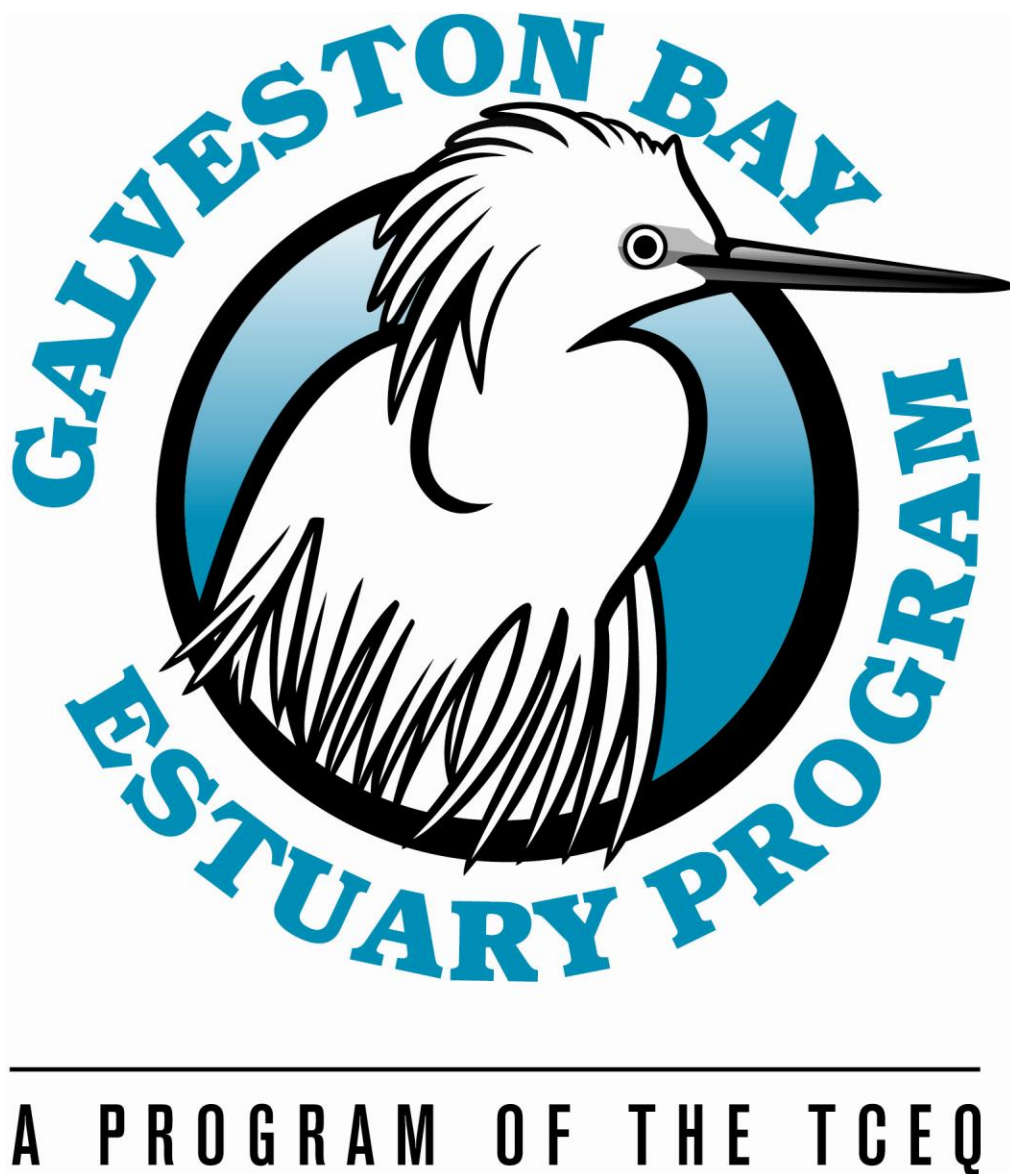


**FISCAL YEAR 2012
ANNUAL WORK PLAN**



May 2011

FISCAL YEAR 2012 ANNUAL WORK PLAN
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LIST OF ACRONYMS

Coastal Impact and Assistance Program	CIAP
Clean Water Act	CWA
Comprehensive Conservation Management Plan	CCMP
Data & Information Management System	DIMS
Galveston Bay Estuary Program	GBEP
Galveston Bay Foundation	GBF
Galveston Bay Information Center	GBIC
Galveston Bay Information Network	GBIN
Geographic Information System	GIS
Houston-Galveston Area Council	H-GAC
Houston Ship Channel	HSC
Memoranda of Agreement	MOA
Monitoring and Research	M&R
National Marine Fisheries Service	NMFS
Natural Resources Conservation Service	NRCS
Natural Resource Uses	NRU
Nonpoint Source	NPS
On Site Sewerage Facilities	OSSF
Public Participation & Education	PPE
Quality Assurance Project Plan	QAPP
Research Coordination Board	RCB
Texas A &M University	TAMU
Texas Department of State Health Services	TDSHS
Texas General Land Office	GLO
Texas Commission on Environmental Quality	TCEQ
Texas Parks and Wildlife Department	TPWD
The Galveston Bay Council	The Council
The Galveston Bay Plan	The Plan
U.S. Environmental Protection Agency	EPA

SECTION 1: PROGRAM OVERVIEW

Galveston Bay is the largest and most productive estuary in Texas and sits adjacent to one of the most heavily urban industrialized areas in the nation. The program's service area encompasses 232 miles of estuarine shoreline along the upper Texas Coast and incorporates the 5-county area bordering Galveston Bay: Liberty, Chambers, Harris, Galveston and Brazoria counties.

The Galveston Bay Estuary Program (GBEP) was established in 1989 to provide comprehensive management of this vital resource. In 1990, the GBEP began working with a diverse group of stakeholders to develop a comprehensive plan that would receive broad based support from and involvement by federal and state agencies with jurisdiction in Galveston Bay, industries and businesses, local government officials, commercial and recreational fisherman, conservation organizations, and citizens. In 1994, The Galveston Bay Plan (The Plan), the Comprehensive Conservation and Management Plan (CCMP), was complete, and in 1995 it was approved by the Governor of Texas and the EPA Administrator. This effort was jointly funded by the U.S. Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ).

The Plan identifies 82 action items to protect and restore the health and productivity of the estuary while supporting continued economic growth and public use of the Bay. GBEP received a grant from EPA to begin implementing The Plan in 1995. This grant ran from FY 1995-1999 and is now closed. Subsequent grants have run from FY 2000 – 2003, FY 2004 - FY 2007, and FY 2008 - 2010. Over 190 implementation projects were initiated under these grants. This work plan outlines the second year of projects to be implemented in the fifth grant that will run from FY 2011 to FY 2013.

The Galveston Bay Estuary Program has received fourteen national awards for its partnerships and progress in implementing The Plan and preserving the bay:

PRE 2008 GRANT AWARD

- Four awards from Coastal America (one in 1999, Clear Creek Habitat Restoration, using beneficial uses of dredge material, one in 2002 Galveston Island State Park Habitat Restoration, one in 2003 for Habitat Restoration at Jumbile Cove, and one in 2005 for San Jacinto State Park),
- One from NASA in 2001 for bay preservation,
- National Wetland Conservation Award for Delehide Cove Protection and Restoration from the U.S. Fish and Wildlife Service in 2006
- EPA Gulf of Mexico Program Gulf Guardian Partnership Award for the Brays Bayou Urban Wetlands project
- The Fisheries and Habitat Conservation Partnership award for the cumulative habitat conservation work on the part of the NRU Subcommittee
- Two EPA Gulf of Mexico Program Gulf Guardian Awards to Estuary Program partners, including an award in the non-profit category to SCENIC GALVESTON for the Virginia Point Coastal Preserve, which the Estuary Program played an instrumental role, and an award in the individual category to Dick Benoit, a highly active local citizen.

FY 2008-present

- EPA Gulf of Mexico Program awarded First Place Gulf Guardian Award in the Partnership category in for the East Bay Shoreline Protection Project
- The Department of Interior's Collaborative Conservation award for the East Bay Shoreline Protection Project
- EPA's Gulf of Mexico Program Gulf Guardian Partnership Award for North Deer Island
- Coastal America Partnership Award for North Deer Island

SECTION 2: INTRODUCTION

The Galveston Bay Estuary Program (GBEP), a special non-regulatory program of the Texas Commission on Environmental Quality (TCEQ), is a partnership of local governments, business and industry, conservation organizations, bay user groups, and resources agencies, charged with implementing The Galveston Bay Plan (The Plan), the Comprehensive Conservation Management Plan for Galveston Bay. The Program is part of the Office of Water-Water Quality Planning Division. A Program Director and staff of seven located in the Houston-Galveston area directly oversee implementation. Program staff responsibilities follow.

- Acquire, manage, and disburse funds to implement specific actions in The Plan;
- Provide for coordination and communication among state and federal resource agencies for the many cross jurisdictional issues;
- Coordinate, monitor and track implementation activities of Plan Partners;
- Identify and communicate bay improvements to agencies, stakeholders, and the public;
- Conduct public outreach and education to increase awareness of Galveston Bay;
- Advocate conservation of the estuary; and,
- Maintain stakeholder involvement in the decision-making process through the Galveston Bay Council and its subcommittees.

SECTION 2.1: GALVESTON BAY ESTUARY PROGRAM ORGANIZATIONAL STRUCTURE

The TCEQ's Galveston Bay Estuary Program has the primary responsibility for coordinating and administering the work plan. Program staff and job descriptions are described below.

Helen E. Drummond, Program Director, is responsible for overall implementation of The Galveston Bay Plan, including: securing and managing funds to support operations, staff, and projects; fostering stakeholder involvement to facilitate Plan implementation; managing program staff and operations to ensure efficient use of resources; and representing GBEP on national, state, and local boards and committees and at national and state conferences/events to garner federal and state support.

Lindsey Lippert, Natural Resource Uses (NRU) Coordinator, is responsible for coordinating implementation of Habitat, Species, Freshwater Inflows, Shoreline Management, and Spills and Dumping actions in The Plan; coordination of Invasive Species Workgroup and NRU subcommittee of the GBC; implementing specific projects to restore and protect habitat and manage and control invasive species; maintaining Government Performance and Report Act (GPRA) and EPA reporting; coordinating quality assurance, and also serves as the contracts specialist and grants coordinator for the Estuary Program.

