



**Texas State Soil and Water Conservation Board  
 Clean Water Act §319(h) Nonpoint Source Grant Program  
 FY 2011 Workplan 11-10**

PROJECT SUMMARY PAGE						
Title of Project	Surface Water Quality Monitoring to Support Implementation of the San Bernard River Watershed Protection Plan					
Project Goals	<ul style="list-style-type: none"> <li>• Generate data of known and acceptable quality for surface water quality monitoring of mainstem, tributary, and WWTF stations</li> <li>• Support the implementation of the San Bernard River WPP by collecting water quality data for use in evaluating the overall effectiveness of BMP implementation, and in assessing progress in achieving restoration</li> <li>• Communicate water quality conditions to the public to support adaptive management of the San Bernard River WPP</li> </ul>					
Project Tasks	1) Project Administration and Coordination; 2) Quality Assurance; 3) Surface Water Quality Monitoring					
Measures of Success	<ul style="list-style-type: none"> <li>• Data of known and acceptable quality are generated for surface water quality monitoring of mainstem, tributary, and WWTF stations</li> <li>• Water quality data is used to evaluate progress in implementing the San Bernard River WPP</li> <li>• Water quality data is communicated to the public and the San Bernard River watershed stakeholders</li> <li>• Increased watershed stewardship among San Bernard River watershed stakeholders</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>		<u>Parameter</u>		<u>Category</u>	
	1301		Bacteria		5c	
	1302		Bacteria		5a	
	1302A		Bacteria		5c	
	1302B		Bacteria		5c	
Project Location (Statewide or Watershed and County)	San Bernard River Watershed in Austin, Colorado, Wharton, Fort Bend, and Brazoria Counties					
Key Project Activities	Hire Staff ( ); 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>• Element 1 Long-Term Goal Objectives A, C, &amp; F</li> <li>• Element 1 Short-Term Goals 1B, 1C, 1E, 2D, &amp; 3D</li> <li>• Elements 2 &amp; 5</li> </ul>					
Project Costs	Federal	\$221,654	Non-Federal	\$82,388	Total	\$304,042
Project Management	Houston-Galveston Area Council					
Project Period	November 1, 2011 – October 31, 2013					

**Part I – Applicant Information**

Applicant							
Project Lead	Todd Running						
Title	Water Resources Program Manager						
Organization	Houston-Galveston Area Council						
E-mail Address	<a href="mailto:todd.running@h-gac.com">todd.running@h-gac.com</a>						
Street Address	3555 Timmons Lane, Suite 120						
City	Houston	County	Harris	State	TX	Zip Code	77027
Telephone Number	713-993-4549			Fax Number	713-993-4503		

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.
Houston-Galveston Area Council (H-GAC)	Provide project administration, coordination, water quality monitoring, data and analysis review
Clean Rivers Program (CRP)	Provide water quality sampling and analysis for testing sites. Assist in coordinating water quality sampling efforts. Provide QAPP development and support (H-GAC CRP Program, not TCEQ CRP Program staff). Provide non-federal match.
Environmental Institute of Houston at University of Houston-Clear Lake (EIH)	Conduct water quality sampling (Task 3).
Texas Stream Team	Provide water quality sampling support as a screening tool and public outreach opportunities. Provide non-federal match.
Friends of the River San Bernard	Local outreach efforts. Provide non-federal match.

**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, or (d) a Comprehensive Conservation and Management Plan developed under CWA §320?				Yes	No
If yes, identify the document.					X
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)
San Bernard River Watershed	12090401	1301 1302 1302A 1302B	5c 5a 5c 5c	672,000

## Water Quality Impairment

Describe all known causes (pollutants of concern) of water quality impairments or concerns from any of the following sources: *2008 Texas Water Quality Inventory and 303(d) List*, draft *2010 Texas Integrated Report*, Clean Rivers Program Basin Summary/Highlights Reports or other documented sources.

Draft 2011 H-GAC Basin Summary Report – Elevated levels of bacteria in several portions of the [San Bernard] river prevent it from meeting State standards for contact recreation. The TCEQ added the San Bernard River on the 303(d) list in 2002 for bacteria. The tidally influenced portion of the river also has had low levels of dissolved oxygen; however, the dissolved oxygen levels have returned to normal due to the reopening of the mouth of the river.

