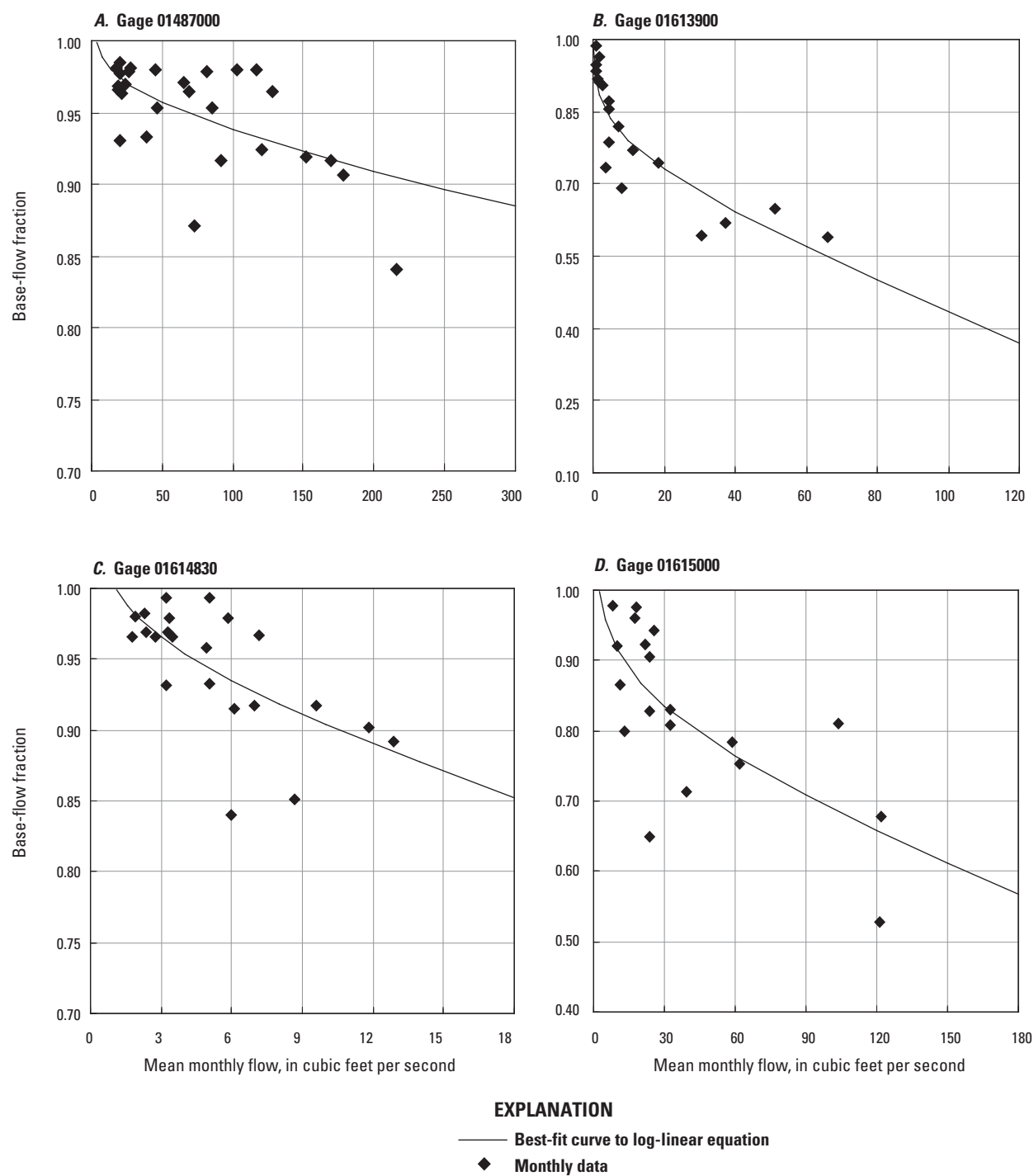
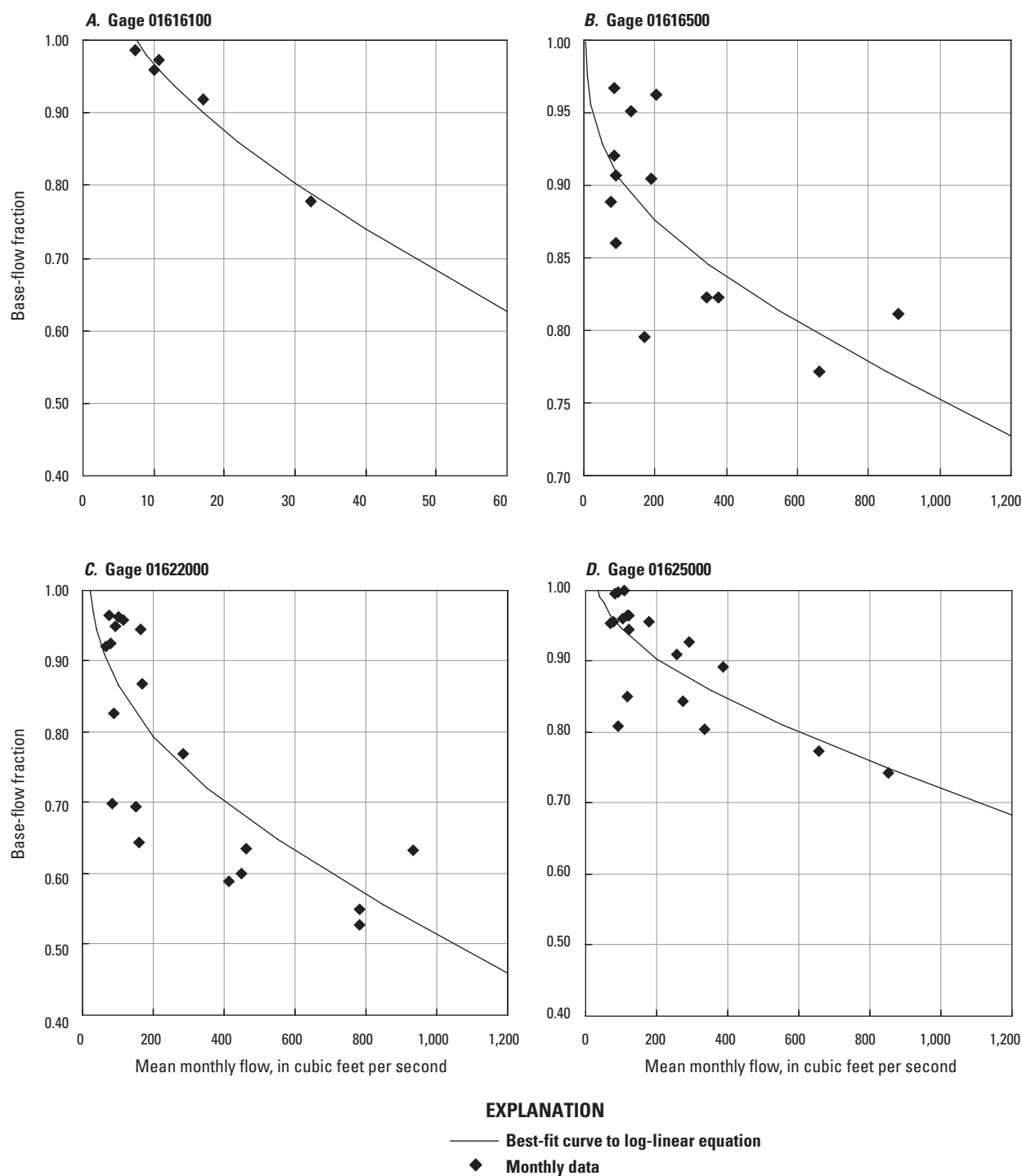


## Appendix 2

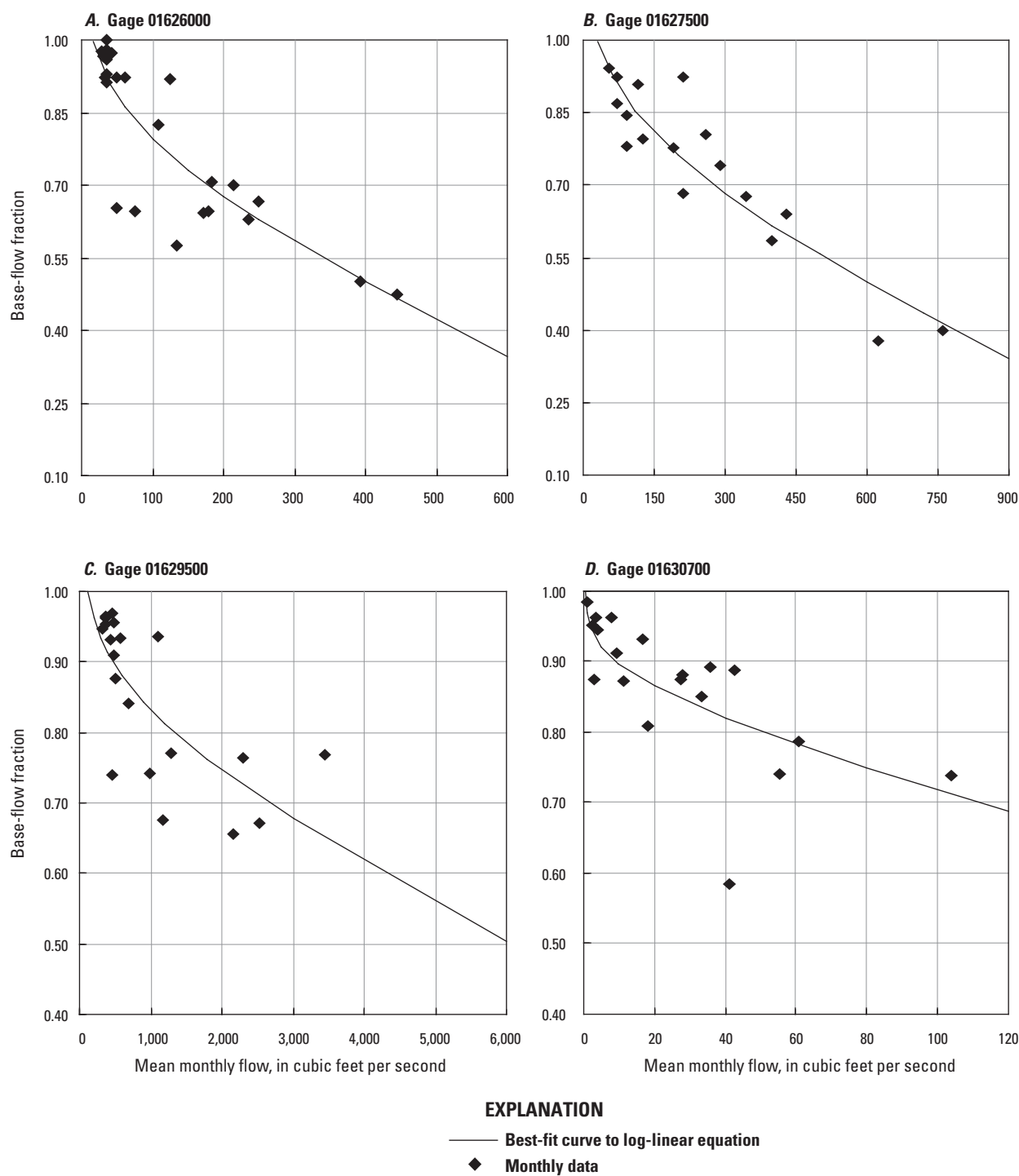
Of the 100 watersheds that had specific conductance records (Appendix 1), 84 of those could be interpreted using chemical hydrograph separation and monthly mean base-flow fractions calculated for the period of record. The period of record was either the 18-month instrumentation period or a few years for historical records. These periods of record often did not correspond to long-term average precipitation amounts, resulting in a bias in the calculated mean base-flow fraction with respect to a long-term mean. In order to adjust the data to estimate long-term mean base-flow fractions for the 84 watersheds, the calculated monthly mean base-flow fractions were plotted against the monthly mean streamflows for the period of record. Months that had partial records or anomalous SC data were not included in the plots, so the number of points per plot varies. In general, a larger rainfall amount (and thus streamflow) during any given month produces a larger surface runoff fraction and therefore a lower base-flow fraction. The data for the watersheds were fit to log-linear curves whose coefficients are listed in table 10. See the Base Flow section of this report for further details on the analysis using the long-term base-flow estimates.



