



Improving Water Quality in Cottonwood Branch and Grapevine Creek A TMDL Implementation Project for Bacteria

Bacteria concentrations are occasionally elevated in portions of Cottonwood Branch (Segment 0822A) and Grapevine Creek (Segment 0822B) in Irving. High concentrations of bacteria may pose a risk to people who swim or wade in them—activities called the “contact recreation use” in the state’s standards for water quality.

Bacteria are commonly found in the intestines of warm-blooded organisms such as humans, livestock, poultry, cats, and dogs. These bacteria in water sometimes indicate the presence of disease-causing microorganisms.

To address these concerns, people who have a stake in the watershed worked with the TCEQ to develop a total maximum daily load (TMDL) and its implementation plan (I-Plan). A TMDL is like a budget—it determines the amount (or load) of bacteria a stream can receive and still support the recreational use. The allowable load is then allocated among categories of sources within the watershed. The I-Plan outlines the measures that will be used to reduce pollution.

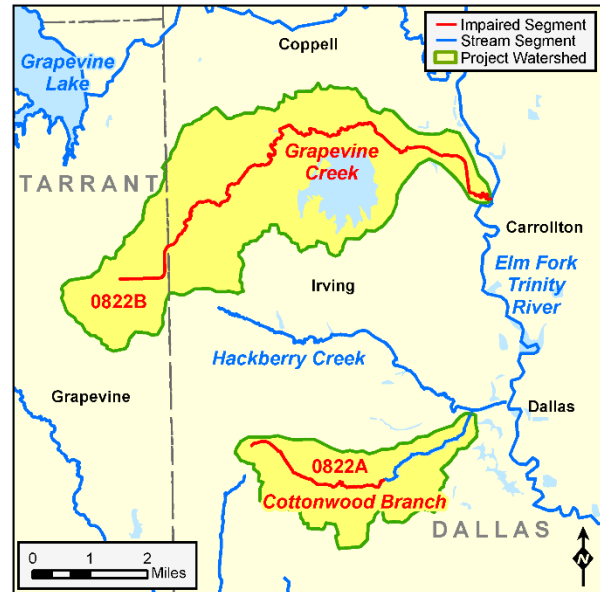
Learn more about water quality standards and monitoring, and TMDLs by reading *Preserving and Improving Water Quality*, available on our website at www.tceq.texas.gov/goto/tmdl/.

Description of the Project Watersheds

Cottonwood Branch and Grapevine Creek are tributaries of the Elm Fork Trinity River (Segment 0822) within the Trinity River Basin. To varying degrees, storm water runoff from agricultural, industrial, and urban areas affect water quality in the segments.

Cottonwood Branch (0822A) is located upstream of the confluence of Hackberry Creek in Dallas County to Valley View Road in Dallas County. The stream segment is six miles long and the watershed is approximately five square miles. The watershed is located in Dallas County in the municipality of Irving. The contact recreation impairment applies to the 3.5-mile reach of the segment running upstream from North Story Road to Valley View Road.

Grapevine Creek (0822B) is located upstream of the confluence of the Elm Fork Trinity River in northwest Dallas County to a series of storm water outfalls at International Parkway at Dallas-Fort Worth (DFW) International Airport. The stream is about 11 miles long and the watershed is approximately 14 square miles.



The watershed is located in the municipalities of Coppell and Irving and on the property of DFW Airport. The contact recreation impairment applies to the entire stream.

TMDL Project Development

The Cottonwood Branch/Grapevine Creek TMDL project was initiated by the TCEQ in September 2007 through a contract with the Texas Institute for Applied Environmental Research (TIAER). Field samples were collected in 2008. The TCEQ surveyed recreational uses of the streams in summer of 2009 and spring of 2010. The TMDLs were adopted by TCEQ on September 21, 2011 and approved by EPA on May 30, 2012.

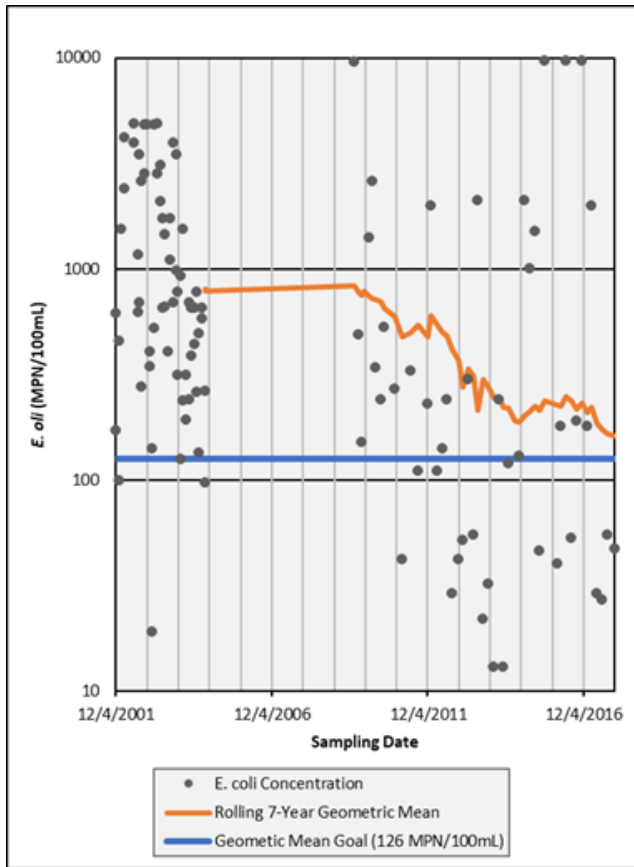
I-Plan Development

The North Central Texas Council of Governments worked with stakeholders to convene a Coordination Committee to implement bacteria TMDLs and improve surface water quality throughout their Public Participation

Public Participation

In all its projects, the TCEQ seeks 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 the public at meetings and through print and media notices. Meetings about the project are open to everyone.

Figure 1. Cottonwood Branch (0822A_02) E.coli concentrations (most probable number/100 mL) and rolling seven-year geometric means (Dec. 2001 – Nov. 2017).



For More Information

Visit the project webpage at:

www.tceq.texas.gov/waterquality/tmdl/nav/66-greatertrinitybacteria/

or

www.nctcog.org/envir/natural-resources/tmdl

Or contact:

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TMDL Adoption Dates

TCEQ Adoption: September 21, 2011

EPA Region 6 Approval: May 30, 2012

I-Plan Development Status

TCEQ Approval: December 11, 2013

Project Highlights and Water Quality Status

- The TCEQ held public project meetings on June 10, 2008, September 24, 2009, and April 22, 2010 at the Valley Ranch Library in Irving.
- The TMDLs were adopted by TCEQ September 21, 2011 and approved by EPA on May 30, 2012.
- The Implementation Plan for the Greater Trinity River Region was approved by TCEQ December 11, 2013.
- The Coordination Committee meets annually to review the progress of the I-Plan. The I-Plan work groups meet periodically to discuss implementation strategies.
- Grapevine Creek (0822B) was found to meet the contact recreation use based on the 2016 *Texas Integrated Report of Surface Water Quality*. The 2020 Integrated Report found that Grapevine Creek does not meet the contact recreation use.
- Cottonwood Branch (0822A_02) continues to be impaired for primary contact recreation use. Bacteria levels, based on the geometric mean concentrations of *E. coli*, have steadily declined in the stream as the City of Irving implements management measures in the area.

Visit our website at: www.tceq.texas.gov/goto/tmdl/