



## Travis County Commissioners Court Agenda Request

**Meeting Date:** January 7, 2014

**Prepared By:** Thomas Weber, Environmental Program Manager

**Phone #:** (512) 854-4629

**Division Director/Manager:** Jon A. White, Natural Resources Environmental Quality Division Director- TNR

**Department Head:** Steven M. Manilla, P.E., County Executive-TNR

**Sponsoring Court Member:** County Judge Samuel T. Biscoe

**AGENDA LANGUAGE:** Consider and take appropriate action to approve a resolution in support of the Austin Urban Watersheds Total Maximum Daily Load (TMDL) Implementation Plan (I-Plan) proposed by the Texas Commission on Environmental Quality (TCEQ).

### **BACKGROUND/SUMMARY OF REQUEST:**

A resolution has been prepared for Commissioner Court review and approval, to formally express support for the Austin Urban Watersheds TMDL I-Plan proposed by TCEQ. TCEQ is seeking formal input on the I-Plan submitted to the agency from the Improving Austin Streams Coordination Committee on December 20, 2013. TNR has been participating with other stakeholders on the coordination committee in preparing the proposed I-Plan since late 2012. Participants have included a balanced group of interests including Transportation Natural Resources (TNR), City of Austin (COA), University of Texas (UT), Texas Department of Transportation (TXDOT), Austin Sierra Club (ASC), Home Builder Associates (HBA), Real Estate Council Austin (RECA), Greater Austin Chamber of Commerce (GACC), People Organized in Defense of Earth and her Resources (PODER), Austin Neighborhood Council (ANC), and others. If the I-Plan is adopted, it will formalize commitments by stakeholders including TNR to implement strategies to reduce bacteria pollutant loads into four local urban watersheds, including Walnut Creek, Waller Creek, Taylor Slough, and a tributary of Shoal Creek. Attached is a description of the management measures and the executive summary of the I-Plan.

### **STAFF RECOMMENDATIONS:**

Staff recommends approval of the resolution to support the draft I-Plan for Four Urban Watersheds in COA. Formalizing the support for the I-Plan shows the commitment of Travis County in implementing certain identified management measures applicable to county jurisdiction in the Walnut Creek Watershed, the only one of the four watersheds with drainage areas outside of the Austin corporate boundaries.

Travis County TNR proposes measures to:

- 1) Increase waterway setbacks from subdivision development approved by the Single Office of Review in the COA ETJ;
- 2) Provide incentives in the Walnut Creek Watershed for septic system repairs and improvements;
- 3) Focus on existing staff towards compliance inspection of water quality treatment structures, flood detention structures, and industrial operations in the Walnut Creek Watershed; and
- 4) Consider implementing innovative water quality treatment into a roadway project to reduce bacteria loads.

**ISSUES AND OPPORTUNITIES:**

The identification and commitment to management measures for the TMDL I-Plan gives TNR a jumpstart on fulfilling mandated requirements under the Travis County's Storm Water Management Program (SWMP). As a municipal separate storm sewer system (MS4) operator, TCEQ requires that the SWMP address water quality impairments to reduce bacteria pollutant loads.

**FISCAL IMPACT AND SOURCE OF FUNDING:**

No significant fiscal impacts are identified.

**ATTACHMENTS/EXHIBITS:**

TMDL I-Plan Executive Summary and Management Measures  
Draft Resolution of Support

**REQUIRED AUTHORIZATIONS:**

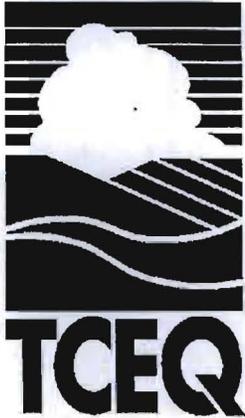
Cynthia McDonald	Financial Manager	TNR	(512) 854-4239
Steven M. Manilla	County Executive	TNR	(512) 854-9429
Jon A. White	Natural Resources Environmental Quality Division Director	TNR	(512) 854-7212

**CC:**

Thomas Weber	Enviromental Program Manager	TNR	(512) 854-4629

**Tw:TW:tw**

**0801 - NREQ - Austin Urban Watersheds Total Maximum Daily Load**



Approved for submittal to TCEQ  
By Improving Austin Streams Coordination Committee  
December 10, 2013