Steven R. Johnston, Monitoring and Research Coordinator, Water/Sediment Quality (WSQ) Coordinator, is responsible for coordinating implementation of storm water, wastewater, septic systems, seafood safety, and research actions in The Plan; coordinating the Regional Monitoring Program, including data management/reporting, and development and application of environmental indicators; facilitating the Monitoring/Research Subcommittee of the GBC; and researching, evaluating and reporting findings concerning scientific and technical issues impacting Plan implementation.

Ericka McCauley, Communications Coordinator (Conversion of PIO), is responsible for planning and organizing the Estuary Program's communication efforts. These efforts include providing information to stakeholders, the general public and the media as well as building consistent, cohesive messaging/branding for the bay and fostering behavior that supports a sustainable Galveston Bay through the public awareness campaign. This

position also oversees the PPE subcommittee, the development and dissemination of GBEP publications, press releases and other materials; promotion of special events and projects; and Web site maintenance.

Cynthia Brum, Community Relations Specialist is responsible for building relationships and developing communication channels and dialogue with local government officials, private sector, and other outside organizations key to implementing *The Plan*. This position explores public-private partnerships that leverage expertise and financial resources toward common issues affecting Galveston Bay. the gain wider reach of communication to facilitate cross-sectoral learning of public relation and marketing activities for the Galveston Bay watershed; coordinates the Community Relations Task Force of the PPE subcommittee, organizes and manages community relations events and the State of the Bay symposium, and tracks emerging stakeholder community concerns/issues.

Mary Villareal, Education Coordinator and Outreach Support, handles GBEP exhibiting events, coordinates the K-Adult task force of the PPE subcommittee, maintains Program contacts database, conducts k-12 presentations, and supports general activities of the PPE Team and Subcommittee. She also handles purchasing and timekeeping.

Doretta G. Thomas, Administrative Assistant, is responsible for travel coordination, vehicle and equipment maintenance and repairs, mail, correspondence, office safety, and general administrative support for the Program Director.

Vacant, Program Specialist

SECTION 2.2: FY 2011 GOALS AND ACCOMPLISHMENTS

Estuary Program partners made notable achievements in improving water quality, restoring wetlands, protecting unique habitats and educating the public in 2011. Those achievements include:

HABITAT & LANDSCAPE-LEVEL CONSERVATION: CREATING, RESTORING, & PROTECTING COASTAL HABITAT

The Estuary Program and its partners created, protected, and enhanced 503 acres of important coastal habitats, leveraging \$3.36 million in local, industry, state, and federal contributions. Activities included restoring wetlands at McAllis Point and throughout West Bay, creating, controlling Brazilian pepper tree and other invasive species on Galveston Island, and putting 85 acres of coastal habitat into permanent conservation at Ostermayer Bayou. Through the NRU Subcommittee's efforts, 2009-10 CIAP grants were awarded for conserving land on Galveston Island (Settegast Coastal Heritage Preserve) and restoring oyster habitat through TPWD's East Bay Oyster Restoration Project. The Subcommittee, through its Invasive Species Workgroup, is continuing an intensive effort to eradicate Brazilian pepper tree from Galveston Island before it becomes entrenched, and has secured over \$100,000 in grants and partner contributions to do so. NRU will continue its effort to leverage state funding in the next fiscal year by targeting over \$3 million in federal funds from CWPPRA and ERA for continued habitat protection and restoration.

IMPROVING & PROTECTING WATER QUALITY: SUPPORTING CORE CLEAN WATER ACT PROGRAMS

The Estuary Program continued to support several core clean water act programs, including Section 319 NPS Program and the Total Maximum Daily Load Program, through increased coordination and connection of these programs in the Galveston Bay area.

In addition, the Estuary Program is directly supporting water quality improvement through the development

of watershed protection plans (WPP) and water quality improvement projects (WQIPs). Using \$481,000 in American Recovery and Reinvestment Act funding combined with state and Section 320 funding, the Estuary Program has initiated two watershed characterization projects to evaluate the need for developing watershed protection plans. Based on the TCEQ's 2008 303(d) list, Highland Bayou was listed for high bacteria and low dissolved oxygen in 5a and 5c status respectively. Double Bayou was listed on the same report for high insistence of bacteria and low dissolved oxygen but was placed in 5c status. The Estuary Program has, through the two characterization projects, collected additional data, begun source identification and initiated the stakeholder involvement processes. Both projects will be completed in the Fall of 2011 and will determine if a watershed protection plan is warranted in either watershed.

With the two projects discussed above, a new WPP being developed on Cedar Bayou with section 319 funding, development of an implementation plan for Galveston Bay oyster waters, and on-going efforts through the Houston Bacteria Implementation Group and the Dickinson Bayou Watershed Plan, all watersheds listed on the state's 2010 303(d) have a water quality initiative at some stage of development.

The Estuary Program is also initiating on the ground WQIPs in four watersheds – Armand Bayou, Dickinson Bayou, and Clear Creek. All of the watersheds are on the state's 303(d) list as impaired. The Estuary Program is working with the University of Houston at Clear Lake in the Armand Bayou watershed to install a storm water treatment wetland to remove pollutants from the university's parking lots. The WQIP is also going to evaluate the feasibility of solar pumping water from the impaired bayou through the wetland during dry weather. The Armand Bayou WQIP will be constructed by August 31, 2011 and planted in the spring of 2012. The WQIP will be fully monitored before, during, and after to evaluate load reductions. It is expected that the data will be shared with regional watershed planners and watershed implementation groups to improve implementation plans and assist in education efforts.

The Estuary Program is supporting the implementation of the Dickinson Bayou Watershed Plan by funding, in conjunction with a section 319 grant, a storm water wetland and rain gardens in the watershed. These will be the first low impact development practices implemented in the watershed and in Galveston County. The wetland and rain gardens will be completed by August 31, 2011.

The Water and Sediment Quality Coordinator has an active role on the bacteria TMDL and Implementation projects for the greater Houston Metropolitan Area. Through this role, the coordinator assisted the City of League City to apply for a section 319 grant through the TCEQ to address high levels of bacteria in the lower reaches of Clear Creek. Once the contract is signed between TCEQ and the city, work will begin on developing a water quality best management park to educate city staff, developers, and citizens; retrofit an older section of the city with water quality improvement projects; and begin review of city ordinances that will lead ordinances that encourage protecting and improving water quality and water conservation.

IMPROVING RESOURCE MANAGEMENT THROUGH TARGETED RESEARCH THAT INCREASES ECOSYSTEM UNDERSTANDING

The Estuary Program has funded three research projects in support of increasing ecosystem understanding and support management decisions – Status and Trend (S&T) and State of the Bay 3rd edition; the Effects of Fresh Water Inflows on the Phytoplankton Community; and the Water Quality and Storage Characteristics of Freshwater Wetlands. The Estuary Program continues to support the maintenance of the Status and Trends website located at www.galvbaydata.org. The site includes the annual update of quality assured environmental data and the production of a yearly report. New in 2011 is the 3rd edition of the State of the Bay report which uses S&T information to present the status of environmental indicators and latest research, while reporting on the Estuary Program and partner efforts to implement the Galveston Bay Plan and improve

and protect Galveston Bay. S&T and the State of the Bay 3rd edition is used to inform resource managers, policy developers, researchers and citizens about the Bay ecosystems and how they are fairing.

The Effects of Fresh Water Inflows on the Phytoplankton Community is looking at the importance of fresh water inflows, evaluating nutrients, seasonality, magnitude, and pulsing, on the phytoplankton's volume and community structure. The work is helping to inform state and regional water planning efforts. A Quality Assurance Project Plan has been completed and new sample collection has begun. Based on recommendations by members of the state's Bay and Basin Expert Science Team, work in 2011 and 2012 will focus elements of monitoring on indicator species, *Rangia* and *Valisneria*, thought to exhibit correlation with fresh water inflow. Little data has been collected on these two species in the past.

The Water Quality and Storage Characteristics of Freshwater Wetlands focused better understanding the role of prairie fresh water wetlands. This project was completed in July 2010. Little or no data was available to discern the role these wetlands play in maintaining water quality in tributaries and Galveston Bay. Based on this lack of knowledge, little protection has been afforded these wetlands, which are being lost at a rate above 3% each year due largely to development. Results concluded that these wetlands including their catchment area, which makes up close to 30% of the 30+ quadrangles surrounding Galveston Bay, store over 80% of the rainfall and even discharge up to 18% during drought conditions. The research found that the wetlands were capable of reducing 98% of nitrate-nitrogen from precipitation to more biologically available organic forms. This project along with that of another paper on the subject was highlighted in 2011 during an EPA wetland review held in Galveston on February 23, 2011(I think this is the date). A report based on this review is currently being written by the EPA and its contractors.

CONTINUE BUILDING REGIONAL SUPPORT FOR PUBLIC PARTICIPATION AND EDUCATION

Galveston Bay is an estuary of national significance; however, the Bay faces many threats to its continued health. Paramount among these is the lack of awareness on the challenges to maintaining the Bay's vitality as well as the value the Bay brings to the Houston-Galveston area. In an era of severe constraints on both governmental and private sector funding, an educated and motivated public can provide much of the needed expertise, time, effort, and leadership to conserve bay resources. To this end, stakeholders identified fostering public support on a large scale as the second highest priority in the Estuary Program's *Charting the Course: Galveston Bay Strategic Action Plan*.

To strategically build regional support for sustaining a healthy Galveston Bay, the Estuary Program collaborated on bay-related, community-based initiatives; expanded partnerships with local governments; led discussions on bay-related and Gulf-related issues and concerns; and developed the only regional, partner-supported campaign to increase awareness of Galveston Bay. Examples of these activities include:

- Supporting community-based events such as Trash Bash, City of Pasadena Earth Day, Cedar Bayou Watershed Festival, Bay Day, and Marsh Mania;
- Providing presentations to industry, businesses, citizen groups, non-profit organizations, schools, and governmental organizations;
- Fostering support for the campaign with Houston-area businesses and conservation groups, and local governments in key watersheds: Dickinson, Cedar Bayou, and Armand Bayou;
- Providing forums for Gulf-wide efforts such as the Gulf Coast Ecosystem Task Force listening sessions;
- Assisting with coordinating local and Gulf-wide communication on the Gulf oil spill—this includes leading the Gulf NEPs to discuss communication and outreach efforts each NEP was doing in response to the oil spill;
- Tracking issues such as freshwater inflows;

- Working towards building partnerships to assist with the Tenth State of the Bay Symposium;
- Leading partners to collaborate on Galveston Bay-related news stories; and
- Branding Galveston Bay to increase awareness of its value and behavior changes that help protect the bay through a coordinated, regionally implemented campaign.

