



**Texas State Soil and Water Conservation Board  
 Clean Water Act §319(h) Nonpoint Source Grant Program  
 FY 2010 Project Workplan 10-06**

**SUMMARY PAGE**

<b>SUMMARY PAGE</b>						
Title of Project	Water Quality Monitoring in the Buck Creek Watershed and Facilitation of Buck Creek Watershed Partnership					
Project Goals	<ul style="list-style-type: none"> <li>Maintain surface water quality monitoring and data collection at previously monitored sites in the Buck Creek watershed</li> <li>Maintain stakeholder coordination and engagement</li> </ul>					
Project Tasks	<ol style="list-style-type: none"> <li>Project Administration</li> <li>Quality Assurance</li> <li>Water Quality Data Collection and Analysis</li> <li>Maintain Stakeholder Communication</li> </ol>					
Measures of Success	<ul style="list-style-type: none"> <li>Monthly surface water quality monitoring at seven locations along Buck Creek</li> <li>Development and distribution of 4 semi-annual newsletters to watershed stakeholders</li> <li>Continued operation and maintenance of project website</li> <li>Increase in stakeholder involvement in watershed planning process</li> </ul>					
Project Type	Implementation ( ); Education ( ); Planning ( ); Assessment (X); Groundwater ( )					
Status of Waterbody on 2008 Texas Water Quality Inventory and 303(d) List	<u>Segment ID</u> 0207A: Buck Creek	<u>Parameter</u> Bacteria Nitrates	<u>Category</u> 5c concern			
Project Location (Statewide or Watershed and County)	Buck Creek watershed in Childress, Collingsworth and Donley counties					
Key Project Activities	Hire Staff (X); Surface Water Quality Monitoring (X); Technical Assistance ( ); Education (X); Implementation ( ); BMP Effectiveness Monitoring ( ); Demonstration ( ); Planning ( ); Modeling ( ); Bacterial Source Tracking ( ); Other ( )					
Texas NPS Management Program Elements	<ul style="list-style-type: none"> <li>E1, LTG 1, 2, 3, 6; STG 1B, 1E, 3F</li> <li>E3</li> </ul>					
Project Costs	Federal:	\$115,566	Non-Federal:	\$77,114	Total:	\$192,680
Project Management	<ul style="list-style-type: none"> <li>Texas Water Resources Institute</li> <li>Texas AgriLife Research, Vernon Research and Extension Center</li> </ul>					
Project Period	November 1, 2010 – April 30, 2013					

## Part I – Applicant Information

Applicant							
Project Lead	Kevin Wagner						
Title	Associate Director						
Organization	Texas Water Resources Institute						
E-mail Address	<a href="mailto:klwagner@ag.tamu.edu">klwagner@ag.tamu.edu</a>						
Street Address	1500 Research Pkwy, Ste. A110 2260 TAMU						
City	College Station	County	Brazos	State	TX	Zip Code	77843-2260
Telephone Number	979.845.1851			Fax Number	979.845.8554		

Co-Applicant							
Project Co-Lead	Paul DeLaune						
Title	Assistant Professor						
Organization	Texas AgriLife Research, Vernon Research and Extension Center						
E-mail Address	<a href="mailto:PBDeLaune@ag.tamu.edu">PBDeLaune@ag.tamu.edu</a>						
Street Address	11708 Hwy 70 South						
City	Vernon	County	Wilbarger	State	TX	Zip Code	76385
Telephone Number	940.552.9941			Fax Number	940.552.2317		

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 Water Resources Institute (TWRI)	Provide overall project coordination and administration, QAPP development, reporting, website maintenance, newsletter development and dissemination
Texas AgriLife Research, Vernon Research and Extension Center, Paul DeLaune (AgriLife Vernon)	Water quality data collection, data analysis, data submission to TSSWCB
Hall-Childress Soil and Water Conservation District #109, Donley County Soil and Water Conservation District #127, and Salt Fork Soil and Water Conservation District #133 (SWCDs)	Collaborate as critical local stakeholders and play a lead role in communicating with other local stakeholders
Red River Authority of Texas (RRA)	Texas Clean Rivers Program entity for the watershed. Maintains Coordinated Monitoring Schedule for the basin

