Texas State Soil and Water Conservation Board
State General Revenue Nonpoint Source Grant Program
FY 2010 Project 10-53 Workplan

PROJECT SUMMARY PAGE			
Title of Project	Recreational Use Attainability Analysis for Mid Pecan Bayou		
Project Goals/Objectives	• To collect the needed data to evaluate factors affecting attainment of recreational use in Segment 1431 • To facilitate public participation and coordinate stakeholder involvement to ensure that decision-making is founded on local input and that watershed action is successful • To assess possible sources of bacteria by developing a comprehensive GIS inventory, evaluating historical water quality data, and conducting a watershed source survey		
Project Tasks	(1) Project Administration; (2) Quality Assurance; (3) Assess Attainability of Recreation Use; (4) Public Participation and Stakeholder Coordination; (5) Survey and Inventory Possible Bacteria Sources		
Measures of Success	• Decision-making for RUAA is founded on local stakeholder input • Obtain access to private lands to conduct RUAA surveys • Complete two RUAA surveys at each selected site • Keep landowners and stakeholders informed regarding the RUAA • Factors affecting attainment of recreation use are assessed		
Project Type	Implementation ( ); Education ( ); Planning ( ); Assessment (X)		
Status of Waterbody on 2008 Texas Water Quality Inventory and 303(d) List	Segment ID 1431 Mid Pecan Bayou	Parameter Bacteria	Category 5c
Project Location (Statewide or Watershed and County)	Mid Pecan Bayou watershed in Brown County		
Key Project Activities	Hire Staff (X); Surface Water Quality Monitoring (X); Technical Assistance ( ); Education ( ); Implementation ( ); BMP Effectiveness Monitoring ( ); Demonstration ( ); Planning ( ); Modeling ( ); Bacterial Source Tracking ( ); Other (X)		
Texas NPS Management Program Elements	• Element 1 – Long Term Goal Objectives A, G • Element 1 – Short Term Goals 1A, 1B, 1C, 3D, 3F • Elements 2, 5		
Project Costs	$121,443		
Project Management	• Texas AgriLife Research and Extension Center at Stephenville • Texas Institute for Applied Environmental Research		
Project Period	August 1, 2010 – February 29, 2012		

Part I – Applicant Information

Applicant							
Project Lead	Dr. Larry Beran						
Title	Senior Research Scientist						
Organization	Texas AgriLife Research and Extension Center at Stephenville						
E-mail Address	lberan@ag.tamu.edu						
Street Address	1229 North US Highway 281						
City	Stephenville	County	Erath	State	Texas	Zip Code	76401
Telephone Number	254-968-4144			Fax Number	254-965-3759		

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 AgriLife Research and Extension Center at Stephenville (AgriLife-SV)	Responsible for all project activities and tasks. Responsible for project administration. Develop and maintain relationships with landowners and stakeholders.
Texas Institute for Applied Environmental Research (TIAER)	Assist in public meetings, develop Monitoring Plan and QAPP, lead in performing surveys for RUAA, lead in performing survey and inventory of potential bacteria sources, lead in developing Technical Reports.
Pecan Bayou Soil and Water Conservation District #553	Collaborate as critical local stakeholders and play a lead role in communicating with other local stakeholders.

Part II – Project Information

Watershed Information				
Watershed Name	Hydrologic Unit Code (8 Digit)	Segment ID	305(b) Category	Size (Acres)
Mid Pecan Bayou	12090197	1431	5c	67,600

Water Quality Impairment

Describe all known causes of water quality impairments from any of the following sources: 2008 Texas Water Quality Inventory and 303(d) List, Clean Rivers Program Basin Summary/Highlights Reports, or other documented sources.

Mid Pecan Bayou (Segment 1431) is comprised of a single assessment unit (1431_01) representing the entire waterbody, which is defined as Pecan Bayou from a point immediately upstream of the confluence of Mackinally Creek in Brown County to a point immediately upstream of Willis Creek in Brown County.

Segment 1431 is not supporting the contact recreation use due to excessive bacteria, specifically the geometric mean *E. coli* concentration of assessment data. There is also a concern due to exceedances of nutrient screening levels; specifically nitrate, orthophosphorus, and total phosphorus.

