Texas State Soil and Water Conservation Board
State Nonpoint Source Grant Program
FY 2014 Workplan 14-57

PROJECT SUMMARY PAGE			
Title of Project	Phase 1: Data Collection and Development of Essential Components for the Mill Creek Watershed Protection Plan		
Project Goals	The goal of this project is to coordinate data collection for development of a stakeholder-driven watershed protection plan for Mill Creek.		
Project Tasks	(1) Project Administration; (2) Quality Assurance; (3) Water Quality Monitoring and Data Analysis; (4) Watershed Partnership Facilitation		
Measures of Success	Baseline work leading to the development and submission of a completed Watershed Protection Plan for Mill Creek		
Project Type	Implementation ( ); Education (X); Planning (X); Assessment (X); Groundwater ( )		
Status of Waterbody on *2012 Texas Integrated Report*	Segment ID 1202K	Parameter of Impairment or Concern Bacteria	Category 5c
Project Location (Statewide or Watershed and County)	Mill Creek and its tributaries in Austin and Washington Counties		
Key Project Activities	Hire Staff (X); Surface Water Quality Monitoring (X); Technical Assistance ( ); Education (X); Implementation ( ); BMP Effectiveness Monitoring ( ); Demonstration ( ); Planning (X); Modeling (X); Bacterial Source Tracking ( ); Other ( )		
2012 Texas NPS Management Program Reference	Component One – LTGs 1, 6, 7, 8 Component One – STGs 1C, 1D, 3D, 3G Components Two & Four		
Project Costs	$299,955		
Project Management	Texas A&M AgriLife Extension Service		
Project Period	June 1, 2014 – May 31, 2016		

Part I – Applicant Information							
Applicant							
Project Lead	Dr. Jason Mowrer						
Title	Professor, Extension Soil Nutrient and Water Resource Management						
Organization	Texas A&M AgriLife Extension Service						
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City	College Station	County	Brazos	State	TX	Zip Code	77843
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Project Co-Lead	Galen R. Roberts						
Title	Extension Program Specialist						
Organization	Texas A&M AgriLife Extension Service						
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Street Address	Extension Soil and Crop Sciences 2474 TAMU						
City	College Station	County	Brazos	State	Texas	Zip Code	77843
Telephone Number	979-845-2425			Fax Number	979-845-0604		

Project Partners	
Names	Roles & Responsibilities
Texas State Soil and Water Conservation Board (TSSWCB)	Provide state oversight and management of all project activities and ensure coordination of activities with related projects and TCEQ.
Texas A&M AgriLife Extension Service, Department of Soil and Crop Sciences (Extension)	Provide project administration, coordination.
TAMU Spatial Sciences Laboratory (SSL)	Conduct land use/land cover analysis.
Texas A&M AgriLife Research, Department of Biological and Agricultural Engineering (BAEN)	Conduct SELECT analysis, develop LDCs, and determine load reduction estimations.
Houston-Galveston Area Council (H-GAC)	Conduct targeted water quality monitoring.

Part II – Project Information								
Project Type								
Surface Water	X	Groundwater						
Does the project implement recommendations made in (a) a completed WPP, (b) an adopted TMDL, (c) an approved I-Plan, (d) a Comprehensive Conservation and Management Plan developed under CWA §320, (e) the *Texas Coastal NPS Pollution Control Program*, or (f) the *Texas Groundwater Protection Strategy*?				Yes		No	X	
If yes, identify the document.								
If yes, identify the agency/group that developed and/or approved the document.				Year Developed				

Watershed Information				
Watershed or Aquifer Name(s)	Hydrologic Unit Code (10 Digit)	Segment ID	Category on 2012 IR	Size (Acres)
Mill Creek	1207010402	1202K	5c	256,000

Water Quality Impairment

Describe all known causes (i.e., pollutants of concern) and sources (e.g., agricultural, silvicultural) of water quality impairments or concerns from any of the following sources: *2012 Texas Integrated Report*, Clean Rivers Program Basin Summary/Highlights Reports, or other documented sources.