Galveston Bay Public Awareness Campaign

The Estuary Program began the development of a public awareness/stakeholder-involvement campaign to reinforce implementation of *The Galveston Bay Plan's* priorities. The goals of the Galveston Bay Public Awareness and Education Campaign—called *Back the Bay*—are to build awareness of the value of Galveston Bay, and encourage and incentivize actions that support habitat conservation, water conservation, and water quality improvement.

To uncover barriers to behavior change, and to identify audiences willing to support behavior changes as well as favorable messages and materials, the Estuary Program researched consumer attitudes and knowledge about Galveston Bay. GBEP staff also conducted in-depth interviews with stakeholders on the campaign themes, messages, and creative materials.

The research revealed that Galveston area residents are relatively willing to change their behaviors to better serve the health of Galveston Bay. However, there are some key barriers that leave many area residents feeling disconnected from the bay. The research identified a central campaign theme or brand (*Back the Bay*) that audiences related to as well as key messages that help consumers feel a stronger connection to the bay and, therefore, become more willing to change their behaviors to better serve the bay's health. The research also revealed two key consumer groups as the target audience for the campaign.

The next step is to launch the Pilot Market Program in Pearland, Texas; it is expected to be completed July 31, 2011. The goal of the Pilot Market Program is to test the campaign's messaging and look on a smaller scale. The pilot will use pre-campaign research results to formulate appropriate messaging for Pearland; the campaign plan, which will also be tested, will guide implementation of the pilot. Post-campaign research, to be done after the Pilot Market Program, will refine the messaging and look of the campaign. This refinement will be applied in the full-scale launch and implementation of the campaign—targeted to begin September 2012.

Bay Day

The Estuary Program co-sponsored the Galveston Bay Foundation's 2011 Bay Day Festival—the only event of its kind in the Houston-Galveston area that focuses on and celebrates Galveston Bay. This free public event was held on Saturday, May 21, 2011 at the Kemah Boardwalk.

The event featured live entertainment, interactive exhibits, and a scavenger hunt. Children and adults learned about the importance of Galveston Bay at exhibitor booths including the Galveston Bay Estuary Program, Baytown Nature Center, Gulf of Mexico Foundation, Texas A&M Sea Camp, Texas Fly Fishing of Houston, and many more. They also had opportunities to meet and interact with different types of bay wildlife, meet the Houston Texans cheerleaders and mascot Toro, view NRG Energy's new electric car charging stations that will soon appear around Houston, and learn more about Reliant Energy's new "EcoShare" program.

Thanks to the many sponsors, exhibitors, and volunteers the event was very successful. It is estimated that over 3,000 people attended the celebration.

Trash Bash

In March 2011, the Estuary Program coordinated the 18th Annual Trash Bash cleanup at Mason Park along Brays Bayou—a predominantly Spanish-speaking neighborhood, and one of 17 sites across the Houston-Galveston area. The event promotes environmental stewardship and encourages volunteers to do their part at home by properly disposing of trash, household chemicals, and pet waste.

Over 200 volunteers collected an estimated 930lbs of trash and 4 tires at Mason Park. Their efforts enabled 20lbs of materials to be recycled. Each year, Trash Bash meets or surpasses volunteer goals. Trash Bash celebrated record-breaking volunteer attendance (6,053) and miles of shoreline cleaned (176) in 2011. To date, more than 70,000 volunteers from 13 counties have collected over 1,800 tons of trash.

In September 2009, Trash Bash TM received the 3rd Place - Civic/NonProfit Gulf Guardian Award. In 2008, the Estuary Program was instrumental in incorporating Brays Bayou as an official Trash Bash TM site. Coordinated by the Houston-Galveston Area Council, this regional watershed trash clean up is financed and organized by local sponsors including the Estuary Program.

COLLABORATING GULF-WIDE THROUGH GULF OF MEXICO ALLIANCE

The Estuary Program assisted the efforts of the Gulf of Mexico Alliance's Environmental Education Network (EEN) and Public Relations Committee. Our Public Information Officer serves as a Texas co-lead for Environmental Education Priority Issues Team, providing leadership for regional coordination of the Alliance's priority issues, facilitating communications between the Alliance and local stakeholders and coordinating local meetings. Efforts include promotion of the August 2010 All-Hands meeting, coordinating distribution of Gulf of Mexico Oil Spill information, and finalizing the public relations plan for the Alliance.

FY 2011 LEVERAGING

EPA Funds to Program (Section 320)	Other Federal Funds (Role - Primary)	State Funds to Program (Role - Primary)	Local Government Funds to Program and In-Kind (Role-Primary)	Private to GBEP Projects & In-kind (Role - Significant)
\$800,000	\$1,436,250	\$1,590,845	\$1,500	\$328,625

FY 2012 TRAVEL AND TECH TRANSFER

Event, Location, Purpose	Staff Person	Amount
Bayou Preservation Association Symposium – Houston, TX September 2010	Cynthia Mary Steven	\$150
Management Development Program – Austin, TX September 2010	Steven	\$650
Hurricane Ike Revisited Conference – Houston, TX September 2010	Cynthia Helen	\$100
PRSA Luncheon – Houston, TX October 2010	Ericka Helen	\$269

State of the Prairie Conference – Houston, TX October 2010	Ericka Lindsey Mary	\$150
Restore America’s Estuaries Conference – Galveston, TX November 2010	All	\$2,395
Texas Women’s Conference – Houston, TX November 2010	Cynthia Doretta Mary	\$335
Coastal Impact Assistance Program Coordination and Project Review – Austin, TX January 2010	Helen	\$110
TLTC Land Conservation Conference – Austin, TX February 2011	Lindsey	\$760
Gulf Coast Ecosystem Workshop Listening Session – Clear Lake, TX February 2011	Ericka Helen	\$0
NRDA Deepwater Horizon Public Meetings – Galveston, TX March 2010	Lindsey	\$0
USFWS Texas Coastal Program Partners Meeting – Friendswood, TX April 2010	Lindsey	\$0
Environmental Trade Fair – Austin, TX May 2010	Ericka Helen	\$228
Texas Sea Grant Meeting – College Station, TX May 2010	Steven	\$0
Texas Coastal Rookery Partnership – Edna, TX May 2010	Lindsey	\$0
Total		\$5,147

SECTION 2.3 STRATEGIC ACTION PLAN GOALS TO FOCUS ON IN FY 2012

- Create, Restore, and Protect Important Coastal Habitats
- Eradicate or reduce populations of exotic invasive species and prevent new invasions.
- Reduce NPS Pollutant Loads.
- Create a sense of personal ownership and shared responsibility among all cultural components of the community, including the public, industry and government.
- Ensure that stakeholders receive the knowledge necessary to act on Estuary Program’s priorities in ways that benefit the bay and the entire community.

FY2012 EXPECTED OUTCOMES

- Conserve and protect 1000 acres of habitat.
- Restore and enhance 500 acres of habitat.
- Reduce the coverage of the invasive species in three areas of the known infestations in the Galveston Bay watershed.
- Increased coordination and more strategic implementation of water quality improvement activities in Armand, Double Bayou, Highland Bayou, Clear Creek, and Dickinson Bayou watersheds.
- Inform and educate approximately 2,800 adults, 1,000 children and 4 local governments through the Tenth State of the Bay Symposium, presentations, exhibiting events, voluntary events, and the *Back the Bay*

campaign.

- Continue to build a brand for Galveston Bay across the Houston-Galveston region through the implementation of *Back the Bay* campaign.
- Continue to elevate the prominence of Galveston Bay issues in the local media and the general public's ability to recall Galveston Bay issues through a targeted media blitz (PSAs, paid advertisements, social media, and increased media coverage) in Brazoria, Chambers, Galveston, Harris and Liberty counties.

FY2012 EXPECTED OUTPUTS

- Implement one conservation project, two erosion protection projects and one restoration project.
- Initiate 2 Watershed Protection Plans (Highland and Cedar Bayous)
- Initiate 2 Watershed Protection Plans (Highland and Cedar Bayous)
- Implement structural and non-structural BMP Implementation projects in 2 impaired water bodies (Clear Creek, and Dickinson Bayou)
- Produce a Status and Trends 2012 Report.
- Produce characterization reports for 2 sub-watersheds (Highland and Double Bayous).
- Initiate or Complete 3 monitoring and research projects to improve ecosystem understanding (Status and Trends, Freshwater Inflow, No Net Loss of Wetlands evaluation, Nutrient and Sediment Loadings)
- Complete 20 presentations to bay user groups, civic groups, non-profit organizations and schools and provide exhibits at 5 local events.
- Implement the Galveston Bay Awareness and Education campaign.
- Develop and deliver 10 televised and web-based environmental stories concerning Galveston Bay.

FY 2012 STATE AND FEDERAL FUNDING

The total cost of the FY 2012 work plan is \$1,196,000. Fifty percent (\$598,000) of the project cost is provided by federal funds; fifty percent (\$598,000) in match is being provided by TCEQ through general revenue. These figures exclude additional state and local funding.

DIVISION	AMOUNT	% OF TOTAL
Office of Water/GBEP	\$1,197,600	100
Total	\$1,197,600	100

Budget Detail- See Also Budget Worksheets	
Salaries (Includes Fringe and Indirect)	\$527,675
Travel	\$5,000
Capital	0
Supplies	\$1,000
Contracts	\$200,000
Other	\$463,925
Total	\$1,197,600

PROJECT SCHEDULE

The execution of the tasks associated with this work plan will occur over a 36-month period, which is anticipated to begin September 1, 2011, and end August 31, 2014. The exact start date of the work plan and all due dates for deliverables are contingent upon the actual date the grant funds are awarded and able to be contracted out.

SECTION 3: FY 2012 PROJECTS
SECTION 3.1: FY 2012 FEDERAL PROJECTS BY PROGRAM ELEMENT

The projects outlined in this work plan were developed by the Natural Resource Uses Subcommittee, Water and Sediment Quality Subcommittee, Monitoring Subcommittee, Public Participation and Education Subcommittee, and the Monitoring and Research Subcommittees, ranked by the Budget and Priorities Subcommittee, and submitted to the Galveston Bay Council for approval in April. The Council approved projects listed in this work plan at the April 19, 2011 quarterly meeting.

