

SCOPE OF WORK

The GRANTEE shall perform the tasks described in this Scope of Work and comply with all deadlines.

TASK 1: PROJECT ADMINISTRATION

Objective: To manage all administrative functions required to support the Clean Rivers Program (CRP) contract, including:

- informative and timely Progress Reports,
- participation in conference calls,
- participation at CRP meetings,
- timely and accurate reimbursement forms with adequate documentation,
- efficient cost control to ensure expenses are allowable and applicable,
- responsibility for procurement and oversight of subcontractors,
- participation in fiscal monitoring reviews,
- timely and accurate deliverables that meet the intent of the FY 2010-2011 CRP Guidance,
- adherence to TCEQ contract provisions,
- detailed and reasonable Work Plan development,
- financial reporting and budget monitoring, and
- training to ensure personnel are properly prepared to conduct work under the contract.

Task

Description: Houston-Galveston Area Council (H-GAC) project staff will work with the TCEQ's Clean Rivers Program Project Manager and H-GAC's Finance, Internal Audit, Office Services and Program Operations departments to meet all new TCEQ administrative requirements for this contract. The Grants Administration Specialist for H-GAC's Community & Environmental Planning Department will assist with the tracking and documentation requirements for this contract in coordination with TCEQ's Clean Rivers Program contract monitoring staff. H-GAC also will handle all subcontract administration and fiscal monitoring under this task. Equipment purchases will also be reported under this task. All equipment purchases will be updated in the Equipment Inventory Database.

H-GAC intends to meet the CRP voluntary goal of keeping Task 1 administrative costs at or below 10% of the total contract amount. Project staff will keep H-GAC's Clean Rivers Program Steering Committee apprised of project administration issues.

Progress Reports - Progress reports will contain a level of detail sufficient to document the activities which occurred during the appropriate quarter. Progress reports will contain a general description of activities, a detailed tracking of deliverables, and the amount of water quality monitoring which occurred during the quarter. The Progress Report will be in the format provided in Exhibit 1D of the FY2010-2011 CRP Guidance.

Reimbursement Requests - A Financial Status Report and related forms, and the Historically Underutilized Business Progress Assessment Report (HUB PAR) form will be submitted along with appropriate additional documentation, including: updated Personnel Eligibility List (PEL), Equipment Inventory List, and Budget Revision Request

form, when changes occur during the quarter.

Contractor and Subcontractor Evaluations - An annual self-evaluation as well as evaluations of subcontractors will be submitted at the end of each fiscal year.

Procurement Procedures Documentation - Documentation of the procurement process used to solicit, evaluate, pay, and oversee subcontractors, as specified in the FY2010-2011 CRP Guidance, will be developed. This documentation will be maintained in-house and will be made available for review by TCEQ fiscal monitoring staff upon request. For each subcontract, a letter listing the procurement method used and a copy of the executed subcontract will be submitted to the CRP Project Manager. In addition, a Procurement System Certification will be submitted with the supporting documentation required with the work plan.

Conference Calls – H-GAC will participate in all scheduled conference calls unless arrangements are made with the TCEQ Project Manager.

Conferences and Training Events – H-GAC will participate in meetings and training events as scheduled by the CRP. All non-CRP conferences and training events need to be pre-approved by the TCEQ prior to incurring costs associated with such events. H-GAC staff, as appropriate, will also continue to attend appropriate conferences and serve on advisory groups related to CRP priorities and objectives. Priority activities include the biennial Texas Water Monitoring Congress, the Annual Texas Water Conference co-sponsored by Water Environment Association of Texas (WEAT) and American Water Works Association (AWWA), the Annual EPA Region 6 Nonpoint Source and Watershed Management Conference, and periodic Texas Water Conservation Association meetings and technical conferences. Some conferences also provide opportunities for CRP outreach activities by project staff, such as the biennial State of the Bay (Galveston Bay) Symposium, ESRI Annual GIS Conference, the annual NALMS conference, and the National Water Quality Monitoring Conference. Quality Assurance staff would also benefit from available National Environmental Laboratory Accreditation Conference (NELAC) and other quality systems training events as appropriate. H-GAC staff also currently serve on the Texas Water Monitoring Council, the Texas Stream Team Advisory Council, the Monitoring and Research Subcommittee, and the Water & Sediment Quality Subcommittee of the Galveston Bay Estuary Program. All non-CRP conferences and training events will be pre-approved by the TCEQ prior to incurring costs associated with such events.

Annual Documentation for Desk Review or On-Site Visit - Detailed supporting documentation, in addition to the traditional quarterly documentation, will be made available upon request. The additional supporting documentation will include those items outlined in Exhibit 1B of the FY2010-2011 CRP Guidance. In the case of an on-site visit, the appropriate HGAC personnel will be available during the visit.

FY 2012 - 2013 Work Plan and Supporting Documentation - The Work Plan and supporting documentation will be prepared and submitted as specified in the FY2012-2013 CRP Guidance. Supporting documentation will include at a minimum: budget by category, budget by task, Personnel Eligibility List, fringe rate methodology, indirect rate methodology, shared supplies cost documentation, equipment purchase request list, equipment inventory, list of tasks that will be sub-contracted, a list of known training

events/conferences, and a signed Procurement System Certification. The Work Plan will include the tasks and deliverables outlined in the FY 2012-2013 Guidance and will be negotiated with the CRP Project Manager. A list of all deliverables in due date order will be submitted with the final Work Plan.