## Implementation Plan for Four Urban Watersheds in the City of Austin

Spicewood Tributary to Shoal Creek, Segment 1403J  
Assessment Unit 1403J\_01

Taylor Slough, Segment 1403K  
Assessment unit 1403K\_01

Walnut Creek, Segment 1428B  
Assessment Units 1428B\_01, 1428B\_02, 1428B\_03, 1428B\_04  
and 1428B\_05

Waller Creek, Segment 1429C  
Assessment Units 1429C\_02 and 1429C\_03

Water Quality Planning Division, Office of Water

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TEXAS COMMISSION ON ENVIRONMENTAL  
QUALITY

## Implementation Plan for One TMDL for Bacteria in Four Austin Stream

### Executive Summary

The Texas Commission on Environmental Quality (TCEQ) is required to regularly identify water bodies in Texas that do not support their designated uses. Human contact recreation impairment due to elevated levels of fecal indicator bacteria is the most common water quality impairment in Texas. The following four Austin creeks (shown in Figure 1) have been identified as having fecal bacteria levels higher than allowed under the contact recreation category of use assigned to them, in all or parts of their reaches:

- Walnut Creek,
- Spicewood Tributary (also known as Foster Branch) to Shoal Creek,
- Waller Creek, and
- Taylor Slough South.

The Clean Water Act requires the TCEQ to develop a total maximum daily load (TMDL) for these streams because they do not support their designated uses. The TMDLs are the calculation of the maximum amount of fecal bacteria pollution that these water bodies can receive and still safely meet state water quality standards.

The City of Austin requested the TCEQ to develop both a TMDL and to initiate an Implementation Plan (I-Plan) process for these four creeks. A Coordination Committee was formed with public input to guide development of the I-Plan simultaneously with the TCEQ's development of the TMDL. The Coordination Committee established as its goal "to develop and implement strategies to reduce fecal contamination such that the affected watersheds fully meet the contact recreation water quality standard."

This I-Plan recommends five sets of voluntary management measures to reduce nonpoint source fecal bacterial contamination in these four water bodies, relating to:

1. Riparian zone restoration. Natural riparian buffer areas can reduce instream *E. coli* bacteria concentrations when stormwater runoff is diverted through them prior to discharge into the receiving water. Urbanization has caused a degradation of some of Austin's riparian buffer zones. The restoration and enhancement of functional riparian buffers is a primary strategy in this I-plan to reduce *E. coli* bacteria concentrations in these streams and citywide.

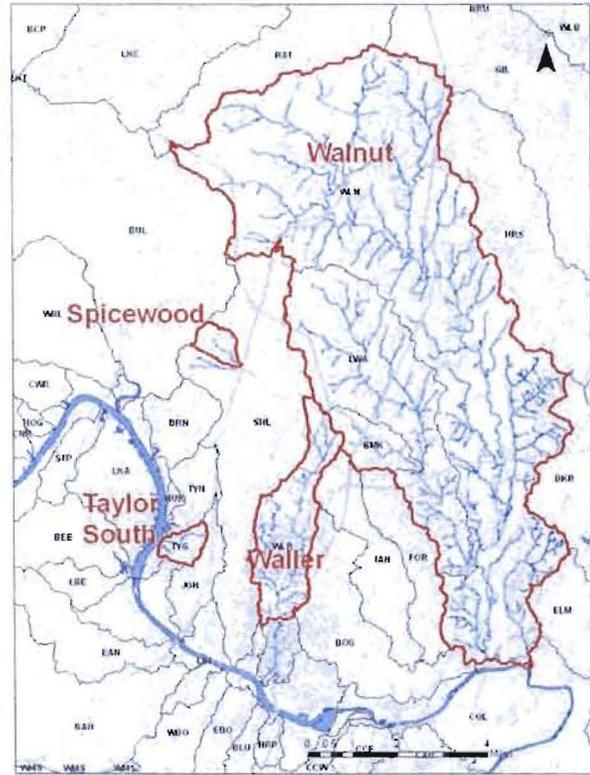


Figure 1 Map of watersheds in Austin listed as impaired for contact recreation by the TCEQ.