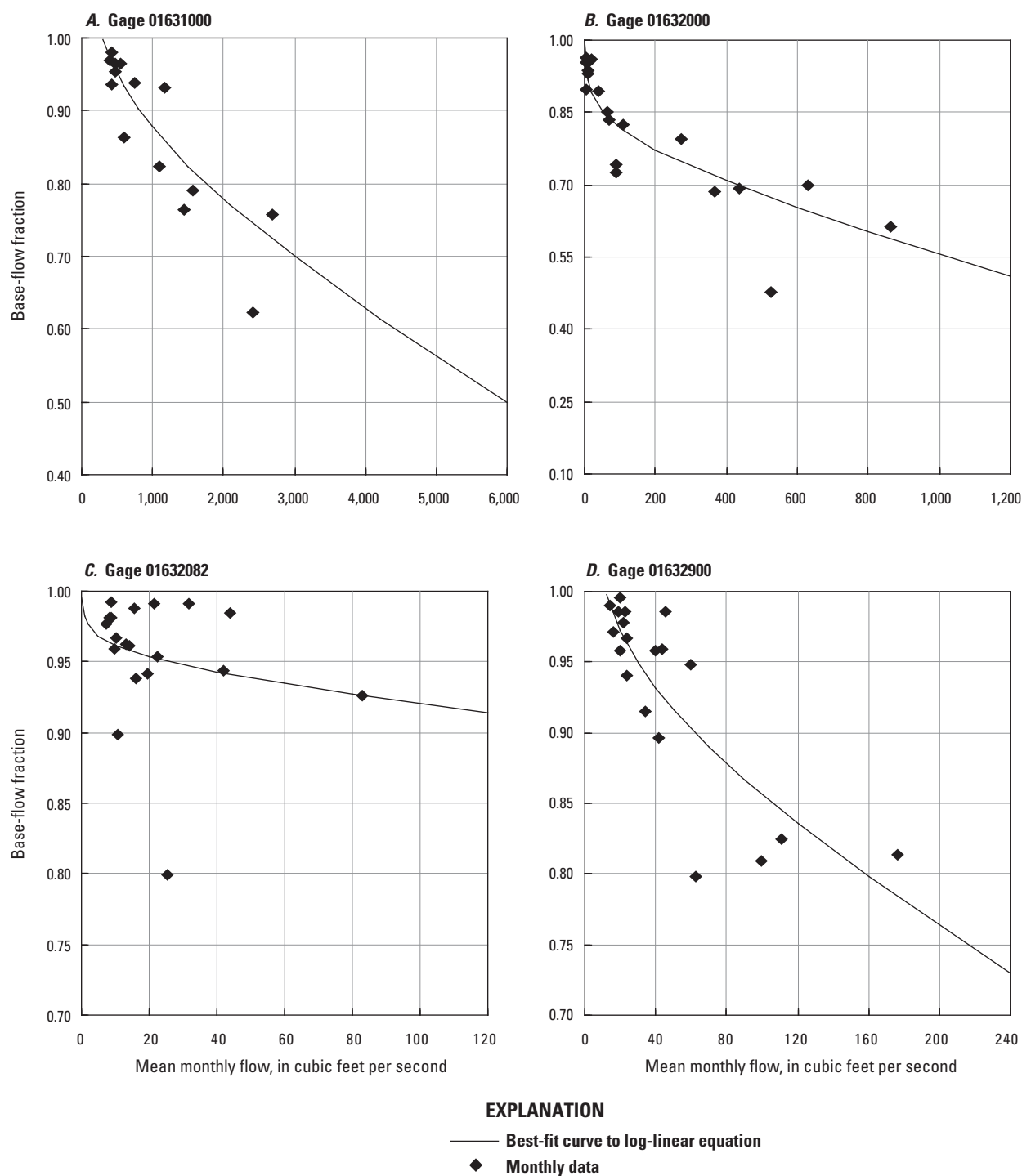
**Figure 2–1.** Plots of mean monthly flow versus fraction base flow for USGS gages at (A) Nanticoke River in Delaware, (B) Hogue Creek in Virginia, and Opequon Creek at (C) Stephens City, and (D) Berryville. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



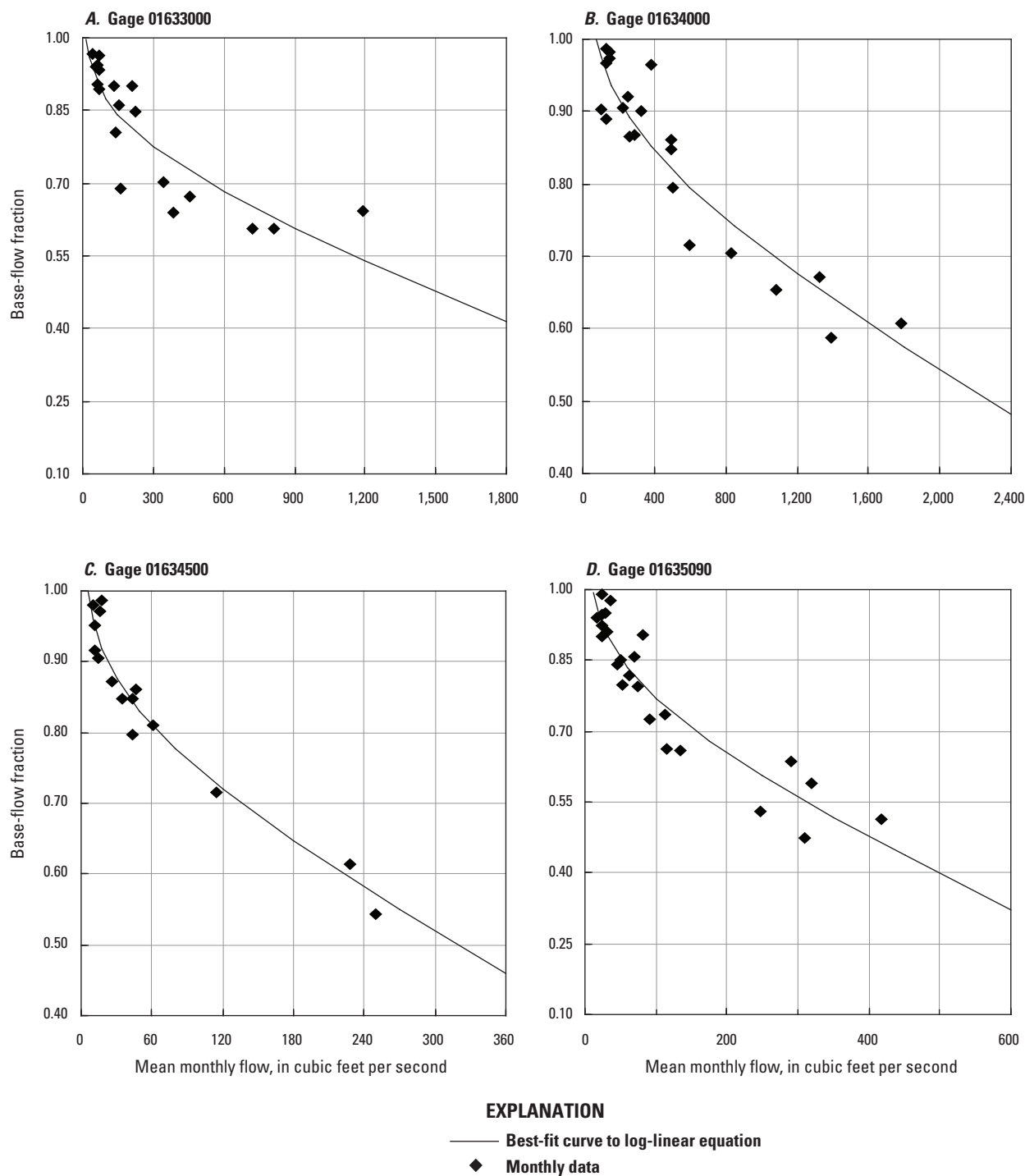
**Figure 2–2.** Plots of mean monthly flow versus fraction base flow for USGS gages at (A) Dry Marsh Run in Virginia, (B) Opequon Creek in West Virginia, (C) North River in Virginia, and (D) Middle River in Virginia. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