<u>Segment Description</u>	<u>Concerns</u>	<u>Impairment</u>	<u>Category</u>	<u>Year Listed</u>
Segment 1301: San Bernard River Tidal From the confluence with the Intracoastal Waterway to a point 2.0 miles upstream of SH 35 in Brazoria County	The tidal portion of the river has shown a general degradation in chlorophyll- <i>a</i> and general improvement in nutrient levels. Potential causes for the degradation in chlorophyll- <i>a</i> levels includes fertilizer runoff, and nutrient loadings from WWTPs and OSSFs			
Entire segment		bacteria	5c	2006
Segment 1302: San Bernard River Above Tidal From a point 2.0 miles upstream of SH 35 in Brazoria County to the county road southeast of New Ulm in Austin County	The above tidal portion of the river has shown general improvement in bacteria, but general degradation in chlorophyll- <i>a</i> and dissolved oxygen. Potential causes for degradation include: WWTP non-compliance, malfunctioning OSSFs, illegal or improper discharges from waste haulers, improper domestic animal waste disposal, and removal of vegetative canopy.			
1302_01 From a point 2.0 miles upstream of SH 35 in Brazoria County to confluence with Peach Creek		bacteria	5b	2002
1302_02 From the confluence with Peach Creek to the unnamed tributary at NHD RC 12090401001535		bacteria	5b	2002
1302_03 From the confluence with unnamed tributary at NHD RC 12090401001535 to the confluence with Coushatta Creek		bacteria	5b	2002
Segment 1302A_01: Gum Tree Branch From the confluence with West Bernard Creek to the headwaters	This segment shows concerns for low dissolved oxygen possibly from excessive organic matter and removal of the vegetative canopy.			
1302A_01 Entire waterbody		bacteria	5b	2006
Segment 1302B: West Bernard Creek From the confluence with the San Bernard River Above Tidal to the headwaters	This segment shows concerns for elevated nutrient levels possibly due to agricultural operations and fertilizer runoff.			
1302B_02 From the confluence with Clarks Branch to the upper end of segment		bacteria	5c	2006
1302B_01 From the confluence with the San Bernard River Above Tidal to the confluence with Clarks Branch		dissolved oxygen	5c	2006

## Project Narrative

### Problem/Need Statement

The San Bernard River Watershed drains approximately 672,000 acres. The river flows southeast to form the boundary between Austin and Colorado counties, then flows between Wharton and Fort Bend counties and through Brazoria County before flowing into the Gulf of Mexico. The San Bernard River comprises two stream segments as defined by TCEQ. Segment 1302 is the San Bernard River above tidal, which flows from the city of New Ulm in Austin County to a point 2.0 mi upstream of State Highway 35 in Brazoria County. Segment 1301 is San Bernard River tidal, which flows from 2.0 mi upstream of State Highway 35 in Brazoria County to the confluence with the Intracoastal Waterway in Brazoria County. There are concerns about dissolved oxygen levels and nutrients, and portions of the river are listed as impaired for bacteria on the 303(d) List. Currently, the river is not meeting standards for contact recreation due to elevated levels of bacteria.

Areas that are currently undeveloped or lightly developed within the H-GAC region provide the most promise in helping to sustain healthy water quality for the entire region. Watershed planning plays an integral role in ensuring good water quality in the future. The San Bernard River Watershed is largely undeveloped and the predominant land covers are cropland and grasslands, with forestland in the northern part of the watershed and many wetlands towards the coast. Only about 5% of the land is developed. However, development is occurring at an appreciable pace in this and other rural watersheds. Good planning which encourages conservation of undeveloped areas, particularly in riparian and other sensitive areas, along with the use of appropriate water quality BMPs in areas that are being developed, will be necessary to continue to have high quality waters.

Over the next 30 years the population in the H-GAC region is projected to increase by an additional 3.5 million people. This growth will increase the stress on water resources in terms of both quantity and quality. New pollutant sources, increased impervious cover, and aging infrastructure will produce new challenges faced by water quality managers and decision-makers.

The San Bernard River has had problems with sediment buildup for most of the last century. The mouth of the San Bernard River has migrated about two miles to the southwest since 1929 and became silted in at the Gulf of Mexico due to sand accretion. In March 2009 the U.S. Army Corps of Engineers dredged the mouth of the river to reconnect it to the Gulf of Mexico; however this may not be a permanent solution. The dredging of the river has helped alleviate low dissolved oxygen problems.