Mill Creek (Segment 1202K) is a 256,000-acre watershed in the Brazos River Basin that is identified as impaired on the 2012 303(d) list due to bacterial contamination. Data used for the 2012 Integrated Report were 25 samples taken during the 7-year period between December 2003 and November 2010. The geometric mean of these data for *E. coli* bacteria was 177 colony forming units per 100 milliliters (cfu/100 mL), which exceeds the state standard of 126 cfu/100 mL.

The 2012 Texas Integrated Report lists the source of the bacteria impairment for Mill Creek as unknown. Watershed reconnaissance performed on Mill Creek as part of the RUAA pilot project conducted in 2007 noted that land in the watershed is used predominantly for agricultural purposes with over 56% under some form of production. The RUAA also noted the presence of two wastewater treatment plants in the watershed.

The 2010 Brazos River Basin Highlights Report indicated concerns for bacteria and an impaired fish community; suggesting that Mill Creek had poor habitat to support a large and diverse fish population. Also mentioned were likely concerns for DO, nutrients, and chlorophyll a. The 2012 and 2013 Brazos River Basin Highlights Reports identify Mill Creek as not supporting a designated use due to bacteria impairment.

Project Narrative

Problem/Need Statement

Watershed protection planning often requires 3-5 years for completion. During that extended time, stakeholder motivation can wane and result in a significant loss of project momentum. Ultimately, this effect can carry over into the implementation phase. Shortened WPP development schedules are needed to maximize stakeholder involvement and to ensure the implementation phase is robust and effective.

This project will provide critical components for expedited development of a watershed protection plan for Mill Creek. The project is unique in that it will utilize careful pre-planning and data collection to facilitate more streamlined development and acceptance of the WPP.

Mill Creek was selected due to identification on the 2012 303(d) list as impaired for *E. coli* bacteria (geometric mean = 177 cfu/100 mL). TCEQ has been sampling Mill Creek since 1974 for fecal coliform and began sampling for *E. coli* in 2001. The geomean concentration for *E. coli* since that time is 154 cfu/100 mL, above the recreational use standard of 126 cfu/100 mL. A recreational use attainability analysis was performed in 2007 for Mill Creek as a pilot study for RUAAs in Texas. Findings in that analysis identified historical and current contact recreation uses for Mill Creek, affirming the contact recreation standard of 126 cfu/100 mL as appropriate.

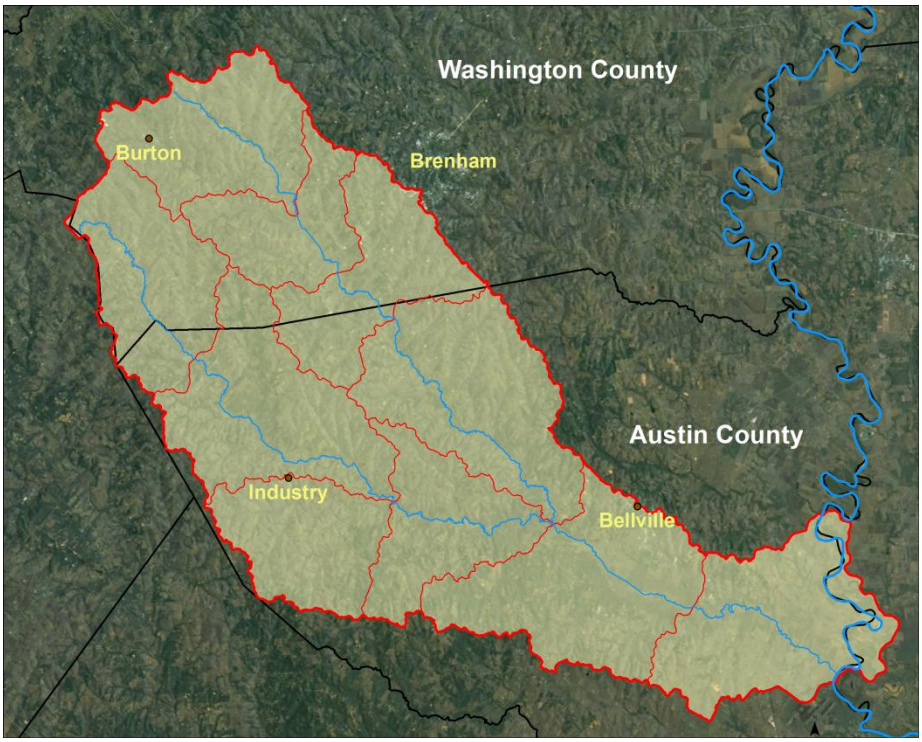
Project Narrative

General Project Description (Include Project Location Map)