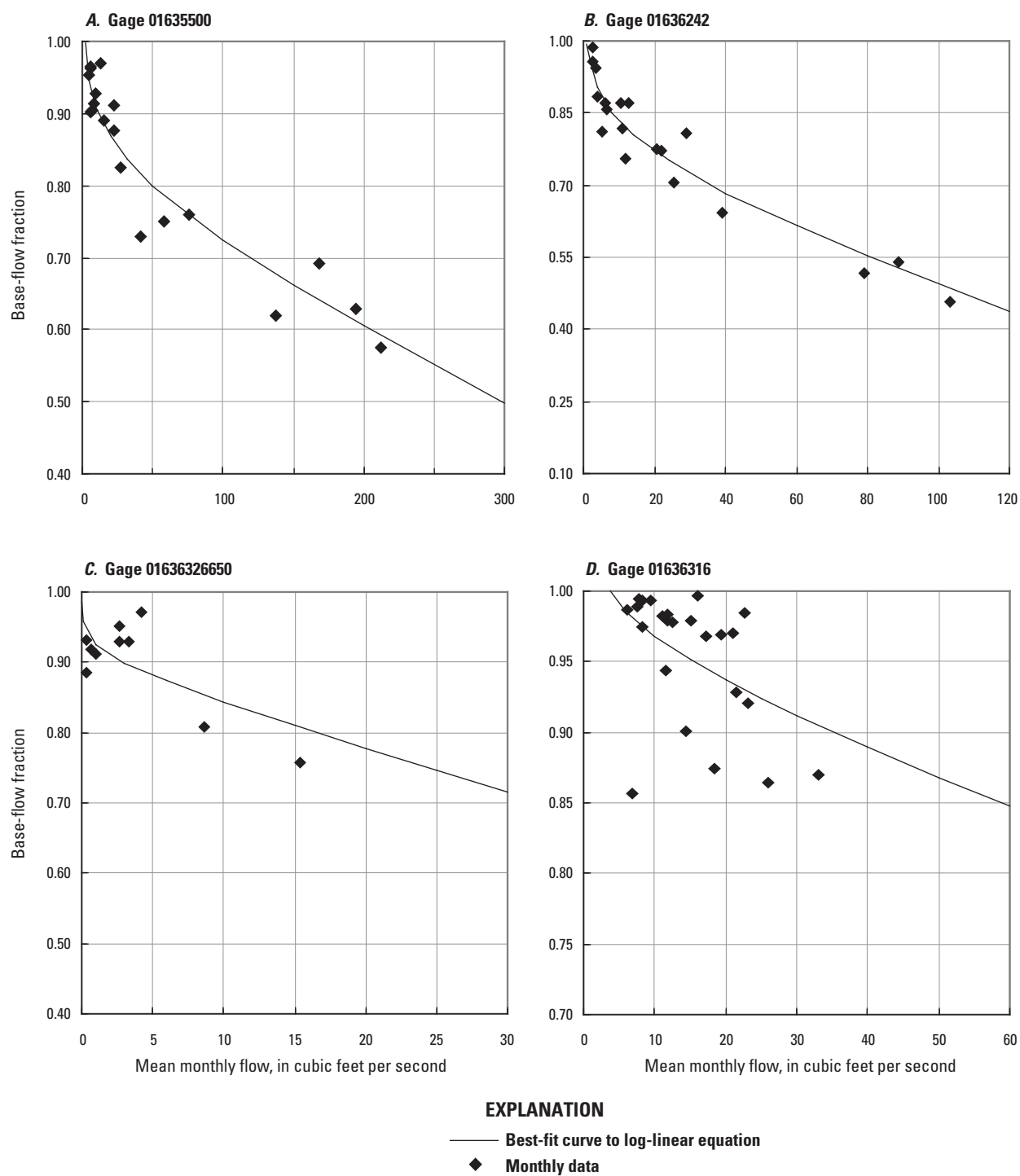
**Figure 2–3.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia for (A) South River near Waynesboro, (B) South River at Harriston, (C) South Fork Shenandoah near Luray, and (D) Gooney Run. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



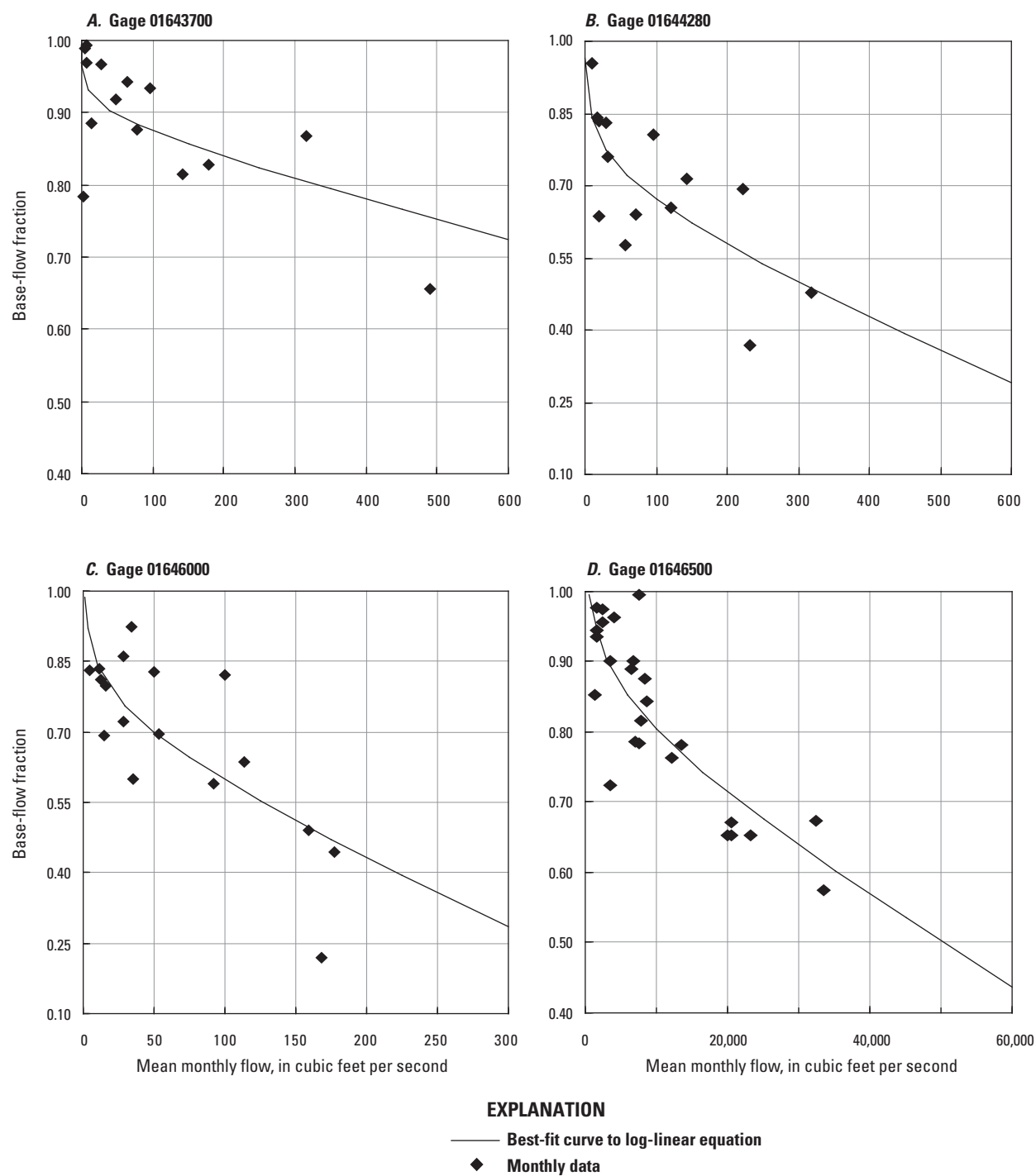
**Figure 2–4.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) South Fork Shenandoah River at Front Royal, (B) North Fork Shenandoah River at Cootes Store, (C) Linville Creek at Broadway, and (D) Smith Creek near New Market. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



**Figure 2–5.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at North Fork Shenandoah River (**A**) at Mount Jackson, and (**B**) near Strasburg, and at Cedar Creek (**C**) near Winchester, and (**D**) above Highway 11 near Middletown. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).

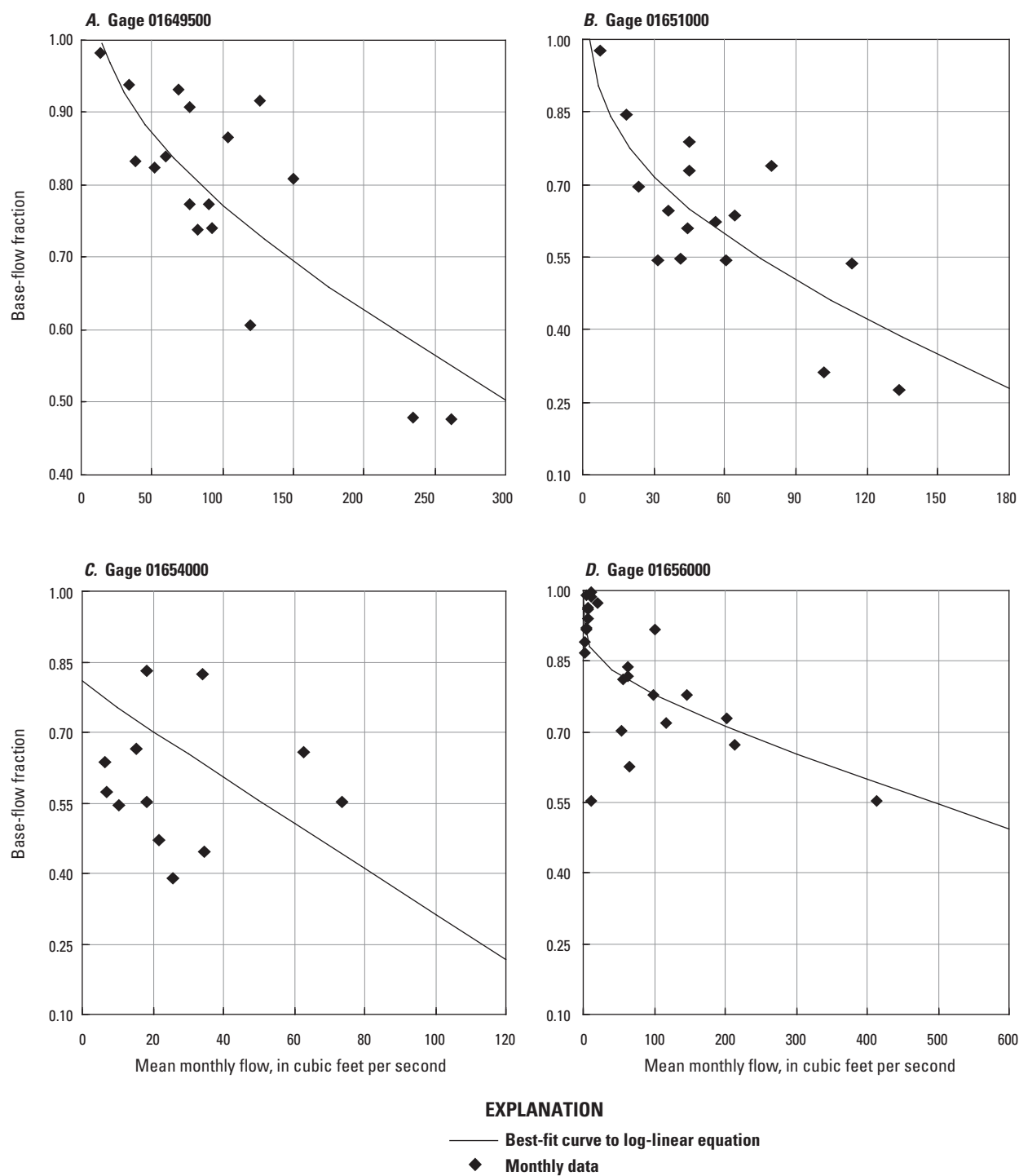


**Figure 2–6.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Passage Creek, (B) Crooked Run, (C) Manassas Run and (D) Spout Run. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).