## Implementation Plan for One TMDL for Bacteria in Four Austin Stream

2. Wastewater infrastructure. This I-plan focuses on:
  - a. failing on-site sewage facilities or systems which do not meet capacity requirements;
  - b. inspection and repair of wastewater collection lines;
  - c. response to sanitary sewer overflows;
  - d. reducing contamination from failing private laterals through inspection initiated by backups, stoppage or overflows, and legal requirements on property owners to ensure repair of private laterals, including a lien program;
  - e. providing public toilets to reduce fecal contamination from human outdoor defecation
3. Domestic pet waste. Uncollected domestic pet waste is a significant contributor to fecal contamination in streams. Public education may be an effective tool at reducing the fecal bacteria contamination from domestic pets. This I-Plan focuses on reducing contamination from dog waste in parks and public areas through education, installation of pet waste collection bag dispensers and educational kiosks, and efforts to educate commercial and nonprofit organizations to encourage distribution of educational materials to their customers.
4. Resident outreach. Positive actions by area residents are essential to improve the quality of Austin streams. The I-Plan educational efforts are designed to let Austin residents, including neighborhood groups, school children, and the homeless, know how they can make a difference.
5. Stormwater treatment. Stormwater runoff is the dominant mechanism by which non-point source fecal loads are transported to receiving waters. Management of stormwater to reduce bacteria can be achieved with non-structural best management practices (BMP) like riparian zone enhancement or preservation or with structural BMPs like sedimentation/filtration basins.

The total TMDL for all watersheds combined is  $2.2 \times 10^{11}$  MPN/day. In total, the proposed management measures included in this Implementation Plan are estimated to result in a reduction of *E. coli*  $3.7 \times 10^{16}$  MPN/day. Although tracking the progress of the proposed management measures over time in coordination with monitoring the improvement in instream fecal indicator bacteria will be necessary to determine if the Implementation Plan achieves the stated goal, this Implementation Plan appears to achieve the load reduction of the TMDL.

In addition to these four streams, City of Austin Watershed Protection Department (WPD) monitoring has identified a wider range of watersheds in Austin that have levels of fecal indicator bacteria above State of Texas long-term standards (Figure 2), but which technically do not come within this TMDL process. The City plans to use appropriate strategies developed in this I-Plan effort for improving all streams in Austin.