This project will provide critical supporting data and information necessary for development of a stakeholder-driven watershed protection plan for Mill Creek that satisfies EPA's nine elements for acceptance, with the fundamental purpose being to promote enhanced stakeholder participation throughout the process and into the implementation phase. Baseline data collection, including land use and land cover, Spatially Explicit Load Enrichment Calculation Tool (SELECT) analysis, flow and load duration curve development, load reduction determination(s), and targeted water quality monitoring will be conducted as part of this project and in advance of the plan development process with stakeholders. This will allow all major components of essential data to be preemptively collected, analyzed, and prepared for delivery to stakeholders in an organized and efficient manner that maintains continuity of process and enables expedited plan preparation and approval. By shortening the development process, stakeholders will remain focused and engaged, and will actively transition and move forward into the implementation phase enhancing the potential for water quality improvement.

A key goal of this project is to complete the stakeholder component of plan development within 6 months. A "Local Advisory Group" will be created to support preemptive data collection and analysis efforts. The Local Advisory Group will consist of four to six selected stakeholders (landowners, agricultural producers, and city/county officials with historical knowledge and/or experience in the watershed), and local Extension, NRCS, and SWCD personnel. The purpose of the Local Advisory Group will be to offer insight and guidance on local issues of importance to the preemptive data collection and analysis process. Utilizing data and information gathered through this project, Extension will facilitate the stakeholder-driven plan development process with support from the Texas State Soil and Water Conservation Board (TSSWCB), Houston Galveston Area Council (H-GAC), and the Brazos River Authority (BRA).

The H-GAC will collect supplemental water quality data through targeted monitoring at selected locations in the watershed for eight to nine months. Sites will be selected based on watershed characteristics and input from the Local Advisory Group. These data will better enable selection, design, and targeted application of implementation measures. The TAMU SSL will conduct land use/land cover analysis with field validation. Texas A&M Research/BAEN will develop LDCs and load reduction estimates. In addition, BAEN will use SELECT analysis to distribute potential loads by source across subwatersheds to facilitate targeted implementation planning. The project will directly support the development of a comprehensive WPP that addresses all potential sources of pollution.



Mill Creek HUC 12 sub-watersheds

Tasks, Objectives and Schedules				
Task 1	Project Administration			
Costs	$39,125			
Objective	To effectively administer, coordinate, and monitor all work performed under this project including technical and financial supervision and preparation of status reports.			
Subtask 1.1	Extension will prepare electronic quarterly progress reports (QPRs) for submission to the TSSWCB. QPRs shall document all activities performed within a quarter and shall be submitted by the 15th of December, March, June and September. QPRs shall be distributed to all Project Partners.			
	Start Date	Month 1	Completion Date	Month 24
Subtask 1.2	Extension will perform accounting functions for project funds and will submit appropriate reimbursement forms to TSSWCB at least quarterly.			
	Start Date	Month 1	Completion Date	Month 24
Subtask 1.3	Extension will host coordination meetings or conference calls, at least quarterly, with project partners to discuss project activities, project schedule, communication needs, deliverables, and other requirements. Extension will develop lists of action items needed following each project coordination meeting and distribute to project personnel.			
	Start Date	Month 1	Completion Date	Month 24
Deliverables	QPRs in electronic format Reimbursement forms and necessary documentation in hard copy format			

