
03207800 (w)	Levisa Fork below Route 645 at Big Rock, Va.	297	38	0	84.4	65.0	53.2	44.7	37.7	31.9	26.6	21.6	16.2	12.5
03208500 (p)	Russell Fork below Route 63 at Haysi, Va.	286	79	0	54.8	39.5	30.3	23.7	18.5	14.2	10.5	7.19	4.04	2.40
03208500 (r)	Russell Fork below Route 63 at Haysi, Va.	286	79	0	82.6	62.1	49.5	40.6	33.2	27.0	21.4	16.1	10.6	7.31
03208500 (w)	Russell Fork below Route 63 at Haysi, Va.	286	79	0	73.8	54.7	42.9	34.4	27.4	21.5	16.3	11.4	6.56	4.09
03208700 (p)	North Fork Pound River below dam at Pound, Va.	18.5	25	0	5.33	4.51	3.85	3.25	2.71	2.19	1.68	1.18	0.650	0.370
03208700 (r)	North Fork Pound River below dam at Pound, Va.	18.5	25	0	5.55	4.46	3.73	3.17	2.69	2.26	1.85	1.44	0.971	0.683
03208700 (w)	North Fork Pound River below dam at Pound, Va.	18.5	25	0	5.48	4.48	3.78	3.20	2.70	2.23	1.76	1.30	0.764	0.469
03208800 (p)	Pound River above Indian Creek, at Pound, Va.	36.7	12	0	10.7	9.20	8.13	7.26	6.48	5.75	5.01	4.23	3.27	2.60
03208800 (r)	Pound River above Indian Creek, at Pound, Va.	36.7	12	0	10.9	8.61	7.13	6.01	5.04	4.21	3.41	2.63	1.77	1.24
03208800 (w)	Pound River above Indian Creek, at Pound, Va.	36.7	12	0	10.8	8.86	7.56	6.58	5.74	5.01	4.31	3.61	2.82	2.24
03208850 (p)	Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	18.7	15.5	13.5	12.0	10.7	9.46	8.30	7.08	5.64	4.64
03208850 (r)	Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	18.1	14.1	11.6	9.67	8.06	6.68	5.39	4.13	2.76	1.92
03208850 (w)	Pound River below Bold Camp Creek, at Pound, Va.	61.2	12	0	18.3	14.7	12.4	10.7	9.33	8.13	7.02	5.94	4.78	3.92
03208900 (p)	Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	25.7	20.7	17.6	15.1	13.1	11.3	9.49	7.71	5.68	4.34
03208900 (r)	Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	23.6	18.3	14.9	12.5	10.4	8.56	6.88	5.25	3.50	2.44
03208900 (w)	Pound River at Route 624 near Georges Fork, Va.	80.4	18	0	24.4	19.3	16.0	13.6	11.6	9.92	8.30	6.72	5.00	3.81
03208950 (p)	Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	20.3	15.6	13.0	11.1	9.63	8.38	7.24	6.12	4.87	4.06
03208950 (r)	Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	19.6	15.3	12.5	10.4	8.70	7.21	5.80	4.44	2.97	2.07
03208950 (w)	Cranes Nest River below railroad bridge near Clintwood, Va.	66.5	43	0	19.9	15.4	12.7	10.7	9.14	7.81	6.60	5.46	4.28	3.52
03209000 (p)	Pound River near Haysi, Va.	221	79	0	88.8	62.1	45.9	34.3	25.4	18.2	12.4	7.54	3.46	1.68
03209000 (r)	Pound River near Haysi, Va.	221	79	0	64.1	48.5	38.8	32.0	26.2	21.4	17.0	12.8	8.47	5.85
03209000 (w)	Pound River near Haysi, Va.	221	79	0	70.4	52.1	40.8	32.7	25.9	20.2	15.1	10.4	5.72	3.39
03209200 (p)	Russell Fork at Route 611 at Bartlick, Va.	526	19	0	176	142	119	99.3	82.6	67.4	53.1	39.0	24.1	15.3
03209200 (r)	Russell Fork at Route 611 at Bartlick, Va.	526	19	0	151	112	88.0	71.7	58.0	46.8	36.9	27.5	18.0	12.4
03209200 (w)	Russell Fork at Route 611 at Bartlick, Va.	526	19	0	160	123	99.8	83.0	68.7	56.6	45.2	34.1	22.0	14.4

Table 4. (30-day averaged, adjusted low flow)