**Part II – Project Information**

Project Type							
Surface Water	<input checked="" type="checkbox"/>	Groundwater	<input type="checkbox"/>				
Does the project implement recommendations made in a completed WPP or an adopted TMDL or approved I-Plan?				Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
If yes, identify the document.							
If yes, identify the agency/group that developed and/or approved the document.					Year Developed		

Watershed Information				
Watershed Name(s)	Hydrologic Unit Code (8 Digit)	Segment ID	305(b) Category	Size (Acres)
Buck Creek	11120105	0207A	5c	187,270

Water Quality Impairment				
Describe all known causes (pollutants of concern) of water quality impairments or concerns from any of the following sources: <i>2008 Texas Water Quality Inventory and 303(d) List</i> , Clean Rivers Program Basin Summary/Highlights Reports or other documented sources.				
<b>Source of Information:</b> <i>2008 Texas Water Quality Inventory and 303(d) List</i>				
<b>Segment 0207A:</b> Buck Creek (unclassified water body) From the Oklahoma State line east of Childress in Childress Co. to the upstream perennial portion of the stream west of Wellington in Collingsworth Co.				
<b>Segment Type:</b> Freshwater Stream		<b>Segment Size:</b> 68 miles		
<b>Flow Type:</b> Intermittent w/pools		<b>ALU Des:</b> High		
<b>Area</b>	<b>Impairment/Concern</b>	<b>Category</b>	<b>Year First Listed</b>	
0207A_01 From OK state line to House Log Creek	bacteria	5c	2000	
	nitrate	CN	2006	
<b>Data collected at TCEQ Station 15811:</b> Above US 83 in Childress Co.				
<b>TCEQ Presumed Sources of Bacteria Impairment and Nitrate Concern:</b> NPS Grazing in Riparian Zones, NPS Rangeland Grazing, NPS Unrestricted Cattle Access, NPS Wildlife other than Waterfowl				
<b>Source of Information:</b> <i>Summary Report of the Canadian and Red River Basins, 2009, RRA</i>				
“Buck Creek (Segment 0207A) is on the <i>2008 303(d) List</i> for elevated bacteria levels. TCEQ has indicated that additional data and information are needed before a TMDL can be scheduled. However, the TSSWCB is currently working on a WPP to remove Buck Creek from the <i>303(d) List</i> . Buck Creek is also on the <i>2008 TWQI for Water Bodies with Concerns for Use Attainment and Screening Levels</i> for elevated nitrate levels... Continued monitoring is recommended for Buck Creek”				

## Project Narrative

### Problem/Need Statement

Buck Creek (Segment 0207A) is a small, unclassified waterbody situated within the Red River Basin of Texas and joins with the Lower Prairie Dog Town Fork of the Red River (Segment 207) to form the Red River above Pease River (Segment 0206). This stream segment is located within Ecoregion 27, the Central Great Plains. Small streams within this region are typically characterized by widely varying flows and high levels of dissolved salts, generally originating from saltwater seeps and springs. Buck Creek is situated within a rural, agricultural landscape in the southeastern portion of the Texas panhandle.

Land use in the watershed is predominantly row crops and grasslands. Rainfall averages approximately 21 inches annually. During periods of rainfall, bacteria [*Escherichia coliform* (*E. coli*) specifically] originating from aquatic birds, wildlife, livestock, inadequately treated sewage, and/or failing septic systems may be washed into the streams and can be measured well after a rain event has occurred. These organisms are normally found in wastes of warm-blooded animals and are generally not harmful to human health, but may indicate the presence of pathogens that can cause disease.

