



Reducing Bacteria to Improve Water Quality in the Leon River: What You Need to Know

This document includes questions and comments the TCEQ often receives regarding its TMDL project for bacteria in Segment 1221, and agency's response to each.



Map updated March 2006

The Leon River between Proctor Lake and Lake Belton, an approximately 173-mile long area, is designated as Segment 1221 by the Texas Commission on Environmental Quality (TCEQ). In 2002, when the TCEQ assessed water quality in the segment, the data indicated that elevated bacteria concentrations impair contact recreation uses in a 44-mile portion of the segment.

What is a total maximum daily load?

TMDL stands for “total maximum daily load.” A TMDL is like a budget for a pollutant – it is the total amount of one particular pollutant that a water body can assimilate in a single day and still attain the water quality standards designed to protect its uses. Federal law requires Texas to identify impaired segments on its 303(d) list and to develop a TMDL for each pollutant that impairs any segment. If a state does not adopt a TMDL to address a listed impairment, the

U.S. Environmental Protection Agency (EPA) must prepare a TMDL instead of the state.

What is the 303(d) list?

The 303(d) list identifies the assessed segments in Texas that do not meet water quality standards. The list is updated every two years. Section 303(d) of the federal Clean Water Act¹ requires each state to identify surface waters that are not meeting water quality standards.

Do we know if elevated or unacceptable levels of bacteria exist in tributaries of Segment 1221?

In the *2002 Texas Water Quality Inventory and 303(d) List*, Resley Creek, Segment 1221A, was the only tributary of Segment 1221 assessed for contact recreation. Though the contact recreation use within Resley Creek is a concern, not enough data was collected to confirm whether or not the tributary supports the contact recreation use.

How has the public been involved in this project?

The first meeting was held on August 19, 2003. Notice of the meeting was posted on the TCEQ calendar and in the *Texas Register*, and prospective members were formally invited to attend. At this meeting, based on the interest of the participants, an official stakeholder advisory group was formed. The Leon River

¹ Implementing legislation for Section 303(d) of the Clean Water Act is available on the Web site of Cornell University's School of Law <Water Pollution Prevention and Control: www4.law.cornell.edu/uscode/33/ch26.html>, <Standards and Implementation Plans: www4.law.cornell.edu/uscode/33/1313.html>.

Bacteria TMDL Advisory Group has met four times during the past three years.

Members of the stakeholder group represent various interests in the watershed. The stakeholders have accepted the responsibility to collaborate with other interested people in the watershed, particularly individuals who might be affected by the TMDL project. It is our experience that when a TMDL nears completion, public interest usually grows, and more people will hear about the project.

Who from my area has been involved with this project?

There are currently 22 members of the advisory group. The membership has been revised as the project has progressed, based on public participation and stakeholder recommendations. The advisory group has by-laws that govern how meetings are carried out and how members are added or removed. This advisory group meets the requirements of law promulgated in 2001 under House Bill 2912. A list of current members can be viewed on the TCEQ's Web site for the advisory group.²

Will the TMDL describe bacteria reductions or new limits?

The TMDL is a calculation of the acceptable loading of pollutants. The calculation will be included in a final report. For the Leon River, the loading to be determined is the quantity of bacteria that may be discharged into the stream and still keep the stream suitable for contact recreation. The TMDL is the sum of point sources (like wastewater treatment facilities) and nonpoint sources (land from which a discharge, usually runoff, is not covered under permits).

In the final TMDL report, the TCEQ does not attempt to break down the load allocations to

the various sources in the watershed. Instead, the allocation is refined during the implementation phase. The TCEQ obtains significant stakeholder input during the implementation phase to design a plan achieve the overall loading reduction and put it into action. Some of the solutions may indeed involve new limitations or reductions, since the stream is receiving too much bacteria currently.

When will the TMDL be completed?

The TCEQ plans to complete the TMDL report, solicit and incorporate public comment, and submit the report for commission approval by August 2006. The TCEQ expects the EPA to take nine to twelve months to review and approve it.

When will the TMDL be implemented?

While the EPA is reviewing the TMDL report, the TCEQ will work with the stakeholder advisory group to evaluate options for achieving the necessary load reductions and to develop an implementation plan. Activities described in the I-Plan will be eligible for applicable federal funding after the EPA approves the TMDL report.

How will the TMDL be implemented?