Both the impairment and concern are attributed to the same sources: municipal point source discharges and agricultural nonpoint sources.

Project Narrative

Problem/Need Statement

The Mid Pecan Bayou watershed is largely rural, though the northwest area of the watershed includes portions of the City of Brownwood. Willis Creek, the most upstream tributary to Mid Pecan Bayou, receives the discharge from the City of Brownwood Wastewater Treatment Facility and also provides drainage for a portion of Brownwood. This segment of Pecan Bayou is located in Brown County basically south of the City of Brownwood. Road crossings are far between on this 13 mile creek segment, and the only two road crossings are FM 2126 and CR 257. The land adjacent to Mid Pecan Bayou reflects the rural nature of the watershed with a wooded riparian zone of variable width existing along almost its entire length and cultivated fields, improved pasture and range/wooded areas predominating outside the riparian zone.

The TCEQ and the TSSWCB established a joint, technical Task Force on Bacteria TMDLs in September 2006 charged with making recommendations on cost-effective and time-efficient bacteria TMDL development methodologies. The Task Force recommended the use of a three-tier approach that is designed to be scientifically credible and accountable to watershed stakeholders. The tiers move through increasingly aggressive levels of data collection and analysis in order to achieve stakeholder consensus on needed load reductions and strategies to achieve those reductions. In June 2007, the TCEQ and the TSSWCB adopted the principles and general process recommended by the Task Force. Fundamental in the three-tier approach is ensuring that the appropriate water quality standard (i.e., designated use) is applied to the waterbody before initiating any watershed planning activity (e.g., TMDL or WPP).

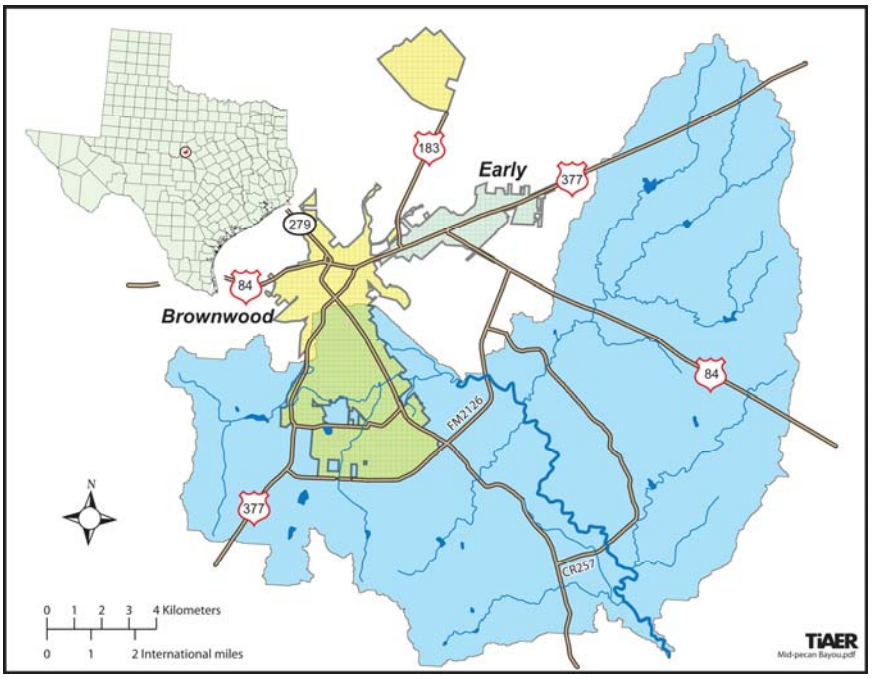
Major revisions to the Texas Surface Water Quality Standards (TSWQS) have been adopted by TCEQ, including modifications to contact recreation use and bacteria criteria. As part of this process, TCEQ developed procedures for conducting recreational Use Attainability Analyses (UAAs). In order for a new category of recreational use or a different bacteria water quality criterion to be applied to a waterbody, an RUAA will need to be conducted. TCEQ and TSSWCB have collaborated on developing a list of priority waterbodies for collecting information needed for RUAAs; Mid Pecan Bayou is on that list.