The State of Texas currently requires that water quality in Buck Creek be suitable for fishing, swimming, wading and a healthy aquatic ecosystem. However, data evaluated by TCEQ from periodic water quality monitoring indicates that bacteria levels are sometimes elevated in the creek. As a result, Buck Creek was initially placed on the *Texas 303(d) List* in 2000 and has remained on this list through its most recent iteration, the *2008 303(d) List*. Although these data points provide an indicator of a potential water quality problem, the data do not provide conclusive evidence of persistent impairment; rather, it suggests a temporal recurring phenomenon.

As TSSWCB is the lead agency for the State of Texas in abating agricultural NPS pollution, the TSSWCB took the lead in Buck Creek, working closely with the Hall-Childress, Donley County, and Salt Fork SWCDs, RRA, TWRI, AgriLife Vernon and the Texas AgriLife Extension Service. Initially, TSSWCB funded the *Bacterial Monitoring for the Buck Creek Watershed* (TSSWCB Project 03-07) to verify the impairment and assess the levels of *E. coli* throughout the watershed. Through this project and beginning in May 2004, AgriLife Vernon collected data twice-monthly at 15 sampling sites throughout the watershed. Data collected did indicate that *E. coli* levels were periodically elevated, thus warranting the development of a WPP for Buck Creek. At the conclusion of that project, data collected were submitted to TCEQ for inclusion in the SWQMIS for use in the assessment for the *TWQI and 303(d) List*.

Therefore, the TSSWCB funded project 06-11 entitled "*Watershed Protection Plan Development for Buck Creek*". Data collection continued through this project at 7 of the original 15 sites and bacterial source tracking (BST) was added to gain further knowledge of sources contributing to the *E. coli* loading in Buck Creek. Water samples were also collected for nitrate analysis during that project as a nitrate concern was included in the *2006 TWQI*. This continued data collection further verified that periodic elevations of *E. coli* levels continue to exist. Currently, the Buck Creek WPP is under development and should be completed by the end of calendar year 2010. As the WPP has not yet been completed and reviewed for consistency with the 9 elements, it is anticipated that WPP implementation funding through Clean Water Act §319(h) nonpoint source grants will not be requested until the FY2011 funding cycle at the earliest. Therefore, this would result in a lapse in data collection efforts resulting in at least a 1, if not 2, year gap in water quality data.

As a result, this 2-year project is warranted to provide for interim water quality data collection efforts. Maintaining an effective monitoring program will provide critical water quality data that will be used to judge the effectiveness of WPP implementation efforts and serve as a tool to quantitatively measure water quality restoration. This effort will continue stakeholder engagement through semi-annual newsletters, maintaining the project website, and hosting 2 annual stakeholder meetings. Continuing these efforts is critical to effectively bridging the gap between projects that developed the Buck Creek WPP and actually beginning WPP implementation efforts.

