A Basin-Wide Approach to Address Bacterial Impairments in the Upper Trinity River Basin

Project Description

Through this project, Texas A&M AgriLife Research, Stephenville is initiating a multi-year effort to address **bacterial** impairments in basin 0805 and those impaired sub-segments contained within. The first phase of this effort entails conducting education and outreach programs to raise the general water quality awareness of citizens and potential future stakeholders in the basin, gathering and analyzing existing data, evaluating the need for Recreational Use Attainability Analyses and/or additional water quality monitoring, utilizing new EPA tools to assess the restorability of impaired water bodies in these basins, and designing the needed strategies for implementing the second phase of the effort.

Impaired & Concern Segments

Texas AgriLife will consider bacterial impairment on the following segments and assessment units (AU), identified in the 2014 Texas Integrated Report-Texas 303(d) List:

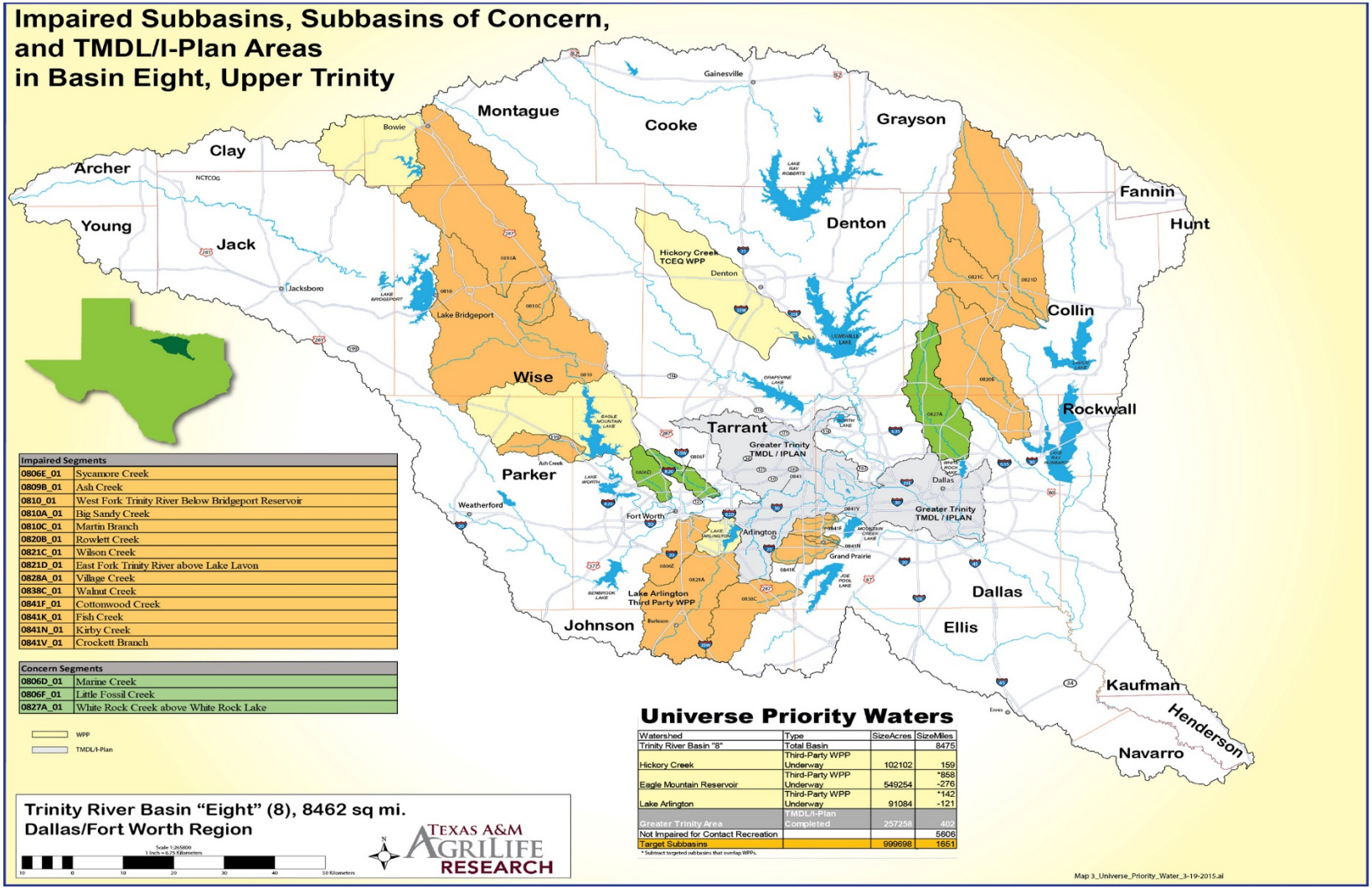
Impaired Segments

- 0806E_01 Sycamore Creek
- 0809B_01 Ash Creek
- 0810_01 West Fork Trinity River below Bridgeport Reservoir
- 0810A_01 Big Sandy Creek
- 0810C_01 Martin Branch
- 0820B_01 Rowlett Creek
- 0821C_01 Wilson Creek
- 0821D_01 East Fork Trinity River above Lake Lavon
- 0828A_01 Village Creek
- 0838C_01 Walnut Creek
- 0841F_01 Cottonwood Creek
- 0841K_01 Fish Creek
- 0841N_01 Kirby Creek
- 0841V_01 Crockett Branch

Concern Segments

- 0806D_01 Marine Creek
- 0806F_01 Little Fossil Creek
- 0827A_01 White Rock Creek above White Rock Lake

Upper Trinity River Basin Map



Impaired Segments	
0806E_01	Sycamore Creek
0809B_01	Ash Creek
0810_01	West Fork Trinity River Below Bridgeport Reservoir