Mid Pecan Bayou was assessed in 2008 has having a geometric mean *E. coli* concentration of 282 cfu/100 mL. The geometric mean falls between the criterion for primary contact recreation (126 cfu/100 mL) and secondary contact recreation 1 (630 cfu/100 mL) in the recently adopted revisions to the TSWQS. Since it is not known with certainty that recreational use in Mid Pecan Bayou occurs, the findings from an RUAA will provide additional information regarding the level of recreation use occurring in Segment 1431.

In accordance with the *Memorandum of Agreement Between the TCEQ and the TSSWCB Regarding TMDLs, Implementation Plans, and Watershed Protection Plans*, the TSSWCB has agreed to take the lead role in conducting an RUAA in the study area. Through this project, the TSSWCB, AgriLife-SV, and TIAER will work with local stakeholders to progress through the data collection components of an RUAA and at the end of this project have adequate data that either supports the existing designated use (primary contact recreation) or supports a change in designated use (secondary contact recreation).

Project Narrative

General Project Description (Include Project Location Map)



This project consists of performing a Comprehensive RUAA on Mid Pecan Bayou (Segment 1431) for the purpose of ascertaining the level of recreational use occurring in the bayou. This project will adhere to the procedures provided in the *TCEQ Procedures for a Comprehensive RUAA and a Basic RUAA Survey*.

This Comprehensive RUAA of Mid Pecan Bayou consists of 3 main tasks: a) conducting the required two surveys of Mid Pecan Bayou, b) public participation and stakeholder interaction and c) evaluation of historical bacterial water quality data and survey of possible bacteria sources.

RUAA survey site selection is predicated on the public participation and stakeholder interaction task discussed later. Opportunities for site selection will arise from interacting with stakeholder, which will be followed by a reconnaissance trip. Based on findings of the reconnaissance trip, the survey sites will be selected.

Two surveys will be conducted at each of the selected sites by TIAER. Each survey will be conducted per the most recently applicable TCEQ RUAA guidance and will include collection of transect information along a stretch of the bayou at each site, a streamflow measurement at each site, numerous physical observations, and collection of survey information from individuals either actively recreating at each site or knowledgeable of the site and Mid Pecan Bayou, in general. Each survey will be performed at a time of year and under weather and hydrologic conditions conducive to observing recreational use on Mid Pecan Bayou, which means when air temperatures are warm to hot (>70º F). Field surveys will be conducted during the period people would most likely be using the waterbody for contact recreation. A historical information review will be conducted on recreation use that occurred on Mid Pecan Bayou on and after November 28, 1975.

TIAER will design and conduct a watershed source survey that better characterizes the possible sources of bacteria loadings. Local stakeholders and technical experts will be consulted in the development of the source survey, which will represent warm and cool seasons and low and high flow conditions. Locations of possible bacteria sources identified during the source survey will be incorporated into the GIS inventory.

The public education and stakeholder interaction task is critical to the success of the project. This task will be performed by AgriLife-SV to accomplish two complimentary goals – obtaining landowner permission for access to sites along Mid Pecan Bayou and ensuring that decision-making regarding the RUAA is founded on local input. A public meeting will be held where the RUAA process is described and solicitation is made for access to the waterbody. Direct interaction with affected city councils, county commissioners courts, and SWCDs will occur. Any necessary follow-up meetings will be conducted to further communicate the RUAA process and to obtain landowner permission for access to the bayou. A final public meeting will be conducted to present findings of the RUAA surveys.

Tasks, Objectives and Schedules				
Task 1	Project Administration			
Costs	$6,006			
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	AgriLife-SV 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 March, June, September and December. QPRs shall be distributed to all project partners.			
	Start Date	Month 1	Completion Date	Month 19
Subtask 1.2	AgriLife-SV 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 19
Subtask 1.3	AgriLife-SV will host coordination meetings, conference calls, or TTVN meetings with TSSWCB and TIAER at least quarterly to discuss project activities, project schedule, communication needs, deliverables, and other requirements. AgriLife-SV will develop lists of action items needed following each project coordination meeting and distribute to project personnel.			
	Start Date	Month 1	Completion Date	Month 19
Deliverables	• Quarterly progress reports in electronic format • Reimbursement Forms and necessary documentation in hard copy format • List of action items needed from project coordination meetings			