## Project Narrative

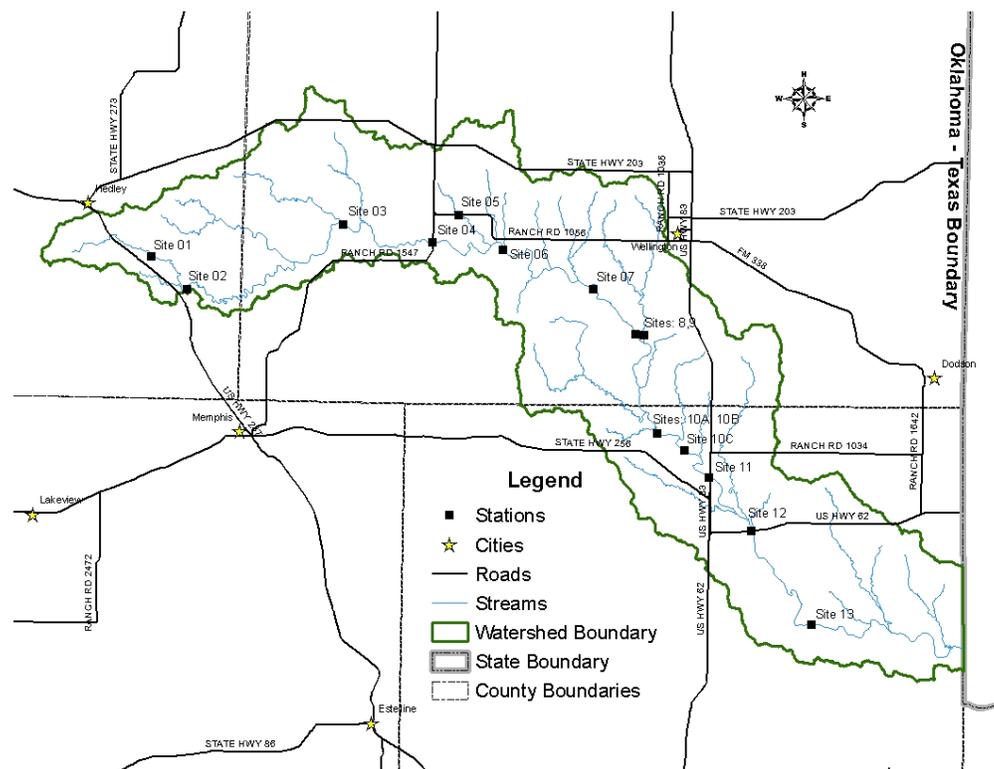
### General Project Description (Include Project Location Map)

This project provides for water quality monitoring in the Buck Creek watershed between the time that the Buck Creek WPP is developed and substantial WPP implementation begins.

TWRI will coordinate the development of a QAPP that outlines QA procedures and protocols for field sampling and lab analysis that is consistent with *EPA Requirements for Quality Assurance Project Plans (QA/R-5)* and the *TSSWCB Environmental Data Quality Management Plan*.

AgriLife Vernon will conduct monthly sampling at Sites 3, 5, 6, 10A, 10C, 11, and 13. Samples will be collected for *E. coli* enumeration and nitrate analysis at AgriLife Vernon. Stream flow will be recorded in conjunction with water sample collection. AgriLife Vernon will also collect field parameters including temperature, specific conductance, pH and dissolved oxygen levels. All data will be submitted to TSSWCB for inclusion into SWQMIS for future water quality assessments. AgriLife Vernon will develop a narrative data summary.

TWRI will also oversee the development and distribution of 4 semi-annual newsletters and ensure that the project website is kept up-to-date. TWRI and AgriLife Vernon will host and facilitate meetings of the Buck Creek stakeholders at a minimum of once annually for a total of 2 planned meetings. These meetings will be held to provide updates on the status of monitoring efforts, progress in identifying implementation funding, and movement towards water quality restoration.



Tasks, Objectives and Schedules						
Task 1	Project Administration					
Costs	Federal	\$21,354	Non-Federal	\$14,594	Total	\$35,948
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	TWRI 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 15 <sup>th</sup> of January, April, July and October. QPRs shall be posted on the project website and distributed to all project partners.					
	Start Date	Month 1		Completion Date	Month 30	
Subtask 1.2	TWRI 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 30	
Subtask 1.3	TWRI will host coordination meetings, conference calls, or TTVN meetings, as appropriate, with project partners in order to efficiently and effectively achieve project goals, coordinate efforts and summarize activities and achievements made throughout the course of this project. TWRI will develop lists of action items needed following each project coordination meeting and distribute to project personnel.					
	Start Date	Month 1		Completion Date	Month 30	
Deliverables	<ul style="list-style-type: none"> <li>• Quarterly progress reports in electronic format</li> <li>• Reimbursement Forms and necessary documentation in hard copy format</li> <li>• Lists of action items from project coordination meetings</li> </ul>					