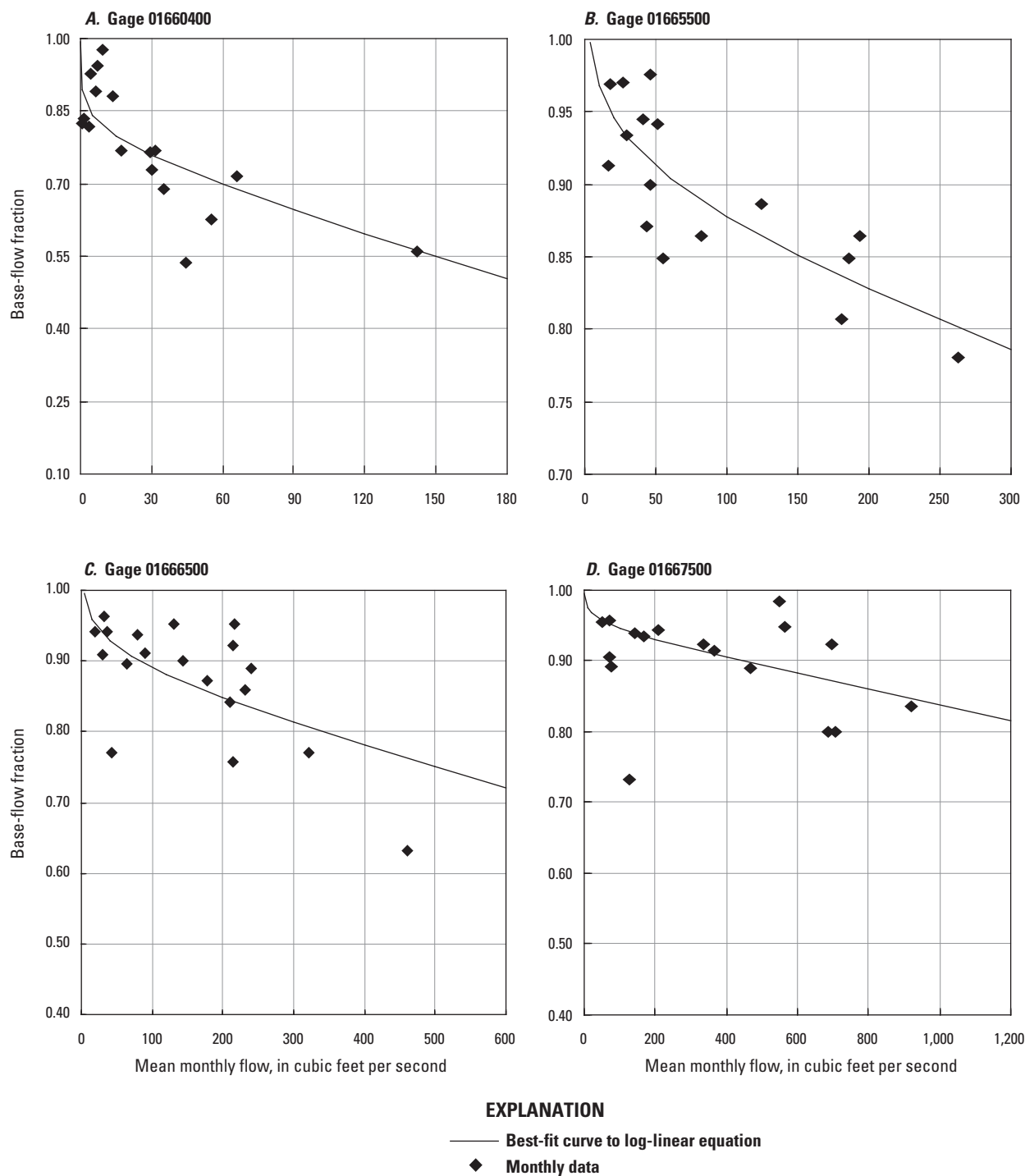


**Figure 2–7.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Goose Creek near Middleburg, (B) Broad Run near Leesburg, (C) Difficult Run near Great Falls and (D) Potomac River near Washington, D.C. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).

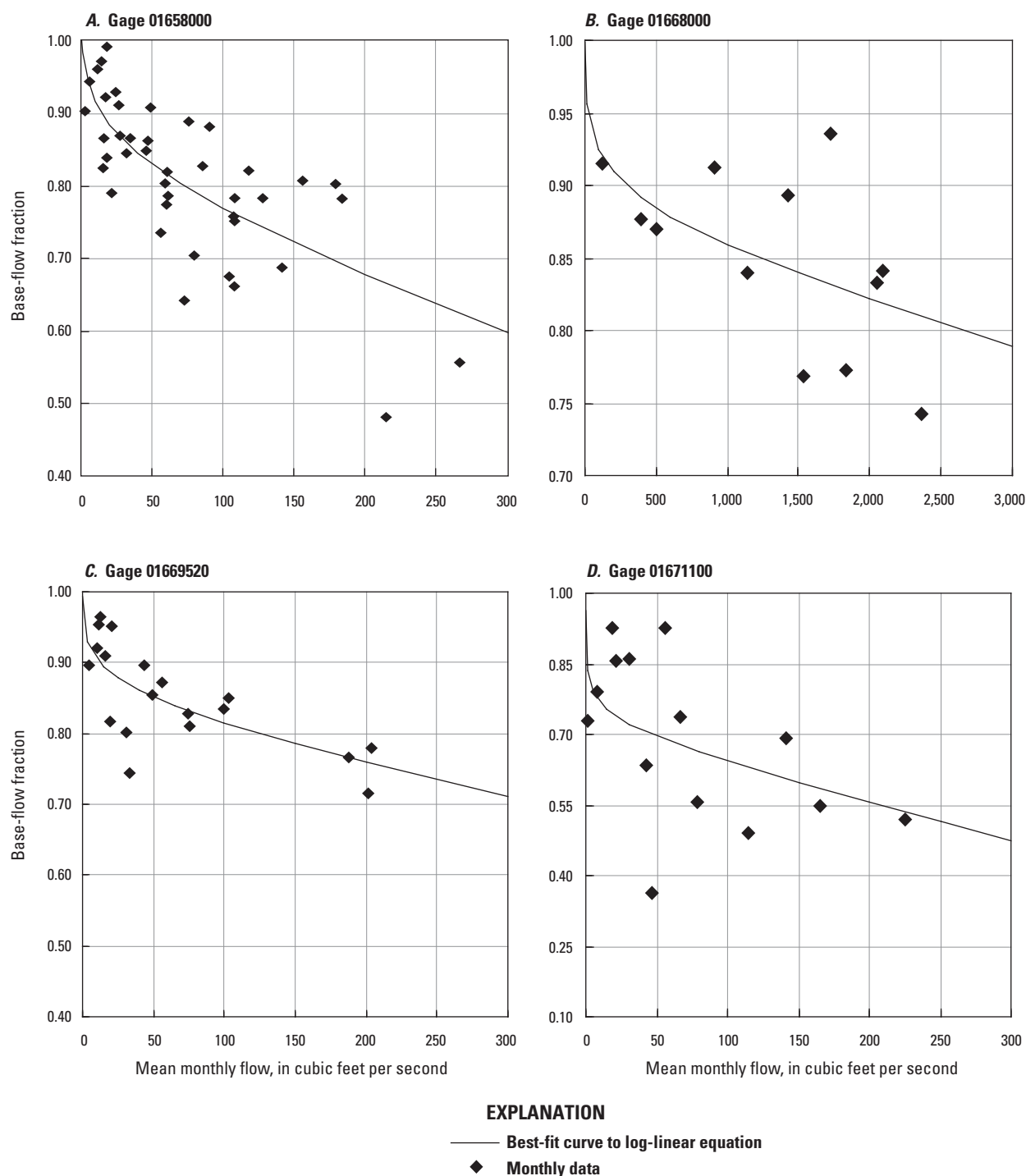




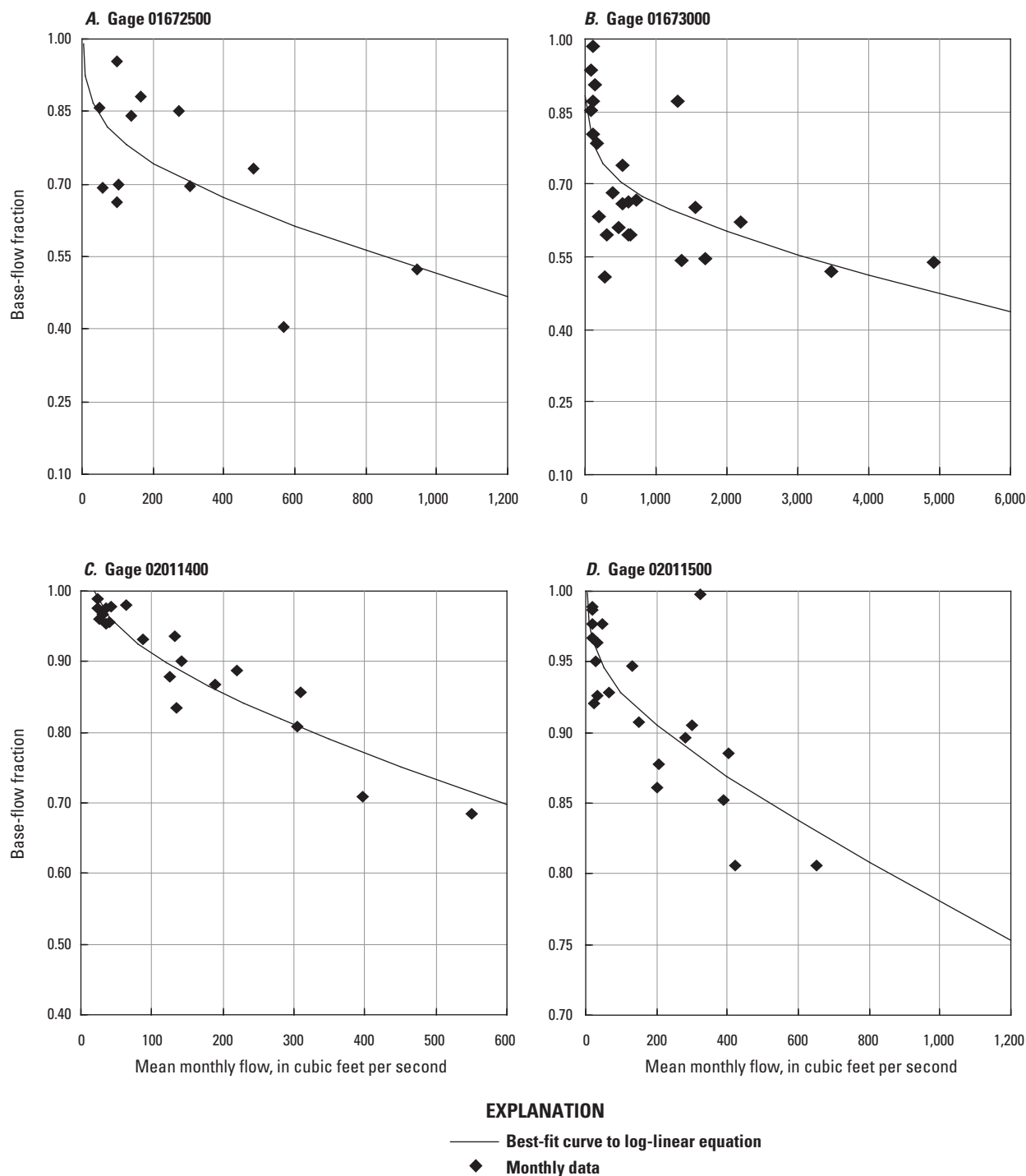
**Figure 2–8.** Plots of mean monthly flow versus fraction base flow for USGS gages at (A) Northeast branch Anacostia in Maryland, (B) Northwest branch Anacostia in Maryland, (C) Accotink Creek near Annandale, Virginia, and (D) Cedar Run near Catlett, Virginia. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