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)														
					Non-exceedance probability														
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	30-day averaged, adjusted low flow (ft ³ /s)	
03471500	(p) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	43.2	36.7	33.0	30.4	28.3	26.4	24.8	23.1	21.2	20.0	18.8	18.2	17.7		
03471500	(r) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	22.7	18.1	15.5	13.6	12.0	10.7	9.40	8.14	6.71	5.74	4.81	4.28	3.87		
03471500	(w) South Fork Holston River above Route 645 at River-side, near Chilhowie, Va.	76.6	74	0	42.7	36.3	32.6	30.0	27.9	26.1	24.4	22.8	20.9	19.7	18.6	18.0	17.5		
03472500	(p) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	20.2	17.0	15.1	13.5	12.2	11.0	9.86	8.64	7.17	6.12	5.11	4.53	4.04		
03472500	(r) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	16.3	12.9	10.9	9.58	8.44	7.46	6.55	5.64	4.62	3.93	3.27	2.90	2.61		
03472500	(w) Beaverdam Creek above railroad bridge at Damascus, Va.	55.6	11	0	20.1	16.9	15.0	13.4	12.1	10.9	9.79	8.58	7.12	6.08	5.08	4.50	4.02		
03473000	(p) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	174	148	133	122	113	105	97.5	90.1	81.7	75.9	70.6	67.6	65.1		
03473000	(r) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	95.8	78.6	68.2	61.1	55.0	49.5	44.4	39.2	33.4	29.3	25.2	23.0	21.1		
03473000	(w) South Fork Holston River above Route 58 near Damascus, Va.	303	75	0	172	146	131	120	111	104	96.4	89.1	80.8	75.1	69.8	66.8	64.4		
03473500	(p) Middle Fork Holston River at Route 679 at Groseclose, Va.	7.4	11	0	4.54	4.07	3.78	3.56	3.38	3.21	3.05	2.88	2.67	2.53	2.39	2.31	2.24		
03473500	(r) Middle Fork Holston River at Route 679 at Groseclose, Va.	7.4	11	0	1.97	1.50	1.24	1.06	0.909	0.785	0.672	0.562	0.439	0.360	0.288	0.247	0.217		
03473500	(w) Middle Fork Holston River at Route 679 at Groseclose, Va.	7.4	11	0	4.49	4.02	3.73	3.51	3.33	3.16	3.00	2.84	2.63	2.49	2.35	2.28	2.21		
03474000	(p) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	57.3	50.0	45.6	42.4	39.7	37.4	35.1	32.8	30.1	28.3	26.5	25.5	24.7		
03474000	(r) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	40.2	32.4	27.8	24.6	21.9	19.6	17.4	15.2	12.7	10.9	9.27	8.32	7.58		
03474000	(w) Middle Fork Holston River at Route 11 at Seven Mile Ford, Va.	132	50	0	57.0	49.6	45.3	42.0	39.4	37.0	34.8	32.5	29.8	28.0	26.2	25.2	24.4		
03474500	(p) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	80.3	64.9	56.3	50.1	45.2	41.0	37.2	33.4	29.1	26.2	23.5	22.0	20.9		
03474500	(r) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	46.9	37.9	32.6	29.0	25.8	23.1	20.5	18.0	15.0	13.0	11.1	9.97	9.10		
03474500	(w) Middle Fork Holston River at Route 762 at Chilhowie, Va.	153	10	0	79.5	64.3	55.7	49.7	44.8	40.7	36.8	33.1	28.8	25.9	23.3	21.8	20.7		
03475000	(p) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	101	87.2	79.0	72.9	67.9	63.5	59.3	55.0	50.0	46.6	43.3	41.5	39.9		
03475000	(r) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	64.0	52.1	45.0	40.1	35.9	32.2	28.7	25.2	21.3	18.5	15.9	14.3	13.1		
03475000	(w) Middle Fork Holston River at Route 803 near Meadowview, Va.	206	51	0	100	86.5	78.2	72.2	67.2	62.8	58.7	54.4	49.5	46.1	42.9	41.0	39.5		
03477500	(p) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	7.28	6.18	5.54	5.09	4.72	4.40	4.10	3.80	3.46	3.23	3.02	2.90	2.80		
03477500	(r) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	3.76	2.90	2.41	2.07	1.80	1.56	1.35	1.14	0.901	0.746	0.605	0.524	0.463		
03477500	(w) Beaver Creek below Beaver Creek Lake near Wallace, Va.	13.7	10	0	7.20	6.11	5.47	5.03	4.66	4.34	4.04	3.75	3.41	3.19	2.98	2.86	2.76		

