Rates of effective ground-water recharge (a vital and elusive component of water budgets) can be estimated using streamflow data from continuous-record, surface-water gaging stations and hydrograph-separation techniques that separate streamflow into ground-water (base flow) and surface-water components (figs. 3 and 4). Data from partial-record gaging stations can often be correlated to discharge at nearby continuous-record gaging stations, allowing for the estimation of discharge statistics and effective ground-water recharge at the partial-record gaging stations.

Each of the continuous-record, surface-water gages has been equipped with a specific conductance/temperature probe funded through USGS and DEQ to facilitate a study focusing on the ground-water contribution to streamflow for drainage basins throughout Virginia. This study will use conductance data to determine the ground-water component of flow through mass balance of chloride in surface and ground-water (which shows a linear relation to specific conductance), and will serve as a point of comparison to the hydrograph-separation techniques for the continuous- and partial-record stations.