Deliverables

& Due Dates: September 1, 2009 through August 31, 2010

- A. Progress Reports - December 15, 2009; March 15 and June 15, 2010
- B. Reimbursement Forms - December 30, 2009; March 30 and June 30, 2010
- C. Annual Self-Evaluation - August 31, 2010
- D. Annual Subcontract Evaluations - August 31, 2010
- E. Procurement Procedures Documentation - upon execution of the subcontract
- F. Participation in CRP Planning Meeting(s) - TBA
- G. Additional Submission Documentation for Desk Review or Site Visit - upon request
- H. Attendance at CRP training events - TBA

September 1, 2010 through August 31, 2011

- A. Progress Reports - September 15 and December 15, 2010; March 15, June 15, and August 31, 2011
- B. Reimbursement Forms - September 30 and December 30, 2010; March 30, June 30, and August 31, 2011
- C. Proposed FY 2012 - 2013 Work Plan and Supporting Documentation - May 1, 2011
- D. Final FY 2012 - 2013 Work Plan and Supporting Documentation - June 15, 2011
- E. Annual Self Evaluation - August 31, 2011
- F. Annual Subcontract Evaluations - August 31, 2011
- G. Procurement Procedures Documentation - upon execution of the subcontract
- H. Participation in CRP Planning Meeting(s) - TBA
- I. Additional Submission Documentation for Desk Review or Site Visit - upon request
- J. Attendance at CRP training events - TBA

TASK 2: QUALITY ASSURANCE

Objective: To conduct data collection activities in accordance with an integrated system of quality management activities involving planning, assessment, implementation, training, and quality improvement. This task addresses objectives and processes for:

- planning and coordination of basin-wide monitoring,
- Quality Assurance Project Plan (QAPP) development and implementation,
- laboratory quality assurance,
- data review, verification, and validation,
- oversight of project specifications,
- special studies project planning, and
- provide training to local partners.

Task

Description: H-GAC will continue to assign the CRP Monitoring Coordinator the responsibility of staffing the Regional Monitoring Workgroup (RMW) and maintaining the Regional QAPP. This team member will work closely with the staff member responsible for H-GAC's data management activities.

Regional Monitoring Workgroup - H-GAC will continue to coordinate and develop water quality monitoring strategies through the Regional Monitoring Workgroup (RMW). The workgroup will meet every quarter to discuss monitoring needs, problems, successes and changes. Additionally, H-GAC's Monitoring Coordinator is a member of the Galveston Bay Estuary Program (GBEP) Monitoring and Research Subcommittee, where continued participation will help ensure coordination of effort between the Clean Rivers Program and GBEP.

The Regional Monitoring Workgroup (RMW) is composed of H-GAC CRP staff and representatives from TCEQ Austin, TCEQ Region 12, Texas Parks and Wildlife, Texas Department of Health, GBEP, local universities, and six local agencies which include Harris County Pollution Control, Environmental Institute of Houston, City of Houston-Health and Human Services, City of Houston-Water Quality Control, City of Pearland and the San Jacinto River Authority. Each agency routinely shall send representatives from their field investigation staff and laboratory staff. The RMW discusses CRP monitoring tasks and deliverables, basin monitoring priorities, training, and upcoming projects. The workgroup serves as the point of contact for H-GAC to provide Quality Assurance (QA) materials to local agencies and subcontractors. This workgroup is also the mechanism through which data management needs and priorities are discussed.

RMW meeting results will be presented to the Technical Advisory Group (TAG) and/or the Clean Rivers Program Steering Committee for review and concurrence with various basin interests. This review process will be used to assess the current monitoring plan and adjust regional monitoring strategies as needed.

Training for Local Agencies - The H-GAC monitoring coordinator will arrange training sessions for local field personnel and sub-contractors as necessary. The TCEQ Surface Water Quality Monitoring (SWQM) staff, H-GAC staff, local agency staff or vendors will conduct training sessions. Training may cover sampling techniques for field parameters, bacteria, dissolved metals, and biological monitoring or the use of new field

equipment (e.g., multi-probe meters or flow meters). All training sessions will be coordinated with the TCEQ Project Manager.

National Environmental Laboratory Accreditation Conference (NELAC)

Accreditation Activities - The ability of laboratories to demonstrate their competence is important to TCEQ's Performance Based Measurement System, in which the burden of proof of the applicability and quality of testing lies primarily with the laboratory. The NELAC Standard provides uniform requirements for accreditation of environmental laboratories. H-GAC will continue to ensure the review, update and verification of a laboratory's NELAC specified standard operating procedures, standardized quality systems, including requirements for management qualifications; documentation of policies and procedures; calibration and maintenance of equipment; quality control; qualifications and training of personnel; sample integrity procedures; management of audit findings and corrective actions; and provide comprehensive oversight of the entire system to ensure performance. Accreditation minimizes the risk of making decisions based on data of doubtful authenticity.

As per TCEQ requirements, all laboratories submitting data to the Clean Rivers Program must be National Environmental Laboratory Accreditation Program (NELAP) certified. This cost estimate presents the required TCEQ annual accreditation fees as well as semi-annual verification checks from a TCEQ-accredited third party vendor.

The costs associated with NELAC activities are shown in the table below:

| | HHS* (North) | HHS* (South) | WQC** | HC*** |
|-----------------------------------|-----------------|-----------------|----------------|----------------|
| Accreditation / Renewal (TCEQ) | \$1,600 | \$1,600 | \$1,600 | \$1,600 |
| PT (Performance Test) Samples | \$3,506 | \$3,506 | \$3,441 | \$3,560 |
| Annual Total | \$5,106 | \$5,106 | \$5,041 | \$5,160 |

* Department of Health and Human Services Laboratory

** Water Quality Control Laboratory

*** Harris County Laboratory

Basin-wide QAPP - H-GAC staff will develop a Regional Quality Assurance Project Plan (QAPP) with input from the RMW and the TAG. The Basin-wide QAPP will be submitted to the TCEQ in the TCEQ-approved shell format. Only those sites covered by the QAPP and parameters meeting the requirements of Texas Water Code Chapter 5, Subchapter R (TWC §5.801 et seq) and Title 30 Texas Administrative Code Chapter 25, Subchapters A and B will be included in the document. H-GAC will address all TCEQ comments and submit the revised QAPP to the TCEQ within 30 days after receiving comments from the TCEQ.