0810A_01	Big Sandy Creek
0810C_01	Martin Branch
0820B_01	Rowlett Creek
0821C_01	Wilson Creek
0821D_01	East Fork Trinity River above Lake Lavon
0828A_01	Village Creek
0838C_01	Walnut Creek
0841F_01	Cottonwood Creek
0841K_01	Fish Creek
0841N_01	Kirby Creek
0841V_01	Crockett Branch

Concern Segments	
0806D_01	Marine Creek
0806F_01	Little Fossil Creek
0827A_01	White Rock Creek above White Rock Lake

Universe Priority Waters

Watershed	Type	SizeAcres	SizeMiles
Trinity River Basin "8"	Total Basin		8475
Hickory Creek	Third-Party WPP Underway	102102	159
Eagle Mountain Reservoir	Third-Party WPP Underway	549254	*858 -276
Lake Arlington	Third-Party WPP Underway	91084	*142 -121
Greater Trinity Area	TMDL/I-Plan Completed	257258	402
Not Impaired for Contact Recreation			5606
Target Subbasins		999698	1651

* Subtract targeted subbasins that overlap WPPs.

Project Partners

North Central Texas Council of Governments (NCTCOG)

Texas Institute for Applied Environmental Research (TiAER)

FY 2015 Tasks

Task 1: Project Administration

Texas A&M AgriLife Research, Stephenville provides administrative oversight of all in-house and consultant activities

Task 2: Public Education and Outreach

Texas A&M AgriLife Research, Stephenville works to facilitate general education and outreach across the 0805-Upper Trinity Basin to raise general awareness about basin management, water quality impairments, and options available to stakeholders to deal with water quality impairments. Using available data and anecdotal evidence from basin stakeholders, along with basin reconnaissance conducted by the Texas A&M AgriLife Team, Texas AgriLife, Stephenville evaluates the need and appropriateness of conducting RUAAs on any or all of the impaired water bodies in the basins.