Project Name	Year(s)	FY 2012 Request	Total Project Budget
Administration (Salaries)	Annual	\$533,675	n/a
ADMIN TOTAL		\$533,675	
No Federally Funded NRU Projects	n/a	\$0	\$0
NRU TOTAL		\$0	
1. NPS Reduction Water Quality Implementation	2012-2014	\$140,925	\$600,000
WSQ TOTAL		\$140,925	
2. GB Public Awareness Campaign	2010-2015	\$200,000	\$2,000,000
3. Tenth State of the Bay Symposium	2011-2012	\$20,000	\$80,000
4. Trash Bash 2012	2011-2012	\$1,500	\$3,000
5. Estuary Program Website	Annual	\$1,500	Annual
PPE TOTAL		\$223,000	
6. Ecosystem Valuation RFGA	2012-2013	\$100,000	\$200,000
7. Evaluating the Variability of Sediment and Nutrient Concentrations and Loads from Freshwater Inflows into Galveston Bay	2012	\$135,000	\$135,000
8. Status and Trends	Annual	\$65,000	Annual
M&R TOTAL		\$300,000	
FUNDING REQUEST GRANT TOTAL		\$1,197,600	

SECTION 3: FY 2012 PROJECTS
SECTION 3.2: FY 2012 FEDERAL PROJECT DESCRIPTIONS

3.2A - NRU Projects for FY 2012

No Federally Funded NRU Projects

3.2B - WSQ Projects for FY 2012

1. NPS Reduction Water Quality Implementation

CCMP Actions Implemented: HP-1,2,3,5; SD-5,6,7; WSQ-1,2,6,7; NPS-1,2,3,4,5,6,10,11,12,13,14; PS-1,2,5 PPE-1,3,5,7

SAP Objectives: WSQ Goal 1 Objective A and C; Habitat Protection Goal 2 Objective B

Lead: TX AgriLife Extension

FY12 Budget: \$140,925

Milestones: upon signature to 08/31/2015

Description: The purpose of this project is to create multi-functional storm water detention basins that will serve as a model demonstration for local and regional governments. Currently, Brazoria County Conservation and Reclamation District #3 (BCCRD3) is installing flood detention basins, 92 acre and 40 acre, within the Chocolate Bayou Watershed to restore some of the watershed's flood capacity lost to past residential and commercial developments surrounding the cities of Alvin and Manvel. This project will restore wetland and upland habitat within these detention basins. This project will convert two already planned and currently being excavated flood detention basins of BCCRD3 to wet bottom detention basins, creating wetland and upland features. BCCRD3 is currently funding the detention basin construction but lacks the resources to create multi-function wetland habitat basins that will improve water quality, created habitat, increase recreation opportunities all the while reducing the occurrence of floods. This enhancement of the detention basins is not a requirement or regulation of flood detention construction. This project will serve as a model for future work by drainage districts in Brazoria County. This project will create and protect 30-60 acres of wetlands and restore riparian habitat within the CNZA. Additionally, the detention area will receive storm water from Chocolate Bayou providing an opportunity to remove contaminants like bacteria, nutrients and sediments, ecological services which wetlands are known to provide. This will ensure improved diverse and high quality habitat is created. Results of this project and future planned detention will help support the long term goal of protecting those habitats downstream such as recreational oyster reefs and SAV of Chocolate Bay and West Bay. This project will also develop trails, boardwalks and overlooks that include educational signs to communicate the importance of coastal natural resources and efforts to protect them.

This project directly benefits the implementation of the Galveston Bay Plan (Plan) by creating wetlands, supporting migratory and resident bird habitat, improving water quality, and increasing recreational opportunities, this project implements the management goals of both programs. Specifically, the Plan says that the number one priority is wetland restoration and habitat protection. The second priority of the Plan is improving water quality by reducing non-point sources of pollution. Chocolate Bayou is not currently listed as impaired in the state's draft 2010, 305 (b) Report. However, Chocolate Bayou is the main source of fresh water to Chocolate Bay, which is listed under the 303 (d) List of impaired water bodies by the Texas Commission on Environmental Quality due to elevated levels of bacteria in oyster producing waters. Wet bottom detention basins and storm water wetlands have been shown to directly reduce levels of bacteria, based on results from the Brays Bayou storm water treatment wetland. The 3.5 acre Brays Bayou Storm Water Treatment Wetland has shown to directly remove 99% of fecal coliform bacteria. Results from this project will improve the opportunity for recreational oystering of Chocolate Bay. Additionally, wetlands have been shown to remove TSS (sediments), nitrogen, and to a lesser amount phosphorus. This and future treatment projects are important in Brazoria County since West Bay and Christmas Bay, bays within Brazoria County, contain almost all of Galveston Bay's submerged aquatic vegetation (SAV). The health of SAV can be impacted by high levels of TSS and nutrients. Removal of these pollutants could positively affect SAV, which are breeding and nursery grounds for important recreational and biological fish and shell fish species.

Status: New Project for FY 2012

Outputs/Products: Final Report

Outcomes

Short-term: 30 to 60 acres of storm water wetlands

Intermediate: Develop a model for future county work and develop a county coordination team to share ideas and results

Long Term: Expand use of green corridors concepts in flood plain management along riparian areas.

Pressures (+/-): The population in Brazoria County is anticipated to double over the next 30 years with the possible loss of habitat and degraded water quality a negative effect. Increased use of green infrastructure and water quality improvement best management practices should assist in eliminating and protecting future water quality, particularly when incorporated within long range planning.

3.2C - PPE Projects for FY 2012

2. Galveston Bay Public Awareness and Education Campaign

CCMP Actions Implemented: All

SAP Objectives: Public Stewardship Goal 1, Obj. A, B; Public Awareness Goal 1, Obj. A, B, C, and Goal 2, Obj. A, B; Public Education Goal 1, Obj. B; and Goal 2, Obj. A, B

Lead: EnviroMedia Social Marketing

FY 12 Budget: \$200,000

Milestones: upon signature to 08/31/2015

Description: The Estuary Program began the development of a public awareness/stakeholder-involvement campaign that will be used to reinforce implementation of The Galveston Bay Plan's priorities. This specifically includes: watershed-based, water-quality-improvement initiatives; habitat conservation; and freshwater inflows. The goals of the Galveston Bay Public Awareness and Education Campaign—called Back the Bay—are to build awareness of the value of Galveston Bay, and encourage and incentivize actions that support habitat conservation, water conservation, and water quality improvement.

A campaign plan has been developed to provide the Estuary Program with a five-year roadmap to execute the campaign. It outlines the most effective strategies, tactics, and messages for reaching target audiences. The campaign plan is based quantitative and qualitative research. A total of 1,001 residents in southeast Texas were surveyed to determine consumer attitudes and knowledge about Galveston Bay. Two focus groups from Friendswood and Pearland were conducted to test the campaign themes, the creative materials and messages for the Pilot Market Program area (Pearland, Texas), and to obtain information about consumer attitudes toward the preservation of Galveston Bay. GBEP staff also conducted in-depth interviews with stakeholders on the campaign themes, messages, and creative materials.

The research revealed that Galveston area residents are relatively willing to change their behaviors to better serve the health of Galveston Bay. However, there are some key barriers that leave many area residents feeling disconnected from the bay. The research identified a central campaign theme or brand (Back the Bay) that audiences related to as well as key messages that help consumers feel a stronger connection to the bay and, therefore, become more willing to change their behaviors to better serve the bay's health. The research also revealed two key consumer groups as the target audience for the campaign.

The next step is to launch the Pilot Market Program in Pearland, Texas; it is expected to be completed July 31, 2011. The goal of the Pilot Market Program is to test the campaign's messaging and look on a smaller scale. The pilot will use pre-campaign qualitative and quantitative research results to formulate appropriate messaging for Pearland; the campaign plan, which will also be tested, will guide implementation of the pilot. Post-campaign research, to be done after the Pilot Market Program, will refine the messaging and look of the campaign. This refinement will be applied in the full-scale launch and implementation of the campaign—targeted to begin September 2012.

The Estuary Program will leverage existing resources by partnering with organizations with the capacity to coordinate and manage the development of a broad-level campaign. The funding for implementation will be utilized to deliver the inspirational Galveston Bay message through coordinated multi-media distribution and outreach tactics.

Status: Funding for bay-wide implementation i.e., Brazoria, Galveston, Harris, Chambers and Liberty counties, will begin September 2011 (FY 2012).

Outputs/Products: Final Report

Outcomes

Short-term: Increase awareness of bay's value among target audiences through a branding Galveston Bay, targeting media outlets to increase news coverage on the bay and its challenges

Intermediate: Identify desired behaviors for habitat preservation, increase in water quality and water consumption, identify barriers to desired behavior change in target audiences; continue to increase awareness of bay's value among target audiences through a branding Galveston Bay, targeting media outlets to increase news coverage on the bay and its challenges.

Long Term: Change behaviors of audiences that are associated with habitat loss, degraded water quality, and water consumption in appropriate-identified percentage of the Houston-Galveston area targeted audiences—those whose behavior change will affect the most positive change. (Percentage of behavior change—as well as type—and target audiences to be determined through extensive preliminary research before campaign implementation and throughout campaign implementation.)

Pressures (+/-): Ability to raise funds through FY 2015—the project end date and competing management priorities.

3. State of the Bay Symposium 2012

CCMP Actions Implemented: PPE-1, 3, 4, 5, 6, 7, 8; RSC-3

SAP Objectives: PPE (all goals are potentially covered, but particularly Public Awareness - Goal 2, Objective A)

Lead: Galveston Bay Estuary Program and Galveston Bay Foundation

Lead: Galveston Bay Estuary Program and Galveston Bay Foundation

FY12 Budget: \$30,000

Milestones: Upon approval thru 08/31/2012

Description: The Galveston Bay Estuary Program, in partnership with the Galveston Bay Foundation, will host the Tenth State of the Bay Symposium tentatively scheduled for March 2012 in Houston, Texas. The Estuary Program hosts the symposium to provide an opportunity for stakeholders to interact and share successes, the latest monitoring and research findings, and challenges for the future. The Estuary Program typically welcomes presentations and panel sessions of special interest to estuary business, industry, recreation, education, academic, local government, resource management, and environmental communities. The content of the presentations need not be limited to Galveston Bay, but applicable to estuarine systems such as the bay.

Status: Project has been funded since its inception.

Outputs/Products: Final report

Outcomes

Short-term: Increase number of new participants—exhibitors, volunteers, attendees, and partnerships—by 10%; increase the return rate of previous year's participants and exhibitors; increase the number of local governments represented at the symposium by 10%; increase news coverage of the event.

Intermediate: Increase collaboration and recognition of the event.

Long Term: Continue to provide forums to discuss implementation efforts, share successes, and discuss the latest monitoring and research findings, and challenges for the future

Pressures (+/-): Ability to raise funds to support the event.