H-GAC will secure written documentation from participants under the QAPP stating their awareness of and commitment to requirements contained in the QAPP and any appendices and amendments. This documentation will be maintained as part of H-GAC's quality assurance records. Copies of all QAPP Receipt and Commitment letters will be forwarded to the TCEQ within 60 days of TCEQ approval of the QAPP, but prior to the monitoring event. (Note: Commitment letters are not required for entities who sign the

QAPP). H-GAC will distribute the QAPP to all participants (including the laboratory). Documentation of distribution will be maintained by H-GAC and be available for review during a TCEQ monitoring systems audit.

Sections of the Basin-wide QAPP will be posted to the H-GAC's CRP Web page. These sections include the monitoring program or project objectives, measurement performance specifications (i.e., Table A7), appendices, and either post the monitoring schedule and maps of sampling sites, or provide a link to the coordinated monitoring schedule (CMS) website with disclaimer that states the CMS includes stations monitored by other entities.

QAPP Amendment to Appendix B - The monitoring schedule in Appendix B of the Basin-wide QAPP will be updated for the second year of the contract biennium after the annual coordinated monitoring meeting. This special type of QAPP Amendment will be submitted using the TCEQ-approved shell format. Only the sites covered by the H-GAC's QAPP will be included in Appendix B of the QAPP.

Planning for Special Studies or Permit Support Monitoring - Special studies and monitoring projects to support permits will be systematically planned by H-GAC and any of their subcontractors in consultation with TCEQ staff to address the elements of the QAPP. Due to the length of time necessary for project planning and QAPP development, more than one planning meeting may be needed before a final QAPP can be submitted for approval. The H-GAC Agency Project Manager will coordinate with the TCEQ to establish the planning team, schedule the meeting (90 days prior to the planned sampling date), distribute meeting materials in advance of the meeting, facilitate the meeting, and prepare meeting minutes. H-GAC will submit planning material for the meeting to all participants one week prior to the meeting. Meeting materials will include, as appropriate, a problem definition, as currently understood, a description of budget, personnel and schedule issues, maps, information on past or on-going studies, historical water quality data, water quality inventory results, wastewater discharge information, known or expected sources of contamination, existing monitoring sites, land use information, etc. The information developed during the planning meeting will be incorporated into a QAPP appendix. The QAPP appendix will be submitted to the TCEQ (within 30 days after the planning meeting) using the TCEQ-approved shell format.

QAPP Appendices - Special studies and permit support monitoring projects that have different objectives than those described in the Basin-wide QAPP will be incorporated into the QAPP as appendices after they are thoroughly planned in consultation with the TCEQ. The QAPP appendices will be written in the TCEQ prescribed format and reference sections of the Basin-wide QAPP, as appropriate, and otherwise address information that is unique to the project. Unique aspects of special projects will include the problem definition, the task description, measurement performance specifications, sample design rationale, sampling methods requirements, and so on. QAPP appendices will be sent to the TCEQ through the CRP Project Manager. TCEQ comments will be addressed and the document will be modified and resubmitted within 30 days of receipt.

QAPP Amendments & Revisions to Appendices - Changes in parameters, sampling or analytical procedures, project organization, and other items of an existing project necessitates an amendment to the QAPP and/or Revisions to Appendices. Amendments and revisions will be submitted electronically to the CRP Project Manager on an "as needed" basis in the TCEQ shell format for agency review. QAPP Amendments and

Revisions to Appendices will be distributed, upon approval, to all personnel on the distribution list maintained by H-GAC. On-going systematic projects and/or special studies started in the previous biennium will be amended to update the start and end dates for monitoring.

Project oversight - H-GAC will participate in monitoring systems audits and laboratory inspections conducted by the TCEQ.

H-GAC will conduct oversight audits of the regional monitoring systems in two ways. First, the ambient monitoring program participants will be audited once during the contract cycle. This audit will be conducted as either a group effort whereby all agencies/organizations participating in the coordinated monitoring program assemble at one central location on one day, or individually per partner, whichever is deemed most appropriate. This audit shall be conducted to assess procedures used by field personnel and to give recommendations for corrective actions. A “monitoring systems audit checklist” will be completed and a follow-up letter will be sent to each audited agency within 30 days. If no findings are identified, then the report will state as such. If findings are identified during the audit, they will be reported as such in the audit report. Audit reports will contain references to written specifications, as defined in the QAPP or in a standard operating procedure (SOP). The audited organization will be asked to respond in writing to the report within 30 days. A copy of the audit reports and responses will be submitted as a deliverable to the CRP Project Manager with the progress report no later than the quarter following the one in which the audit was conducted. Audits of local monitoring agencies may be conducted more frequently if necessary. Additional audits may occur if there is a significant staff turnover at a specific agency or if data screening reveals problems with data collection.

Second, H-GAC will complete at least one onsite assessment of all systematic or special study monitoring performed by subcontractors during each contract period. The audit may be a readiness review if the contractor has not performed this type of study before and/or it may be a field audit to assess field sampling and data collection techniques. The exact nature of those site visits will be determined during a project planning meeting.

Corrective Action Reports - Issues that may affect data quality and availability will be tracked, addressed, and reported to the TCEQ using the definitions and corrective action strategy laid out in the CRP Guidance. Deficiencies and nonconformances will be addressed in response to deviations associated with sampling activities, chain-of-custody, analytical method requirements, quality control, and data management.