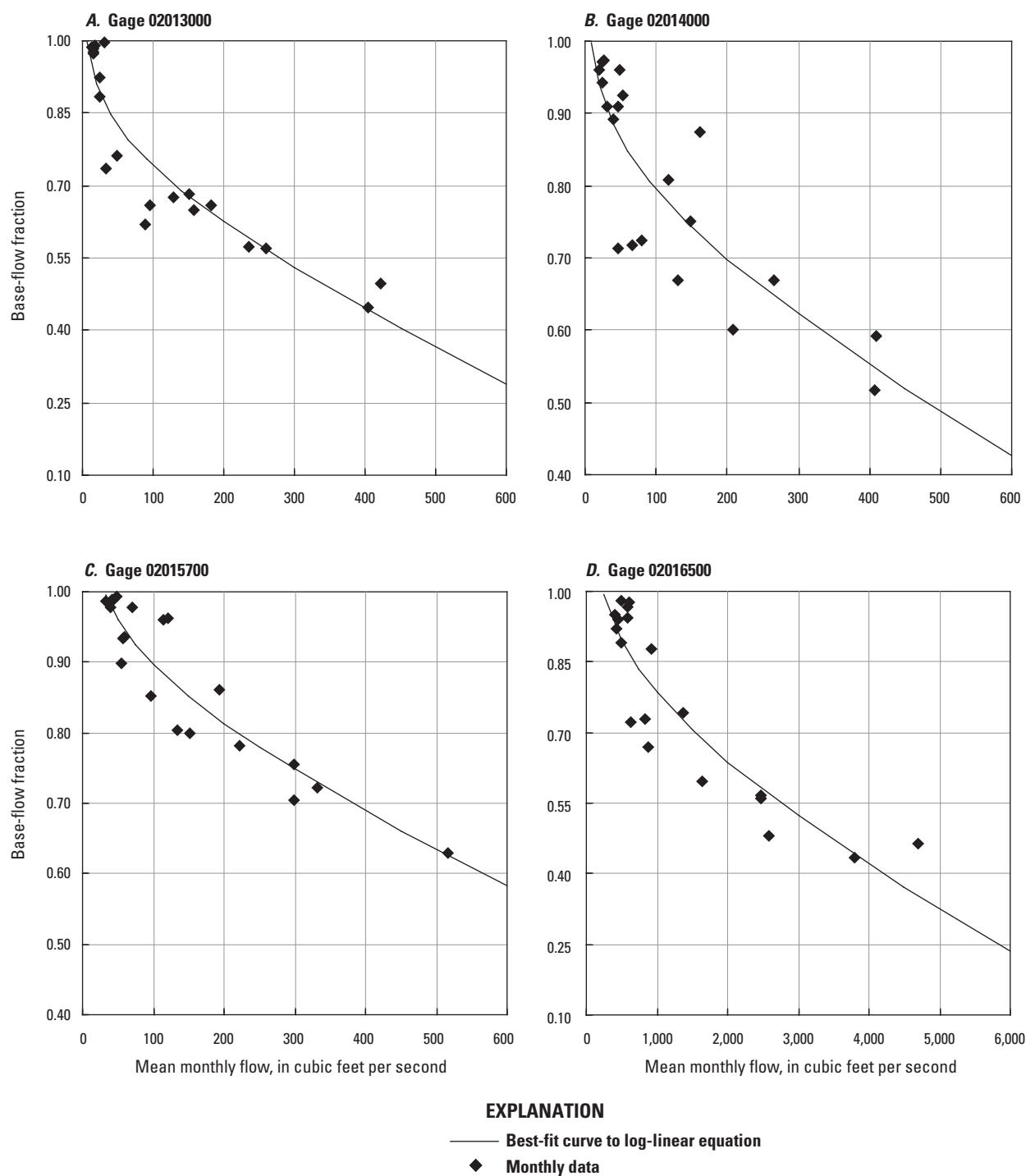
**Figure 2–9.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Aquia Creek near Garrisonville, (B) Rapidan River near Ruckersville, (C) Robinson River near Locust Dale, (D) Rapidan River near Culpeper. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



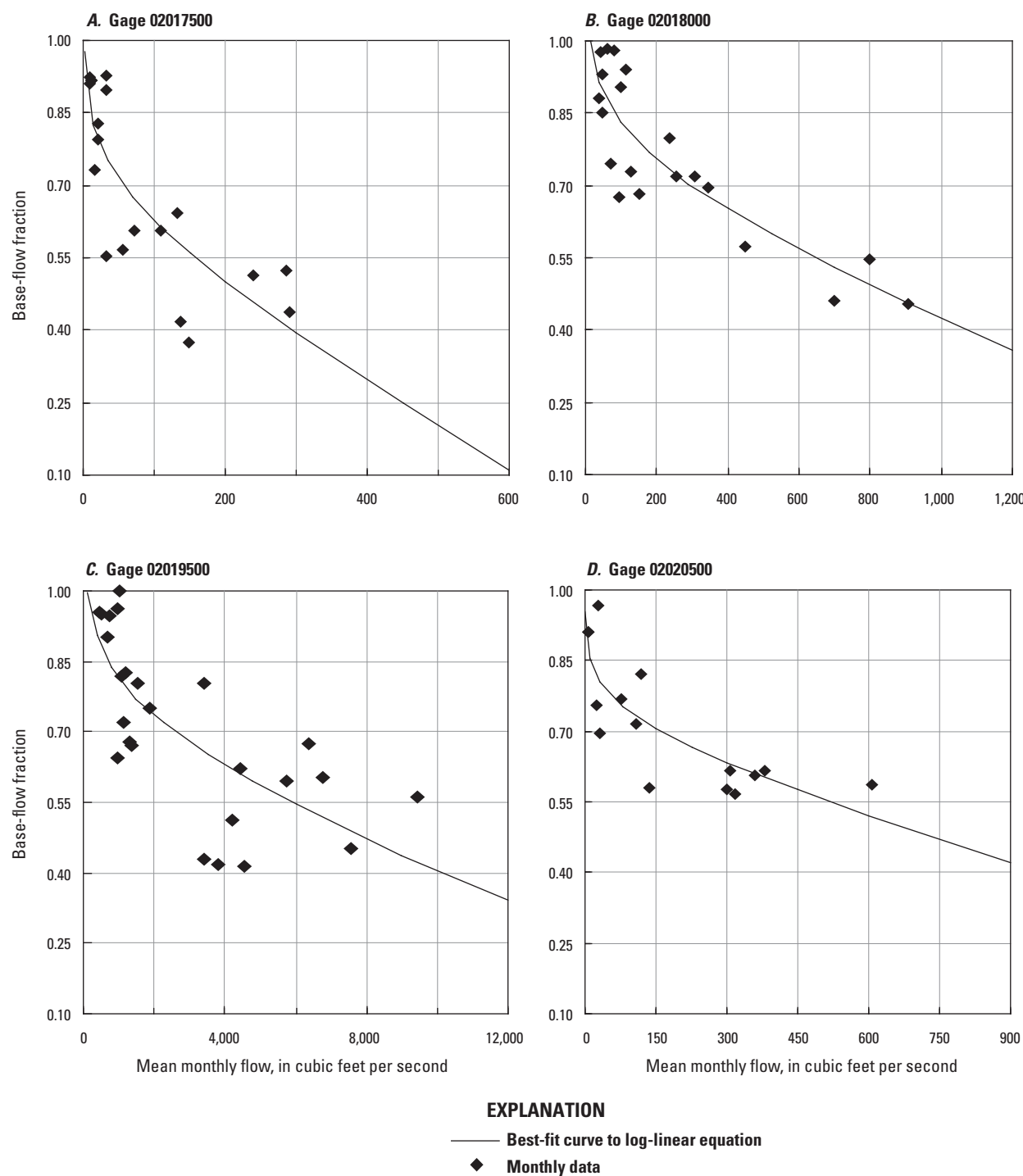
**Figure 2–10.** Plots of mean monthly flow versus fraction base flow for USGS gages at (A) Mattawoman Creek near Pomonkey in Maryland, (B) Rappahannock near Fredericksburg in Virginia, (C) Dragon Swamp at Mascot in Virginia, and (D) Little River near Doswell in Virginia. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