4. Trash Bash 2012

CCMP Actions Implemented: PPE-3, 5

SAP Objectives: PPE (Public Stewardship – Goal 1, Objective B; Public Awareness - Goal 2, Objective B; Public Education - Goal 1, Objective B)

Lead: Houston-Galveston Area Council

FY 12 Budget: \$1,500

Milestones: Upon approval thru 8/31/12

Description: Trash Bash is a successful volunteer-based litter cleanup event that has been held at multiple sites in the Houston-Galveston area on an annual basis since 1994. The mission of Trash Bash is to "promote environmental stewardship of our watershed through public education by utilizing hands-on educational tools and by developing partnerships between environmental, governmental and private organizations." This grant's funds help promote and implement the Trash Bash 2010 by paying for items such as, but not limited to, printing and postage of promotional materials and for acquiring supplies for the participating sites.

Status: Project has been funded at various levels since its inception.

Outputs/Products: Final report including a copy of the press release, media advisory, a paid advertisement, number of trash bash sites, number of volunteers and hours, number of exhibitors, number of partners organizing the event, number of save-the-date cards mailed to potential participants, and a survey.

Outcomes

Short-term: Increase number of new participants by 10%; increase pounds of trash collected by 1%; increase pounds of materials recycled by 10%; increase awareness level of the connection between littering, how litter enters into our waterways, and the negative impacts it has on neighboring communities, fish and wildlife by 10% at one Trash Bash location (Mason Park); increase news coverage of the Trash Bash event and the harmful environmental impacts of littering on our area waterways by 10%; increase the dollar value of free publicity from the news coverage by 10%.

Intermediate: Increase awareness of behavior changes associated with litter prevention in a neighborhood located next to Mason Park.

Long Term: Increase awareness level of the connection between littering, how litter enters into our waterways, and the negative impacts it has on neighboring communities, fish and wildlife by 10% at all Trash Bash locations (Mason Park). Decrease the amount of trash flowing into area waterways through educating citizens on appropriate behavior changes i.e. do not litter in your neighborhood, along the roads, etc.

Pressures (+/-): Continued increase in the amount of trash flowing into area waterways from influxes in populations not familiar with the harmful environmental impacts of littering and disconnection with community pride associated with litter-free neighborhoods.

5. Galveston Bay Estuary Program Web site

CCMP Actions Implemented: all, as this is a support project

SAP Objectives: All, as this is a support project

Lead: The Wilkins Group (current vendor) or another vendor

FY12 Budget: \$1,500

Milestones: Annual

Description: Continuation of funding for GBEP Web site hosting and Web statistics.

Status: Project has been funded since FY 2003; Wilkins has been the vendor during this period.

Outputs/Products: Continued maintenance of the Estuary Program Web site.

Outcomes

Short-term: Increase updates to Web site; Increase Web site hits and length of time users spend on the site; survey frequent users of the site to gauge interest in content and Web site improvements.

Intermediate: Increase the Estuary Program's Web site search engine capabilities.

Long Term: Revise Web site for user-friendly capabilities—both internal and external—and keep pace with latest trends in Web site development i.e. integrating the use of social media such as blogging and networking sites

Pressures (+/-): Increased funding for Web redesign; lack of ease to navigate through Web site; lack of search capabilities within Web site to find specific information.

3.2D - M&R Projects for FY 2012

6. Ecosystem Valuation RFGA

CCMP Actions Implemented: HP-1 Restore, create, protect wetlands; HP-5 Acquire and protect quality wetlands; HP-6 Develop economic and tax incentive programs to protect wetlands; RSC-2 Identified Research Need; RSC-4 Increased Funding for GB Research; PPE-1 Establish citizen involvement as an integral part of the program; PPE-3 Develop a long-range adult education and outreach program; PPE-7 Develop and implement a strategy for informing, educating, and providing local government involvement.

SAP Objectives: M&R – Goal 1 Increase Understanding Obj. A – Collaborate with research institutions & B – Support dissemination of monitoring and research; M&R – Goal 2 - Make available information to the public, council, and council subcommittees, Obj. A – Obtain analyze and synthesize data of parameters effecting the bay, C – Support applied research and monitoring that is needed by the NRU and PPE.

Lead: To be determined

FY12 Budget: 100,000

Milestones: Upon approval thru 12/31/2013

Description: In this project, an economic researcher will be identified through a Request for Grant Application (RFGA) to carry out an economic valuation study. Phase I builds upon the recommendations made by previous studies. An Ecosystem Valuation Steering Committee (EV) will be formed by GBEP to develop the scope of the RFGA, including: identify and select a phase 1 study habitat; define the project boundary; work with local stakeholders to determine the type of planning tools needed. The selected researcher will work and coordinate with the EV throughout the project. The researcher will work with local stakeholders during the project which could include meetings, workshops, focus groups, interviews, surveys and other venues to engage stakeholders in the broadest sense. Using the best economic valuation methods and the technical knowledge base of stakeholders, the project investigator will conduct a literature search for ecological and economic valuations, particularly for the identified habitat type; determine social, economic, and ecological values associated with the habitat type; apply appropriate valuation methods to determine market and non-market values; and assist local stakeholders and EV in developing or improving decision support tools that make use of information learned from the study.

Status: Currently, GBEP is providing HARC \$40,000. \$25,000 is being used to conduct a literature search; analyze ecosystem service case studies, particularly those studies on habitat similar to Galveston Bay; and complete an ecosystem service valuation white paper. \$15,000 will be used to host a workshop of experts and local targeted stakeholders and decision makers. The outcome of the workshop will be a strategy to conduct an ecosystem services pilot study, the above RFGA, in the Lower Galveston Bay watershed. Deliverables resulting from this \$45,000 will be highlighted and a key theme at the next State of the Bay Symposium scheduled for March 2012.

Outputs/Products: Final report

Outcomes

Short-term: Wetland ecosystem valuation

Intermediate: Use of information by Estuary Program and stakeholders to increase the public and local decision makers understanding of wetland and flood plain habitat value and ecosystem services.

Long Term: Use of ecosystem services data in long term decision making by local and regional planners

Pressures (+/-): Population growth and development practices continue to impact the region's wetland and associated habitat resources which degrade local water quality, wildlife and fishery habitat, and economic value of Galveston Bay. Results should increase understanding and place greater value on wetland resources.

7. Evaluating the Variability of Sediment and Nutrient Concentrations and Loads from Freshwater Inflows into Galveston Bay

CCMP Actions Implemented: FW-1 Complete studies to determine freshwater inflow needs; FW-4 Establish inflow regulations to protect the ecological needs; WSQ-6 Reduce Nutrient and BOD Loadings to Problem Areas; RSC-2 Identified Research Need; RSC-4 Increased Funding for GB Research; Monitoring Program

SAP Objectives: M&R – Goal 1, Increase Understanding; Obj. A – Collaborate with research institutions & B – Support dissemination of monitoring and research; M&R – Goal 2, Make available information to the public, council, and council subcommittees, Obj. A – Obtain analyze and synthesize data of parameters effecting the bay, B – Obtain analyze and synthesize stressor data, C – Support applied research and monitoring that is needed by the NRU. Sustaining Species Populations Goal 1, Sustain and restore native species populations Obj. D – Support research identifying habitat and environmental needs of declining species.

Lead: United States Geologic Survey

FY12 Budget: \$135,000

Milestones: Upon approval thru 08/31/2013

Description: This study would evaluate the variability of nutrient and sediment concentrations and loads entering Galveston Bay during a variety of flow conditions from freshwater inflows, including the Trinity River, San Jacinto River, and Buffalo Bayou. Crews will collect samples at locations near the entrance into Galveston Bay. Samples will be collected for nutrients (total and fractions of Nitrogen and Phosphorus), and sediment (total suspended and size fractionation) concentration using USGS methods for an equal discharge increment. Discharge measurements will also be collected at the time of sampling. Samples will be collected over a period of time to adequately characterize the stream flow entering Galveston Bay with particular emphasis on high-flow conditions.

Status: New project for FY 2012. This was highlighted as a data gap by the M&R based on inflow work being carried out by TAMUG and TAMU since 2005.

Outputs/Products: Final report

Outcomes

Short-term: Nutrient and Sediment Data for 90% of the inflows to Galveston Bay.

Intermediate: Use of data by TAMU inflow research and by the Bay and Basin Expert Science Team for future recommendations on Galveston Bay environmental flows.

Long Term: Protected Galveston Bay environmental flows

Pressures (+/-): Decreased pressure to allocate all fresh water to human consumption.

8. Status and Trends

CCMP Actions Implemented: MON, and support for all actions.

SAP Objectives: M&R Goal 2 and support for all actions.

Lead: Houston Advanced Research Center

FY12 Budget: \$65,000

Milestones: Upon approval thru 08/31/2012

Description: This project will maintain the Status and Trend database and website, including the loading of more recently collected state agency and other organization data. Maintaining the database and the website is necessary to ensure GBEP has access to the data for reports and as part of the Data Information Management System (DIMS), a task of the Galveston Bay Plan assigned to the Monitoring and Research Subcommittee. The DIMS, which includes the Galveston Bay Information Center (www.gbic.tamug.edu), the GBEP website (www.gbep.state.tx.us), and the Status and Trends website (www.galvbaydata.org), provides for public, resource managers and the scientific community access to data and information related to the protection of Galveston Bay, implementation of the Galveston Bay Plan, and specific data gaps, ultimately to assist in better management of Galveston Bay.

Status: The Estuary Program maintains the Status and Trends project annually.

Outputs/Products: Final report

Outcomes

Short-term: Annual update of all state and federal environmental data.

Intermediate: Website maintained, improve, updated, and users tracked.

Long Term: Use of data and website by Estuary Program, stakeholders, researchers, decision makers, and the public.

Pressures (+/-): Loss of data and ability of access has been a long term concern that is eliminated by maintaining an annual Status and Trends project.

SECTION 3: FY 2012 PROJECTS
SECTION 3.3: FY 2012 STATE-FUNDED PROJECTS

The projects outlined in this work plan were developed by the Natural Resource Uses Subcommittee, Water and Sediment Quality Subcommittee, Monitoring Subcommittee, Public Participation and Education Subcommittee, and the Monitoring and Research Subcommittees, ranked by the Budget and Priorities Subcommittee, and submitted to the Galveston Bay Council for approval in April. The Council approved projects listed in this work plan at the April 19, 2011 quarterly meeting.