Deliverables

& Due Dates: September 1, 2009 through August 31, 2010

- A. Basin-wide QAPP Receipt and Commitment Letters - October 15, 2009
- B. Specified sections of the Basin-wide QAPP posted to the Web - October 31, 2009
- C. QAPP Appendix B amendment for FY 2011 monitoring - July 31, 2010
- D. Planning meetings for Special Studies or Permit Support Monitoring (if applicable) - 90 days prior to the planned sampling date
- E. Planning meeting notes for Special Studies or Permit Support Monitoring (if applicable) - with progress report
- F. QAPP Appendices for Special Studies or Permit Support Monitoring (if applicable) - within 30 days after the planning meeting

- G. QAPP Amendments & Revisions to Appendices (if applicable) - as needed
- H. Appendix and Amendment QAPP Receipt and Commitment Letters (if applicable) - no later than 60 days of TCEQ approval of the QAPP but prior to the monitoring event
- I. Participate in TCEQ monitoring systems audit and respond to comments (if applicable) - date planned in consultation with TCEQ
- J. Conduct on-site oversight assessment of sub-participants, once during each project or once during contract cycle (if applicable) - August 31, 2010
- K. On-site project oversight report and response (if applicable) - August 31, 2010
- L. Corrective action report (if applicable) - with progress report

September 1, 2010 through August 31, 2011

- A. Draft FY 2012/2013 Basin-wide QAPP - June 15, 2011
- B. Final FY 2012/2013 QAPP - August 15, 2011
- C. Planning meetings for Special Studies or Permit Support Monitoring (if applicable) - 90 days prior to the planned sampling date
- D. Planning meeting notes for Special Studies or Permit Support Monitoring (if applicable) - with progress report
- E. QAPP Appendices for Special Studies or Permit Support Monitoring (if applicable) - within 30 days after the planning meeting
- F. QAPP Amendments & Revisions to Appendices (if applicable) - as needed
- G. Appendix and Amendment QAPP Receipt and Commitment Letters (if applicable) - no later than 60 days of TCEQ approval of the QAPP but prior to the monitoring event
- H. Participate in TCEQ monitoring systems audit and respond to comments (if applicable) - date planned in consultation with TCEQ
- I. Conduct on-site oversight assessment of sub-participants, once during each project or once during contract cycle (if applicable) - August 31, 2011
- J. On-site project oversight report and response (if applicable) - August 31, 2011
- K. Corrective action report (if applicable) - with progress report

TASK 3: WATER QUALITY MONITORING

Objectives: Water quality monitoring will focus on collecting information to characterize water quality in a variety of locations and conditions. These efforts will include a combination of:

- planning and coordinating basin-wide monitoring,
- routine, regularly-scheduled monitoring to collect long-term information and support statewide assessment of water quality,
- systematic, regularly-scheduled short-term monitoring to screen water bodies for issues,
- permit support monitoring to provide information for setting permit effluent limits, and
- special study, intensive monitoring targeted to:
 - identify sources and causes,
 - assess priority water quality issues,
 - obtain background water quality information,
 - provide information for setting site-specific permit effluent limits, and
 - evaluate & develop statewide, regional, and site-specific water quality standards.

Task

Description: In the absence of a single, regional entity that comprehensively monitors water quality across the San Jacinto River Basin and the various coastal basins in the Houston metropolitan area, the regional monitoring approach which H-GAC is pursuing through the Clean Rivers Program involves coordinating efforts among those local agencies which monitor water quality in some portion of the area for their own specialized purposes and with their own organizational approaches. H-GAC's regional QAPP is the mechanism for bringing this existing data into the statewide water quality database. The participation of local monitoring agencies in this regional coordination effort has been largely voluntary as these agencies have not received significant CRP funding for their activities.

During FY2010 - 2011, H-GAC will continue to refine current monitoring efforts in the basins in partnership with the agencies participating voluntarily in H-GAC's Regional Monitoring Workgroup (RMW). In addition to the Regional QAPP developed by H-GAC, the main accomplishments to date under this CRP task have been to document the existing monitoring programs that various agencies already have in place in the basins and to improve inter-agency communication through H-GAC's RMW. The challenge now is to continue to build on these existing programs and determine ways to integrate monitoring activities between agencies to address basin-level and statewide information needs in an even more cooperative and effective manner. The goal is to "institutionalize" a truly regional monitoring strategy under the Clean Rivers Program by working toward cooperative inter-agency agreements through which H-GAC can target funds to supplement and leverage existing monitoring resources in the basins and thereby generate more quality-assured data to support water quality assessment activities, water quality standards refinement as well as current and future Total Maximum Daily Load (TMDL) studies. Project staff will take the RMW results and recommendations to H-GAC's Clean Rivers Program Steering Committee for concurrence and to enable additional review and comment by various basin interests. The details of the new cooperative monitoring approach for the basins will then be documented in H-GAC's FY2010/2011 QAPP

update. Initial funding agreements will be in place during FY2010 based on the results of the regional monitoring evaluation in FY2009.

The key players in the evaluation process will be the RMW participants. This core group will define common goals and objectives and also consider goals of the environmental and regulatory communities in the basins. Using the evaluation processes and tools provided in the FY2010-2011 CRP guidance, the group will then set priorities and consider potential scenarios for cooperative monitoring based on the available resources of each agency.

Pending final QAPP approval by the TCEQ, H-GAC and the participating monitoring agencies will begin to implement the regional QAPP in FY2010 and then the updated FY2011 QAPP. Field data and sample analyses completed by the agencies will be transmitted to H-GAC, reviewed and re-formatted by H-GAC staff as needed, and then forwarded to the TCEQ as outlined in the QAPP. Working closely with the TCEQ's CRP Project Manager and Quality Assurance Specialist, H-GAC also will implement the peer review process developed under the QAPP for the multi-agency cooperative monitoring effort in H-GAC's basins. H-GAC and the participating agencies will use the audit methods and tools provided in the CRP guidance to complete this evaluation.