# Implementation Plan for One TMDL for Bacteria in Four Austin Stream

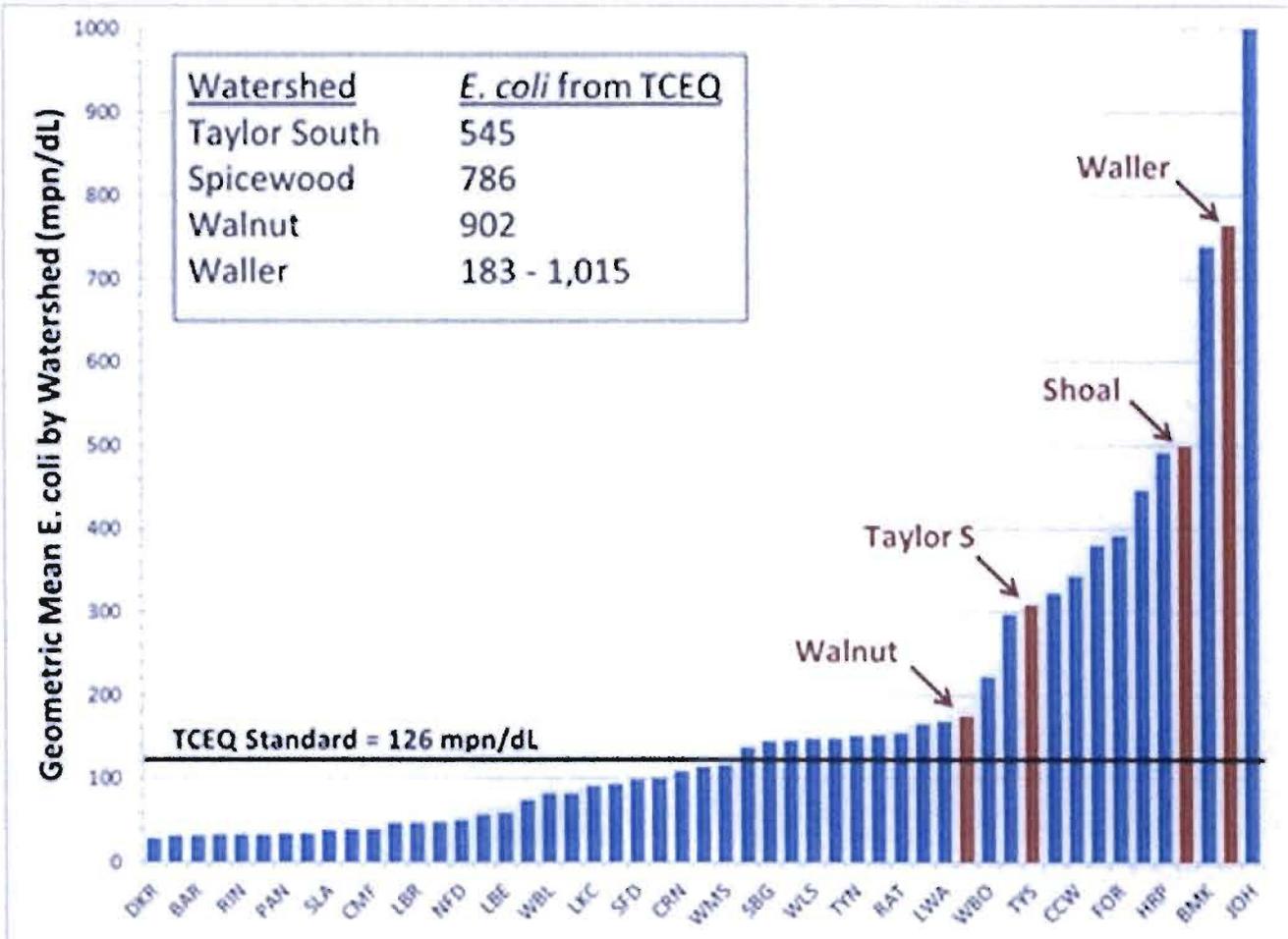


Figure 2 Chart of average E. coli by watershed in Austin. The four identified by TCEQ as impaired shown in red.

## Implementation Plan for One TMDL for Bacteria in Four Austin Stream

**Table 1 Management Measures in a Nutshell**

The IAS Coordination Committee proposes five categories of solutions to reduce bacterial levels, organized around how they will reduce pollution.

