

January 2014

Tetra Tech sampled the Purgatoire River and tributaries on January 15 and 16, 2014. The following information provides a “snapshot” of water quality information from these two days of water quality monitoring. Figure 1 depicts stream flow, electrical conductivity (EC), and calculated Sodium Adsorption Ratio (SAR) at various points along the Purgatoire River from upstream (PR37.1 at Stonewall) to downstream (PR 2.8 below Trinidad Lake).

During the month of January several sampling stations contained ice that restricted the discharge samples. January stream flow (Figure 1, blue dots on graph) in the Purgatoire River increased with around 33 cfs flowing below Valdez Canyon (Station PR 11.3). USGS provisional hydrograph for January 2014 data are provided in Figure 2. Estimated streamflow at the Madrid gaging station (PR 8.8) above Trinidad Lake is approximately 33 cfs with some periods of higher flows just after midday.

The EC that is protective of alfalfa crops in the Purgatoire valley is 1,300 $\mu\text{S}/\text{cm}$. The maximum EC measurement in January was 631 $\mu\text{S}/\text{cm}$, and well below the threshold protective of alfalfa. The SAR measurements, a function of sodium, magnesium and calcium concentrations, were well below the threshold value protective of soil infiltration rates (6.8), measuring 2.95 at Station PR-8.8 (upstream of Trinidad Lake at Madrid, CO).

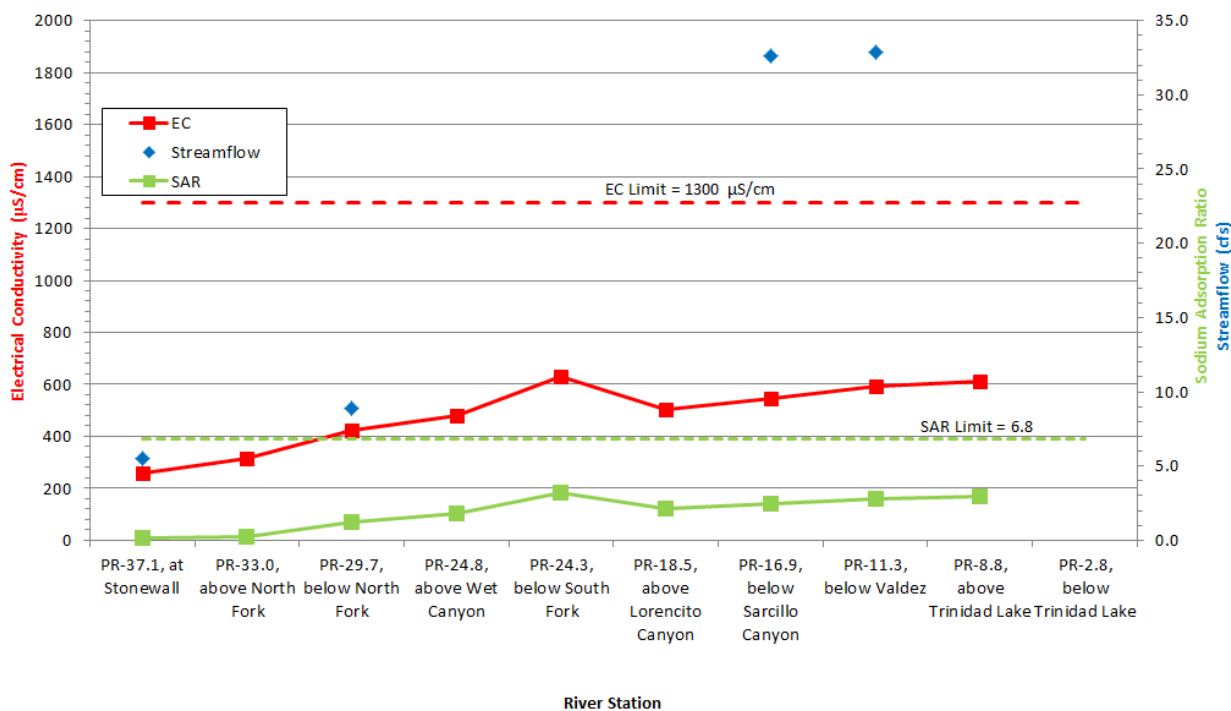


Figure 1 – January Streamflow, conductivity and Sodium Adsorption Ratio

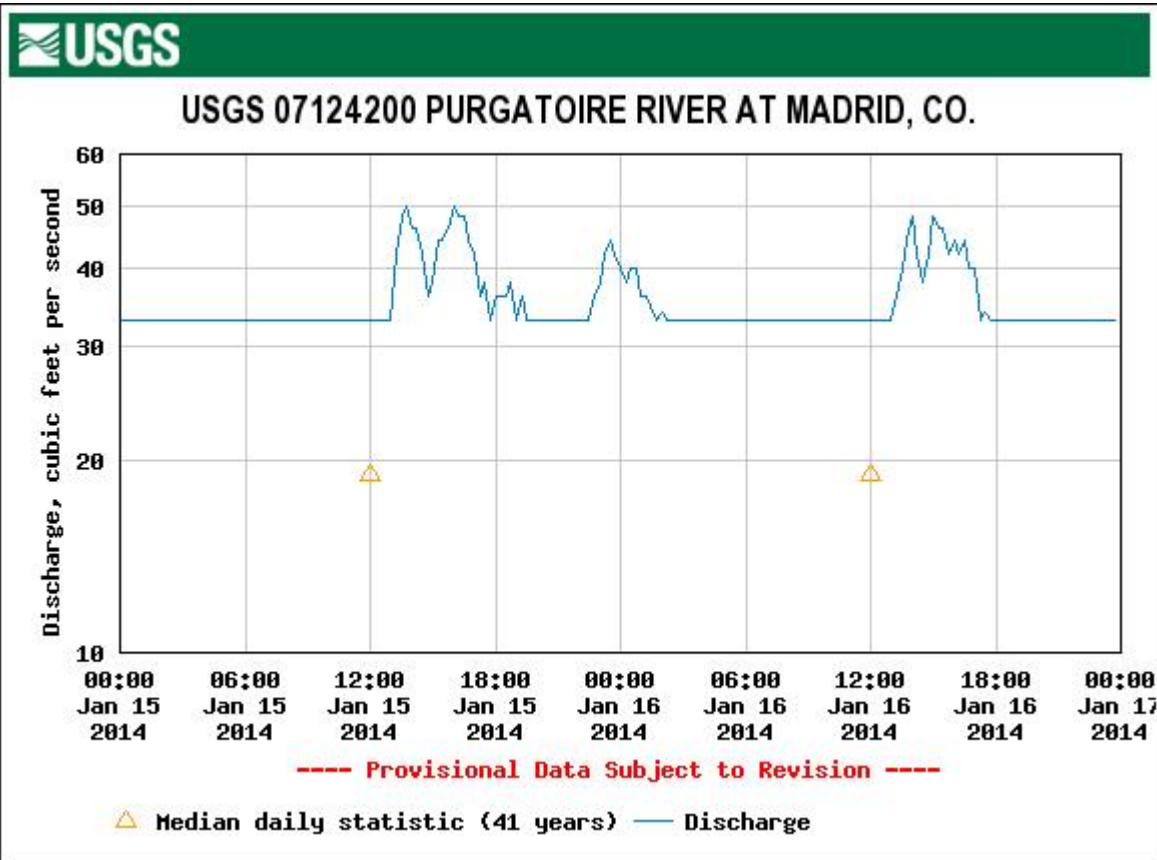


Figure2 - USGS Streamflow Upstream of Trinidad Lake at Madrid, Co - January