

April 2014

Tetra Tech sampled the Purgatoire River and tributaries on April 16 and 17, 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).

Sampling was conducted for all stations where flow was present and ice free conditions existed. April stream flow (Figure 1, blue line on graph) in the Purgatoire River increased with around 21.2 cfs flowing above Wet Canyon (Station PR 24.8), and then continued to increase to 37.9-cfs at PR-11.3, below Valdez. Figure 2 (USGS approved stream flow data) depicts estimated stream flow at the USGS Madrid gaging station (PR-8.8, upstream of Trinidad Lake) fluctuating between 34-cfs and 78-cfs during the sampling event. The EC threshold that is protective of alfalfa crops in the Purgatoire valley is 1,300- $\mu\text{S}/\text{cm}$. The maximum EC measurement in April was 569 $\mu\text{S}/\text{cm}$; 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, measuring 2.12 at Station PR-8.8 (upstream of Trinidad Lake at Madrid, CO).

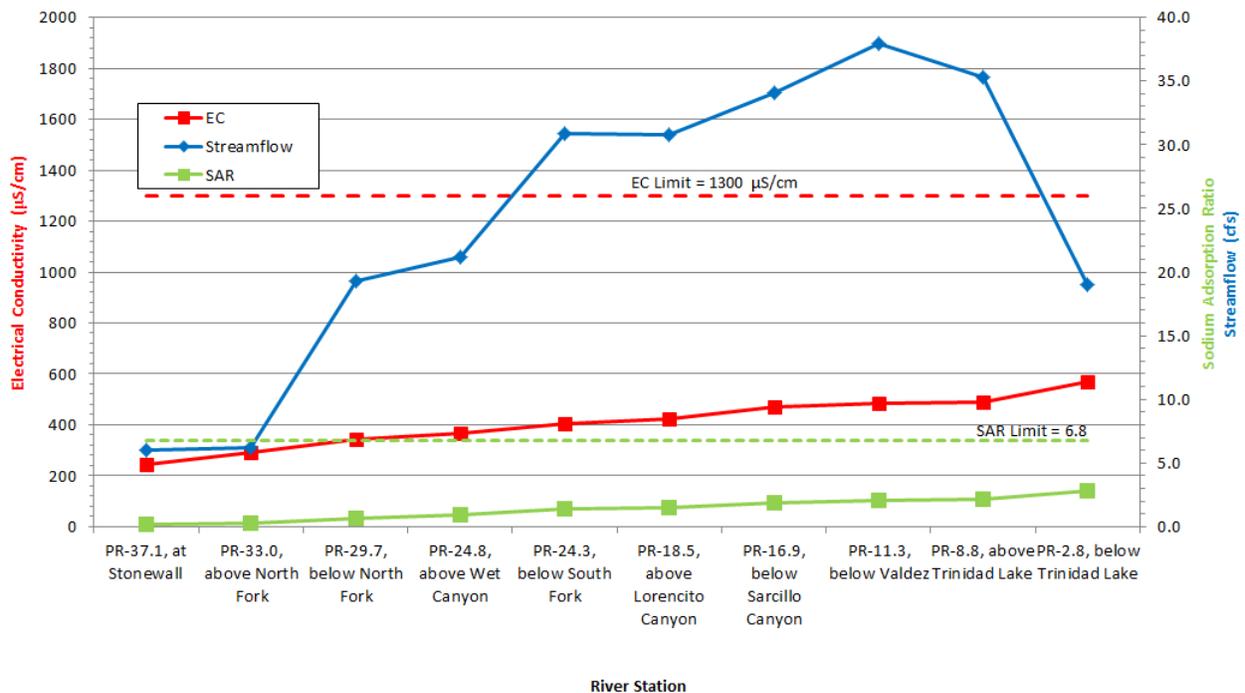


Figure 1 – April 2014 Streamflow, Electrical Conductivity and Sodium Adsorption Ratio