<b>1.0 Riparian Zone Restoration</b>		<b>4.0 Resident Outreach</b>	
<p>Instream bacteria concentrations are reduced when stormwater runoff filters through natural riparian buffers (vegetated areas along the creek's edge) before entering the stream. Restoring and enhancing riparian buffers along Austin area streams is a primary strategy for the four creeks in this I-plan and citywide.</p>		<p>The I-Plan focuses on education of resident, whose actions are essential to reduce bacteria in the creeks. Educational efforts will be through:</p>	
1.1	Increase riparian zones in Austin parks by expanding Grow Zone initiative <sup>1</sup>	4.1	Austin Neighborhoods Council <sup>6</sup>
1.2	Recruit adopters for all creeks and parks in the watersheds <sup>2</sup>	4.2	Austin Environmental Board <sup>7</sup>
1.3	Use volunteers to help expand Grow Zone riparian initiative <sup>2</sup>	4.3	Homeless survival guides <sup>1</sup>
1.4	Increase riparian buffer zone width for new development <sup>1</sup>	4.4	Earth Camp and other AISD campus outreach <sup>1</sup>
1.5	Increase waterway setbacks in Walnut Creek <sup>3</sup>	4.5	Austin Parks Foundation & Keep Austin Beautiful <sup>2</sup>
<b>2.0 Wastewater Infrastructure</b>		<b>5.0 Stormwater Treatment</b>	
<p>The I-plan focuses on means to reduce sewage contamination of creeks through the following means:</p>		<p>Most fecal material enters the streams through stormwater runoff. Nonstructural and structural best management practices (BMPs) will be important to reducing bacteria in the creeks.</p>	
2.1	Require failing OSSF to connect to City sewer lines, and provide incentives for connection when new mains are installed <sup>1</sup>	5.1	Install or retrofit water quality structural controls on public lands <sup>1</sup>
2.2	Provide incentives in Walnut Creek area for OSSF repair and improvements <sup>3</sup>	5.2	Inspect existing city-owned and commercial water quality controls, and repair problems as feasible <sup>1</sup>
2.3/2.4	Inspect & repair sewer lines <sup>1,4</sup>	5.3	Inspect and ensure proper operation of private water quality treatment and flood detention structures in Travis County jurisdiction <sup>3</sup>
2.5/2.6	Respond to sewer overflows <sup>1,4</sup>	5.4/5.5	Dry-weather inspection of storm drain outfalls to identify illicit connections <sup>1,4</sup>
2.7	Reduce contamination from private sewage laterals through inspection when overflows occur, ensuring repair when needed <sup>1</sup>	5.6	Pilot program test new roadway bacteria reduction technology <sup>3</sup>
2.8	Design & construct outdoor public toilets in high-use locations in Waller Creek: pilot program <sup>1</sup>	5.7	Street sweeping on UT Austin main campus <sup>4</sup>
<b>3.0 Domestic Pet Waste</b>		5.8	Construction site inspection & monitoring <sup>1</sup>
<p>Pet waste contributes significantly to stream contamination. Education is a central focus of the I-Plan efforts, as is installing mutt-mitts.</p>		5.9	Inspect commercial and industrial facilities for illicit discharges <sup>3</sup>
3.1	Educate park users through signs and citywide Scoop the Poop efforts, enforce requirements in parks to remove pet waste <sup>1</sup>	<p><b>Responsible Organization</b>                      1 City of Austin                      2 Austin Parks Foundation, Keep Austin Beautiful                      3 Travis County                      4 University of Texas at Austin                      5 Friends of Austin Dog Parks                      6 Austin Neighborhoods Council                      7 City of Austin Environmental Board                      8 Shoal Creek Conservancy/ Pease Park Conservancy                      9 PODER                      10 Sierra Club, Austin Chapter                      11 Austin Chamber of Commerce</p>	
3.2	Install pet waste bags dispenses in all City parks in watersheds <sup>1</sup>		
3.3	Place educational kiosks in Walnut Creek Park off-leash area <sup>5,1</sup>		
3.4	Educate pet-care businesses about pet waste management, seek their cooperation to distribute educational materials to their customers <sup>10,11</sup>		

# ***RESOLUTION***



## A RESOLUTION OF TRAVIS COUNTY TO SUPPORT THE AUSTIN URBAN WATERSHEDS TOTAL MAXIMUM DAILY LOAD (TMDL) IMPLEMENTATION PLAN PROPOSED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).

***Whereas,*** The Spicewood Tributary to Shoal Creek, Taylor Slough South, Walnut Creek, and Waller Creek total approximately 30 miles in length with watersheds covering 63 square miles nearly all within Travis County;

***Whereas,*** The 2012 Texas Integrated Report of Surface Water Quality identifies bacteria impairments of these four streams resulting in non-support of contact recreation uses such as swimming;

***Whereas,*** Travis County has worked with the TCEQ and local stakeholders to develop a TMDL Implementation Plan (I-Plan) as a member of the Improving Austin Streams Coordination Committee and this committee prepared management measures for eliminating or reducing bacteria pollutant loads associated with the impairments;

***Whereas,*** Travis County staff is committed to addressing the impairment of Walnut Creek by establishing specific management measures to include development requirements, compliance evaluations, and incentives to owners of on-site sewerage facilities within County jurisdiction; and

***Whereas,*** On December 20, 2013, the Improving Austin Streams Coordination Committee submitted a draft I-Plan to the TCEQ entitled *Draft Implementation Plan for Four Urban Watersheds in the City of Austin*.

NOW, THEREFORE BE IT RESOLVED BY THE TRAVIS COUNTY COMMISSIONERS COURT, THAT the Court supports the approval by the TCEQ of the December 20, 2013, *Draft Implementation Plan for Four Urban Watersheds in the City of Austin* and pledges its participation to implement the management measures in the I-Plan.

Resolved, this 7<sup>th</sup> day of January, 2014.

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**SAMUEL T. BISCOE**

*County Judge*

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**RON DAVIS**

*Commissioner, Precinct One*

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**BRUCE TODD**

*Commissioner, Precinct Two*

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**GERALD DAUGHERTY**

*Commissioner, Precinct Three*

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**MARGARET J. GÓMEZ**

*Commissioner, Precinct Four*