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)													
					Non-exceedance probability													
					1.1	1.2	1.4	1.7	2	2.5	3.3	5	10	20	50	100	200	
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005	
30-day averaged, adjusted low flow (ft ³ /s)																		
03478400	(p) Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	17.5	15.4	14.1	13.1	12.3	11.6	10.9	10.1	9.24	8.62	8.02	7.66	7.37	
03478400	(r) Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	7.61	5.94	4.99	4.33	3.78	3.32	2.89	2.46	1.98	1.66	1.36	1.19	1.06	
03478400	(w) Beaver Creek at Route 1405 at (near) Bristol, Va.	26.9	49	0	17.3	15.2	13.9	12.9	12.1	11.4	10.7	9.97	9.11	8.50	7.91	7.55	7.27	
03488000	(p) North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	69.8	57.3	50.1	45.0	41.0	37.4	34.2	30.9	27.2	24.7	22.4	21.1	20.0	
03488000	(r) North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	68.9	56.1	48.5	43.3	38.8	34.8	31.1	27.4	23.1	20.1	17.3	15.6	14.3	
03488000	(w) North Fork Holston River along Route 91 near Saltville, Va.	221	86	0	69.7	57.2	50.1	45.0	40.9	37.4	34.1	30.8	27.1	24.6	22.3	21.0	19.9	
03489500	(p) North Fork Holston River at Route 615 at Mendota, Va.	493	10	0	182	148	128	113	100	89.2	78.7	67.9	55.3	46.7	38.6	34.0	30.2	
03489500	(r) North Fork Holston River at Route 615 at Mendota, Va.	493	10	0	159	132	115	104	94.1	85.2	77.0	68.5	59.0	52.1	45.4	41.6	38.5	
03489500	(w) North Fork Holston River at Route 615 at Mendota, Va.	493	10	0	182	148	128	113	100	89.1	78.6	67.9	55.4	46.8	38.7	34.1	30.4	
03489900	(p) Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	23.3	20.2	18.1	16.6	15.2	13.9	12.7	11.3	9.64	8.43	7.23	6.52	5.92	
03489900	(r) Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	23.7	18.9	16.1	14.2	12.5	11.1	9.82	8.50	7.02	6.01	5.04	4.49	4.06	
03489900	(w) Big Moccasin Creek at Route 71 near Gate City, Va.	79.6	8	0	23.3	20.1	18.1	16.5	15.1	13.9	12.6	11.2	9.59	8.39	7.19	6.49	5.89	
03490000	(p) North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	203	167	146	131	119	108	97.7	87.5	75.7	67.6	60.0	55.6	52.0	
03490000	(r) North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	220	183	161	146	132	120	109	97.4	84.5	75.1	65.8	60.6	56.4	
03490000	(w) North Fork Holston River at Route 23 near Gate City, Va.	671	49	0	204	168	147	131	119	108	98.0	87.7	75.8	67.7	60.1	55.7	52.1	
03521500	(p) Clinch River along Route 707 at Richlands, Va.	137	43	0	47.3	38.9	34.2	30.8	28.1	25.8	23.6	21.5	19.1	17.5	16.1	15.3	14.6	
03521500	(r) Clinch River along Route 707 at Richlands, Va.	137	43	0	41.8	33.7	29.0	25.7	22.9	20.4	18.1	15.8	13.2	11.4	9.70	8.71	7.94	
03521500	(w) Clinch River along Route 707 at Richlands, Va.	137	43	0	47.2	38.8	34.0	30.7	28.0	25.6	23.5	21.4	19.0	17.4	16.0	15.1	14.5	
03524000	(p) Clinch River above Route 661 at Cleveland, Va.	533	86	0	181	145	125	111	100	90.9	82.5	74.2	64.9	58.9	53.3	50.3	47.8	
03524000	(r) Clinch River above Route 661 at Cleveland, Va.	533	86	0	173	143	126	113	103	92.9	84.0	74.9	64.6	57.2	49.9	45.7	42.4	
03524000	(w) Clinch River above Route 661 at Cleveland, Va.	533	86	0	181	145	125	111	100	91.0	82.5	74.2	64.9	58.8	53.3	50.2	47.7	
03524500	(p) Guest River at Route 72 at Coeburn, Va.	87.2	12	0	27.5	17.7	13.0	10.0	7.94	6.30	4.95	3.76	2.60	1.94	1.41	1.14	0.950	
03524500	(r) Guest River at Route 72 at Coeburn, Va.	87.2	12	0	25.6	19.8	16.1	13.4	11.2	9.21	7.39	5.64	3.76	2.62	1.68	1.23	0.913	
03524500	(w) Guest River at Route 72 at Coeburn, Va.	87.2	12	0	26.2	19.1	15.0	12.1	9.81	7.89	6.19	4.62	3.02	2.16	1.48	1.16	0.941	
03525000	(p) Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
03525000	(r) Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
03525000	(w) Stony Creek above Route 66 at Fort Blackmore, Va.	41.5	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
03526000	(p) Copper Creek at Route 619 near Gate City, Va.	106	26	0	42.0	35.8	32.3	29.8	27.9	26.2	24.7	23.2	21.6	20.5	19.6	19.1	18.7	
03526000	(r) Copper Creek at Route 619 near Gate City, Va.	106	26	0	31.9	25.6	21.9	19.4	17.2	15.3	13.6	11.8	9.81	8.43	7.12	6.37	5.78	
03526000	(w) Copper Creek at Route 619 near Gate City, Va.	106	26	0	41.7	35.5	32.1	29.6	27.6	26.0	24.5	23.0	21.3	20.3	19.4	18.9	18.5	
03527000	(p) Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	376	298	254	223	198	177	158	139	117	103	90.0	82.6	76.7	
03527000	(r) Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	377	317	281	256	234	213	195	176	154	138	122	114	106	
03527000	(w) Clinch River below Route 58 at Speers Ferry, Va.	1,123	62	0	376	299	255	224	199	178	159	140	118	104	90.6	83.2	77.2	
03527500	(p) North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
03527500	(r) North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
03527500	(w) North Fork Clinch River at Route 58 at Duffield, Va.	23.1	6	0	--	--	--	--	--	--	--	--	--	--	--	--	--	
03529500	(p) Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	46.2	35.8	29.7	25.3	21.8	18.7	15.9	13.1	9.95	7.92	6.11	5.13	4.36	
03529500	(r) Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	32.8	25.2	20.4	17.0	14.0	11.5	9.25	7.04	4.68	3.25	2.08	1.53	1.13	
03529500	(w) Powell River at Route 23 at Big Stone Gap, Va.	112	23	0	37.9	29.4	24.3	20.7	17.7	15.2	12.9	10.6	8.30	6.62	5.21	4.44	3.70	

