



# Evaluating the Aquatic Life Use in the Clear Fork of the Trinity River

## Water Quality in Clear Fork Trinity River

The state of Texas requires water quality in the Clear Fork Trinity River to be suitable for swimming, wading, fishing, drinking (with treatment), and a healthy aquatic ecosystem. However, assessments found that dissolved oxygen levels were sometimes lower than the standard established to assure a healthy aquatic ecosystem. Oxygen, which dissolves in water, is essential for the survival of aquatic life.

In response to these conditions, the TCEQ initiated a project to examine the causes of low dissolved oxygen in the stream and to evaluate whether the agency should develop a total maximum daily load (TMDL) or a use attainability analysis (UAA). A TMDL determines the amount (or load) of a pollutant that a body of water can receive and still support its designated uses. This allowable load is allocated among all the potential sources of pollution within the watershed. A UAA determines whether the existing standards are appropriate for the creek. Depending on the results, the aquatic life use standard and criteria may be modified.

Learn more about water quality standards and monitoring by reading *Clean Water for Texas: Working Together for Water Quality*, available on the Web at [www.tceq.org/goto/tmdl/](http://www.tceq.org/goto/tmdl/).

## Clear Fork Trinity River Watershed

This project focuses on the water quality and standards issues associated with the two uppermost riverine segments of the Clear Fork Trinity River: Clear Fork Trinity above Lake Weatherford (Segment 0833) and Clear Fork Trinity below Lake Weatherford (Segment 0831).

Clear Fork Trinity above Lake Weatherford originates in far northwest Parker County approximately two miles upstream of FM Road 1707, and flows southeast 22 miles to its downstream boundary at FM Road 3107. The watershed consists of oak woods and prairies and is mostly rural. The community of Poolville is the only concentration of development in the area. Flow in the upper portion of the segment is highly dependent on rainfall, and as a result, is often intermittent or absent—especially during summer. Flow in the lower portion of the segment is more consistent, and initial information suggests it may be perennial in some areas. The lower portion has a larger drainage area and may be



influenced by a natural spring.

Clear Fork below Lake Weatherford begins at Weatherford Dam in central Parker County and flows 19 miles to its segment boundary 220 yards downstream of US Highway 377 in southwest Tarrant County. The watershed is mostly blackland prairie and includes the communities of Aledo, Weatherford, and Willow Park. Flow in this segment is probably perennial in most years, although low-flow conditions commonly occur in the upper reaches of the segment. Stream flows increase in the lower portion as a result of inflows from the South Fork Trinity River. Like the area above Lake Weatherford, this area is predominately rural; however, rapidly increasing urban populations are changing the landscape of this watershed.

## Project Development and Progress

The TCEQ engaged the services of the Texas Institute for Applied Environmental Research (TIAER), a research center housed at Tarleton State University in Stephenville, to conduct the field work and laboratory analyses needed to support the UAA. The TCEQ and TIAER worked with the Trinity River Authority (TRA) and the Tarrant Regional Water District (TRWD) in planning the project.

A use attainability analysis requires data from three biological monitoring efforts and five dissolved oxygen

studies. These studies were conducted over two consecutive spring/summer periods. Samples were taken at several stations on each segment to ensure that the aquatic life use was accurately characterized for the entire study area.

Each biological monitoring effort included routine water chemistry sampling, flow measurements, characterization of the fish and invertebrate communities, assessment of the stream physical habitat, and monitoring of dissolved oxygen concentrations.

TIAER submitted its final report in April 2003. Staff of the TCEQ Water Quality Standards program are reviewing the report to determine whether a use attainability analysis (UAA) is appropriate. A UAA determines whether the designated uses and criteria for a particular water body are appropriate. Depending on the results, the standards for the water body may be revised.

### Public Participation

This project was a collaborative effort involving the TCEQ, TIAER, the Trinity River Authority (TRA), and the Tarrant Regional Water District (TRWD). Project progress was communicated through the Trinity River Basin Steering Committee created by the Texas Clean Rivers Program.

### For More Information

To find out more about the project, contact:

#### TCEQ Project Manager

Dania Grundmann, TMDL Program  
(512) 239-3449 or [ddrogole@tceq.state.tx.us](mailto:ddrogole@tceq.state.tx.us)

#### TCEQ Region 4 - Arlington

John Mummert  
(817) 588-5879 or [jmummert@tceq.state.tx.us](mailto:jmummert@tceq.state.tx.us)

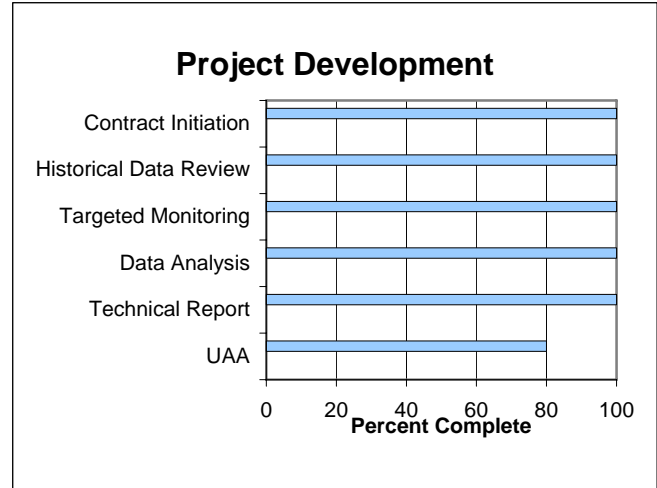
#### Trinity River Authority

Angela Kilpatrick  
[kilpatricka@trinityra.org](mailto:kilpatricka@trinityra.org)

Questions regarding the status of the UAA should be directed to:

#### TCEQ Water Quality Standards Program

Charles Bayer  
(512) 239-3449 or [cbayer@tceq.state.tx.us](mailto:cbayer@tceq.state.tx.us)



### TMDL Project Highlights

- Targeted monitoring efforts began in July 2001.
- The first targeted monitoring effort was completed in the winter of 2001.
- TIAER presented information about the project at the 2002 Steering Committee meeting of the Trinity Basin Clean Rivers Program in August 2002, in Grand Prairie.
- Targeted monitoring efforts concluded in October 2002.
- TIAER submitted its final report, *Technical Use Attainability Analysis, Clear Fork Trinity River (Stream Segments 0831 and 0833)* in April 2003. The report is being reviewed by staff of the TCEQ's Water Quality Standards program to determine if a UAA is appropriate. For information about the status of the UAA, contact Charles Bayer at (512) 239-3449 or [cbayer@tceq.state.tx.us](mailto:cbayer@tceq.state.tx.us).