Tasks, Objectives and Schedules				
Task 2	Quality Assurance			
Costs	$7,035			
Objective	To develop and implement 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	TIAER will develop a QAPP 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*. 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 standards, shall be required. All monitoring 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)*. All procedures and methods prescribed in the QAPP shall be consistent with the guidelines detailed in the latest version of the *TCEQ Procedures for a Comprehensive RUAA and a Basic RUAA Survey*.			
	Start Date	Month 1	Completion Date	Month 2
Subtask 2.2	TIAER will implement the approved QAPP. TIAER will submit revisions and necessary amendments to the QAPP as needed.			
	Start Date	Month 3	Completion Date	Month 18
Deliverables	• QAPP 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	Assess Attainability of Recreational Use			
Costs	$35,479			
Objective	To collect information that can be used to evaluate factors affecting attainment of recreational use in Mid Pecan Bayou			
Subtask 3.1	TIAER will conduct at least one reconnaissance trip to assess potential survey sites. The reconnaissance trip(s) will be a follow-up on the interaction with landowners under Task 4. The goal will be to have approximately 3 sites per 5 miles of river (approximately 8 sites) of which 2 sites will be at the two public access points (road crossings).			
	Start Date	Month 1	Completion Date	Month 4
Subtask 3.2	Utilizing information from subtask 5.1 (comprehensive GIS inventory), subtask 3.1 (reconnaissance trip), Task 4 (public input), and other relevant information, TIAER will identify sites for RUAA data collection. Proposed sites should be located in areas where the waterbody is accessible to the public and has the highest potential for recreational use (primary contact). Because public access is limited along this waterbody, other sites will also be selected for the purpose of characterizing the physical characteristics of the stream to assist in determining the potential level of recreation use that can be supported. The sites should be well-spaced and, in general, distributed such that there are 3 sites for every 5 miles of stream.			
	Start Date	Month 1	Completion Date	Month 4
Subtask 3.3	TIAER shall conduct a thorough historical information review of the recreational uses of the waterbody back to November 28, 1975. Historical resources that should be examined include, but are not limited to, photographic evidence, local newspapers, museum collections, published reports, historical society records, and long-term landowners/residents. Texas Parks and Wildlife Department and commercial providers of outdoor recreation goods and services should be consulted for historical information.			
	Start Date	Month 1	Completion Date	Month 12
Subtask 3.4	TIAER will conduct 2 field surveys at each selected site. Surveys shall be conducted during a normal warm season (air temperature ≥ 70°F) during baseflow conditions. Baseflow conditions are sustained or typical dry, warm-weather flows between rainfall events, excluding unusual antecedent conditions of drought or wet weather. The surveys should be performed during the period people would most likely be using the waterbody for contact recreation, typically March to October (e.g., spring break, summer, holidays or weekends). To ascertain the suitability of the streams for contact recreation use, field surveys shall document hydrological characteristics of the stream, such as width and depth of channel and substantial pools, flow/discharge, air/stream temperature, bank access, and stream substrate. Information to be collected shall at least satisfy those questions found on the Field Data Sheet from the latest version of the *TCEQ Procedures for a Comprehensive Recreational UAA and a Basic UAA Survey*. TIAER shall document and describe antecedent (prior to fieldwork) rainfall conditions (approximately the previous 30 days) at each selected site.			
	Start Date	Month 11	Completion Date	Month 15
Subtask 3.5	TIAER shall collect a digital photographic record of each selected site during the field surveys. Photographs shall include upstream, left and right bank, and downstream views. Any evidence of observed uses or indications of human use shall be photographed. Photographs should clearly depict the entire channel and each transect measured.			
	Start Date	Month 11	Completion Date	Month 15
Subtask 3.6	In order to obtain information on existing and historical uses and stream characteristics, TIAER shall conduct interviews of 1) users present during the field surveys, 2) streamside landowners along the field survey transects, 3) local residents, and 4) commercial providers of outdoor recreation goods and services. Surveys shall include at least those questions found on the Interview Form from the latest version of the *TCEQ Procedures for a Comprehensive Recreational UAA and a Basic UAA Survey*.			

