



## Improving Water Quality in the Houston Area A TMDL Project for Bacteria in Watersheds Upstream of Lake Houston

In nine stream segments in the Lake Houston watershed, bacteria concentrations are sometimes higher than the criteria set to protect the safety of recreation. Activities such as wading, swimming, water skiing, diving, and surfing are called “contact recreation” in the state’s standards for water quality. Bacteria from human and animal waste sometimes indicate the presence of disease-causing microorganisms that may pose a health risk.

The TCEQ completed a total maximum daily load (TMDL) project to determine the pollutant limits necessary to restore support of the recreational uses of the segments. A TMDL determines the amount (or load) of a pollutant that a body of water can receive and still support its designated use. The load is then allocated among all the potential sources of pollution within the watershed.

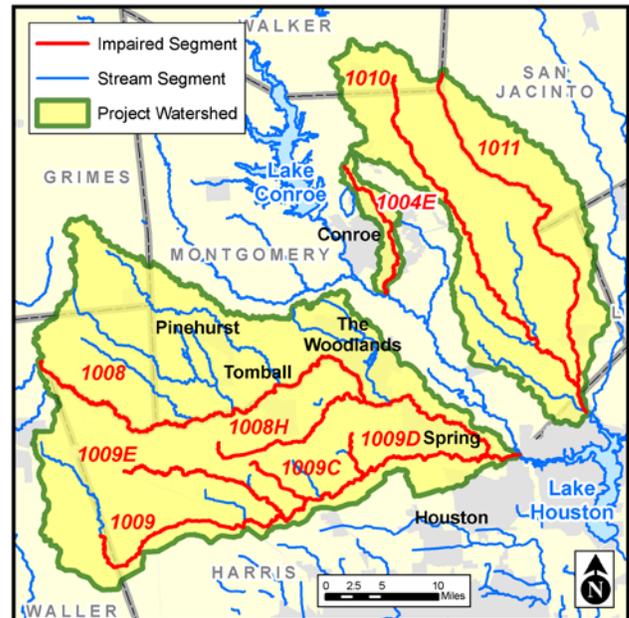
Stakeholders then work to develop an implementation plan (I-Plan). The I-Plan outlines measures intended to reduce pollutant loads, a schedule for their implementation, a review strategy to track whether water quality is improving, and a commitment to continue the process with the goal of meeting the water quality standard.

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

### Description of the Project Watershed

The project includes the following stream segments:

- **Stewarts Creek** (Segment 1004E)  
From headwaters northwest of Old Montgomery Rd. to confluence with West Fork San Jacinto River.
- **Spring Creek** (Segment 1008)  
From the confluence with the West Fork San Jacinto River to the most upstream crossing of FM 1736 in Waller County.
- **Willow Creek** (Segment 1008H)  
From 0.3 miles north of Juergen Rd. to the confluence with Spring Creek.
- **Cypress Creek** (Segment 1009)  
From the confluence with Spring Creek to the confluence of Snake Creek and Mound Creek in Waller County.



- **Faulkey Gully** (Segment 1009C)  
Perennial stream from its confluence with Cypress Creek to upstream 3.2 km.
- **Spring Gully** (Segment 1009D)  
Perennial stream from a point 1 km upstream of Louetta Rd. to Spring Cypress Rd.
- **Little Cypress Creek** (Segment 1009E)  
From the confluence with Cypress Creek upstream to Hwy 290A.
- **Caney Creek** (Segment 1010)  
From the confluence with East Fork San Jacinto River in Harris County to SH 150 in Walker County.
- **Peach Creek** (Segment 1011)  
From the confluence with Caney Creek in Montgomery County to SH 150 in Walker County.

The project watershed covers more than 1,100 square miles, with land uses consisting primarily of high- and low density developed areas and woodlands, with lesser amounts of grassland, agriculture, and undeveloped areas.

### Public Participation

Public meetings were held during October and November 2007 and in June 2008 to describe the TMDL process and discuss the status of the investigation with stakeholders. In November 2009,

the TCEQ updated stakeholders about the progress of the analysis for developing proposed load allocations. The Houston-Galveston Area Council (H-GAC) coordinated public participation for this TMDL project.

### **I-Plan Development**

The Bacteria Implementation Group (BIG) was formed to develop the I-Plan to improve water quality in these TMDL watersheds and several others in the greater Houston area. The BIG includes representatives of local residents, nongovernmental organizations, industry, and various local, state, and federal governments. The H-GAC is coordinating the BIG's activities.

Stakeholders have developed a draft regional I-Plan. The plan addresses 72 TMDLs for bacteria in waterways. It encompasses the TMDLs in this project, and in the projects for Clear Creek, Buffalo and Whiteoak Bayous, and Watersheds Upstream of Lake Houston.

See information about the BIG on our website at <[www.tceq.texas.gov/waterquality/tmdl/big\\_houston\\_area.html](http://www.tceq.texas.gov/waterquality/tmdl/big_houston_area.html)>, or visit the BIG website at <[www.h-gac.com/community/water/tmdl/big/default.aspx](http://www.h-gac.com/community/water/tmdl/big/default.aspx)>.

### **For More Information**

Contact one of the people listed below, or visit the project website at <[www.tceq.state.tx.us/goto/tmdl/](http://www.tceq.state.tx.us/goto/tmdl/)>.

#### **TCEQ TMDL Program**

Jason Leifester, Project Manager  
512-239-6457, [Jason.leifester@tceq.texas.gov](mailto:Jason.leifester@tceq.texas.gov)

#### **Public Participation**

Rachel Powers, Houston-Galveston Area Council  
713-993-4559, [rachel.powers@h-gac.com](mailto:rachel.powers@h-gac.com)

### **TMDL Development Status**

**TCEQ Adoption:** April 6, 2011

**EPA Region 6 Approval:** June 29, 2011

### **I-Plan Development Status**

**Stakeholder Draft Completed:** August 2011

**Projected TCEQ Approval:** August 2012

### **Project Highlights**

- The TCEQ held public meetings during October and November 2007 and June 2008 to discuss the project with stakeholders.
- Numerous water quality samples were collected during 2008 and 2009 at targeted locations in the watershed.
- The technical report by the project contractor, James Miertschin and Associates, was accepted by the TCEQ in September 2009.
- Stakeholders formed the BIG, coordinated by the H-GAC, to develop the I-Plan for these and other bacteria TMDLs for the Houston area.
- The TCEQ updated the BIG on the TMDLs and the technical report in a presentation on November 17, 2009.
- On April 6, 2011, the commission adopted the TMDLs. The EPA approved them on June 29, 2011, at which time they became part of the state's Water Quality Management Plan.
- The BIG completed a draft I-Plan in March 2011. After receiving and responding to comments from the public, the BIG completed and approved its final draft I-Plan on August 16, 2011. The H-GAC submitted the I-Plan to the TCEQ for review and concurrence.
- See information about the BIG on our website at <[www.tceq.texas.gov/waterquality/tmdl/big\\_houstonarea.html](http://www.tceq.texas.gov/waterquality/tmdl/big_houstonarea.html)>, or visit the BIG website at <[www.h-gac.com/community/water/tmdl/big/default.aspx](http://www.h-gac.com/community/water/tmdl/big/default.aspx)>.

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