



## *Improving Water Quality in Clear Creek Above Tidal* **Two TMDLs for Total Dissolved Solids and Chloride**

In 2002, TCEQ found elevated levels of total dissolved solids and chloride (salts) in Clear Creek Above Tidal. This was an indication that existing conditions were not optimal for aquatic life and other general uses.

In response to these conditions, the TCEQ Total Maximum Daily Load (TMDL) Program began a project to evaluate the extent and severity of the elevated salt concentrations. The goal of a TMDL is to determine the amount (or load) of a pollutant that a body of water can receive and still support its designated uses. The load is then allocated among all the source categories of pollution within the watershed. Measures to reduce pollutant loads are then developed as necessary.

The TMDL Program found that the excess salinity was the result of a single discharge associated with dewatering of a sand and gravel quarry. This quarry was on top of the Mykawa Salt Dome and had salty groundwater.

That discharge was remediated via permit enforcement. Since then, the quarry operation has closed. In 2014, the TCEQ withdrew the TMDLs because the TMDL is no longer needed to manage the impairment for which it was written. Permitted dischargers other than the quarry and stormwater runoff have never been a source of the impairment, nor are they expected to be in the future.

Learn more about water quality standards, 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/).

### **Clear Creek above Tidal Watershed**

Clear Creek above Tidal is identified as Segment 1102 in the state's Surface Water Quality Standards. Segment 1102 is a suburban freshwater stream located in the southernmost portion of the city of Houston, Texas. This area has undergone significant changes in the ten-year period from 1995 to 2005. The area, once predominantly rural area influenced by agriculture and oil exploration activities, is now primarily urban. The construction of Beltway 8 contributed to an increase in development and residential land uses.

Clear Creek above Tidal is a third order stream. It is 24.5 miles long and has a watershed of 115 square miles. The creek originates in the eastern portion of Fort Bend County and flows east to become the boundary of Harris and Brazoria Counties and then of



Harris and Galveston Counties, before entering the tidal portion of Clear Creek.

Land use, based on 2002 data, is primarily developed, with some agriculture uses and woodland. The cities of Houston, Pearland, Brookside Village, and Friendswood are located within this watershed.

### **Public Participation**

In all its projects, the TCEQ seeks to gather opinion and information from people who represent government, permitted facilities, agriculture, business, environmental, and community and private interests in the watershed. The TCEQ solicited advice and comment about this project at public meetings and through print and electronic media notices.

### **For More Information**

Contact the project manager, or visit our website at:

[www.tceq.texas.gov/waterquality/tmdl/43-clearcreektds.html](http://www.tceq.texas.gov/waterquality/tmdl/43-clearcreektds.html)

### **TCEQ Project Manager**

Jason Leifester, TMDL Program  
(512) 239- 6457  
[jason.leifester@tceq.texas.gov](mailto:jason.leifester@tceq.texas.gov)

## TMDL Development Status

**Start Date:** January 2003

**Projected End Date:** August 2005

**TCEQ Adoption:** April 12, 2006

**EPA Region 6 Approval:** June 26, 2006

**Withdrawn by TCEQ:** October 2011

## Project Highlights

- A continuous monitoring site was deployed at Clear Creek and Mykawa Road to monitor chloride levels in the creek.
- Data collected by the monitor is on our website at <[www.tceq.state.tx.us/cgi-bin/compliance/monops/water\\_daily\\_summary.pl?cams=761](http://www.tceq.state.tx.us/cgi-bin/compliance/monops/water_daily_summary.pl?cams=761)>.
- As a result of developing the TMDL, the TCEQ found that the high concentrations of total dissolved solids and chloride were from a single discharge associated with dewatering of a sand and gravel quarry. That discharge was subsequently remediated via permit enforcement.
- In 2005, the TCEQ determined that levels of chlorides in the segment were below the criteria in the Standards. Segment 1102 was removed from the 303(d) list in the 2006 *Texas Water Quality Inventory and 303(d) List*.
- The quarry facility has closed, and no other operations will replace it, rendering the TMDLs unnecessary.
- The 2010 assessment for the Texas Integrated Water Quality Report determined that chloride and total dissolved solids were within the protective criteria range.
- The TCEQ withdrew the TMDLs through the July 2014 Update to the Water Quality Management Plan. The EPA approved withdrawal of the TMDLs on 11/25/14. See a link to the July 2014 update on the project Web page at <[www.tceq.texas.gov/waterquality/tmdl/43-clearcreektds.html](http://www.tceq.texas.gov/waterquality/tmdl/43-clearcreektds.html)>.

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