	Start Date	Month 11	Completion Date	Month 15
Subtask 3.7	TIAER will combine findings from historical information review, field surveys, and user interviews into a Technical Report that shall at least include those contents described for a Comprehensive RUAA in the latest version of the *TCEQ Procedures for a Comprehensive Recreational UAA and a Basic UAA Survey*.			
	Start Date	Month 14	Completion Date	Month 19
Deliverables	• Contact Information Form from the latest version of the *TCEQ Procedures for a Comprehensive Recreational UAA and a Basic UAA Survey* • Field Data Sheets and Data Summary in electronic format • Digital photographic record, cataloged in an appropriate manner • Interview Forms and Data Summary in electronic format • Technical Report summarizing historical information review, field surveys, and user interviews			

Tasks, Objectives and Schedules				
Task 4	Public Participation and Stakeholder Coordination			
Costs	$41,723			
Objective	To facilitate public participation and coordinate stakeholder involvement to ensure that decision-making is founded on local input and that watershed action is successful.			
Subtask 4.1	AgriLife-SV will facilitate public participation activities and coordinate stakeholder involvement in the project. AgriLife-SV will develop (Months 1-2) and maintain (Months 3-19) a list of stakeholders likely to be affected by this project.			
	Start Date	Month 1	Completion Date	Month 19
Subtask 4.2	AgriLife-SV will provide logistical support for public meetings, including, but not limited to, securing meeting facilities, preparing/disseminating meeting notices and agendas, and preparing meeting summaries. At a minimum, public stakeholder meetings shall consist of an initial public meeting (Month 3), a source survey design meeting (subtask 5.3) (Month 4), a project update meeting (Month 10), and a meeting presenting final Technical Reports (Month 18). A primary objective of the public meetings is to solicit landowner permission for private-land access to Mid Pecan Bayou for survey sites. TIAER will participate in all public stakeholder meetings.			
	Start Date	Month 1	Completion Date	Month 19
Subtask 4.3	AgriLife-SV, and TIAER as appropriate, will attend and participate in other public meetings, including, but not limited to, city council meetings, county commissioners court meetings, SWCD meetings, and LCRA Clean Rivers Program Steering Committee and Coordinated Monitoring meetings, in order to communicate project goals, activities, and accomplishments to affected parties.			
	Start Date	Month 1	Completion Date	Month 19
Subtask 4.4	AgriLife-SV will develop and disseminate educational materials to watershed stakeholders, including, but not limited to, flyers, brochures, letters, and news releases. AgriLife-SV will provide information to LCRA for inclusion in the Clean Rivers Program Basin Summary Report and Basin Highlights Report.			
	Start Date	Month 1	Completion Date	Month 19
Deliverables	• Stakeholder contact list, updated as appropriate • Public meeting notices, agendas, materials, summaries and lists of attendees • Educational materials, as developed and disseminated • List of other meetings attended and dates with brief summary of topics discussed and action needed included in QPRs. • Information developed for inclusion in Clean Rivers Program materials			