Tasks, Objectives and Schedules				
Task 2	Quality Assurance			
Costs	$10,080			
Objective	To develop data quality objectives (DQOs) and quality assurance/control (QA/QC) activities to ensure data of known and acceptable quality are generated through this project.			
Subtask 2.1	The H-GAC and SSL along with BAEN will develop QAPPs (2) for activities in Task 3 consistent with the most recent versions of *EPA Requirements for Quality Assurance Project Plans (QA/R-5)* and the *TSSWCB Environmental Data Quality Management Plan*. All procedures and methods prescribed in the QAPP shall be consistent with the guidelines detailed in the *TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, Sediment, and Tissue (RG-415)* and *Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data (RG-416)*. [Consistency with Title 30, Chapter 25 of the Texas Administrative Code, *Environmental Testing Laboratory Accreditation and Certification*, which describes Texas' approach to implementing the National Environmental Laboratory Accreditation Conference (NELAC) standards, shall be required where applicable.]			
	Start Date	Month 1	Completion Date	Month 3
Subtask 2.2	The H-GAC, SSL, and BAEN will implement approved QAPPs, and will submit revisions and necessary amendments as needed.			
	Start Date	Month 1	Completion Date	Month 18
Deliverables	QAPPs approved by TSSWCB in both electronic and hard copy formats Approved revisions and amendments to QAPP, as needed Data of known and acceptable quality as reported through Task 3			

Tasks, Objectives and Schedules				
Task 3	Conduct water quality monitoring, modeling, and data analysis to support development of a watershed protection plan.			
Costs	$147,309			
Objective	Conduct water quality monitoring, data analysis, and resource development to support development of a watershed protection plan, including evaluation and prioritization of best management practices that if implemented in the watershed have a high potential to improve water quality.			
Subtask 3.1	The H-GAC will conduct in-stream water quality monitoring at 10-12 target locations on a monthly basis for 8-9 months for selected parameters, analyze and report the data, and participate in two Partnership meetings to share and interpret results. H-GAC will transfer monitoring data to TCEQ for inclusion in the SWQMIS at least quarterly.			
	Start Date	Month 3	Completion Date	Month 18
Subtask 3.2	The SSL at TAMU will develop land use/land cover data at the subwatershed level appropriate for SELECT analysis and provide a detailed report of procedures and results for inclusion in the WPP.			
	Start Date	Month 3	Completion Date	Month 18
Subtask 3.3	The BAEN at TAMU will prepare flow and load duration curves, conduct SELECT analysis for bacteria, and provide a detailed report of the procedures and results for inclusion in the WPP.			
	Start Date	Month 3	Completion Date	Month 18
Deliverables	Water quality data Technical reports detailing water quality, land use/land cover analysis, and modeling results			

Tasks, Objectives and Schedules				
Task 4	Watershed partnership facilitation.			
Costs	$103,441			
Objective	Texas A&M AgriLife Extension Service will work with local stakeholders and partner agencies to form a local advisory group, watershed partnership and steering committee to support the development of a watershed protection plan for Mill Creek.			
Subtask 2.1	Extension will employ an Extension Program Specialist who will serve as full-time watershed coordinator and will be responsible for general oversight and coordination of all project activities.			
	Start Date	Month 1	Completion Date	Month 24
Subtask 2.2	Extension will facilitate the development of a local advisory group, watershed partnership, and steering committee to provide stakeholder input to support project activities.			
	Start Date	Month 1	Completion Date	Month 24
Subtask 2.3	Extension will facilitate public partnership meetings to support development of a watershed protection plan for Mill Creek.			
	Start Date	Month 1	Completion Date	Month 24
Deliverables	Meeting agendas Meeting attendance lists News releases and meeting announcements			

Project Goals (Expand from Summary Page)
To coordinate data collection for development of a stakeholder-driven watershed protection plan for Mill Creek

Measures of Success (Expand from Summary Page)
Baseline work leading to the development and submission of a completed Watershed Protection Plan for Mill Creek