Table 4. Low-flow characteristics of streamgaging stations in Virginia.—Continued

[ft, foot; ft³/s, cubic foot per second; mi², square mile; p, Log-Pearson Type III; r, regional regression; w, weighted value; --, not determined]

Station number	Station description	Drainage area (mi ²)	Number of complete climatic years	Number of years with zero flow	Return period (years)												
					Non-exceedance probability												
					30-day averaged, adjusted low flow (ft ³ /s)												
					0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02	0.01	0.005
03530000	(p) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
03530000	(r) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
03530000	(w) South Fork Powell River at Route 23 at Big Stone Gap, Va.	39.7	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--
03530500	(p) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	0	17.7	13.4	10.8	8.83	7.28	5.95	4.75	3.59	2.38	1.66	1.08	0.790	0.590
03530500	(r) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	0	21.0	16.3	13.3	11.1	9.26	7.66	6.17	4.72	3.15	2.19	1.40	1.03	0.767
03530500	(w) North Fork Powell River at Route 621 at Pennington Gap, Va.	71.2	11	0	19.8	15.2	12.3	10.2	8.39	6.84	5.43	4.07	2.64	1.82	1.16	0.840	0.630
03531000	(p) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	112	76.1	58.7	47.7	39.7	33.4	28.1	23.3	18.3	15.4	12.9	11.6	10.6
03531000	(r) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	83.7	62.9	50.2	41.2	33.6	27.3	21.6	16.3	10.7	7.40	4.77	3.49	2.58
03531000	(w) Powell River at Route 421 near Pennington Gap, Va.	290	10	0	94.4	68.0	53.6	43.9	36.4	30.3	25.1	20.3	15.8	13.1	11.0	9.95	8.87
03531500	(p) Powell River at Route 70 near Jonesville, Va.	319	75	0	112	88.6	75.1	65.3	57.5	50.7	44.5	38.3	31.2	26.5	22.2	19.8	17.8
03531500	(r) Powell River at Route 70 near Jonesville, Va.	319	75	0	92.0	69.0	54.9	45.0	36.6	29.8	23.6	17.7	11.7	8.04	5.19	3.79	2.80
03531500	(w) Powell River at Route 70 near Jonesville, Va.	319	75	0	100	77.0	63.5	54.2	46.7	40.6	35.2	30.2	25.3	21.6	18.5	16.8	14.9

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