Tasks, Objectives and Schedules				
Task 5	Survey and Inventory Possible Bacteria Sources			
Costs	$31,200			
Objective	To develop a comprehensive GIS inventory for the study area, evaluate historical water quality data, and to assess the possible sources of bacteria loadings by conducting a watershed source survey.			
Subtask 5.1	TIAER will develop a comprehensive GIS inventory for the study area. Data should include the most recent information available on land use/land cover classification, elevation, soils, stream networks, reservoirs, roads, public parklands, municipalities and satellite imagery or aerial photography. Locations of SWQM stations, USGS gages, public access points to the waterbodies, floodwater-retarding structures, wetlands, TPDES permittees (including WWTFs, CAFOs and MS4s), and subdivisions should also be included. Sites permitted for land application of sewage sludge and septage should be included. Locations of possible bacteria sources, identified in Subtask 5.4, should be incorporated. The cumulative impact of TSSWCB-certified WQMPs on the management of agricultural and silvicultural lands should be documented.			
	Start Date	Month 1	Completion Date	Month 6
Subtask 5.2	TIAER will conduct a historical data review for the waterbody in order to assess and characterize trends and variability in water quality, specifically bacteria. Historical data collection activities should concentrate on 1) ambient water quality data; 2) streamflow and water level data; 3) precipitation records; and 4) permitted facilities, discharges, and effluent quality. At a minimum, U.S. Geological Survey (USGS), National Weather Service (NWS), Texas Parks and Wildlife Department (TPWD), Texas Water Development Board (TWDB), Lower Colorado River Authority (LCRA), TCEQ, and EPA should be queried for data related to the study area.			
	Start Date	Month 1	Completion Date	Month 12
Subtask 5.3	AgriLife-SV and TIAER will facilitate a meeting of local stakeholders and technical experts to design a source survey (also known as a sanitary survey) that better characterizes the possible sources of bacteria loadings. The source survey should be developed so that it represents warm and cool seasons and low and high flow conditions. The source survey should evaluate sources like WWTFs, central sewage collection systems, OSSFs, and MS4s. TPDES compliance issues should be examined. Wildlife, livestock and non-domestic animal populations should be examined. Technical experts should include at least one representative, as appropriate to their jurisdiction and interest, from TPWD, Texas Department of Agriculture (TDA), TCEQ, Texas AgriLife Extension Service, Texas Forest Service (TFS), USGS, U.S. Fish and Wildlife Service (USFWS), USDA Natural Resources Conservation Service (USDA-NRCS), USDA Agricultural Research Service (USDA-ARS), LCRA, and affected municipalities, counties and SWCDs.			
	Start Date	Month 1	Completion Date	Month 4
Subtask 5.4	TIAER will conduct the source survey in the study area as designed in Subtask 5.3.			
	Start Date	Month 5	Completion Date	Month 16
Deliverables	• Technical Report describing the comprehensive GIS inventory and results from the source survey, and characterizing trends and variability in historical water quality monitoring data			

Project Goals (Expand from Summary Page)

- To collect needed data to evaluate factors affecting attainment of recreational use in Segment 1431 by collecting all necessary data required for a Comprehensive RUAA; specifically, observations and physical measurements will be made of Mid Pecan Bayou at several locations, survey information will be obtained from landowners familiar with the watershed and persons observed recreating in or near the bayou, and review of historical records in Brown County.
- To facilitate public participation and coordinate stakeholder involvement to ensure that decision-making is founded on local input and that watershed action is successful by hosting and conducting public meetings, disseminating informational materials, and direct interaction with affected local entities.
- To assess possible sources of bacteria by developing a comprehensive GIS inventory, evaluating historical water quality data, and conducting a watershed source survey.

Measures of Success (Expand from Summary Page)

- Decision-making for RUAA activities is founded on local stakeholder input garnered at public meetings hosted for project and direct interaction with affected local entities
- Obtain access to private lands to conduct RUAA surveys by obtaining permission from private landowners to gain access to survey sites on the Mid Pecan Bayou through their property; approximately 8 sites are needed
- Complete two RUAA surveys at each selected site as described in TCEQ's RUAA guidance
- Keep landowners and stakeholders informed regarding this RUAA through public meetings; a final public meeting where findings of the RUAA are presented constitutes this measure of success.
- Factors affecting attainment of recreation use are assessed and adequate data of known and acceptable quality is provided that either supports the existing use or supports changing the water quality standard