FY 2012 State Projects			
Project Name	Year(s)	FY 2012 Request	Total Project Budget
State Administrative Costs	Annual	\$85,000	n/a
ADMIN TOTAL		\$85,000	
<u>1. Virginia Point Shoreline Protection and Restoration</u>	2012	\$100,000	\$2,500,000
<u>2. Settegast Coastal Heritage Preserve</u>	2012	\$90,000	\$10,000,000
<u>3. Dickinson Bay Bird Island II</u>	2012	\$100,000	\$1,100,000
<u>4. Shipe Woods Shoreline Protection and Restoration</u>	2012	\$25,000	\$60,000
NRU TOTAL		\$315,000	
<i>No State Funded WSQ Projects</i>	<i>n/a</i>	<i>\$0</i>	<i>\$0</i>
WSQ TOTAL		\$0	
<i>No State Funded PPE Projects</i>	<i>n/a</i>	<i>\$0</i>	<i>\$0</i>
PPE TOTAL		\$0	
<i>No State Funded M&R Projects</i>	<i>n/a</i>	<i>\$0</i>	<i>\$0</i>
M&R TOTAL		\$0	
FUNDING REQUEST GRANT TOTAL		\$400,000	

SECTION 3: FY 2012 PROJECTS
SECTION 3.4: FY 2012 STATE-FUNDED PROJECT DESCRIPTIONS

State-Funded NRU Projects for FY 2012

\$315,000

1. Virginia Point Protection and Restoration Project

CCMP Actions Implemented: HP-1, HP-9, SP-1, NPS-2, PPE-1, PPE-5

SAP Objectives: *Habitat Protection Goal 2 Obj. A & B; Public Stewardship Goal 1 Obj. 3; Public Education Goal 1 Obj. B*

Project Lead: SCENIC GALVESTON, Inc.

Project Partners: USFWS Texas Coastal Program, Texas Parks and Wildlife Department, Texas General Land Office, Galveston Bay Foundation

FY12 Budget: \$100,000

Project Total: \$2,500,000

Milestones: upon signature to 08/31/2013

Description: This project will protect the rich and diverse habitats within the 1500 acre Virginia Point Preserve from immediate, direct loss due to erosion, and potential future degradation due to subsequent saltwater intrusion. As originally proposed, the project would protect much of the approximately 2 miles of exposed shoreline. However, since only \$1 million of the \$2 million requested was awarded to the project, partners will need to break the project into multiple phases. This project represents the first phase, and will address erosion along as much of the shoreline as the budget allows, depending on the final design and additional partner contributions.

Status: Received \$1,000,000 in the 2008 cycle of the Coastal Impact Assistance Program; funding expected in late 2011. Potential funds from Coastal Erosion Planning and Response Act (CEPRA) are currently being investigated. Project will be designed to be scalable to account for current level of funding (\$1,100,000).

Outputs/Products: Final Report

Outcomes

Short-term: Engineering and design plan for erosion project, and securing external funding for all or part of project.

Intermediate: Placement of erosion protection along shoreline as final budget allows.

Long Term: Protection of entire Virginia Point shoreline.

Pressures (+/-): Decreasing wetland and coastal habitat loss from erosion.

2. Settegast Coastal Heritage Preserve

SAP Objectives: *Habitat Protection Goal 1 Objectives A and B; Expanding Partnerships Goal 1, Objectives A and B; Fostering Implementation*

CCMP Actions Implemented: HP-1, HP-5, SP-1, SM-5, PPE-7

Project Lead: The Artist Boat

Partners: USFWS Texas Coastal Program, Texas Parks and Wildlife Department, Texas General Land Office, Galveston Bay Foundation, Cabeza de Vaca, Texas General Land Office (CIAP), National Oceanic and Atmospheric Association (CELC), US Fish and Wildlife Service (CWPPRA)

FY12 Budget: \$90,000

Project Total: \$10,000,000...\$1.44 million (CWPPRA); \$10 million total

Milestones: TBD

Description: The overall project aims to protect more than 300 acres at this location. Currently confirmed partners include the Coastal Impact Assistance Program (approx. \$3,460,000), and a \$3,000,000 land donation from the owners (Marquette). A pending partner in the project is the Coastal Estuarine Land Conservation

Program (awaiting Congressional appropriation levels). Additional requests are planned to NAWCA, the USFWS Coastal Program, and private funders.

The Settegast Coastal Heritage Preserve project area is one of the largest unfragmented, single-owner, undeveloped properties of its kind on Galveston Island, and is part of the West Bay Corridor Initiative. The project area was also identified as a high priority for conservation in the West Galveston Island Greenprint.

The project area represents the essence of bay coastal margin on Galveston Bay, with a full suite of habitats, from open bay water to salt, brackish, intermediate and fresh marsh, tidal flats, and upland prairie. Its habitat value to wildlife is demonstrated by the more than 30 avian species of conservation concern that have been observed at the site and the value of its estuarine marshes as Essential Fish Habitat for marine species. Additionally, it will provide a launching platform for public access and education on coastal resource values.

Approximately 30-35 acres would be purchased with CWPPRA funding. NRU funding would provide the needed cash match to achieve a significantly better score in the re-submission of the CWPPRA application.

Status: Received \$3,460,000 in the 2009-10 cycle of the Coastal Impact Assistance Program (CIAP). Scored 9th nationwide for the Coastal and Estuarine Land Conservation Program (CELCP); currently awaiting congressional appropriation to determine if funding (\$3,000,000) will be received. A \$3,000,000 land value donation from landowner has also been secured. State funds will be used to secure funding (~\$1,440,000) in the upcoming Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) cycle.

Outputs/Products: Final Report

Outcomes

Short-term: Conservation Acquisition Plan for Settegast Coastal Heritage Preserve

Intermediate: Acquisition of ~300 acres of important coastal wetlands on Follets Island

Long Term: The protection of ~300 acres of barrier island habitat and preservation of important hydrologic and water quality functions surrounding the West Bay Conservation Corridor;

Pressures (+/-): Decreasing pressure on Galveston Island due to increased protection of wetlands from development.

3. Dickinson Bay Island (II) Restoration

SAP Objectives: *Habitat Protection Goal 2 Objectives A and B; Public Stewardship Goal 1 Objective 3; Public Education Goal 1, Objective B; Fostering Implementation*

CCMP Actions Implemented: HP-1, HP-9, SP-1, NPS-2, PPE-1, PPE-5

Project Lead: Galveston Bay Foundation

Partners: USFWS Texas Coastal Program, Texas Parks and Wildlife Department

FY12 Budget: \$100,000

Project Total: \$1,100,000

Milestones: TBD

Description: The Dickinson Bay Island (II) Restoration project is designed to continue the effort to replace three critical islands in Dickinson Bay that have eroded over the past six decades. The first island was constructed in 2007, and consists of a 5-acre, horseshoe-shaped clay island protected with rip-rap with marsh mounds in the interior plus a 2-acre oyster reef adjacent to the island. The current project proposes the construction of the second island. The proposed 4.59-acre island will provide critical colonial waterbird roosting/nesting habitat and restore oyster reefs in Dickinson Bay. The island will be constructed of clean clay, sculpted to prescribed slopes and elevations, and protected with rip-rap around three sides of its perimeter. The island will be sloped into the tidal zone on the open end to provide access for colonial waterbirds. A cap of selected cultch material will be deployed over the clay to provide nesting habitat for colonial waterbirds.

Additionally, selected cultch material will be deployed on a 2-acre area adjacent to the island to enhance oyster reefs in the area. The construction of this project in Dickinson Bay will create much needed habitat for colonial waterbird nesting, increase oyster reef habitat, improve water quality in an impaired water body, enhance recreational fishing opportunities to the general public, and provide erosion protection for The Nature Conservancy's Texas City Prairie Preserve, one of the few remaining homes and breeding grounds for the endangered Attwater's prairie chicken.

Status: New project

Outputs/Products: Final Report

Outcomes

Short-term: Engineering and design plan for rookery island; securing external funding for all or part of project.

Intermediate: Construction of a 4.59 acre bird island and 2 acres of oyster reef

Long Term: Increased habitat for colonial waterbirds and oysters in Dickinson Bay

Pressures (+/-): Decreased pressure on existing habitat for colonial waterbirds.

4. Shipe Woods Shoreline Stabilization and Habitat Creation

SAP Objectives: *Habitat Protection Goal 2 Objectives A and B; Public Stewardship Goal 1 Objective 3; Public Education Goal 1, Objective B; Fostering Implementation*

Plan Actions Implemented: HP-1, HP-9, SP-1, NPS-2, PPE-1, PPE-5

Project Lead: Galveston Bay Foundation

Partners: USFWS Texas Coastal Program, NOAA-Restore America's Estuaries (RAE)

FY12 Budget: \$25,000

Project Total: \$60,000

Milestones: TBD

Description: This project will create up to 700 linear feet of rock breakwater to protect a 15-acre wooded conservation property adjacent to Trinity Bay in Chambers County. In the past 15 years, an estimated 100 feet of shoreline has eroded at this site, severely impacting the riparian forest. Currently, trees are falling off a 3' bluff into the bay as the soil erodes from underneath them. The proposed breakwater will reduce the wave energy to slow erosion and allow tidal wetlands to establish along the shoreline. Behind the breakwater (shoreward), native marsh vegetation will be planted with Marsh Mania volunteers to augment the shoreline stabilization process and restore intertidal marsh habitat. Ideally, we would grade the current bluff to a more natural slope to encourage a full-spectrum marsh ecosystem from the intertidal zone low marsh to the high marsh. Grading the shoreline will be dependent on the amount of funding received for this project and the final cost of breakwater construction.

Breakwater construction will mimic previously completed projects along East Bay. The construction will be land based and staff will consult heavily with contractors during the planning phase. GBF will raise additional funding to complete this project as needed.

Status: New project

Outputs/Products: Final Report

Outcomes

Short-term: Engineering and design plan for erosion project; securing external funding for all or part of project.

Intermediate: The placement of 700 feet of rock breakwater at Shipe Woods (Trinity Bay).

Long Term: Protection of 15 acres of wooded habitat from erosion on Trinity Bay

Pressures (+/-): Decreased pressure on habitat loss from erosion.

SECTION 4: FY 2012 GRANT BUDGET SPREADSHEET

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(a) GRANT TITLE: FY 2012 GBEP NEP, Post CCMP																																																																																																																					
(b) USAS No.: 900519																																																																																																																					
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SECTION 5: FY 2011 PROJECTS
SECTION 5.1: FY 2011 FEDERAL PROJECTS BY PROGRAM ELEMENT

The projects outlined in this work plan were developed by the Natural Resource Uses Subcommittee, Water and Sediment Quality Subcommittee, Monitoring Subcommittee, Public Participation and Education Subcommittee, and the Monitoring and Research Subcommittees, ranked by the Budget and Priorities Subcommittee, and submitted to the Galveston Bay Council for approval in April. The Council approved projects listed in this work plan at the April 28, 2010 quarterly meeting.