The San Bernard River WPP is being developed by H-GAC with funding from TCEQ through the American Recovery and Reinvestment Act of 2009 (ARRA). It is expected to be completed in August 2011. The purpose of the WPP is to improve water quality on the San Bernard River and remove the San Bernard River and its tributaries from the 303(d) List by bringing it into compliance with recreation standards and to work with federal, state and local agencies to coordinate a stakeholder driven process for implementation of the WPP.

Currently there are eight ambient monitoring stations sampled quarterly throughout the watershed, five on the main stem of the San Bernard River and three on tributaries. Ambient monitoring has been ongoing in the watershed in some locations for up to forty years, other ambient sites have been added in the last few years. Additional monitoring will help track progress of implementing the WPP and overall effectiveness of BMPs on water quality.

## Project Narrative

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

This project will gather further monitoring data for the San Bernard River. This will help stakeholders determine the improvements of water quality as a benefit of implementing BMPs laid out in the WPP. Implementation activities for the watershed include: agricultural BMPs for row cropping and cattle grazing lands, OSSF BMPs for areas of possibly failing systems, and monitoring of post-implementation activities. The implementation phase will continue the stakeholder involvement from the WPP. Progress will be assessed by ambient and post-implementation monitoring.

There are currently 8 monitoring stations in the San Bernard Watershed. Five are located along the main stem of the San Bernard River and 3 are located on tributaries. Three of the stations are monitored by TCEQ and the other five are monitored by the H-GAC Clean Rivers Program. All eight sites are currently monitored only once per quarter year. Through this project, H-GAC, in conjunction with EIH, will conduct routine ambient monitoring at the 8 current monitoring stations twice per quarter and an additional 4 sites once per month over 21 months, collecting field, conventional, flow, and bacteria parameter groups. This will result in routine monitoring being conducted monthly at 12 sites.

H-GAC, in conjunction with EIH, will conduct routine ambient monitoring at 15 sites quarterly through 7 seasons, collecting field, conventional, flow, and bacteria parameter groups. Spatial and seasonal variation will be captured in these snapshots of watershed water quality.

H-GAC, in conjunction with EIH, will conduct biased flow monitoring at 15 sites once per season under wet weather conditions over 7 seasons, collecting field, conventional, flow, and bacteria parameter groups. Spatial, seasonal and meteorological variation will be captured in these snapshots of watershed water quality.

If self-reported data is not sufficient to characterize the point source contributions to loadings in the watershed, H-GAC, in conjunction with EIH, will conduct quarterly effluent monitoring at up to 5 WWTFs collecting field, conventional, flow, bacteria, and effluent parameter groups.

Collected data will be assessed for trends and variability, effectiveness of implementing BMPs, and interim short-term progress in achieving water quality goals in the WPP.