2005 Texas Nonpoint Source Management Program Reference (Expand from Summary Page)

Goals and/or Milestone(s)
Element 1 – Explicit short- and long-term goals, objectives and strategies that protect surface… water
Long Term Goal – Objective A – Focus NPS abatement efforts, implementation strategies, and available resources in watersheds identified as impacted by NPS pollution.
Long-Term Goal – Objective G – Enhance public participation and outreach by providing forums for citizens… to contribute their ideas and concerns about the water quality management process.
Short-Term Goal One – Data Collection and Assessment – Objective A – Identify… waterbodies… from the Texas Water Quality Inventory and 303(d) List… that need additional information to characterize non-attainment of designated uses and quality standards.
Short-Term Goal One – Data Collection and Assessment – Objective B – Ensure that monitoring procedures meet quality assurance requirements and are in compliance with EPA-approved… TSSWCB Quality Management Plan.
Short-Term Goal One – Data Collection and Assessment – Objective C – Conduct special studies to determine sources of NPS pollution and gain information…
Short-Term Goal Three – Education – Objective D – Conduct outreach through the Clean Rivers Program, …SWCDs, and others to facilitate broader participation and partnerships [to] enable stakeholders and the public to participate in decision-making and provide a more complete understanding of water quality issues and how they relate to each citizen.
Short-Term Goal Three – Education – Objective F – Implement public outreach and education to maintain and restore water quality in waterbodies impacted by NPS pollution.
Element 2 – Working partnerships and linkages to appropriate state, interstate, tribal, regional, and local entities, private sector groups, and Federal agencies.
Element 5 – The state program identifies water and their watersheds impaired by NPS pollution…, the state establishes a process to progressively address these identified waters by conducting more detailed watershed assessments…

Part III – Financial Information

Budget Summary	
Category	**Costs**
Personnel	$ 31,807
Fringe Benefits	$ 4,086
Travel	$ 570
Equipment	$ 0
Supplies	$ 94
Contractual	$ 68,790
Construction	$ 0
Other	$ 256
Total Direct Costs	$ 105,603
Indirect Costs (≤15%)	$ 15,840
Total Project Costs	$ 121,443

Budget Justification		
Category	Costs	Justification
Personnel	$ 31,807	• Senior Research Scientist (10%) for 19 months • Research Assistant (12%) for 19 months
Fringe Benefits	$ 4,086	Calculated at 17.1% of personnel salary plus group health insurance
Travel	$ 570	Travel for reconnaissance trip, public and stakeholder meetings, and RUAA surveys – includes lodging, per diem, vehicle rental, and gas expenditures
Equipment	$ 0	
Supplies	$ 94	Miscellaneous presentation materials and supplies
Contractual	$ 68,790	TIAER – performance of RUAA/Bacteria Source field work and other tasks
Construction	$ 0	
Other	$ 256	Miscellaneous charges such as postage
Indirect	$ 15,840	Calculated at 15% of Total Direct Cost
SOURCE	TSSWCB will provide $121,443 in non-federal funds sourced from state appropriations (FY2010 General Revenue) through the Nonpoint Source Grant Program to Texas AgriLife Research.	

Contractual Budget Justification – TIAER		
Category	Costs	Justification
Personnel	$ 40,486	All percentages based on % project time for 18 months. • Jason Westbrook (Assist. Res. Sci., 11%) will be TIAER project manager and will perform administrative duties and oversee the RUAA Surveys. • Tim Jones (Sr. Res. Assoc., 14%) will be a key staff member on all project aspects including the RUAA surveys and bacteria source surveys. • Additional assistance for the RUAA surveys will be provided by field staff, most likely including Abel Martinez (Res, Assoc.; 2%) and Jeff Stroebel (Res. Assoc.; 2%). • Jimmy Millican (Sr. Res. Assoc.; 7%) will provide the lead on the data collection and analysis aspects of the bacteria source surveys with assistance from Jim Rogers (Sr. Prog. Analyst, 2%). • QAO duties are provided by Nancy Easterling (Res. Assoc., 2%). • GIS support will be provided by Todd Adams (Res. Assoc., 7%). • Overall project quality control and review by Larry Hauck (Lead Sci., 2%).
Fringe Benefits	$ 11,045	Calculated based on Tarleton fringe rate for each staff member, avg. of 27.3%.
Travel	$ 7,866	Travel for reconnaissance trip, public and stakeholder meetings, two RUAA surveys, and bacteria source surveys – includes lodging, per diem, vehicle rental, and gas expenditures.
Equipment	$ 0	
Supplies	$ 360	Miscellaneous field supplies such as survey stakes, ice, batteries
Contractual	$ 0	
Construction	$ 0	
Other	$ 60	Miscellaneous charges for postage, shipping, overnight
Indirect	$ 8,973	Calculated at 15% of Total Direct Cost