Project Name	Year(s)	FY 2011 Request	Total Project Budget
Administration (Salaries)	Annual	\$625,591	n/a
ADMIN TOTAL		\$625,591	
<i>Follets Island Acquisition</i>	<i>2011</i>	<i>\$100,000</i>	<i>Target redirected to #1</i>
1. McAllis Point Phase II Acquisition	2011	\$100,000	\$1 million (2008 CIAP)
2. Conservation Assistance Program RFGA	2011	\$100,000	\$2 million (2008 CIAP)
NRU TOTAL		\$200,000	
<i>Pearland Treatment Wetland Demonstration</i>	<i>2011-2012</i>	<i>\$100,000</i>	<i>Combined into #3</i>
<i>Targeted Small Watershed BMP Implementation</i>	<i>2011</i>	<i>\$100,000</i>	<i>Canceled</i>
<i>Highland Bayou Watershed Protection Plan</i>	<i>2010-2012</i>	<i>\$100,000</i>	<i>Combined into #3</i>
3. Highland Bayou / Pearland Watershed Projects	2011-2012	\$200,000	\$225,000
4. Armand Bayou Watershed Improvement	2009-2012	\$180,784	
WSQ TOTAL		\$380,784	
<i>Outreach Community-Based Competitive Grant</i>	<i>2011</i>	<i>\$135,000</i>	<i>Canceled</i>
<i>Targeted community-based grants with local government groups</i>	<i>Annual</i>	<i>\$10,000</i>	<i>Canceled</i>
5. Galveston Bay Public Awareness Campaign	2010-2015	\$273,456	\$1,320,000
6. Estuary Program Website	Annual	\$1,516	\$1,516
7. Bay Day 2011	2011	\$33,500	To be leveraged
8. Trash Bash 2011	2011-2012	\$1,500	To be leveraged
9. State of the Bay Symposium	2011-2012	\$30,000	\$50,000
PPE TOTAL		\$339,973	
10. "No Net Loss" of Wetlands	2011	\$75,000	\$75,000
11. Bio-indicators of Freshwater Inflow	2010-2011	\$100,000	
12. State of the Bay Bibliography	2011	\$25,000	\$40,000
M&R TOTAL		\$200,000	
FUNDING REQUEST GRANT TOTAL	\$1,746,348**		

**FY11 Grant was \$1,600,000. Additional amounts from the FY04-07 (\$134,319) and FY08-10 (\$12,029) were rematched and added to this year's operating budget.

SECTION 5: FY 2011 PROJECTS
SECTION 5.2: FY 2011 FEDERAL PROJECT DESCRIPTIONS

5.2A - NRU Projects for FY 2011

\$100,000

1. McAllis Point Phase II Acquisition

CCMP Actions Implemented: HP-1, HP-5, SP-1, SM-5, PPE-1

SAP Objectives: *Habitat Protection Goal 1 Objectives A and B; Public Stewardship Goal 1 Objective 3; Public Education Goal 1, Objective B; Fostering Implementation*

Lead: Texas General Land Office

FY11 Budget: \$100,000

Milestones: upon signature to 8/31/2013

Description: The project goal is the permanent conservation of approximately 67 acres of coastal habitat at McAllis Point, located three-quarters of the way down (toward the west) the length of Galveston Island, a 32-mile barrier island about three miles off the Texas mainland.

The McAllis Point tract is largely wetlands (estuarine emergent marsh) and coastal prairie. Along with tidal flats, these habitats present a complex that provides food and shelter for avian, upland and aquatic species, including protected migratory and endangered bird species, and commercially and recreationally important finfish and shellfish species, all contributing to the documented productivity of the Galveston Bay system, the most productive bay in Texas.

The project was been developed to protect habitat and water quality, reduce flood and storm damage, provide recreational opportunities for residents, and to preserve the region's unique natural heritage. It is an important conservation effort on its own, but it is also a component of a larger ongoing effort to protect wetlands and natural areas in the West Bay region. The project enhances the ecological and recreational significance of the growing mosaic of conservation efforts on Galveston Island, which includes acquisition of habitat at Ostermayer Bayou (85 ac.) and Phase I of McAllis Point (~60 ac.), along with wetland restoration and erosion control at Galveston Island State Park, Jumbile Cove, McAllis Point, and Snake Island Cove.

This project directly implements several of the highest priority actions in The Galveston Bay Plan, the Texas and EPA approved Comprehensive Conservation and Management Plan for Galveston Bay (Galveston Bay Estuary Program, 1995), including the Habitat Protection Action Plan, Species Population Project Plan, and Public Outreach and Education Plans.

Project partners will include the Trust for Public Land, Galveston County, Galveston Bay Estuary Program, Galveston Bay Foundation, Texas Parks and Wildlife Department (TPWD), US Fish and Wildlife Service, the Texas General Land Office (GLO), and The Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) through the Coastal Impact Assistance Program (CIAP).

Status: Follet's Island was the original target property and was selected for CIAP funding in FY 2008 cycle. Project partners determined that the remaining portion of McAllis point (a Tier 2 CIAP project in 2008) had a more imminent threat of development (Phase II is uplands)

Outputs/Products: Final Report

Outcomes

Short-term: Conservation Acquisition Plan for McAllis Point

FY 2012 Annual Work Plan
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Intermediate: Acquisition of 67 acres of important coastal wetlands on Follets Island

Long Term: The protection of ~130 acres of barrier island habitat and preservation of important hydrologic and water quality functions in West Bay;

Pressures (+/-): Decreasing pressure on West Bay due to increased protection of coastal habitat from development.

2. Conservation Assistance Program RFGA

CCMP Actions Implemented: HP-1, HP-5, SP-1, SM-5, PPE-1

SAP Objectives: *Habitat Protection Goal 1 Objectives A and B; Public Stewardship Goal 1 Objective 3; Public Education Goal 1, Objective B; Fostering Implementation*

Lead: To be competitively bid

FY11 Budget: \$100,000

Milestones: upon signature to 08/31/2014

Description: Wetlands within the Galveston Bay watershed serve many important functions. Wetlands are effective in attenuating waterborne pollutants, providing natural buffers against flooding through retention of water during rainfall events, and reducing shoreline erosion. They provide habitat for a diversity of fish and wildlife species, including many commercially and recreationally important species. Wetlands provide a variety of opportunities for recreational activities including fishing, hunting and wildlife viewing, which are important revenue-generating activities in the region. Wetlands also add aesthetic value and support general quality of life in surrounding communities.

The Galveston Bay system lost nearly 35,000 acres of wetlands between the early 1950s and late 1980s. Recent studies indicate that wetland loss continues at a rapid pace, with an additional 10,000 acres lost during the 1990s. In fact, *The Galveston Bay Plan* identifies habitat loss as the greatest threat to the health and productivity of Galveston Bay. Consequently, *The Galveston Bay Plan* identifies habitat protection and restoration as the highest priority activity for the Estuary Program. Additionally, during the development of the development of *Charting the Course to 2015*, the Estuary Program's current strategic action plan, the Galveston Bay Council identified the preservation of remaining wetlands and important coastal habitats as its highest priority activity.

TCEQ's Galveston Bay Estuary Program is actively engaged in wetland conservation activities, working with private, local, state, and federal partners to secure grant funding to acquire and protect wetlands and associated valuable coastal habitats. Goals of this project include:

1. Assist Galveston Bay Estuary Program and partners in planning and developing on-the-ground habitat conservation projects using a variety of conservation methods, including fee simple acquisition and conservation easements; and
2. Provide legal and transactional support to implement on-the-ground conservation projects.

These functions are critical in pursuing TCEQ's coastal wetland and habitat preservation goals.

As part of the grant award, TCEQ will issue \$100,000 for operating expenses in the first calendar year after the grant contract is issued. At its discretion, TCEQ may issue an additional \$100,000 per year for up to two calendar years beyond the first term, for a total of \$300,000. The precise amounts and time periods will be determined at the award, based on the applications.

The organization selected to receive the Conservation Assistance Grant will provide technical, planning, programmatic, and grant-writing assistance to the Estuary Program and partners in conserving important coastal wetlands and associated habitats. The Conservation Assistance Grantee will also facilitate regional coordination of coastal habitat conservation efforts among local governments, state and federal resource agencies, and conservation non-profit organizations.

Conservation of wetlands and important coastal habitats will be achieved through a variety of mechanisms including fee-simple land acquisition, securing Purchase of Development Rights agreements, securing conservation easements, and

other appropriate mechanisms.

TCEQ anticipates receiving up to \$2 million in federal grant funds for on-the-ground conservation projects at specific locations in the lower Galveston Bay watershed. The \$2 M project will be dependent on the TCEQ receipt of funds based on its joint grant application with the General Land Office to the Bureau of Ocean Energy, Management, Regulation & Enforcement, application of the grantee, and final contract negotiated with TCEQ. The organization selected to receive the Conservation Assistance Grant will be expected to provide legal and transactional support to implement on-the-ground conservation projects utilizing these funds.

Status: Competitive Bid package is being finalized and approved by TCEQ. Anticipate the Request for Grant Applications to be available for submittal of applications in June.

Outputs/Products: Final Report

Outcomes

Short-term: Selection of a conservation organization to work with key local stakeholders to develop wetland conservation strategies, identify properties, and develop funding strategies.

Intermediate: Use \$2 million in CIAP to place properties into conservation.

Long Term: 200-1000 additional wetland and associated acres in conservation.

Pressures (+/-): High cost of land in the lower Galveston Bay watershed makes conservation challenging and often cost prohibited. Coastal Prairie Freshwater Wetland habitat is the highest stressed habitat which lacks any government oversight and is considered highly developable for commercial and residential use.

5.2B - WSQ Projects for FY 2011

\$300,000

3. Highland Bayou / Pearland Watershed Projects

CCMP Actions Implemented: HP-1,2,3,5; SD-5,6,7; WSQ-1,2,6,7; NPS-1,2,3,4,5,6,10,11,12,13,14; PS-1,2,5 PPE-1,3,5,7

SAP Objectives: WSQ Goal 1 Objective A; WSQ Goal 1 Objective C; Habitat Protection Goal 2 Objective B; Public Stewardship Goal 1, Objective B

Lead: Texas AgriLife Extension

FY11 Budget: \$225,000

Milestones: upon signature to 08/31/2012

Description: Funding from this grant to the Coastal Watershed Program of Texas AgriLife (CWP) will continue to foster the development of the Highland Bayou Regional Watershed Protection Plan and to implement low impact development practices in Galveston and Brazoria counties.