Tasks, Objectives and Schedules						
Task 2	Quality Assurance					
Costs	Federal	\$4,000	Non-Federal	\$2,500	Total	\$6,500
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	TWRI will develop a QAPP for activities in Task 3 consistent with <i>EPA Requirements for Quality Assurance Project Plans (QA/R-5)</i> and the <i>TSSWCB Environmental Data Quality Management Plan</i> .					
	Consistency with Title 30, Chapter 25 of the Texas Administrative Code, <i>Environmental Testing Laboratory Accreditation and Certification</i> , 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 <i>TCEQ Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, Sediment, and Tissue (RG-415)</i> .					
Subtask 2.2	Start Date	Month 1		Completion Date	Month 3	
	TWRI will submit revisions and necessary amendments to the QAPP as needed.					
Deliverables	Start Date	Month 4		Completion Date	Month 30	
	<ul style="list-style-type: none"> <li>• QAPP approved by TSSWCB and EPA in both electronic and hard copy formats</li> <li>• Approved revisions and amendments to QAPP, as needed</li> <li>• Data of known and acceptable quality as reported through Task 3</li> </ul>					

Tasks, Objectives and Schedules						
Task 3	Water Quality Data Collection and Analysis					
Costs	Federal	\$74,798	Non-Federal	\$51,751	Total	\$126,549
Objective	To collect water quality data in the Buck Creek watershed so a continuous data record can be maintained during the interim when the Buck Creek WPP is developed and when implementation of the WPP begins					
Subtask 3.1	AgriLife Vernon will conduct routine water quality monitoring collecting water samples, field parameters (DO, pH, temperature, specific conductance) and streamflow. Samples will be collected once monthly from 7 sampling sites in the Buck Creek watershed (Sites 3, 5, 6, 10A, 10C, 11, and 13). Total number of samples budgeted for collection through this subtask is 168; however, the number actually collected will likely be lower due to the ephemeral nature of the creek.					
	Start Date	Month 4		Completion Date	Month 30	
Subtask 3.2	AgriLife Vernon will conduct biased flow water quality monitoring collecting water samples, field parameters (DO, pH, temperature, specific conductance) and streamflow during 6 storm events. Samples will be collected from 7 sampling sites in the Buck Creek watershed (Sites 3, 5, 6, 10A, 10C, 11, and 13). Total number of samples budgeted for collection through this subtask is 42.					
	Start Date	Month 4		Completion Date	Month 30	
Subtask 3.3	AgriLife Vernon will enumerate <i>E. coli</i> colonies in water samples collected in subtasks 3.1 and 3.2 using EPA Method 1603. <i>E. coli</i> counts will be recorded electronically and in hard copy format.					
	Start Date	Month 4		Completion Date	Month 30	
Subtask 3.4	AgriLife Vernon will assess nitrate levels in water samples collected in subtasks 3.1 and 3.2 using EPA Method 353.2. Nitrate concentrations will be recorded electronically and in hard copy format.					
	Start Date	Month 4		Completion Date	Month 30	
Subtask 3.5	AgriLife Vernon will record and store all water quality data in electronic and hard copy formats. TWRI will transfer quarterly monitoring data from activities in Task 3 to TSSWCB for inclusion in TCEQ SWQMIS. Data will be transferred in the correct format using the TCEQ file structure, along with a completed Data Summary, as described in the most recent version of TCEQ <i>Surface Water Quality Monitoring Data Management Reference Guide</i> . Data Correction Request Forms will be submitted to TSSWCB whenever errors are discovered in data already reported. TWRI will also provide necessary information on this monitoring regime to RRA for inclusion in the Coordinated Monitoring Schedule.					
	Start Date	Month 4		Completion Date	Month 30	
Subtask 3.6	AgriLife Vernon will develop a Technical Report that summarizes data collection and analysis results.					
	Start Date	Month 22		Completion Date	Month 30	
Deliverables	<ul style="list-style-type: none"> <li>Water quality data collected, analyzed and stored electronically and in hard copy</li> <li>Electronic data properly formatted and transmitted to TSSWCB for inclusion in TCEQ SWQMIS</li> <li>Technical Report that presents data collected and summarizes findings from monitoring and assessment activities</li> </ul>					

