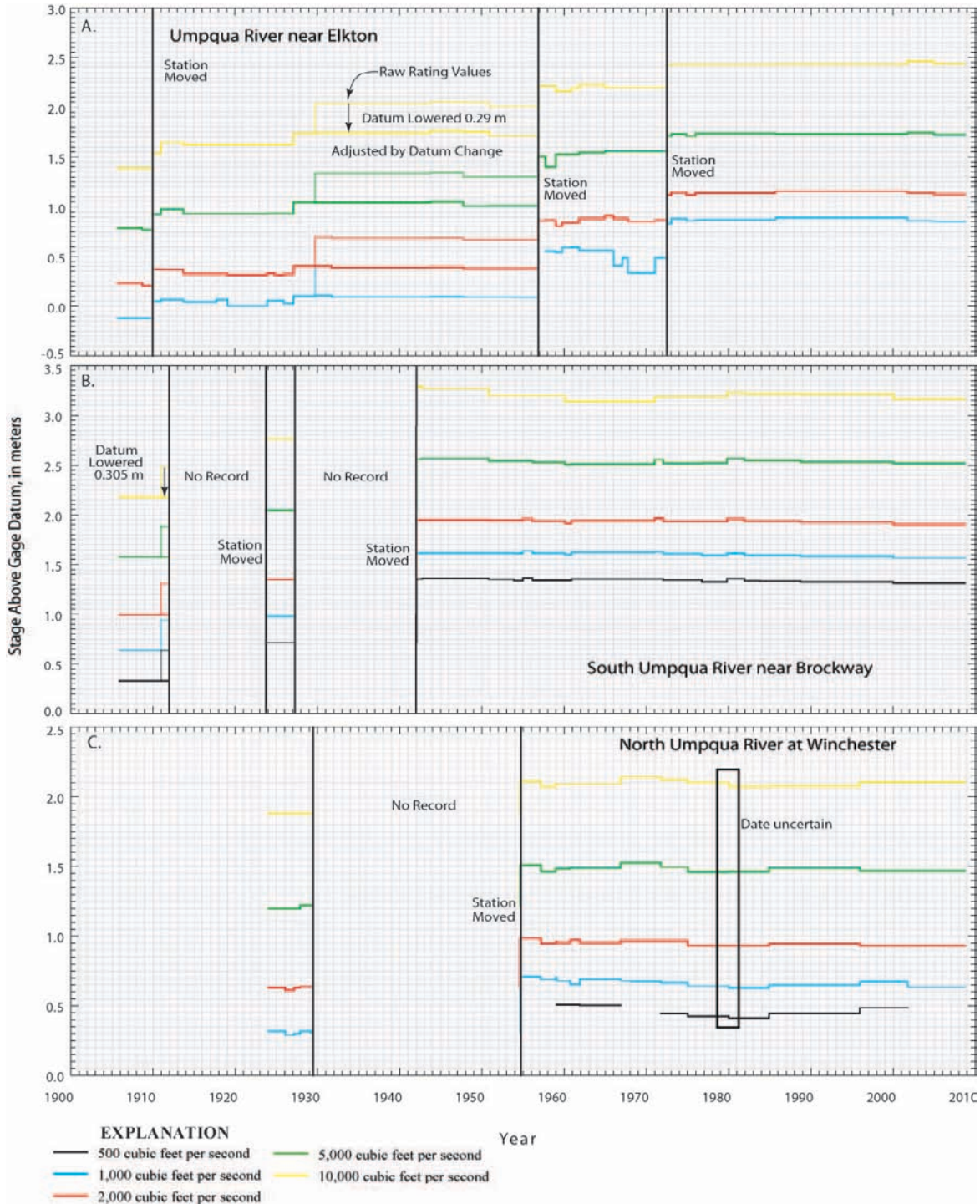




Specific Gage Analysis for USGS Streamflow-Gaging Stations on the Umpqua River, Oregon



From "Channel Change and Bed-Material Transport in the Umpqua River Basin, Oregon," by J. Rose Wallick, Jim E. O'Connor and others, USGS Open File Report 2010-1314. See discussion below.

The specific gage analysis above shows that all three stations have had little change in stage associated with low flows over the period for which flow data are available. At the Umpqua River station at Elkton the gage location has changed four times over the period 1906–2008, with stages changing very little while at each location. For 1906–57, stage for each discharge varied by less than 0.12 m, whereas during 1957–72, stage at 14 m³/s decreased by approximately 0.2 m. For 1972–2008, stage for all discharges changed less than 0.15 m, indicating negligible change in bed elevation.

The gage analysis for the North Umpqua River at Winchester spans 1924–30 and 1955–2008. For all discharges, and across both time periods, measured stage changes are small, with the largest and most systematic being the decrease of 0.1 to 0.15 m associated with the 28 and 57 m³/s flow rating curves for the 1955–2008 period.

The South Umpqua River gaging station near Brockway provides data for 1906–12, 1924–28, and 1942–2008. For all three time periods, the Brockway gage also shows only small changes in stage for the discharges used in this analysis. For 1942–2008, stage has lowered between 0.05 and 0.1 m for all discharges used in the analysis.