## Proposed Monitoring Sites

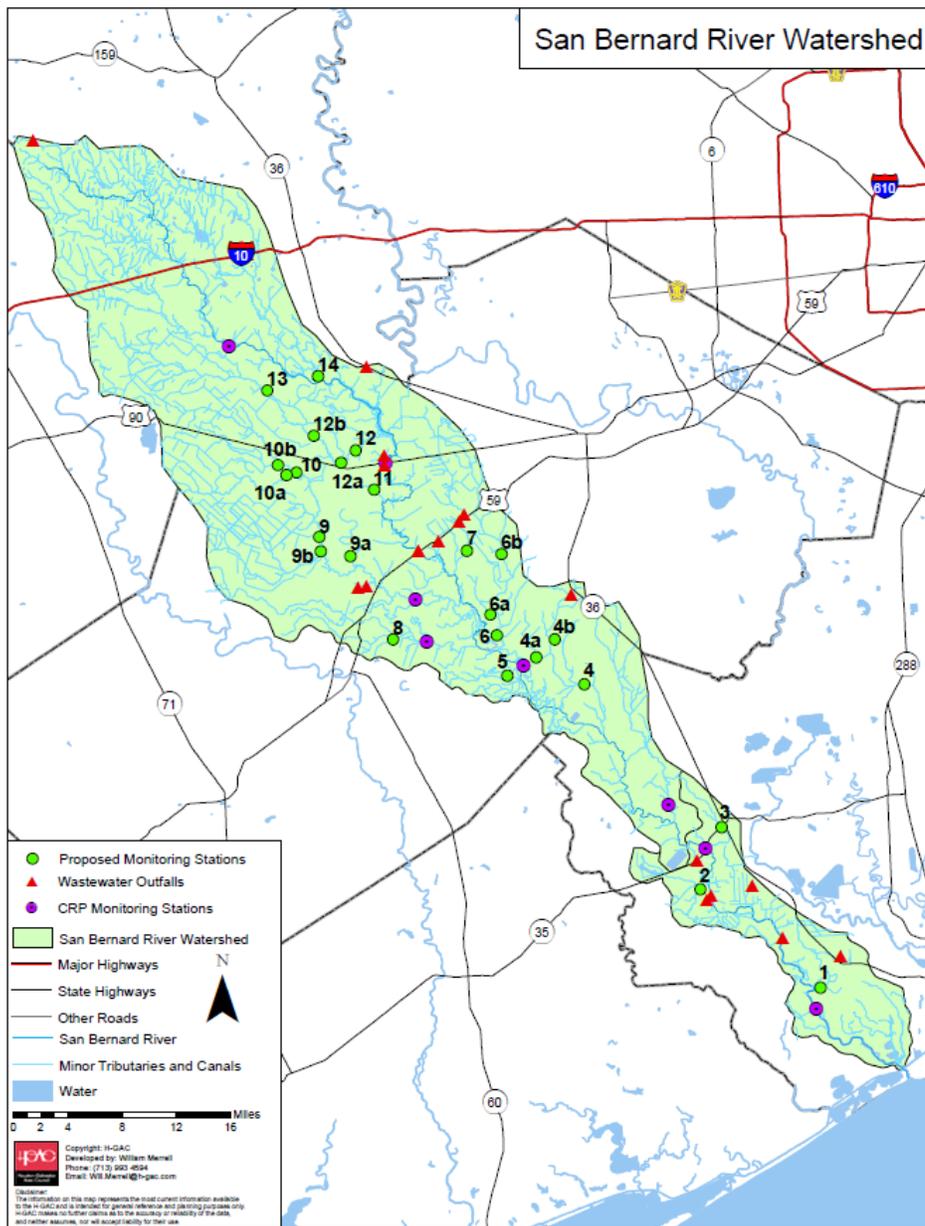
Below is a list of proposed monitoring sites. In addition to the 8 existing CRP sites, 19 additional monitoring sites will be chosen based on field reconnaissance.

Station_ID	Existing CRP	Waterbody Name	Cross Road	Location
01		Unnamed Tributary	FM 2611	W of Jones Creek
02 = 12130		Texas Gulf Canal	FM 1459	W of West Columbia
03		Bells Creek	SH 35	SW of West Columbia
04		Cedar Creek	CR 522	At Armstrong Road
04a		Cedar Creek	FM 442	S/SW of Needville
04b		Buffalo Creek	FM 442	S/SW of Needville
05		Bee Tree Bayou	FM 442	N/NE of Boling
06		Snake Creek	Moody Rd	SW of Needville
06a		Snake Creek	Tierra Grande Dr	SW of Needville
06b		Snake Creek	Modena School Rd off Meyer Rd	W of Needville
07		Turkey Creek	Darst Rd	E of Kendleton
08		Baughman Slough	CR 129	NE of Wharton
09		West Bernard Creek	CR 211	NW of Hungerford
09a		Sandy Branch	CR 213	N of Wharton
09b		Clarks Branch	CR 211	N of Wharton
10		West Bernard Creek	CR 252	W of East Bernard
10a = 16371		Gum Tree Branch	CR 252	W of East Bernard
10b		Dewberry Branch	CR 252	W of East Bernard
11		Britt Branch	FM 2919	S of East Bernard
12		Middle Bernard Creek	CR 291	Near Middle Bernard Cemetery
12a		Middle Bernard Creek	CR 289	
13		Middle Bernard Creek	FM 1093	E of Eagle Lake
14 = 12132		East Bernard Creek	FM 1093	W of Hwy 36 and E of Eagle Lake
12131		West Bernard Creek	SH 60	3 mi north of Hungerford
12146	Y	San Bernard River	FM 2611	Tidal east bank immediately upstream of FM 2611
12147	Y	San Bernard River	FM 442	mid channel 60 m downstream of FM 442 SW of Needville
15272		San Bernard River	FM 1301	East bank immediately downstream of FM 1301 approximately 7 mi west of West Columbia
16366		Little San Bernard River	Cat Spring Rd	Approximately 5.2 km east of Bernardo
16367		Middle Bernard Creek	CR 279	Immediately downstream of Wharton CR 279 approximately 5.8 km ENE of Lissie
16368		Coushatta Creek		1.85 km upstream of confluence with San Bernard River Atwater Prairie Chicken Natl Wildlife Refuge approximately 11.5 km NNE of Eagle Lake
16369		San Bernard River	Frantz/Reihardt Rd	On the Austin/Colorado County line approximately 5.5 km SW of Cat Spring
16370	Y	San Bernard River	FM 3013	On the Colorado-Austin County line approximately 15 km SW of Sealy
16373	Y	San Bernard River	US90A	Immediately downstream of US 90A in East Bernard
16374		West Bernard Creek	Unnamed Wharton County Road	Approximately 4 km ESE of Lissie and approximately 2.51 km downstream of US 90A
16376		Middle Bernard Creek	CR 210B	Immediately upstream of Colorado CR 210B 3.07 km downstream of FM 3013 and approximately 3 km NW of Chesterville
17419		West Bernard Creek	US 59	At southbound US 59 bridge northeast of Wharton
17420		San Bernard River	US 59	Northeast of Wharton
17421		San Bernard River	SH 60	South bank 50 m upstream of SH 60 north of East Bernard
17422		San Bernard River	IH 10	East bank 100 m upstream of northernmost IH 10 bridge northeast of Eagle Lake
17423		Peach Creek	US59	15 m upstream of southbound US 59 bridge northeast of Wharton

