



Improving Water Quality in Rocky and Salado Creeks Assessing the Aquatic Life Use

In two streams in the Brazos River Basin—Rocky Creek (Segment 1217A) and Salado Creek (Segment 1243)—low concentrations of dissolved oxygen from data collected prior to 2002 indicated that conditions were not optimal for aquatic life.

Oxygen gas, which dissolves in water, is essential for the survival of aquatic life. While the amount of dissolved oxygen in water fluctuates naturally, various human activities can cause unusually or chronically low dissolved oxygen levels, which may harm fish and other aquatic organisms.

In response to these conditions, the Total Maximum Daily Load (TMDL) Team initiated a project to investigate the causes of low dissolved oxygen in the creeks, with the goal of determining whether the creeks could support a healthy aquatic community.

Learn more about water quality standards, monitoring, and TMDLs by reading [Preserving and Improving Water Quality](#)¹, available on our website and in print.

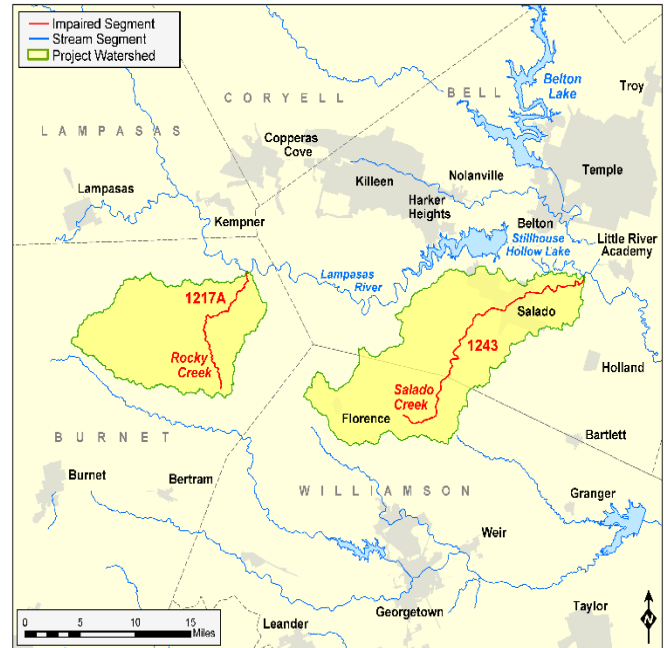
Rocky and Salado Creeks Watersheds

These two streams are located in south-central Texas in the Brazos River Basin. Rocky Creek begins at the confluence of North Rocky and South Rocky Creeks and flows east into the Lampasas River, north of Oakalla. Only the lower four miles of this 12-mile stream were not meeting the dissolved oxygen criteria associated with the aquatic life use.

Salado Creek begins at the confluence of North Salado and South Salado Creeks and flows east, approximately 27 miles, to the Lampasas River. The 10-mile long portion examined in this study begins at Salado Creek's confluence with the Lampasas River and extends upstream to the FM 2268 bridge in Salado (just east of Interstate 35).

Salado Creek has the larger watershed at 170 square miles, followed by Rocky Creek at 114 square miles. The watersheds are wholly or partially located in the Edwards Plateau physiographic province and the Oak Woods and Prairies natural region.

Urban development is greatest in the Salado Creek watershed. About 98% of the land in the Rocky Creek watershed was privately owned at the time of this study. The major land use was cattle ranching. In general, the



streams were used for agricultural purposes, recreation, and other activities, depending on time of year and streamflow. Rocky Creek was classified as an ecologically unique stream by the Texas Parks and Wildlife Department (TPWD) because of its unique geology and other characteristics (Water Resources Planning Reports, Senate Bill 1).

The Rocky Creek watershed includes portions of Burnet County and the cities of Sunnyslane, Watson, and Oakalla. The Salado Creek watershed includes portions of Bell and Williamson counties along with the cities of Florence, Corn Hill, Prairie Dell, Salado, and Sommers Mill.

Project Development

TCEQ evaluated sources of oxygen-demanding materials and their impacts on dissolved oxygen in the two creeks. TCEQ's contractor gathered 24-hour dissolved oxygen data over a two-year period between August 2002 and September 2004. The results of that monitoring are summarized in the graphs on the next page.

All monitoring stations on Salado Creek were in compliance with the state surface water quality standards. Only one location on Rocky Creek was out of

¹ <https://www.tceq.texas.gov/publications/gi/gi-351>

compliance with the standards, the station located on the North Fork of Rocky Creek. Data from Salado Creek and the main stem of Rocky Creek was submitted to the TCEQ SWQMIS database and the segments were removed from the state's list of impaired waters.

Biological data collected from the North Fork of Rocky Creek indicates that it supports a relatively healthy biological community, better than would be expected based on the results of the monitoring.

In 2010, TCEQ adopted revised, site-specific standards for dissolved oxygen in Rocky and Salado creeks.

For More Information

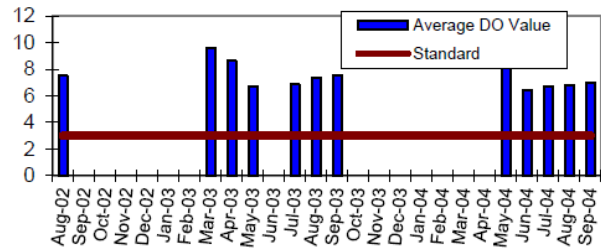
Visit the project webpage at:

www.tceq.texas.gov/waterquality/tmdl/33-middle-brazos.html

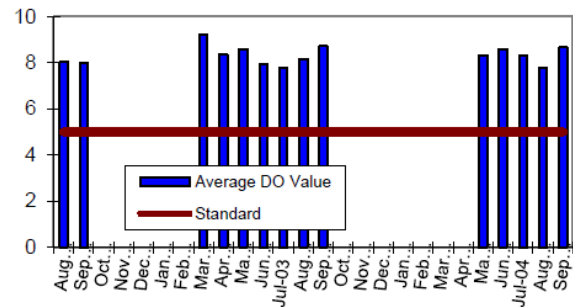
E-mail us at tmdl@tceq.texas.gov or call us at 512-239-6682.

To learn more about the revised Standards, email the Standards Group at standards@tceq.texas.gov or call 512-239-6682

**Rocky Creek, Segment 1217A:
Summary of 24-Hour Data**



**Salado Creek, Segment 1243:
Summary of 24-Hour Data**



Project Development Status

Start Date: August 2002

End Date: August 2005

Highlights

- Sampling was conducted on Salado and Rocky creeks for a two-year period between August 2002 and September 2004.
- All measurements in Salado Creek complied with the water quality standards.
- All measurements in Rocky Creek complied with the water quality standards, with the exception of the station on the North Fork Rocky Creek.
- Rocky and Salado creeks were removed from the state's list of impaired waters in 2006.
- In 2010, TCEQ adopted revised, site-specific standards for dissolved oxygen in Rocky and Salado creeks. EPA approved the revisions.

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