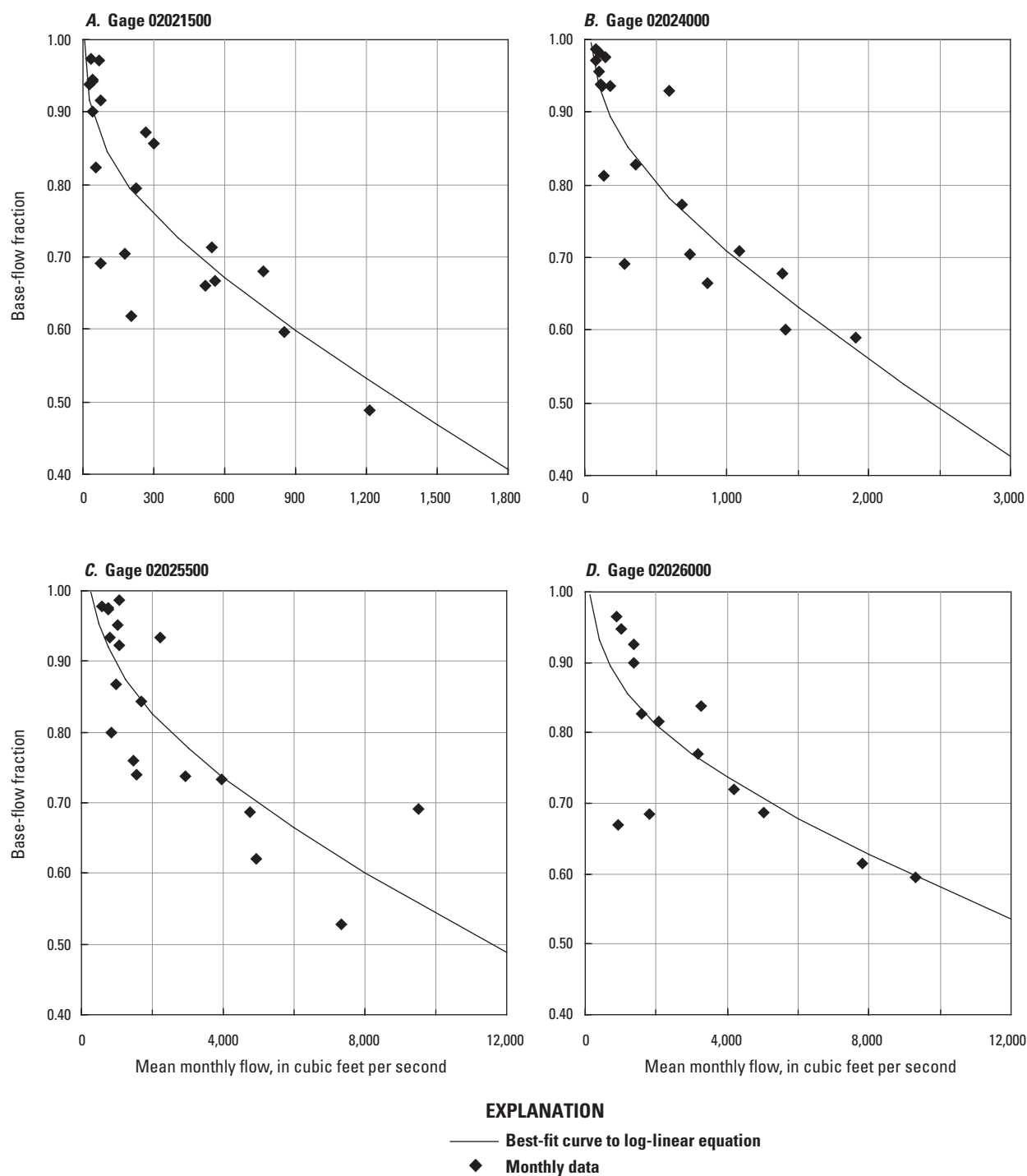
**Figure 2–11.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) South Anna River near Ashland, (B) Pamunkey River near Hanover, (C) Jackson River Bacova, and (D) Back Creek near Mountain Grove. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



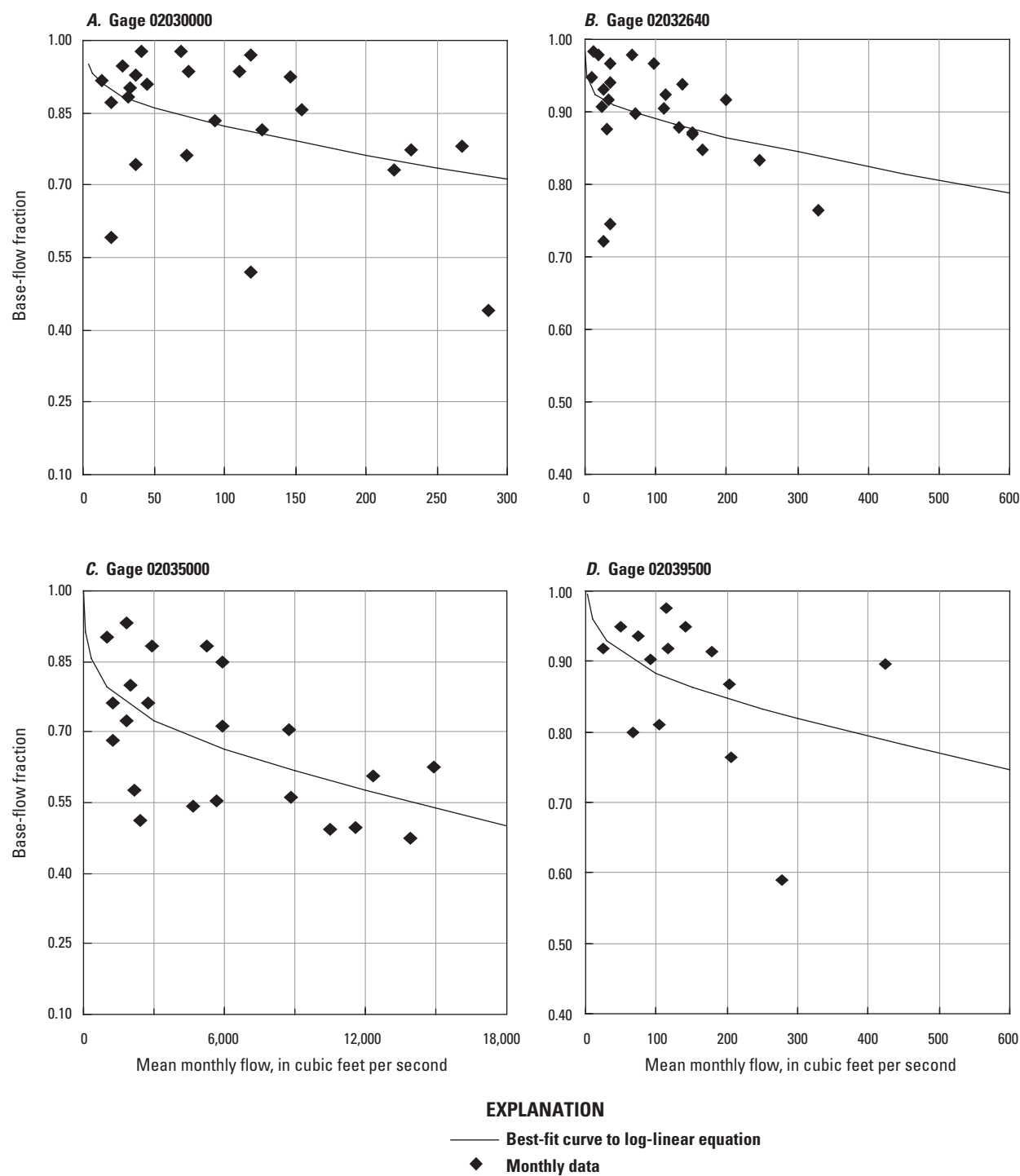
**Figure 2–12.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Dunlap Creek near Covington, and (B) Potts Creek near Covington, (C) Bullpasture River at Williamsville, and (D) James River at Lick Run. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



**Figure 2–13.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Johns Creek at New Castle, (B) Craig Creek at Parr, (C) James River at Buchanan, and (D) Calpasture River at Goshen. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).

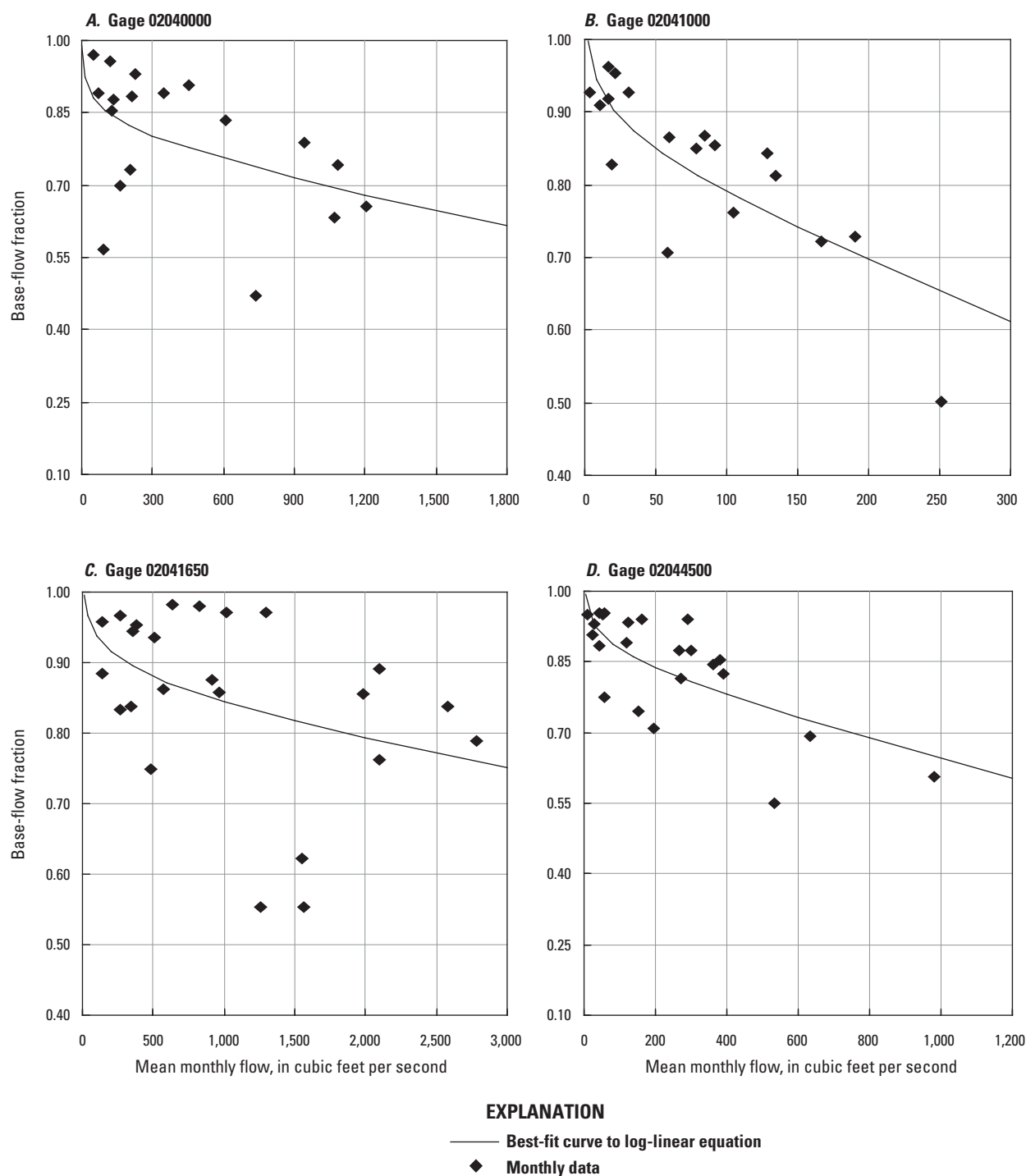


**Figure 2–14.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Maury River at Rockbridge Baths, (B) Maury River at Buena Vista, (C) James River at Holcomb Rock, and (D) James River at Bent Creek. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).

