



## Improving Water Quality in the Lower San Antonio River A TMDL Project for Bacteria

In the Lower San Antonio River (LSAR), Segment 1901, concentrations of bacteria are sometimes too high. High concentrations of bacteria such as *E. coli* and fecal coliform, which are found in both human and animal waste, may indicate a health risk to people who swim or wade in the streams—activities called “contact recreation” in the state’s standards for water quality.

In response to these conditions, the TCEQ developed a total maximum daily load (TMDL) project to determine the pollutant reductions necessary to restore water quality in the river. The goal of a TMDL is to determine the amount (or load) of a pollutant that a body of water can receive and still support its designated uses. The allowable load is then allocated among categories of sources within the watershed, and stakeholders work with the state to develop an implementation plan (I-Plan) with measures that reduce pollutant loads.

Learn more about water quality standards, monitoring, and TMDLs by reading *Preserving and Improving Water Quality*, available on our website at [www.tceq.texas.gov/goto/tmdl/](http://www.tceq.texas.gov/goto/tmdl/).

### Watershed Description

The Lower San Antonio River is located near Falls City, in Karnes County. Land uses are predominantly agricultural and ranching. The watershed has unconsolidated mud and sand substrate; thick, organic soils; little topographic relief; and an abundance of shrub and grassland vegetation.

### Project Development

James Miertschin and Associates Inc. worked under contract with the TCEQ to develop the TMDL from 2006 through 2008.

The project was revisited in 2016 to develop the I-Plan. The I-Plan identifies measures needed to reduce pollution and includes a timeline for implementation. The TCEQ TMDL Program contracted with Texas A&M AgriLife Research to work with stakeholders on the development of the I-Plan. The San Antonio River Authority continues to monitor water quality in the watershed.

### Public Participation

In all its projects, the TCEQ gathers opinion and information from people who represent government, permitted facilities, agriculture, business, environmental, and community and private interests in the watershed.



The TCEQ solicits advice and comment from these stakeholders at meetings and through print and electronic media notices.

AgriLife Research held multiple public meetings in Goliad and Kenedy from November 2016 through August 2017 to form the coordinating committee and technical subcommittee that developed the I-Plan and to work on all aspects of the plan.

### For More Information

Contact us by e-mail at [tmdl@tceq.texas.gov](mailto:tmdl@tceq.texas.gov) or call us at 512-239-6682. Or visit the project website at:

[www.tceq.texas.gov/waterquality/tmdl/34-lowersanantoniobac.html](http://www.tceq.texas.gov/waterquality/tmdl/34-lowersanantoniobac.html).

## **TMDL Dates**

**Adopted by TCEQ:** August 20, 2008

**EPA Region 6 Approval:** October 20, 2008

## **I-Plan Date**

**Approved by TCEQ:** August 8, 2018

## **Project Highlights**

- The TCEQ adopted the TMDL on August 20, 2008.
- EPA approved the TMDL on October 20, 2008.
- Local stakeholders completed the I-Plan in August 2017 and submitted it to the TCEQ for approval.
- The commission approved the I-Plan on August 8, 2018.

Visit our website at: <[www.tceq.texas.gov/goto/tmdl/](http://www.tceq.texas.gov/goto/tmdl/)>