Working with Galveston Bay Estuary Program (GBEP) staff, H-GAC will continue to coordinate all monitoring and data management efforts between the Regional Monitoring Workgroup and the Monitoring and Research Subcommittee. H-GAC also will continue to arrange regional training opportunities and workshops which support cooperative monitoring efforts (e.g., field methods, biological data collection, and habitat assessment).

Monitoring Description - Local monitoring agencies participate voluntarily in H-GAC's monitoring program. CRP funds are used to augment their existing monitoring programs in order to further their own program objectives and have access to a much larger dataset. Special studies are developed, as needed, based on local stakeholder input and the results of TCEQ or H-GAC assessments. Currently, seven local agencies are involved in this regional monitoring effort: the Environmental Institute of Houston, Harris County Environmental Public Health Division, San Jacinto River Authority, City of Houston Department of Health and Human Services, the City of Houston Department of Water Quality Control, the City of Pearland, and the H-GAC. The seven agencies have a combined total of over 310 monitoring sites in the region. Each of the agencies monitoring activities will be coordinated through the Regional Monitoring Workgroup. The coordination reduces monitoring duplication and allows all local agencies to see the data collection efforts of and data availability from other local agencies. Routine monitoring is scheduled at varying frequencies, which are determined by the parameters of concern for individual streams and/or proximity to a monitoring agency's field office and lab. Frequencies vary from quarterly for some parameters to monthly in highly impacted urban areas (see coordinated monitoring schedule at <http://cms.lcra.org>). Water bodies are selected for baseline monitoring if there is a high public interest, it has a high potential for impairment, or there is a need for continuous up-to-date water quality information. H-GAC will collect quarterly samples at 30 water quality monitoring sites throughout the H-GAC service area. Most sites are located in the upper portions of watersheds or watersheds that fall outside the jurisdiction of local partner agencies.

Data collected through routine monitoring is designed to characterize water quality trends

and monitor progress in protecting and restoring water quality. This monitoring will provide an overall view of water quality throughout the river and coastal basins. Baseline monitoring will include the collection of basic field parameters at all sites and the collection of bacteria, flow, and conventional chemical parameters at sites where indicated. All laboratories doing bacteriological analysis for this program will be using the IDEXX Method for *E. coli* and/or Enterococcus. Chlorophyll *a* will be sampled on a quarterly basis at stations located in reservoirs and bay segments and coastal bayous. Field filtered orthophosphate will be collected at all sites on a quarterly basis. All monitoring procedures and methods will follow the guidelines prescribed in H-GAC QAPP, the TCEQ *Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods for Water, Sediment, and Tissue (RG-415)* and the TCEQ *Surface Water Quality Monitoring Procedures, Volume 2: Methods for Collecting and Analyzing Biological Community and Habitat Data (RG-416)*.

Coordinated Monitoring Meeting - H-GAC will hold an annual coordinated monitoring meeting on the fourth Tuesday of March. Qualified monitoring organizations will be invited to attend the working meeting in which monitoring needs and purposes will be discussed segment by segment and station by station. Information from participants and stakeholders will be used to select stations and parameters that will enhance overall water quality monitoring coverage, eliminate duplication of effort, and address basin priorities. The changes to the monitoring schedule will be entered into the statewide database on the Internet (<http://cms.lcra.org>) and communicated to meeting attendees. Changes to monitoring that occur during the course of the year will be entered into the statewide database and communicated to meeting attendees.

Progress Report - Each Progress Report will indicate the number of sampling events and the types of monitoring conducted in the quarter, to include all types of monitoring.

Special Studies - Status reports of each special study will describe activities during the quarter. The status reports will be submitted along with the Progress Report. To help ensure the public and basin stakeholders are informed, the H-GAC website will be updated in a timely manner to include key elements of Special Studies' Reports or Summaries (e.g., status reports, executive summary, maps, and data analysis).

Continuing Special Studies:

San Jacinto River TSS Study - During the FY2008-2009 biennium, H-GAC and the United States Geological Survey (USGS) initiated a study to collect real time water quality data on two sites on the West Fork of the San Jacinto River to track water quality on a daily basis. The study was designed to help better understand the relationship between sediment and turbidity and the influence land use and management practices have on stream chemistry. The data is available on the USGS and TCEQ web pages.

A data summary was provided to H-GAC in August 2009. A draft and final summary will be completed in FY2010.

H-GAC will continue to operate the continuous monitoring stations. Data will continue to be collected at 15 minute intervals. Parameters measured will include temperature, specific conductance and turbidity. Sediment load will be calculated using the surrogate relations between sediment and turbidity developed during the previous study period. Data will continue to be transmitted to the TCEQ on a real time basis.

New Special Studies under consideration at this time are:

Aquatic Life Monitoring - Low Dissolved Oxygen levels are found on many streams within the H-GAC region. While significant amounts of water chemistry data have been collected at routine monitoring sites, the aquatic life communities at most sites in the region have not been evaluated. H-GAC will conduct aquatic life monitoring at 6-7 sites on wadeable streams that have previously not been evaluated. The monitoring will be completed using approved TCEQ methods. Sites will be selected by H-GAC and the TCEQ.

A data summary report will be submitted in August of 2011. A draft and final report, including the Biological Summary packet, will be completed during fiscal year 2012.