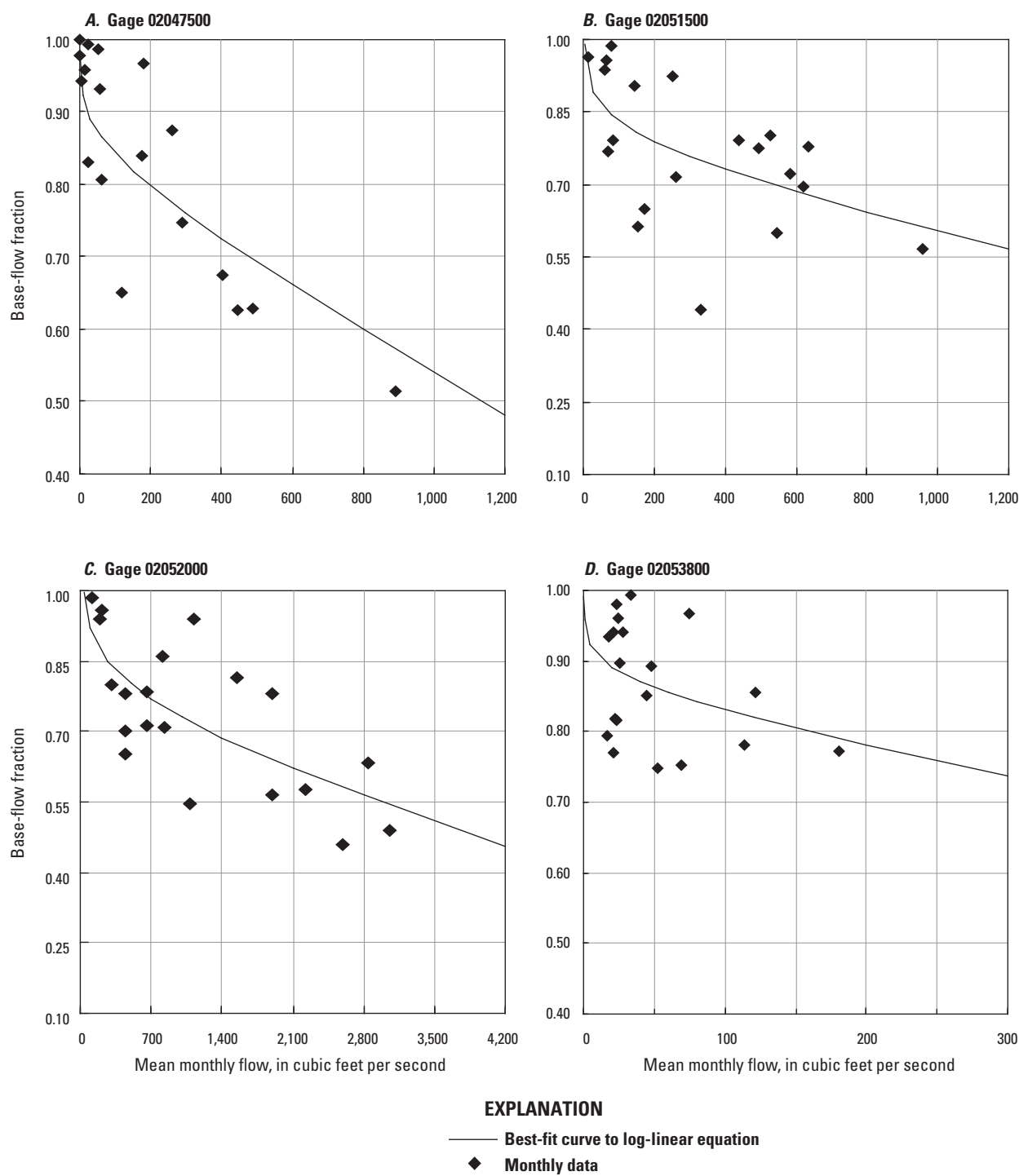


**Figure 2–15.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Hardware River near Scotsville, (B) North Fork Rivanna River near Earlysville, (C) James River near Cartersville, and (D) Appomatox River near Farmville. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).

