



Improving Water Quality in the Lampasas and Navasota River Basins

Evaluating Water Quality for Recreational Uses

High concentrations of bacteria such as *E. coli* and fecal coliform, which are found in both human and animal waste, may indicate a health risk to people who swim or wade in a water body—activities called “contact recreation” in the state’s standards for water quality.

In 2008, TCEQ found that concentrations of bacteria exceeded the criteria to protect the safety of contact recreation in two tributaries of the Navasota River and a segment of the Lampasas River.

Because the impairments to the recreational use were identified based on a relatively small number of water samples, TCEQ’s TMDL Program led an intensive sampling and analysis project for the three streams. Bacteria, flow, and field data were collected to assess the extent of bacteria loadings. The goal of the project was to determine the most appropriate strategy for managing bacteria concentrations in the streams.

Learn more about water quality standards, monitoring, and TMDLs by reading [Preserving and Improving Water Quality](#)¹, available on our website and in print.

Project Watersheds

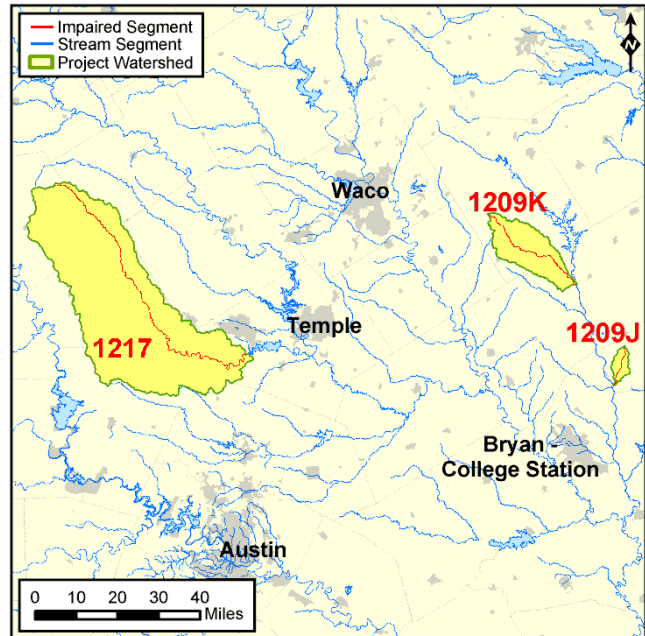
The Navasota and Lampasas Rivers are part of the larger Brazos River Basin. Three segments, all in largely rural areas, were included in the project:

- Shepherd Creek, Segment, 1209J
- Steele Creek Segment, 1209K
- Lampasas River Above Stillhouse Hollow Reservoir, Segment 1217

Shepherd Creek is located primarily in Madison County. Steele Creek flows through Robertson and Limestone counties. Both of the creeks are tributaries of the Navasota River.

The Navasota River is 125 miles long, crossing Limestone County and serving as the county line between Leon and Robertson, Madison and Brazos, and Brazos and Grimes counties before reaching its mouth on the Brazos River in southwestern Grimes County.

Madison County has undulating terrain; Segment 1209J flows across its northeastern corner into Segment 1209, the Navasota River Below Lake Limestone. In Limestone County, Segment 1209K flows across level to rolling terrain in the southern part of the county. It



continues across the flat to gently rolling terrain in the northeastern corner of Robertson County, where it merges with Segment 1209.

The Lampasas River rises in eastern Mills County and flows southeast for 75 miles through western Hamilton, eastern Lampasas, northeastern Burnet, and western Bell counties. Segment 1217, the Lampasas River Above Stillhouse Hollow Reservoir, flows from the origin of the river in Mills County downstream to Bell County.

Segment 1217 crosses gentle to high rolling prairie, wooded areas, and steep slopes with limestone benches. In Lampasas County, this segment overlies the Trinity Group aquifer. Segment 1217 ends at the western end of Stillhouse Hollow Reservoir in Bell County, which is on the Balcones Escarpment.

Project Development

TCEQ began this project in March 2009, through an agreement with the Texas Institute of Applied Environmental Research (TIAER). TIAER collected water quality samples for two years, from September 2009 through August 2011.

The data collected were added to the TCEQ Surface Water Quality Information System (SWQMIS) database in

¹ <https://www.tceq.texas.gov/publications/gi/gi-351>

2011. Based on the data collected, Segment 1217 was removed from the state's list of impaired waters.

The Standards Work Group recommended that the contact recreation use levels be changed for Segments 1209J and 1209K, from primary contact recreation 1 to secondary contact recreation 1. See their recommendations and reports on TCEQ's website. EPA has approved the change to the contact recreation use for Shepherd Creek, but is still considering the recommendation for Steele Creek.

Public Participation

TCEQ coordinated public participations in the Lampasas watershed with staff at the Texas AgriLife Blackland Research and Extension Center, which is working on a watershed protection plan with stakeholders of the Lampasas River Watershed Partnership. Stakeholders were informed about the work in the Shepherd Creek and Steele Creek watershed's through the Basin Steering Committee for the Brazos River Basin.

Project Dates

Start Date: March 2009

End Date: August 2011

For More Information

To find out more about the data collection, contact the TMDL Program project manager, or visit the project webpage:

www.tceq.texas.gov/waterquality/tmdl/93-lampasasnavasota-bacteria.html

TCEQ Project Manager

Jason Leifester, TMDL Program

512-239-6457

Jason.Leifester@tceq.texas.gov

TCEQ Standards Group

Get more information about the proposed and approved revisions to the Standards on the webpage:

www.tceq.texas.gov/waterquality/standards/ruaas/brazospt3

Email standards@tceq.texas.gov

Phone: 512-239-6682.

Project Highlights

- TCEQ began this project in March 2009 through an agreement with TIAER.
- Sampling was initiated in September 2009 and completed in August 2011.
- All the data collected were added to the TCEQ SWQMIS database.
- Based on the newer data, TCEQ removed Segment 1217 from the state's list of impaired waters in 2010.
- The Standards Work Group recommended changes in the contact recreation use levels for Segments 1209J and 1209K. EPA has approved the change for Shepherd Creek but is still considering the change for Steele Creek.

TCEQ is an equal opportunity employer. The agency does not allow discrimination on the basis of race, color, religion, national origin, sex, disability, age, sexual orientation, or veteran status. In compliance with the Americans with Disabilities Act, this document may be requested in alternate formats by contacting TCEQ at 512-239-0010, or 800-RELAY-TX (TDD), or by writing PO Box 13087, Austin TX 78711-3087. How is our customer service? tceq.texas.gov/customersurvey