The I-Plan will guide TMDL implementation. Several strategies may be used to achieve the load reduction. For example, to address point sources, the TCEQ might issue revised Texas Pollutant Discharge Elimination System (TPDES) permits to adjust or reduce pollutant discharges from facilities in the watershed. Or facilities might be required to increase their compliance during wet weather events.

To address nonpoint sources, the state assists regional authorities and private interests to implement management practices that reduce the negative impacts of runoff from their operations.

² The advisory group's Web page is available at <www.tceq.state.tx.us/implementation/water/tmdl/34-leon_group.html>

How are nonpoint sources addressed in TMDL implementation?

The state uses voluntary, incentive-based approaches to reduce pollution from nonpoint sources. The TCEQ and the Texas State Soil and Water Conservation Board (TSSWCB) are jointly responsible for managing pollution from nonpoint sources in Texas. The TSSWCB works with agricultural and silvicultural (forestry) operations, while the TCEQ works with cities and all other nonpoint sources.

Both agencies rely on other state, regional, or local authorities and on private interests to implement management practices that reduce pollution from nonpoint sources. Both agencies work to support implementation of practices included in the I-Plan.

Is funding available to implement TMDLs?

The TCEQ and the TSSWCB administer federal grant programs that make money available yearly through a request process. Both public and private organizations may submit proposals to abate pollutant loads in their watersheds.

The Natural Resources Conservation Service (NRCS) of the federal Department of Agriculture makes cost-share assistance available to agricultural producers for implementing practices that reduce pollution. The NRCS works with the state through a long-term planning process to establish priority areas for the use of cost-share funds in Texas. The Leon River watershed would have to be identified as a priority area before funding could be coordinated through the NRCS.

I am a livestock producer with a small operation. Will the TCEQ regulate runoff from my operation as a result of this TMDL?

No. Agricultural nonpoint sources are addressed through voluntary programs of the TSSWCB.

Does the model used to develop the TMDL mimic what the data from the stream show?

The simulated daily bacterial counts generated by the model confirm that the bacteria standard (a geometric mean concentration) is exceeded in the impaired portion of the Leon River, as observed in the data used for the *2002 Texas Water Quality Inventory and List*. All of the sampling for the TMDL project was designed to characterize the conditions within Segment 1221

Why hasn't bacterial source tracking data (BST) been used in the model?

The TCEQ decided to proceed with the modeling phase of the project and use the BST data in the implementation phase. This decision is being revisited due to stakeholder comments.

The BST data was not necessary to set up a viable model. The model used was calibrated to site-specific water quality data collected in the Leon River. The TCEQ agrees that it would be informative to compare the BST results to the model results to the extent that it is possible. However, the TCEQ also believes the greatest value in the BST results will be to guide the implementation phase, when attention is focused on specific sources of bacteria.

Is it true that a 90% reduction in bacteria loading will be required?

The overall loading reductions to the Leon River needed to achieve compliance with the current water quality standard actually range from only 20 to 25%. This information was presented at the Town Hall meeting held in Hamilton on February 16, 2006.

There was one scenario in the draft modeling report that erroneously included a 90% reduction from point sources, as a group, in order to achieve *no* exceedance in the Leon River *at any time*. However, 100% attainment all of the time is neither a feasible goal nor a requirement of the state water quality standards. The TCEQ is still evaluating the draft modeling results, and is accepting comments from the public through March 14, 2006. New tables will be produced.

Do bacteria from Proctor Lake contribute to the problem?

No. In the EPA-approved *2002 Texas Water Quality Inventory and 303(d) List*, Proctor Lake is not listed as impaired for bacteria; neither is the segment of the Leon River upstream of the lake.

Bacteria loads from Proctor Lake were factored into the model for the impaired segment of the Leon River. Both Proctor Lake and the 13 miles of the Leon River immediately downstream of the dam are attaining the contact recreation use, as is the segment above Proctor Lake.

For More Information

For more information about the **TMDL Program**, visit the TCEQ Web site at www.tceq.state.tx.us/implementation/water/tmdl/.

For more information about the **Leon River Bacteria TMDL Advisory Group**, its membership, meetings, and a summary of the project, visit the group's Web page at www.tceq.state.tx.us/implementation/water/tmd/34-leon_group.html.

Or contact Kerry Niemann, TCEQ's project manager for the Leon River Bacteria TMDL, by e-mail at kniemann@tceq.state.tx.us or by phone at 512/239-0483.