***2012 Texas NPS Management Program* Reference (Expand from Summary Page)**
Components, Goals, and Objectives
Component 1 – Explicit short- and long-term goals, objectives and strategies that protect surface…water LTG: To protect and restore water quality from NPS pollution through assessment, implementation and education Focus NPS abatement efforts …and available resources in watersheds identified as impacted by NPS pollution. Develop partnerships, [and] relationships …to facilitate collective, cooperative approaches to manage NPS pollution. Increase overall public awareness of NPS issues and prevention activities. Enhance public participation and outreach by providing forums for…ideas and concerns about the water quality management process. STG One – Data Collection and Assessment: Coordinate with appropriate federal, state, regional, and local entities, and stakeholder groups to target water quality assessment activities...where additional information is needed. Objective C – Conduct special studies to determine sources of NPS pollution and gain information to target water quality planning and BMP implementation. Objective D – Develop TMDLs, I-Plans, and WPPs to maintain and restore water quality in water bodies identified as impacted by NPS pollution. STG Three – Education: Conduct education and technology transfer activities to help increase awareness of NPS pollution and activities which contribute to the degradation of water bodies… by NPS pollution. Objective D – Conduct outreach through the CRP, AgriLife Extension, SWCDs, and others to enable stakeholders and the public to participate in decision-making…complete understanding… to each citizen. Objective G – Implement public outreach and education to restore water quality in water bodies impacted by NPS pollution.
Component 2 – Working partnerships… to appropriate State, …regional, and local entities, private sector groups, and Federal agencies.
Component 4 – Abatement of known water quality impairments from NPS pollution and prevention of significant threats to water quality from present and future NPS activities.

Part III – Financial Information

Budget Summary		
Category	**Costs**	
Personnel	$	129,612
Fringe Benefits	$	31,400
Travel	$	14,808
Equipment	$	0
Supplies	$	10,400
Contractual	$	66,530
Construction	$	0
Other	$	13,497
Total Direct Costs	$	266,247
Indirect Costs (≤15%)	$	33,708
Total Project Costs	$	299,955

Budget Justification		
Category	Total Amount	Justification
Personnel	$ 129,612	• Project Director (0.042 FTE yrs 1 and 2) • 1-3 Program Specialists (0.5 FTE yrs 1 and 2) • Assistant Professor (0.055 FTE yrs 1 and 2) • Assistant Professor (0.053 FTE yrs 1 and 2) • 1-2 Graduate Research Assistants (1.0 FTE yr 1) • 1-2 Student Workers (0.5 FTE yrs 1 and 2)
Fringe Benefits	$ 31,400	Fringe benefits are calculated at a rate of 17.7% of salary to cover FICA, UCI, WCI, and retirement. An additional $591/month (prorated by % FTE) is calculated for group medical insurance. Estimates are in accordance with TAMUS Office of Budget & Accounting procedures established for FY2014.
Travel	$ 14,808	Funds will be used to Travel to and from the watershed for stakeholder and steering committee meetings (up to 48 trips x mileage @ 56¢/mile for trips ranging from 150-200 miles roundtrip = $4,800); Travel to the watershed for data collection (up to 20 trips x mileage @ 56¢/mile for trips ranging from 400-500 miles roundtrip = $5,000); Participate in state meetings (Clean Rivers Program Basin Steering Committees, the Texas Watershed Planning Short Course, Texas Watershed Coordinator Roundtables, and the TSSWCB Regional Watershed Coordination Steering Committee) (up to 3 trips x mileage @ 56¢/mile for trips ranging from 400-500 miles roundtrip = $751); and support professional development for Program Specialists (national and state conferences) (up to 3 trips x 3 nights x 1 individual x $473/night for transportation and lodging = $4,257)
Equipment	$ 0	N/A
Supplies	$ 10,400	Printing Supplies ($2,500); brochures and fact sheets ($300); computer costs including hardware & software for BAEN ($2,500) SSL ($2,500) and Extension ($2,600);
Contractual	$ 66,530	Water quality monitoring by H-GAC
Construction	$ 0	N/A
Other	$ 13,497	Computer services ($1,817); cell phone and service plan ($1,100); advertising ($3,000); conference fees ($3,580), quality assurance services ($4,000).
Indirect	$ 33,708	15% of Total Direct minus Contractual >$25,000