<b>Tasks, Objectives and Schedules</b>						
Task 4	Maintain Stakeholder Communication					
Costs	Federal	\$15,414	Non-Federal	\$8,269	Total	\$23,683
Objective	To maintain stakeholder engagement in the watershed planning process as a shift is made to implementation through stakeholder meetings, semi-annual newsletters and the project website.					
Subtask 4.1	TWRI and AgriLife Vernon will collaborate to develop and publish 4 semi-annual newsletters that provide updates on water quality data collection efforts and progress toward implementing the WPP and other relevant information. The newsletter shall be distributed as most appropriate to individual landowners and entities in the watershed.					
	Start Date	Month 1		Completion Date	Month 30	
Subtask 4.2	AgriLife Vernon or TWRI as appropriate will provide information to RRA for inclusion in the Clean Rivers Program Basin Summary Report and Basin Highlights Report. TWRI and/or AgriLife Vernon shall participate in RRA-sponsored meetings of the Clean Rivers Program Basin Steering Committee and Coordinated Monitoring meetings.					
	Start Date	Month 1		Completion Date	Month 30	
Subtask 4.3	TWRI will ensure that the currently existing Buck Creek website ( <a href="http://buckcreek.tamu.edu/">http://buckcreek.tamu.edu/</a> ) will be updated periodically to reflect accurate and current information regarding the project, WPP, implementation and other activities.					
	Start Date	Month 1		Completion Date	Month 30	
Subtask 4.4	TWRI and AgriLife Vernon will host and facilitate meetings of the Buck Creek stakeholders. Meetings will be held at a minimum of once annually for a total of 2 planned meetings. These meetings will be held to provide updates on the status of monitoring efforts, progress in identifying implementation funding, and movement towards water quality restoration.					
	Start Date	Month 1		Completion Date	Month 30	
Deliverables	<ul style="list-style-type: none"> <li>• Semi-annual newsletters developed and distributed to stakeholders</li> <li>• Project website, updated and maintained</li> <li>• Information developed for inclusion in Clean Rivers Program materials</li> <li>• Schedules, agendas, meeting materials, attendance lists and meeting summaries from stakeholder meetings</li> </ul>					

### **Project Goals (Expand from Summary Page)**

To maintain current water quality sampling utilized in TSSWCB Project 06-11 to ensure that adequate water quality data are collected to provide for future water quality assessments that illustrate the effects of implementing the Buck Creek WPP to achieve water quality restoration.

To maintain stakeholder engagement in the watershed planning process as a shift is made to implementation, specifically, through development and distribution of newsletters to Buck Creek stakeholders, updating the Buck Creek project website, and hosting meetings of the stakeholders group.

### **Measures of Success (Expand from Summary Page)**

- Effective collection of monthly surface water quality monitoring data at 7 locations along Buck Creek, proficient analysis of these water quality data and successful transmission of these data to TSSWCB for submission to TCEQ SWQMIS
- Development and distribution of 4 semi-annual newsletters to watershed stakeholders via direct mail, e-mail, and the project website to maintain contact with Buck Creek stakeholders and keep them engaged in the transition from the WPP development to WPP implementation
- Continued operation and maintenance of project website to announce relevant activities, project updates and other activities germane to the WPP development and implementation process
- Increase in stakeholder involvement in watershed planning process

**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 and ground water

**Long-Term Goals**

**LTG 1:** Focus NPS abatement efforts, implementation strategies and available resources in watersheds identified as impacted by NPS pollution

**LTG 2:** Support the implementation of state, regional and local programs to prevent NPS through assessment, implementation and education

**LTG 3:** Support the implementation of state, regional, and local programs to reduce NPS pollution, such as the implementation of strategies defined in...WPPs

**LTG 6:** Increase overall public awareness of NPS issues and prevention activities

**Short-Term Goals**

**STG 1:** Data collection and assessment: Coordinate...with appropriate entities and target CWA §319(h) grant funds toward water quality assessment activities in high priority, NPS-impacted watersheds...where additional information is needed