24 Hour Dissolved Oxygen Monitoring - There are six priority sub-segments with Dissolved Oxygen (DO) impairments or concerns in the H-GAC region. More data collection is needed to determine if the segments are actually impaired. H-GAC will conduct 24 hour DO monitoring on each of the six segments, six times throughout the two year contract period. The sites will be located on segments:

- 1007K Country Club Bayou Above Tidal
- 1007O Unnamed No-Tidal Tributary of Buffalo Bayou (Japhet Creek)
- 1007R Hunting Bayou Above Tidal
- 1013A Little White Oak Bayou
- 1014M Neimans Bayou
- 1017D Unnamed Tributary of White Oak Bayou

Deliverables

& Dues Dates: September 1, 2009 through August 31, 2010

- A. Conduct water quality monitoring, summarize activities, and submit with Progress Report - December 15, 2009; March 15 and June 15, 2010
- B. Coordinated Monitoring Meeting - March 23, 2010
- C. Coordinated Monitoring Meeting Summary of Changes - 2 weeks after meeting
- D. Email notification that Coordinated Monitoring Schedule updates are complete - May 31, 2010
- E. San Jacinto River TSS Study - Draft Report - March 28, 2010
- F. San Jacinto River TSS Study - Final Report - July 15, 2010
- G. San Jacinto River TSS Study - post Final Report to Web - August 15, 2010
- H. Aquatic Life Monitoring - Status Reports - December 15, 2009; March 15 and June 15, 2010
- I. 24 Hour DO Monitoring - Status Reports - December 15, 2009; March 15 and June 15, 2010

September 1, 2010 through August 31, 2011

- A. Conduct water quality monitoring, summarize activities, and submit with Progress Report - September 15 and December 15, 2010; March 15 and June 15 and August 31, 2011
- B. Coordinated Monitoring Meeting - March 22, 2011
- C. Coordinated Monitoring Meeting Summary of Changes - 2 weeks after meeting
- D. Email notification that Coordinated Monitoring Schedule updates are complete - May 31, 2011

- E. Aquatic Life Monitoring - Status Reports - September 15 and December 15, 2010; March 15, and June 15
- F. Aquatic Life Monitoring - Data Summary Report - August 15, 2011
- G. 24 Hour DO Monitoring - Status Reports - September 15 and December 15, 2010; March 15, and June 15
- H. 24 Hour DO Monitoring - Data Summary Report - August 15, 2011

TASK 4: DATA MANAGEMENT

Objectives: To manage a quality-assured water quality monitoring database and transfer data to the TCEQ Surface Water Quality Monitoring (SWQM) database in the required format.

Task

Description: H-GAC will continue to work with local monitoring agencies and organizations represented on its Clean Rivers Program Regional Monitoring Workgroup to accomplish the transfer and delivery of basin monitoring data to the TCEQ via H-GAC (under a TCEQ-approved QAPP and Data Management Plan). H-GAC will provide verification and validation of all data submitted by local monitoring agencies per requirements of current CRP Guidance. The local agency Data Manager and Quality Assurance Officer (QAO) will be responsible for filling out a Data Summary and submitting it with the data for validation purposes.

Surface water quality monitoring data files, including biological and special studies data, will be transferred to the TCEQ in the correct format using the TCEQ file structure. H-GAC will review each data set using the Data Review Checklist, and will prepare a Data Summary to be submitted with each data set. The Data Summary will contain basic identifying information about the data set, information regarding inconsistencies and errors identified during data verification and validation steps, and/or problems with data collection efforts. Each data submittal will include data collected no more than eight months prior to submission. Water quality data approved by the TCEQ will be posted on H-GAC's website at least two times per year. H-GAC will continue to upgrade its Data Clearinghouse functionality on its website and investigate options for ease of use by the public. Site characterization information collected by local monitoring agencies, including habitat and factors that affect water quality, will be linked to the water quality database. Water quality data will be provided via a link to the TCEQ's Surface Water Quality Web Reporting Tool at:

<http://www8.tceq.state.tx.us/SwqmisWeb/public/index.faces>.

H-GAC will continue to upgrade Geographic Information System (GIS) data management and analysis capabilities, including the incorporation of analysis of water quality information, land cover characteristics, site characterization information, and other factors that affect water quality for each watershed into digital form for use with existing spatial data.

H-GAC will work with its CRP advisory groups to set priorities for ongoing verification of locational data using Global Positioning System (GPS) technology.

Data correction requests and station location requests will be submitted via the Surface Water Quality Monitoring Information System (SWQMIS) as needed.

Deliverables

& Due Dates: September 1, 2009 through August 31, 2010

- A. Surface water quality monitoring data files and Data Summary - December 1, 2009 (includes all data through FY2009); March 1 and August 1, 2010
- B. Surface water quality monitoring data updates to Web or link to TCEQ's water quality data - February 1 and August 1, 2010

September 1, 2010 through August 31, 2011

- A. Surface water quality monitoring data files and Data Summary - December 1, 2010; March 1 and August 1, 2011
- B. Surface water quality monitoring data updates posted to Web, or link to TCEQ's water quality data - February 1 and August 1, 2011

TASK 5: DATA ANALYSIS AND REPORTING

Objectives: Conduct data analysis and develop reports that provide information to describe water quality and identify priority water quality issues for further investigation or action. This work will:

- correlate watershed characteristics with water quality conditions,
- highlight areas where water quality appears to be improving,
- identify areas where water quality appears to be declining,
- support and/or validate the findings of the TCEQ Water Quality Inventory,
- support planning of monitoring efforts,
- identify areas where nonpoint source management efforts may be applied through the Texas Nonpoint Source Management Program, and
- provide information for stakeholders to discuss at Steering Committee meetings.

Task

Description: **Basin Highlights Report** - The Basin Highlights Report will follow the outline described in the FY 2010-2011 CRP Guidance. The report will include:

- information describing the status of water quality for priority water quality issues,
- a summary of water quality monitoring activities for the past year,
- maps showing the location of sampling sites and water quality issues, and
- information on the Steering Committee and H-GAC's CRP Web page.