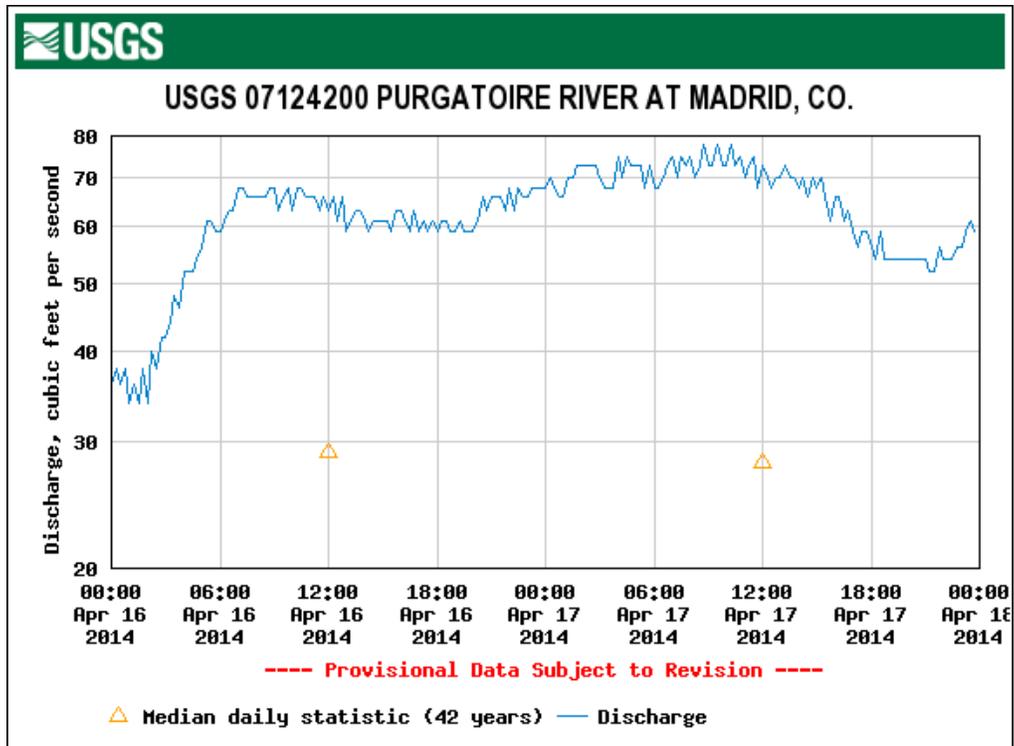


Figure 2 - USGS Provisional Flow Data, Apr 2014 - Upstream of Trinidad Lake at Madrid, CO

Total recoverable iron concentrations continue to demonstrate a high correlation with the sediment (TSS) load carried by the Purgatoire River (Figure 3). In April 2014, 4 of 10 iron data measurements exceeded the 1 mg/L chronic standard protective of aquatic life.

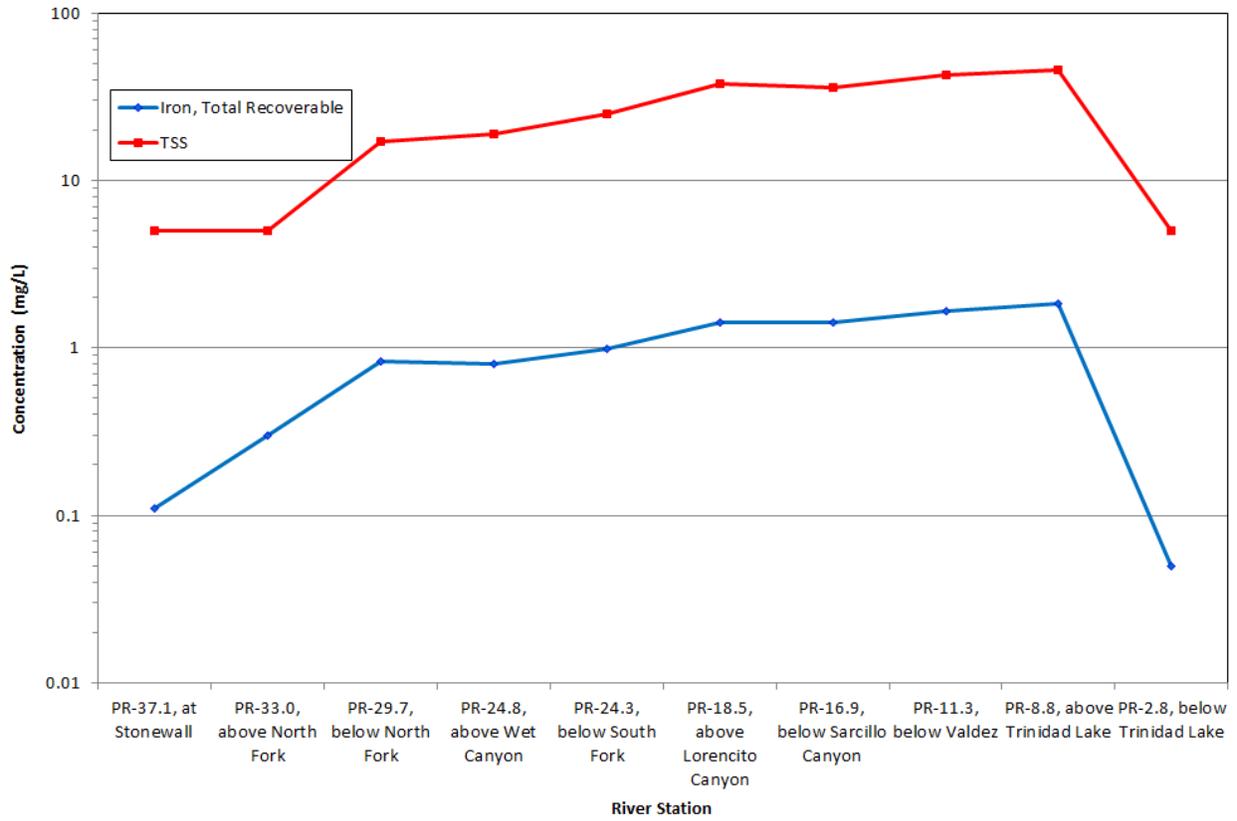


Figure 3 – Correlation Between TSS and Total Recoverable Iron in the Purgatoire – Apr 2014