Texas Commission on Environmental Quality
Nonpoint Source Program

Implementing TMDL's for Salts in the Colordado River Below EV Spence

Ballinger & Wendkirk Oilfield Site Remediation

Water Body	Colorado River below EV Spence Reservoir (1426)
Location	Coke and Runnels Counties
River Basin	Colorado River (14)
Contractor	Railroad Commission of Texas
Project Period	September 1, 2013 to December 31, 2016
Project Total	$ 1,718,302 (Federal 60% and Local Match 40%)

Background

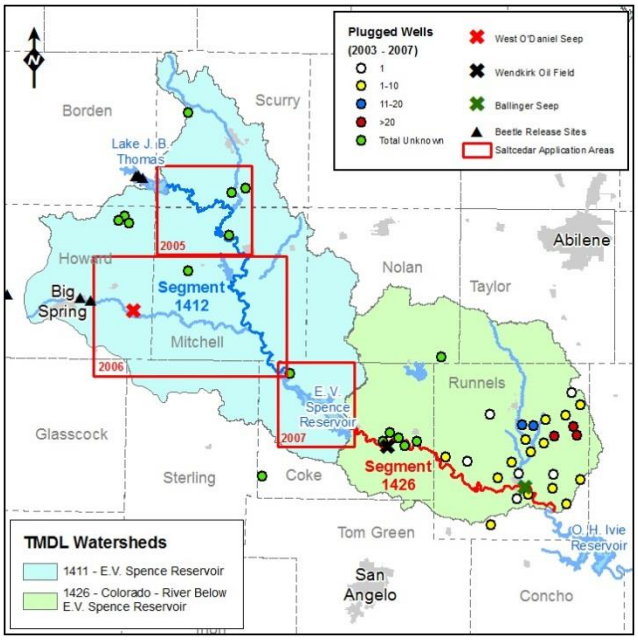
The Colorado River below E.V. Spence Reservoir is a 66-mile freshwater stream. In 2000, this segment of river was placed on the State's 303(d) list because it did not meet the water quality standard for total dissolved solids (TDS), sulfates, and chloride. High concentrations of these salts may negatively affect uses of the waterbody. On April 9, 2007, two Total Maximum Daily Loads (TMDLs) were completed and approved for Segment 1426. The goals of the TMDLs were to identify sources of high salts, and improve water quality in the river by implementing management measures. The stakeholder driven Implementation Plan (I-Plan) document was approved by the TCEQ on October 10, 2007.

Project Description

A variety of human-made and natural sources can be responsible for elevated levels of chloride, sulfate, and TDS. For example, a common source of dissolved solids is brine, a by-product of oil production. The Railroad Commission (RRC) has eliminated many potential sources of salinity by plugging orphaned or abandoned wells. The RRC also completed a feasibility study for placing a recovery well between oil field seeps and the river, where previous well plugging efforts were not 100% successful. Previous efforts involved the plugging of the Wolverton well #1 at the Ballinger seep, and the plugging of the Mays #1 water well at the Wendkirk site.

Current Status

The RRC collected water quality data from the Colorado River and additional data on two highly saline seeps at the Ballinger and Wendkirk oil field sites. Modeling of expected groundwater volumes and salt concentration are complete. Remediation scenarios have been prioritized.



The RRC proposes to extract the saline water from Recovery Wells. The salt water will be properly disposed of, off-site.

Public Participation

Stakeholder participation is crucial to implementing plans over several years and developing workable TMDLs and I-Plans. People who participated in developing the TMDL and I-Plan and people new to the process are encouraged to join the Oil and Gas stakeholder group formed to evaluate progress on improving the quality of the creek. For meeting minutes go to:
<www.ucratx.org/TMDLIPLAN.html>

For More Information

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Project Highlights

- September 2013 – Two contracts with the Railroad Commission were signed; Ballinger & Wendkirk sites.
- 07/11/2014 – Monitoring QAPP approved.
- 10/09/2014 – Modeling QAPP approved.
- 09/2014 – Initial recon and sampling of existing groundwater wells took place; gathering of data for modelling.
- 01/2015 – Modeling underway.
- 04/16/2015 – Monitoring QAPP annual certification approved.
- 01/2015 – Testing data uploads in SWQMIS.
- Fall 2015 –data evaluation and modeling report; prioritized BMP scenarios.
- Fall – Winter 2016 – grant workplan and contract amendment to accommodate change to proposed recovery/extraction scenario, and addition of sampling to validate model and further define ground-surface water interactions.