



# Improving Water Quality in the Atascosa River

## Evaluating the Aquatic Life and Recreational Uses

In the Atascosa River, dissolved oxygen levels were less than optimal for support of a rich, healthy aquatic ecosystem. Oxygen, 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.

High concentrations of bacteria, which are found in both human and animal waste, have also been observed in the river. The presence of these bacteria may indicate a health risk to people who swim or wade in the rivers—activities referred to as “contact recreation” in the state’s standards for surface water quality.

In response to these conditions, the TMDL Team managed a study to produce two technical reports needed to support a recreational use attainability analysis (RUAA) and an aquatic life use attainability analysis (ALUAA). Use attainability analyses (UAAs) assess the physical, chemical, and biological factors that determine whether a particular use is attainable in a particular water body.

The primary contact recreation use designated for the Atascosa River as of 2012 was presumed, not based on actual site-specific characteristics. This study surveyed how people actually use the stream for recreation, and evaluated stream characteristics that inhibit or promote water recreation.

Similarly, the high aquatic life use assigned to the river as of 2012 was presumed. This study evaluated characteristics that influence the stream’s suitability for aquatic life.

Learn more about water quality standards and 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/).

### Atascosa River Watershed

The main portion of the Atascosa River (Segment 2107) is formed by the union of the north and west prongs of the river in extreme northwest Atascosa County, southeast of Lytle. From its origin, the Atascosa River flows approximately 103 miles into Live Oak County between Choke Canyon Reservoir and Three Rivers, where it joins the Frio River.

The Atascosa is part of the Nueces River Basin, and is the setting for Atascosa River Park in Pleasanton. The



project watershed includes the communities of Lytle, Poteet, Pleasanton, Jourdanton, and Christine.

The watershed is characterized by level to rolling land dominated by open grasslands, as well as cacti, weeds, thorny shrubs, and trees such as mesquite, live oak, and post oak. The area is important for recreational deer and quail hunting.

### Project Development

In 2008, the TCEQ contracted with the Texas Institute for Applied Environmental Research (TIAER) to conduct the two UAA studies and prepare technical reports. Previous studies in watershed from 2002 to 2004 collected a substantial amount of data. Review of that data and changes to the state’s contact recreation standards in 2010 prompted initiation of the RUAA. The TCEQ decided to evaluate the aquatic life use at the same time to gain a fuller understanding of the biological and flow conditions for the entire stream.

### Public Participation

Texas AgriLife coordinated public participation in this project. Public meetings were held in the watershed to seek advice and comment from people who represent government, permitted facilities, agriculture, business, environmental, and community and private interests. The TCEQ also encouraged local involvement with the

help of the Basin Steering Committee of the Nueces River Authority.

### **For More Information**

Visit the project website at:

<[www.tceq.texas.gov/waterquality/tmdl/31-atascosa.html](http://www.tceq.texas.gov/waterquality/tmdl/31-atascosa.html)>

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

### **Project Dates**

**Started:** March 2009

**Project End:** August 2012

### **Project Highlights**

- TIAER collected water quality data for the ALUAA from June 2010 to October 2011. TIAER completed and submitted the final report on recreational uses in December 2010.
- Public meetings were held November 5, 2009, August 2, 2011, and August 30, 2012 in Pleasanton to update stakeholders on the project.
- The recommendations of the Standards Group for the [RUAA](#) have not yet been released.
- Based on the ALUAA, the Atascosa River was divided into three segments: one unclassified segment (intermittent flow with pools) and two classified segments. The Standards Group recommended a high aquatic life use for the Lower Atascosa River (Segment 2107) and an intermediate aquatic life use for the Upper Atascosa River (new Segment 2118). These recommendations were submitted to the EPA in 2014. EPA has not approved or disapproved the recommendations.
- Contact the TCEQ Standards Group at [standards@tceq.texas.gov](mailto:standards@tceq.texas.gov) or 512-239-6682 for more information about the ALUAA and RUAA.

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