### Proposed Monitoring Sites

18345		San Bernard River	FM 2919	USGS station 292939096014001 at FM 2919 near Kendleton
20460	Y	San Bernard River Tidal	SH 35	Southwest of West Columbia
20721	Y	West Bernard Creek	Wharton CR 225	East of Hungerford
20722	Y	Peach Creek	Wharton CR 117	89 m south of the intersection of Wharton CR 117/Chudalla Road/Archer Road and Wharton CR 121/Wharton CR 119/Donaldson Road east of Wharton
20723	Y	Mound Creek	Brazoria CR 450	CR 450/Jackson Settlement Road 1.22 km upstream of FM 1301 in west of West Columbia

There are 19 outfalls permitted in the San Bernard River Watershed: 12 domestic WWTFs, 2 stormwater outfalls, and 5 industrial water outfalls. These outfalls are shown in the map; they are clustered around the cities and towns found in the watershed.



Tasks, Objectives and Schedules						
Task 1	Project Administration and Coordination					
Costs	Federal	\$23,000	Non-Federal	\$0	Total	\$23,000
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	H-GAC will prepare electronic quarterly progress reports (QPRs) for submission to 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 distributed to all Project Partners and posted on the website.					
	Start Date	Month 1		Completion Date	Month 24	
Subtask 1.2	H-GAC 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	H-GAC will host coordination meetings or conference calls, at least quarterly, with TSSWCB, and include as appropriate other Project Partners, to discuss project activities, project schedule, communication needs, deliverables, and other requirements. H-GAC 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	
Subtask 1.4	H-GAC will attend and participate in public meetings as appropriate in order to communicate project goals, activities and accomplishments to affected parties. Such meetings may include, but are not limited to, San Bernard River WPP stakeholder group, city councils, county commissioners' courts, regional water supply planning, environmental flows, Clean Rivers Program Basin Steering Committee and Coordinated Monitoring, local soil and water conservation districts (SWCDs), and other appropriate meetings of critical watershed stakeholder groups.					
	Start Date	Month 1		Completion Date	Month 24	
Subtask 1.5	H-GAC will develop and disseminate project informational materials, including, but not limited to, flyers, brochures, letters, news releases, and other appropriate promotional publications. H-GAC will include information about the project in H-GAC newsletters and Clean Rivers Program publications such as the Basin Highlights Report. TSSWCB must approve all project-related content in any informational materials and promotional publications prior to distribution.					
	Start Date	Month 1		Completion Date	Month 24	
Subtask 1.6	H-GAC will continue to host and maintain a website ( <a href="http://www.h-gac.com/go/sanbernard">http://www.h-gac.com/go/sanbernard</a> ) to serve as a public clearinghouse for all project- and watershed-related information. All presentations, documents and monitoring results will be posted to this website. The website will serve as a means to disseminate information to stakeholders and the general public.					
	Start Date	Month 1		Completion Date	Month 24	
Subtask 1.7	H-GAC will summarize the results and activities of this project through inclusion in H-GAC's Clean Rivers Program Basin Highlights Report and Basin Summary Report. H-GAC will provide updates on the results and activities of this project to the San Bernard River WPP stakeholder group. H-GAC will develop a final Assessment Data Report summarizing water quality data collected through this project. The Report shall, at a minimum, characterize trends and variability in collected water quality monitoring data and provide an assessment of water quality with respect to effectiveness of BMPs implemented and a discussion of interim short-term progress in achieving the San Bernard River WPP water quality goals.					
	Start Date	Month 1		Completion Date	Month 24	
Deliverables	<ul style="list-style-type: none"> <li>• QPRs in electronic format</li> <li>• Reimbursement Forms and necessary documentation in hard copy format</li> <li>• Lists of action items needed from project coordination meetings</li> <li>• Promotional materials, as developed and disseminated</li> <li>• Project website</li> <li>• Final Assessment Data Report in both electronic and hard copy formats</li> </ul>					