**Objective B:** Ensure that monitoring procedures meet quality assurance requirements and are in compliance with EPA-approved TSSWCB QMPs

**Objective E:** Conduct monitoring to determine effectiveness of ...WPPs and BMP implementation as appropriate

**STG 3:** Education: Conduct education...to help increase awareness of NPS pollution and prevent activities contributing to the degradation of water bodies, including aquifers, by NPS pollution

**Objective F:** Implement public outreach and education to maintain and restore water quality in waterbodies impacted by NPS pollution

**Element 3:** Balanced approach that emphasizes both state-wide NPS programs and on-the-ground management of individual watersheds

**Part III – Financial Information**

<b>Budget Summary</b>				
Federal	\$	115,566	% of total project	60%
Non-Federal	\$	77,114	% of total project (≥ 40%)	40%
Total	\$	192,680	Total	100%
Category		Federal	Non-Federal	Total
Personnel	\$	60,815	\$ 25,054	\$ 85,869
Fringe Benefits	\$	19,047	\$ 5,975	\$ 25,022
Travel	\$	1,000	\$ 0	\$ 1,000
Equipment	\$	0	\$ 0	\$ 0
Supplies	\$	11,480	\$ 0	\$ 11,480
Contractual	\$	0	\$ 0	\$ 0
Construction	\$	0	\$ 0	\$ 0
Other	\$	8,150	\$ 0	\$ 8,150
Total Direct Costs	\$	100,492	\$ 31,029	\$ 131,521
Indirect Costs (≤ 15%)	\$	15,074	\$ 14,429	\$ 29,503
Unrecovered IDC	\$	0	\$ 31,656	\$ 31,656
Total Project Costs	\$	115,566	\$ 77,114	\$ 192,680

The TSSWCB CWA §319(h) NPS Grant Program has a 60/40% match requirement. The cooperating entity will be reimbursed 60% from federal funds and must contribute a minimum of 40% of the total costs to conduct the project. The 40% match must be from non-federal sources and should be described in the budget justification. Reimbursable indirect costs are limited to no more than 15% of total federal direct costs. The project budget generally covers a three year period.

<b>Budget Justification (Federal)</b>		
Category	Total Amount	Justification
Personnel	\$ 60,815	Vernon Research Assoc_Dyer 7 mo/yr = \$45,174 TWRI PM_Gregory 1.25 mo/yr = \$11,452 TWRI IT_Tech 0.5 mo/yr = \$4,189
Fringe Benefits	\$ 19,047	personnel salary*17.1%+494/mo for insurance
Travel	\$ 1,000	TWRI PM semi-annual site visits @ \$250 ea.
Equipment	\$ 0	N/A
Supplies	\$ 11,480	fuel costs: 26 trips @ 275 mi @ 50¢mi = \$3,575 waterbath incubator = \$1,750 desktop computer = \$1,500 laboratory expendables = \$4,655
Contractual	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 8,150	vehicle maintenance = \$1,500 instrument replacement and repair (YSI, Flowmate) = \$3,000 printing = \$500 postage = \$500 License and Proficiency testing \$2,650
Indirect	\$ 15,074	15% of Total Direct Costs

<b>Budget Justification (Non-Federal)</b>		
Category	Total Amount	Justification
Personnel	\$ 25,054	Vernon Assistant Prof_DeLaune 1.5 mo/yr = \$18,869 TWRI Director_Wilkins 0.21 mo/yr = \$6,185
Fringe Benefits	\$ 5,975	personnel salary*17.1%+494/mo for insurance
Travel	\$ 0	N/A
Equipment	\$ 0	N/A
Supplies	\$ 0	N/A
Contractual	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 0	N/A
Indirect	\$ 14,429	46.5% of Total Direct Costs (Non-Federal)
Unrecovered IDC	\$ 31,656	31.5% of Total Direct Costs (Federal)