Five copies of the draft and final report will be provided to the TCEQ. The TCEQ will provide comments on the draft report and final approval will rest with the TCEQ. The reports will be made available to Steering Committee members, all basin stakeholders, and on H-GAC's Web page.

Basin Summary Report - The Basin Summary Report will follow the outline described in the FY2010-2011 CRP Guidance. The Report will contain a comprehensive review of water quality for the basins, including:

- identifying water quality problems and known pollution sources and set priorities for taking appropriate action regarding those problems and sources,
- trend analysis of water quality by station and parameter,
- maps showing watershed characteristics, sampling stations, and water quality issues,
- recommendations for water quality management strategies to correct identified water quality problems and pollution sources,
- discussion of the public benefits from the water quality monitoring and assessment program, including efforts to increase public input in activities related to water quality and the effectiveness of targeted monitoring in assisting the permitting process, and
- a review of wastewater discharges, nonpoint source pollution, nutrient loading, toxic materials, biological health of aquatic life, public education and involvement in water quality issues, and local and regional pollution within the watershed.

A preparation meeting between the H-GAC and the TCEQ CRP staff will be arranged prior to substantial work on the report. H-GAC will be prepared to discuss site selection for trend analysis, report content and layout, methodology for data review, and any other questions or suggestions for the report.

Five copies of the draft and final report will be provided to the TCEQ. The TCEQ will provide comments on the draft report and final approval will rest with the TCEQ. The reports will be made available to Steering Committee members and all basin stakeholders and on H-GAC's Web page.

Deliverables

& Due Dates: September 1, 2009 through August 31, 2010

- A. Draft Basin Highlights Report - February 15, 2010
- B. Final Basin Highlights Report - May 15, 2010
- C. Post to Internet - Basin Highlights Report - July 15, 2010

September 1, 2010 through August 31, 2011

- A. Preparation Meeting for Basin Summary Report - by November 1, 2010
- B. Draft Basin Summary Report - February 15, 2011
- C. Final Basin Summary Report - May 15, 2011
- D. Post to Internet - Basin Summary Report - July 15, 2011

TASK 6: STAKEHOLDER PARTICIPATION & PUBLIC OUTREACH

Objectives: Enhance and support participation of stakeholders (including the general public and other interested parties) in development of water quality objectives and priorities for the basin and CRP as a whole. Stakeholder involvement in helping determine the direction of each basin's activities is crucial and will be accomplished through both the Steering Committee process, and other public participation, outreach, and education activities. To accomplish this H-GAC will follow the FY 2010-2011 CRP Guidance to:

Coordinate and lead a Steering Committee that serves as the focus of public input. To support this, the Steering Committee shall meet publicly and assist with:

- Development and review of basin priorities and objectives that address water quality problems and pollutant sources,
- Development, review, and approval of the Basin Summary Report and other major reports,
- Development and review of the CRP work plan and the use and allocation of the program's costs and funds,
- Development, review, and determining effectiveness of the basin's watershed monitoring and assessment program (including the coordinated monitoring schedule), and
- Development and review of strategies for increasing involvement of private citizens/organizations and providing a forum for stakeholder ideas and concerns.

Engage the public through public participation, outreach, and education activities that support CRP program goals and priorities. To support this, H-GAC will:

- Provide forums for citizens to contribute their ideas and concerns to the process,
- Participate in public information and education activities to increase public awareness about basin water quality issues,
- Communicate information on water quality issues so that priorities may be set considering local, regional, state, and federal needs,
- Support stakeholders and other programs in addressing water quality issues,
- Provide and disseminate information via the Internet, and
- Expand the role of the public in water quality management issues whenever possible.

Task

Description: To ensure a comprehensive watershed assessment program, H-GAC will provide opportunities for the participation of stakeholders and other interested parties in development of water quality objectives and priorities for the basin and CRP as a whole. Stakeholder involvement will be accomplished through both the Steering Committee process and other public participation, outreach, and education activities following FY 2010-2011 CRP Guidance.

Steering Committee & Meetings - So that the different interests, concerns, and priorities of each watershed are addressed, H-GAC will work to ensure that its Basin Steering Committee includes stakeholder volunteers from across the basin that represent the groups identified in the FY 2010-2011 CRP Guidance.

At the beginning of fiscal year 2010, H-GAC will contact the Steering Committee

members to promote and confirm continued participation. If specified groups are not represented, efforts will be made to recruit replacements before the next scheduled meeting. To engage new members and increase participation, H-GAC will take every opportunity to promote the CRP and involvement in the Steering Committee, including use of H-GAC's website.

Steering Committees will meet publicly and stakeholders should be involved in development of the meeting agenda. To meet goals and coordination requirements of CRP Guidance, H-GAC will conduct at least one Steering Committee Meeting during the latter half of the first contract year and two meetings during the later half of the second contract year. Additional sub-committees or other public meetings may also be held to help complete the requirements. Besides designated meetings, efforts will be made to include additional stakeholder participation to ensure the various interests of each basin and watershed are represented.

H-GAC will design and distribute a pre-meeting questionnaire 30 days prior to the meeting (following FY 2010-2011 CRP Guidance) to all Steering Committee members and other interested stakeholders to solicit input/feedback towards meeting agenda development. Along with the priority agenda topics identified in the CRP Guidance, Steering Committee Meetings will also include additional topics that have been identified to be of significant interest to stakeholders. A final meeting announcement and agenda will be made available at least 15 days prior to the meeting by:

- written invitations/announcements (including mail, e-mail, or fax),
- announcement placed on H-GAC's website,
- public posting notification and/or press releases provided to local newspapers, and
- Community & Environmental (C&E) Department Newsletter.