Task 3: Developing a QAPP for Acquired Data

Texas A&M AgriLife Research, Stephenville prepares Quality Assurance Project Plans (QAPPs). All work is planned in consultation with TCEQ and will be documented in a fully approved TCEQ QAPP. As only secondary data will be collected for this project, a modeling QAPP will not be needed. No environmental data generated from direct measurement activities will be gathered for this project.

Task 4: Apply EPA Recovery Potential Screening Tools (RPST) to Impairments in the Basin

Texas A&M AgriLife Research, Stephenville staff will apply the EPA Recovery Potential Screening Tool (RPST) to the impaired water bodies in the basins individually to assess each water body's potential for water quality restoration as compared to the other. The analysis will be conducted following procedures outlined on the EPA website <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/recovery/index.cfm>.

Task 5: Summarizing Existing Water Quality Data

Texas A&M AgriLife Research, Stephenville collects known existing data, information, and previously developed reports regarding water quality and potential sources of pollution or pollutants within the basins. This information will be reviewed and summarized to provide an overall assessment of each basin, its impairments, and potential sources. To aid in this effort, geographic information system (GIS) data will be acquired and aggregated to form a working basin-wide GIS that illustrates factors with potential to influence in stream water quality. Texas A&M AgriLife Research, Stephenville will summarize the water quality data collected under this task to illustrate historical water quality in the basins and assess the potential broad-based sources of impairment.

Task 6: Initiating Texas Stream Team Program

Texas A&M AgriLife Research, Stephenville coordinates the establishment of a volunteer water quality monitoring program, the Texas Stream Team, in the project basins. The Texas Stream Team consists of a network of trained civilian monitors and agency partners that gather information about the water

quality in Texas waters. The Texas Stream Team is administered through a cooperative partnership between Texas State University, TCEQ, and the U.S. Environmental Protection Agency (EPA).

Project Performance Measure

- Based on the 303(d) VISION
- Developed by the States and EPA 2013
- Replaces the current, number of TMDLs per year, measure
- A 7 year effort
- 2016 to 2022
- The goal is approved plans for impairments

Website

http://www.nctcog.org/envir/SEEclean/wq/index.asp

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Tracking Success

Upper Trinity River Basin Eight Score Card Draft 04/29/2015			
Listed Stream Segments	Square miles		
Impaired, Plus Concern Watershed Targets		Projected completion	Cumulative percent of Targeted
*Cottonwood Creek (unclassified water body) - 0841F_01	11.5	2016	
**Fish Creek (unclassified water body) - 0841K_01	22.9		
**Kirby Creek (unclassified water body) - 0841N_01	3.1		
*Crockett Branch (unclassified water body) - 0841V_01	1.2		
Subtotal	**38.7**		2%
***West Fork Trinity River Below Bridgeport Reservoir - 0810_01	309.4	2017	
***Big Sandy Creek (unclassified water body) - 0810A_01	227.8		
***Martin Branch (unclassified water body) - 0810C_01	21.3		
Ash Creek - 0809B_01	26.6		
Subtotal	**585.1**		37%
Village Creek (unclassified water body) - 0828A_01	121.4	2018	
Walnut Creek (unclassified water body) - 0838C_01	67.3		
Subtotal	**188.7**		48%
West Fork Trinity River Below Lake Worth - 0806_02	294.7	2019	
# Marine Creek (unclassified water body) - 0806D_01	21.9		
# Little Fossil Creek (unclassified water body) - 0806F_01	19.7		
Sycamore Creek (unclassified water body) - 0806E_01	37.1		
Subtotal	**373.4**		71%
Rowlett Creek (unclassified water body) - 0820B_01	136.9	2020	
# White Rock Creek above White Rock Lake (unclassified water body) - 0827A_0	84.3		
Subtotal	**221.1**		84%
Wilson Creek (unclassified water body) - 0821C_01	76.4	2021	
East Fork Trinity River above Lake Lavon (unclassified water body) - 0821D_01	209.4		
Subtotal	**285.8**		100%
		% of Universe	
Targeted	**1692.8**	**19.98**	
Universe total	**8475.0**	**100.00**	