Tasks, Objectives and Schedules						
Task 2	Quality Assurance					
Costs	Federal	\$3,000	Non-Federal	\$3,850	Total	\$6,850
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	H-GAC will develop a QAPP for activities in Task 3 consistent with the most recent versions of <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 (NELAC) 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> and <i>Volume 2: Methods for Collecting and Analyzing Biological Assemblage and Habitat Data (RG-416)</i> .					
	Start Date	Month 1		Completion Date	Month 3	
Subtask 2.2	H-GAC will implement the approved QAPP. H-GAC will submit revisions and necessary amendments to the QAPP as needed.					
	Start Date	Month 4		Completion Date	Month 24	
Deliverables	<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	Surface Water Quality Monitoring					
Costs	Federal	\$195,654	Non-Federal	\$78,538	Total	\$274,192
Objective	To provide water quality data to assess the effectiveness of implementing the San Bernard River WPP by enhancing current monitoring regimes.					
Subtask 3.1	<p>H-GAC, in conjunction with EIH, will conduct routine ambient monitoring at 4 sites once per month and at 8 sites twice per quarter year, collecting field, conventional, flow, and bacteria parameters groups. The QAPP, as detailed in Task 2, will precisely identify sites. The sampling period extends over 21 months. The number of samples planned for collection through this subtask is 196.</p> <p>Currently, routine ambient monitoring is conducted quarterly at 5 stations by H-GAC (16370, 20721, 20722, 20723, and 20460) and at 3 stations by TCEQ (12146, 16373, and 12147) through the Clean Rivers Program; H-GAC will work with TCEQ to avoid duplicative routine ambient monitoring at these stations. Sampling through this subtask will complement existing routine ambient monitoring regimes such that routine water quality monitoring is conducted monthly at 12 sites in the San Bernard River watershed. H-GAC will contract with an accredited laboratory who will conduct sample analysis.</p> <p>Field parameters are pH, temperature, conductivity, and dissolved oxygen. Conventional parameters are total suspended solids, turbidity, sulfate, chloride, nitrate+nitrite nitrogen, ammonia nitrogen, total kjeldahl nitrogen, chlorophyll-a, total hardness, orthophosphorus and total phosphorus. Flow parameters are flow collected by gage, electric, mechanical or Doppler, including severity. Bacteria parameters are <i>E. coli</i> enumerated using Standard Methods (21<sup>st</sup> Edition) 9223 B, “Enzyme Substrate Test” and Enterococcus (both for tidal and above tidal sites).</p>					
	Start Date	Month 4	Completion Date	Month 24		
Subtask 3.2	<p>H-GAC, in conjunction with EIH, will conduct routine ambient monitoring at 15 sites quarterly, collecting field, conventional, flow and bacteria parameter groups. Specific parameters are defined in subtask 3.1. The QAPP, as detailed in Task 2, will precisely identify sites. The sampling period extends through 7 seasons. The number of samples planned for collection through this subtask is 105. Spatial and seasonal variation will be captured in these snapshots of watershed water quality. H-GAC will contract with an accredited laboratory who will conduct sample analysis.</p>					
	Start Date	Month 4	Completion Date	Month 24		
Subtask 3.3	<p>H-GAC, in conjunction with EIH, will conduct biased-flow monitoring at 15 sites once per season under wet weather conditions, collecting field, conventional, flow and bacteria parameter groups. These sites shall be the same as the sites for routine ambient monitoring described in Subtasks 3.1-3.2. If a storm event was captured under routine monitoring in subtasks 3.1-3.2, a separate biased flow sample will not be collected under this subtask. Specific parameters are defined in subtask 3.1. The QAPP, as detailed in Task 2, will precisely identify sites. The sampling period extends through 7 seasons. The number of samples planned for collection through this subtask is 189. Spatial, seasonal and meteorological variation will be captured in these snapshots of watershed water quality. H-GAC will contract with an accredited laboratory who will conduct sample analysis.</p>					
	Start Date	Month 4	Completion Date	Month 24		

