

Continuous Water Quality Monitoring for Beals Creek and Colorado River

Project Background:

The Colorado River Municipal Water District (CRMWD), which provides water to the cities of Odessa, Big Spring, and Snyder, owns and operates three major west Texas surface water supplies on the Colorado River: Lake J.B. Thomas, E.V. Spence Reservoir, and O.H. Ivie Reservoir.

In 1997 E.V. Spence Reservoir was placed on the §303 (d) list and targeted for a TMDL due to high levels of total dissolved solids, chlorides, and sulfates. Natural mineral deposits and oilfield

related activities have contributed to excessive loadings of these constituents in the E.V. Spence watershed.



CRMWD operates a "diverted water" supply system which functions to prevent highly mineralized surface water occurring at base and low flow in the Colorado River and Beals Creek (a tributary to the Colorado River) from reaching E.V. Spence Reservoir. Poor quality "normal flow" surface water is captured and pumped to nearby storage reservoirs for evaporation. The better quality "flood flows" are allowed to bypass the pumping station and travel downstream to E. V. Spence Reservoir. These diversion works were placed in operation in December of 1969.

By employing a continuous water quality monitoring system, the data generated will be used to monitor changes in salt concentrations (using specific conductance) during base flow and flood conditions to assist CRMWD in managing the diversions and improving the water supply.

Project Description:

The TCEQ established one station in each watershed to continuously monitor specific conductance and temperature in November 2004.

The project is coordinated by Robin Cypher, Aquatic Scientist, Surface Water Quality Monitoring Team, Monitoring Operations Division. Both stations are operated and maintained by CRMWD staff.

Sites:

1. [Beals Creek Pump Station southeast of Big Spring](#)
2. [Colorado River Pump Station northwest of Colorado City](#)