After each Steering Committee or Subcommittee Meeting, H-GAC will ensure all stakeholder input and comments, decisions, and any other meeting accomplishments reached are incorporated and/or addressed. For all Steering Committee, subcommittee, or other CRP public meetings a copy of the meeting agenda; materials produced or distributed at the meeting; a meeting summary and/or copy of meeting minutes; and a list of attendees will be included in the Progress Report. Meeting summaries/minutes will be posted to the H-GAC website within 30 days after the meeting.

Public Participation & Outreach - Enhancement of CRP public participation, outreach, and education is a primary program goal. H-GAC, with Steering Committee input, will achieve this by:

- 1.) Expanding the role of the public in water quality management issues by promoting CRP and the Steering Committee as a forum for citizen input. To accomplish this, H-GAC will:
 - Continue to support the monthly *Community & Environmental Planning Department Newsletter* that contains articles about relevant issues and distribute it via the Environmental Concerns & Issues Mailing list maintained by H-GAC,

- Sponsor booths at local events such as the State of the Bay Symposium, where the public and stakeholders have the opportunity to talk with staff and pick up literature, and
 - Post information regarding meetings, brochures, and reports on the H-GAC website.
2. Providing information necessary to balance basin priorities and increase public awareness of local water quality, and water resource issues. To accomplish this, H-GAC will:
- Participate fully in content development and promotion of the Region's Envirocast program. Water quality related news pieces will be developed and aired during the weather segment on a local network's evening broadcast. Frequency of broadcasts will be determined by the local news station,
 - Continue to produce and distribute maps and brochures from the "What Watershed Do You Live In?" series. Continue to contract the production and installation of watershed signs for selected watersheds,
 - Assist farmers and ranchers in developing watershed plans through the Natural Resources Conservation Service (NRCS). H-GAC will identify areas of watersheds that meet the criteria of the NRCS, then contact and support eligible parties,
 - Focus outreach, particularly concerning bacteria issues, in the watersheds involved in the Houston Metro Bacteria TMDL,
 - Promote volunteer monitoring of local water bodies, rivers, and creeks,
 - H-GAC will consider ways to integrate volunteer environmental monitoring efforts under the Texas Stream Team Program into the regional monitoring strategy. The emphasis will be on targeting volunteer resources to fill gaps and augment agency monitoring programs. Volunteers also can help to address high-priority information needs in coordination with monitoring agencies. All Texas Stream Team activities will continue to be conducted in accordance with the state-wide Texas Stream Team QAPP,
 - Continue to fulfill its responsibilities and objectives as a Texas Stream Team Partner by working with local groups and industries to build partnerships. H-GAC staff will continue to work with these partners to set annual priorities and develop a coordinated activities schedule. H-GAC also will continue to evaluate the maximum number of volunteers that the cooperating partners can support in the area with current staff and resources,
 - H-GAC will distribute at least 12 "seed" kits and miscellaneous supplies in FY2010 and 15 "seed kits" and miscellaneous supplies in FY2011, in support of local volunteers,

- H-GAC staff will continue to participate in the annual Texas Stream Team Meeting of the Monitors and the state-wide Partners Meeting and will assist in conducting an annual regional symposium to encourage networking among area volunteers and interaction between volunteer and professional monitors, and
- All Texas Stream Team activities will be handled by H-GAC's Texas Stream Team Volunteer Coordinator. H-GAC will convene and support a Volunteer Monitoring Workgroup where representatives from the region will be asked to attend meetings at least three times per year.

For any public participation, outreach, or volunteer monitoring activities, a copy of the activities summary, materials produced/distributed by H-GAC, and a list of participants will be included in the Progress Report.

Because the Internet is a very important tool for providing information, increasing stakeholder and public awareness, and improving involvement in the CRP, H-GAC will develop, maintain, and update, and report on their website as specified in the FY 2010-2011 CRP Guidance.

Deliverables

& Due Dates: September 1, 2009 through August 31, 2011

- A. Contact Steering Committee members to promote/confirm participation and review response against Membership Guidelines - November 30, 2009
- B. Document that website meets outlined website requirements - November 30, 2009
- C. Summary of website updates in Progress Report- December 15, 2009; March 15 and June 15, 2010
- D. Contact Steering Committee members with questionnaire, draft agenda topics and to confirm participation – a minimum of 30 days prior to Steering Committee Meeting date
- E. Final announcements & agenda for Steering Committee Meetings – a minimum of 15 days in advance of meeting
- F. Steering Committee Meeting- one in latter half of fiscal year
- G. Steering Committee Meeting materials - with Progress Report following meeting
- H. Steering Committee Meeting minutes posted to the web – 30 days after the meeting
- I. Materials from education & outreach activities - December 15, 2009; March 15 and June 15, 2010
- J. Summary of Volunteer Monitoring Activities in Progress Report- December 15, 2009; March 15 and June 15, 2010

September 1, 2010 through August 31, 2011

- A. Summary of website updates– September 15 and December 15, 2010; March 15, June 15, and August 31, 2011
- B. Contact Steering Committee members with questionnaire, draft agenda topics and to confirm participation – a minimum of 30 days prior to Steering Committee Meeting date
- C. Final announcements & agenda for Steering Committee Meetings – a minimum of 15 days in advance of meeting
- D. Steering Committee Meeting- two in latter half of fiscal year
- E. Steering Committee Meeting materials - with Progress Report following meeting
- F. Steering Committee Meeting minutes posted to the Web - 30 days after the meeting

- G. Materials from education & outreach activities - September 15 and December 15, 2010; March 15, June 15, and August 31, 2011
- H. Summary of Volunteer Monitoring Activities in Progress Report - September 15 and December 15, 2010; March 15, June 15, and August 31, 2011