Tasks, Objectives and Schedules			
Task 3	Surface Water Quality Monitoring		
Subtask 3.4	<p>H-GAC will compile the last 5 years of self-reported effluent discharge data from TPDES permittees in the watershed. H-GAC will assess the value of this data with respect to the pollutants of interest in this project. If self-reported data from TPDES permittees are not sufficient to characterize the point source contribution to pollutant loading to the waterbody, H-GAC will engage a contractor to conduct effluent monitoring at selected WWTFs (up to 5) once per month collecting field, flow, bacteria, and effluent parameter groups (same as subtask 3.1). Effluent parameters are BOD, CBOD and COD. The QAPP, as detailed in Task 2, will precisely identify sites. The sampling period extends over 12 months. The number of samples planned for collection through this subtask is 60. Coordination between TPDES permittees and the TCEQ Regional Office will be required. Neither H-GAC nor TSSWCB shall submit WWTF data to TCEQ for use in permit compliance and enforcement; rather, WWTF data will only be used to estimate pollutant loadings from wastewater discharges and to assist TPDES permittees in improving management and operations.</p>		
	Start Date	Month 4	Completion Date
			Month 15
Subtask 3.5	<p>H-GAC will transfer monitoring data from activities in Subtasks 3.1-3.3 to TSSWCB for inclusion in the TCEQ SWQMIS at least quarterly. 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 <i>TCEQ Surface Water Quality Monitoring Data Management Reference Guide</i>. H-GAC will submit Station Location Requests to TCEQ, as needed, to obtain TCEQ station numbers for new monitoring sites. H-GAC will input monitoring regime, as detailed in the QAPP, into the TCEQ CMS. Data Correction Request Forms will be submitted to TSSWCB whenever errors are discovered in data already reported. H-GAC will also transfer data from activities in Subtask 3.4 to TSSWCB in the appropriate format for those monitoring activities at least quarterly. H-GAC will post monitoring data from activities in Task 3 to the project website and to the H-GAC Water Resources Information Map (WRIM) (<a href="http://webgis2.h-gac.com/CRPflex/">http://webgis2.h-gac.com/CRPflex/</a>) in a timely manner.</p>		
	Start Date	Month 1	Completion Date
			Month 24
Deliverables	<ul style="list-style-type: none"> <li>• Station Location Request Forms (as needed) in electronic format</li> <li>• Monitoring data files and Data Summary in electronic format</li> <li>• Data Correction Request Forms (as needed) in electronic format</li> <li>• Monitoring data updates posted to the project website</li> </ul>		

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

- Generate data of known and acceptable quality for surface water quality monitoring (routine ambient and biased flow) of mainstem, tributary, and WWTF stations for field, conventional, flow, bacteria and effluent parameters
- Support the implementation of the San Bernard River WPP by collecting water quality data for use in evaluating the overall effectiveness of BMP implementation, and in assessing water quality improvement and progress in achieving restoration
- Communicate water quality conditions to the public in order to support adaptive management of the San Bernard River WPP and to expand public knowledge on San Bernard River water quality

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

- Data of known and acceptable quality are generated for surface water quality monitoring (routine ambient and biased flow) of mainstem, tributary, and WWTF stations in the San Bernard River watershed for field, conventional, flow, bacteria and effluent parameters
- Water quality data is used to evaluate progress in implementing the San Bernard River WPP and achieving water quality restoration
- Monitoring data is appropriately managed and transferred for inclusion into the TCEQ SWQMIS
- Increased watershed stewardship among San Bernard River watershed stakeholders
- Water quality data is communicated to the public and the San Bernard River watershed stakeholders in a timely fashion

