



# Assessing Water Quality in the Lower Leon Creek

## Evaluating Water Quality to Protect Aquatic Life

In 2006, TCEQ assessment indicated that in portions of Lower Leon Creek, low dissolved oxygen concentrations 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 chronically low dissolved oxygen levels.

In response to these conditions, the TCEQ Total Maximum Daily Load (TMDL) Program examined the causes of low dissolved oxygen in the stream to update and add to the data available for evaluating the aquatic life use.

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

### Lower Leon Creek Watershed

Lower Leon Creek, Segment 1906, drains an area of 228 square miles and has a total continuous length of 57 miles. It originates as a spring-fed stream in the Edwards Plateau region of south central Texas. The creek runs from its headwaters in northern Bexar County to its confluence with the Medina River. The creek generally flows south and enters the main portion of the Kelly Air Force Base (AFB) from the northwest, near the intersection of Billy Mitchell Road and Westover Road.

Leon Creek drains a highly urbanized residential area and the Kelly and Lackland AFBs. Water quality in the creek is affected by industrial and municipal wastewater discharges and stormwater. The project watershed included the cities of San Antonio, Cross Mountain, Helotes, and Leon Valley.

### Project Development

The University of Texas at San Antonio (UTSA), under contract with TCEQ, collected dissolved oxygen data to update and add to the data sets available for evaluating the aquatic life use in Lower Leon Creek. Data were collected between September 2013 and September 2014.

Samples were taken at several stations in portions of the stream segment that had few or older data sets.



Segment 1906 has six assessment units (AUs). Only four of the AUs were sampled during this project.

- AU\_01 – Lower three miles of the segment, from the confluence with Medina River to 4,000 feet west of Applewhite Road.
- AU\_03 – From the confluence with Indian Creek to Highway 353.
- AU\_05 – From two miles upstream of Highway 353 to Highway 90.
- AU\_06 – From Highway 90 to 100 meters upstream of State Highway 16.

### Public Participation

TCEQ staff informed stakeholders about this project by coordinating with the San Antonio River Authority's (SARA) Basin Steering Committee. SARA is the Clean Rivers Program partner for the San Antonio basin.

### For More Information

Visit the project webpage at:

[www.tceq.texas.gov/waterquality/tmdl/84-lowerleonoxigen](http://www.tceq.texas.gov/waterquality/tmdl/84-lowerleonoxigen)

E-mail us at [tmdl@tceq.texas.gov](mailto:tmdl@tceq.texas.gov) or call us at 512-239-6682.

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