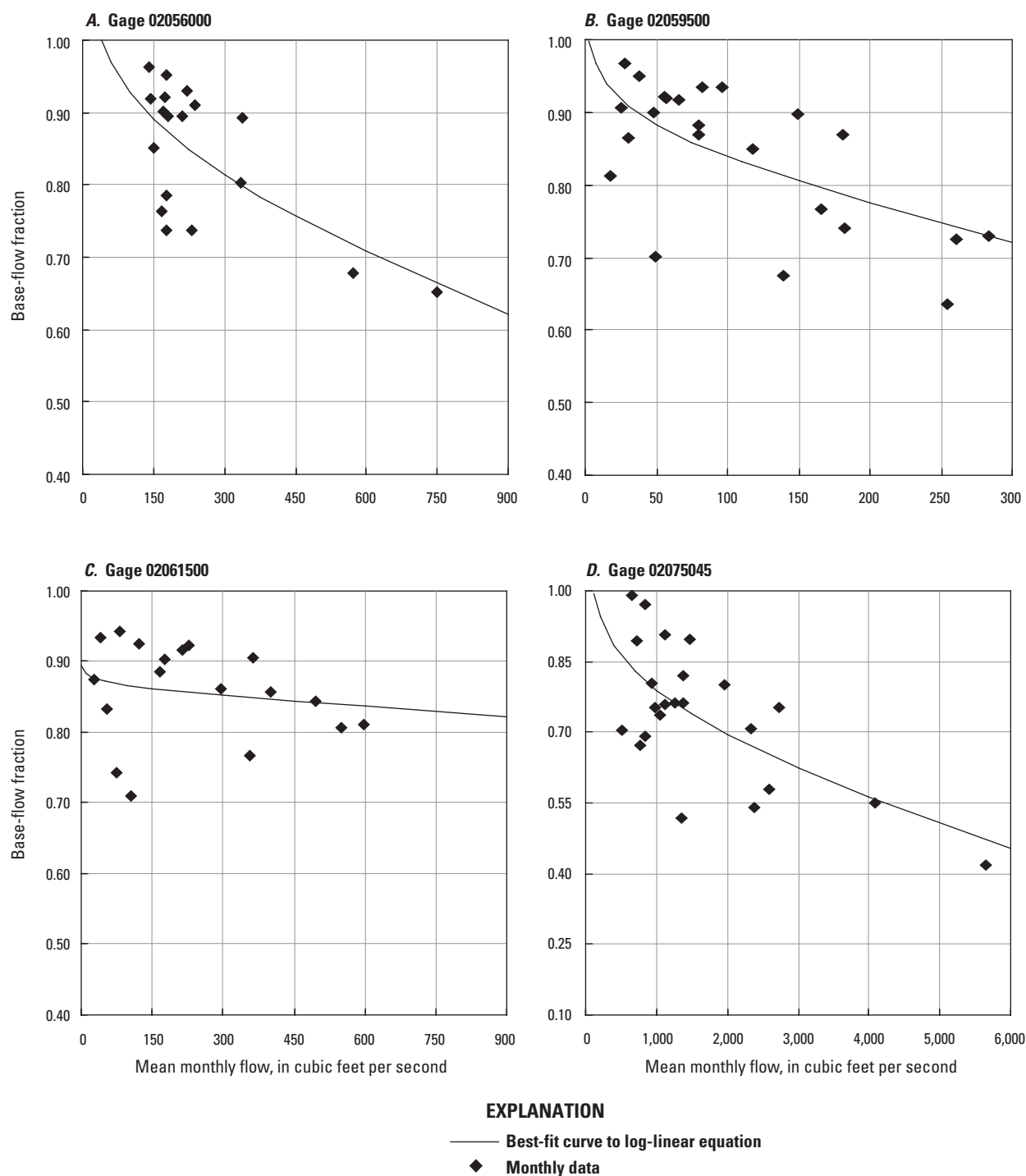




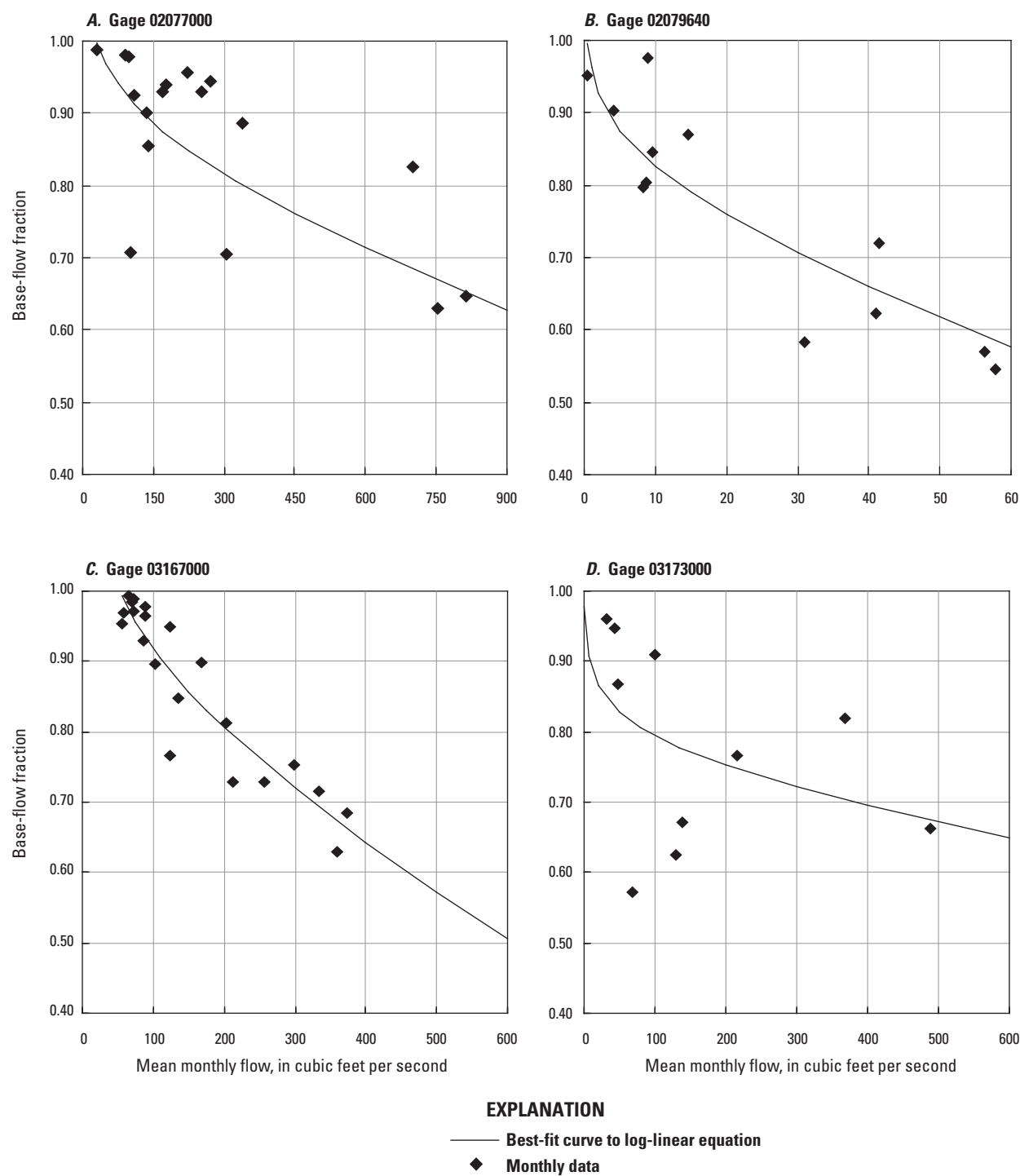
**Figure 2–16.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Appomattox River at Mattoax, (B) Deep Creek near Mannboro, (C) Appomattox River at Matoaca, and (D) Nottoway River near Rawlings. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



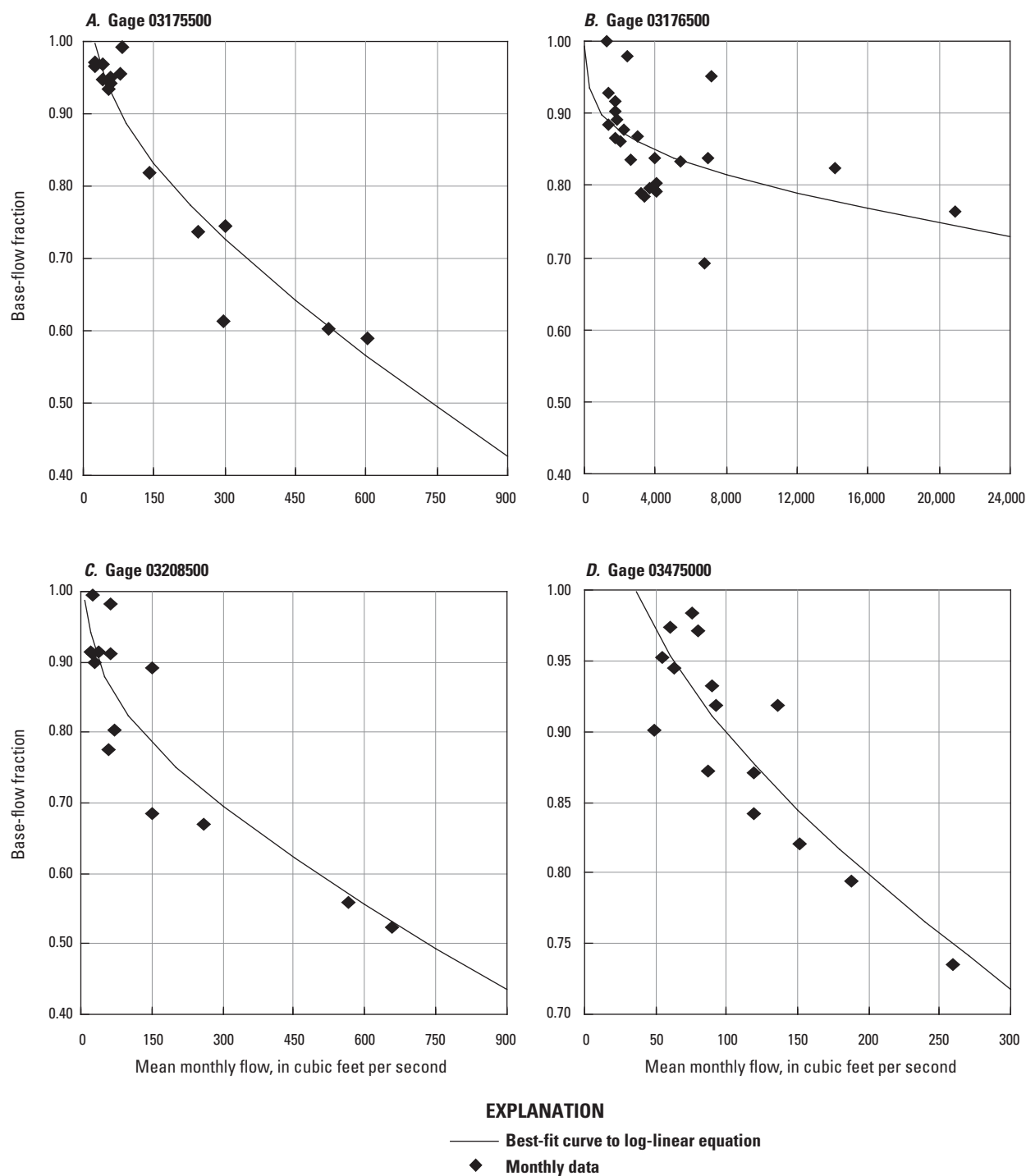
**Figure 2–17.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Blackwater River near Dendron, (B) Meherrin River near Lawrenceville, (C) Meherrin River near Emporia, and (D) South Fork Roanoke River near Shawsville. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



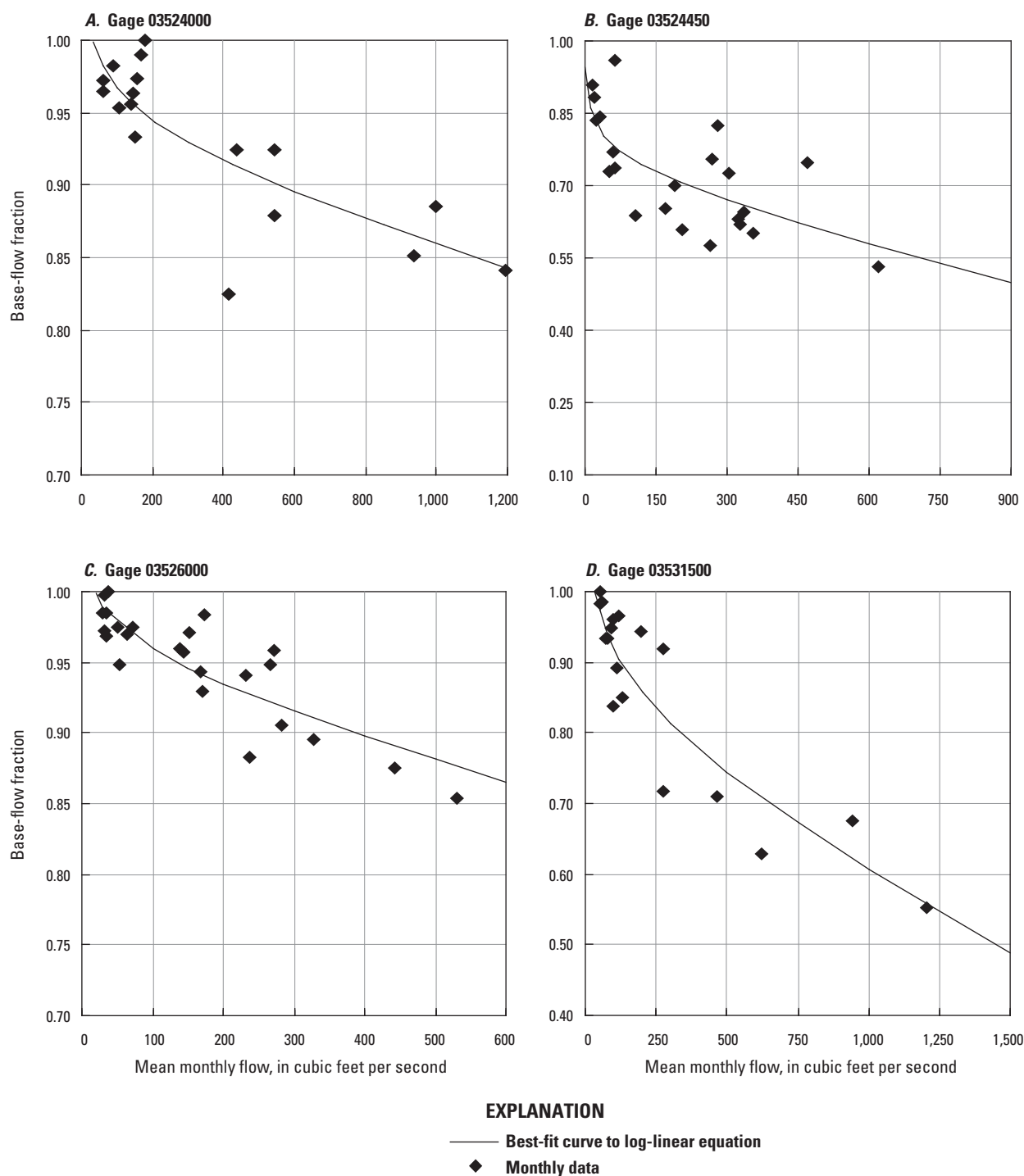
**Figure 2-18.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Roanoke River at Niagara, (B) Goose Creek near Huddleston, (C) Big Otter River near Evington, and (D) Dan River near Danville. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



**Figure 2–19.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Banister River at Halifax, (B) Allen Creek near Boydton, (C) Reed Creek at Grahams Forge, and (D) Walker Creek at Bane. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



**Figure 2–20.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Wolf Creek near Narrows, (B) New River at Glen Lyn, (C) Russell Fork at Haysi, and (D) Middle Fork Holston River near Meadowview. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).



**Figure 2–21.** Plots of mean monthly flow versus fraction base flow for USGS gages in Virginia at (A) Clinch River at Cleveland, (B) Guest River near Miller Yard, (C) Copper River near Gate City, and (D) Powell River near Jonesville. See table 10 for the coefficients of the log-linear best-fit curves (equation 16).