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

Goals and/or Milestone(s)
Element One – Explicit short- and long-term goals, objectives and strategies that protect surface and groundwater.
Long-Term Goal – To... restore water quality from NPS pollution through assessment, implementation, and education. <ul style="list-style-type: none"> <li>• Objective A – Focus NPS abatement efforts, implementation strategies, and available resources in watersheds identified as impacted by nonpoint source pollution.</li> <li>• Objective C – Support the implementation of... programs to reduce NPS pollution, such as the implementation of strategies defined in... WPPs.</li> <li>• Objective F – Increase overall public awareness of NPS issues and prevention activities.</li> </ul>
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 Plans.
Short-Term Goal One – Data Collection and Assessment – Objective C – Conduct special studies to determine sources of NPS pollution and gain information to target...BMP implementation.
Short-Term Goal One – Data Collection and Assessment – Objective E – Conduct monitoring to determine effectiveness of... WPPs, and BMP implementation...
Short-Term Goal Two – Implementation – Objective D – Implement... WPPs developed to restore and maintain water quality in waterbodies identified as impacted by NPS pollution.
Short-Term Goal Three – Education – Objective D – Conduct outreach through the Clean Rivers Program... 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.
Element Two – Working partnerships and linkages to appropriate state, ... regional, and local entities, private sector groups, and federal agencies.
Element Five – The state program identifies ... watersheds impaired by NPS ... Further, the state establishes a process to progressively address these identified waters by conducting more detailed watershed assessments and developing watershed implementation plans, and then by implementing the plans.

**Part III – Financial Information**

<b>Budget Summary</b>				
Federal	\$	221,654	% of total project	73%
Non-Federal	\$	82,388	% of total project (≥ 40%)	27%
Total	\$	304,042	Total	100%
Category		Federal	Non-Federal	Total
Personnel	\$	23,000	\$ 3,850	\$ 26,850
Fringe Benefits	\$	9,890	\$ 0	\$ 9,890
Travel	\$	2,330	\$ 0	\$ 2,330
Equipment	\$	0	\$ 0	\$ 0
Supplies	\$	1,350	\$ 0	\$ 1,350
Contractual	\$	173,250	\$ 0	\$ 173,250
Construction	\$	0	\$ 0	\$ 0
Other	\$	7,690	\$ 78,538	\$ 86,228
Total Direct Costs	\$	217,510	\$ 82,388	\$ 299,898
Indirect Costs (≤ 15%)	\$	4,144	\$ 0	\$ 4,144
Unrecovered IDC	\$	0	\$ 0	\$ 0
Total Project Costs	\$	221,654	\$ 82,388	\$ 304,042

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	\$ 23,000	Staff time for project coordination, data compilation, data reports <ul style="list-style-type: none"> <li>• 15% effort for senior planner</li> <li>• 10% effort for data analyst</li> </ul>
Fringe Benefits	\$ 9,890	Benefit costs are expensed each month to a benefit pool, estimated at 43% of Personnel
Travel	\$ 2,330	Travel includes costs for public meetings, coordination trips, and van rental
Equipment	\$ 0	N/A
Supplies	\$ 1,350	Copies, paper supplies, and other general office supplies used in the publication of project reports
Contractual	\$ 173,250	<ul style="list-style-type: none"> <li>• Sample collection by EIH (\$150 per sample * 550 samples) = \$82,500</li> <li>• Laboratory analysis of samples by Eastex Environmental Laboratory, Inc. (\$165 per sample * 550 samples) = \$90,750</li> </ul>
Construction	\$ 0	N/A
Other	\$ 7,690	Allocated costs include rent, purchasing, network administration, GIS and communications. These are pooled on a monthly basis and estimated at 30% of Personnel
Indirect	\$ 4,144	Indirect is 12.6% of personnel + fringe

<b>Budget Justification (Non-Federal)</b>		
Category	Total Amount	Justification
Personnel	\$ 3,850	Staff time to make appendices to CRP QAPP (\$3,850)
Fringe Benefits	\$ 0	N/A
Travel	\$ 0	N/A
Equipment	\$ 0	N/A
Supplies	\$ 0	N/A
Contractual	\$ 0	N/A
Construction	\$ 0	N/A
Other	\$ 78,538	<ul style="list-style-type: none"> <li>• CRP ambient monitoring (\$20,000)</li> <li>• Texas Stream Team monitoring on San Bernard – travel, equipment, and training (\$20,846) [this is funded by H-GAC with non-federal monies, not from TCEQ's CWA §319 grant to Texas Stream Team]</li> <li>• Volunteer time for Adopt a Highway Clean Up events (\$2,792)</li> <li>• Volunteer time for a Community River Clean Up event (\$34,900)</li> </ul>
Indirect	\$ 0	N/A
Unrecovered IDC	\$ 0	N/A