Currently, CWP is using American Recovery and Reinvestment Act funding, \$275,000, from FY 2010 to initiate the first 5 elements (A-E) of EPA's nine elements of a watershed protection plan (WPP) for the Highland Bayou region. Funding from FY 2011 will be used to complete the first five elements of the plan, continue stakeholder development, engage the public and plan for the completion of the last 4 elements. The development of the final four elements will be a priority for future federal or state funding. Highland Bayou is located in Galveston County and is listed on the 303 (d) List of Impaired Waters for low dissolved oxygen and high bacteria concentration. TCEQ has placed the bacteria impairment in Category 5a and the dissolved oxygen impairment in Category 5c.

In addition, two water quality implementation projects (WQIP) are planned under this grant in Galveston and Brazoria counties. In the first WQIP, CWP will coordinate a stakeholder group composed of local municipalities and county governments, special districts (e.g. drainage districts and conservation and reclamation districts), state and federal agencies, NGOs, and citizens; identify a target location with stakeholder support; and finally develop engineering, design, and costs. In the second WQIP, CWP is currently working with the City of League City on a recently awarded TCEQ 319 program non-point source project. GBEP state funds will be used as a portion of the 40% match required to receive 319 funding.

Status: Contract is being routed for approvals.

Outputs/Products: Final Report

Outcomes

Short-term: Develop local stakeholders interested in watershed protection and on the ground water quality improvements through implementation projects.

Intermediate: Secure funding and begin implementation of watershed protection plans and water quality improvement projects.

Long Term: Begin to see improvement in water quality that will lead to removal or prevention of water bodies, in Galveston and Brazoria County, from the state's 303 (d) list.

Pressures (+/-): Galveston and Brazoria County are projected to see increases in population over the next 30 years. That growth will place stress on the watersheds and habitats in the region, compounding water bodies already listed for impairments. Implementation of WPPs and WQIPs should help to decrease population pressure.

4. Armand Bayou Watershed Improvement

CCMP Actions Implemented: HP-1,2,3,5; SD-5,6,7; WSQ-1,2,6,7; NPS-1,2,3,4,5,6,10,11,12,13,14; PS-1,2,5 PPE-1,3,5,7

SAP Objectives: WSQ Goal 1 Objective A and C; Habitat Protection Goal 2 Objective B

Lead: University of Houston at Clear Lake

FY11 Budget: \$180,784

Milestones: upon signature to 08/31/2013

Description: The goal of this project will be to improve overall water quality and reduce nutrient and bacterial contamination in the urbanized Armand Bayou watershed by implementing and evaluating an on-the-ground water quality implementation project (WQIP). Armand Bayou and its tributaries are currently listed as impaired due to elevated levels of bacteria and suppressed levels of dissolved oxygen.

The WQIP will be a storm water treatment wetland on property owned by the University of Houston-Clear Lake (UHCL) to improve the quality of runoff entering the Armand Bayou Watershed. Storm water runoff from approximately 17.4 acres of university property including heavily used parking lots, roads and university buildings will be routed through a newly constructed wetland adjacent to Horsepen Bayou, an impaired tributary to Armand Bayou. In addition, during dry weather, a small portion of water from Horsepen Bayou will be routed via a solar pump through the wetland to maintain emergent wetland areas and to treat ambient levels of bacteria prior to returning to the bayou.

GBEP implements *the Galveston Bay Plan*, a comprehensive conservation management plan, which states that addressing non-point source pollution is the 2nd highest priority problem facing resource managers in the Galveston Bay watershed. The GBEP will benefit directly from the results of this grant, which include increasing the amount of local data showing BMP effectiveness in improving water quality relative to cost of construction, and improving public understanding of regional water quality issues and support for large-scale water quality improvement projects. In addition, the results will be used to improve future implementation projects in the watershed and around the region and to report on our ability to improve water quality in impaired water bodies, a key programmatic performance measure.

Status: This project has been ongoing since 2010. The \$180,784 fully funds this project through FY 2013. UHCL has completed a Quality Assurance Project Plan; selected a subcontractor to complete design and engineering, construction, and planting of the wetland; and initiated monitoring of the wetland following approval of the QAPP.

Outputs/Products: Final Report

Outcomes

Short-term: Complete a 3.5 acre stormwater wetland to treat run-off from 17.4 acres of the university.

Intermediate: A fully monitored WQIP that will provide valuable data on the use of stormwater wetlands in the lower

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Galveston Bay watershed. Determine the feasibility and value of solar pump treatment of impaired waterbodies where an offline wetland might be required due to a lack of adjacent space.

Long Term: Results used to improve and expand use of stormwater treatment wetlands in applicable areas.

Pressures (+/-): The lack of effectiveness data has been used by government and non-government stakeholders as a reason for not encouraging the use of stormwater wetlands and other WQIP concepts even while it has been demonstrated in other parts of the country.

5.2C - PPE Projects for FY 2011

\$468,000

5. Galveston Bay Public Awareness and Education Campaign

CCMP Actions Implemented: All

SAP Objectives: *Public Stewardship Goal 1, Obj. A, B; Public Awareness Goal 1, Obj. A, B, C, and Goal 2, Obj. A, B; Public Education Goal 1, Obj. B; and Goal 2, Obj. A, B*

Lead: EnviroMedia Social Marketing

FY 11 Budget: \$273,456

Milestones: upon signature to 08/31/2015

Description: The Estuary Program began the development of a public awareness/stakeholder-involvement campaign that will be used to reinforce implementation of *The Galveston Bay Plan's* priorities. This specifically includes: watershed-based, water-quality-improvement initiatives; habitat conservation; and freshwater inflows. The goals of the Galveston Bay Public Awareness and Education Campaign—called *Back the Bay*—are to build awareness of the value of Galveston Bay, and encourage and incentivize actions that support habitat conservation, water conservation, and water quality improvement.

A campaign plan has been developed to provide the Estuary Program with a five-year roadmap to execute the campaign. It outlines the most effective strategies, tactics, and messages for reaching target audiences. The campaign plan is based quantitative and qualitative research. A total of 1,001 residents in southeast Texas were surveyed to determine consumer attitudes and knowledge about Galveston Bay. Two focus groups from Friendswood and Pearland were conducted to test the campaign themes, the creative materials and messages for the Pilot Market Program area (Pearland, Texas), and to obtain information about consumer attitudes toward the preservation of Galveston Bay. GBEP staff also conducted in-depth interviews with stakeholders on the campaign themes, messages, and creative materials.

The research revealed that Galveston area residents are relatively willing to change their behaviors to better serve the health of Galveston Bay. However, there are some key barriers that leave many area residents feeling disconnected from the bay. The research identified a central campaign theme or brand (*Back the Bay*) that audiences related to as well as key messages that help consumers feel a stronger connection to the bay and, therefore, become more willing to change their behaviors to better serve the bay's health. The research also revealed two key consumer groups as the target audience for the campaign.

The next step is to launch the Pilot Market Program in Pearland, Texas; it is expected to be completed July 31, 2011. The goal of the Pilot Market Program is to test the campaign's messaging and look on a smaller scale. The pilot will use pre-campaign qualitative and quantitative research results to formulate appropriate messaging for Pearland; the campaign plan, which will also be tested, will guide implementation of the pilot. Post-campaign research, to be done after the Pilot Market Program, will refine the messaging and look of the campaign. This refinement will be applied in the full-scale launch and implementation of the campaign—targeted to begin September 2012.

The Estuary Program will leverage existing resources by partnering with organizations with the capacity to coordinate and manage the development of a broad-level campaign. The funding for implementation will be

utilized to deliver the inspirational Galveston Bay message through coordinated multi-media distribution and outreach tactics.

Status: The time line to complete the deliverables under the initial phase of this contract (pre-implementation--research, campaign plan, and pilot) spanned two fiscal years (FY 2010 and FY 2011). Funding for bay-wide implementation i.e., Brazoria, Galveston, Harris, Chambers and Liberty counties, will begin September 2011 (FY 2012).

Outputs/Products: Final Report

Outcomes

Short-term: Increase awareness of bay's value among target audiences through a branding Galveston Bay, targeting media outlets to increase news coverage on the bay and its challenges

Intermediate: Identify desired behaviors for habitat preservation, increase in water quality and water consumption, identify barriers to desired behavior change in target audiences; continue to increase awareness of bay's value among target audiences through a branding Galveston Bay, targeting media outlets to increase news coverage on the bay and its challenges.

Long Term: Change behaviors of audiences that are associated with habitat loss, degraded water quality, and water consumption in appropriate-identified percentage of the Houston-Galveston area targeted audiences—those whose behavior change will affect the most positive change. (Percentage of behavior change—as well as type—and target audiences to be determined through extensive preliminary research before campaign implementation and throughout campaign implementation.)

Pressures (+/-): Ability to raise funds through FY 2015—the project end date and competing management priorities.

6. Galveston Bay Estuary Program Web site

CCMP Actions Implemented: all, as this is a support project

SAP Objectives: *All, as this is a support project*

Lead: The Wilkins Group (current vendor) or another vendor

FY11 Budget: \$1,516

Milestones: Annual

Description: Continuation of funding for GBEP Web site hosting and Web statistics.

Status: Project has been funded since FY 2003; Wilkins has been the vendor during this period.

Outputs/Products: Continued maintenance of the Estuary Program Web site.

Outcomes

Short-term: Increase updates to Web site; Increase Web site hits and length of time users spend on the site; survey frequent users of the site to gauge interest in content and Web site improvements.

Intermediate: Increase the Estuary Program's Web site search engine capabilities.

Long Term: Revise Web site for user-friendly capabilities—both internal and external—and keep pace with latest trends in Web site development i.e. integrating the use of social media such as blogging and networking sites

Pressures (+/-): Increased funding for Web redesign; lack of ease to navigate through Web site; lack of search capabilities within Web site to find specific information.

7. Bay Day 2011

CCMP Actions Implemented: PPE-3, 5

SAP Objectives: *PPE (Public Awareness - Goal 2, Objective B; Public Education - Goal 1, Objective A and B)*

Lead: Galveston Bay Foundation

FY 11 Budget: \$33,500

Milestones: Upon approval thru 8/31/11

Description: The Estuary Program supports the Galveston Bay Foundation (GBF) promotion and hosting of Bay Day 2010. Bay Day is a one-day celebration presented by GBF and other contributors. It is a signature education event providing exposure to Galveston Bay for many area residents. Highlights of the day include hands-on, interactive exhibits, a scavenger hunt, and live entertainment.

Status: Project has been funded at various levels since its inception.

Outputs/Products: Final report

Outcomes

Short-term: Increase number of new participants—exhibitors, volunteers, attendees and partnerships—by 10%; increase the return rate of previous year’s volunteers; increase awareness level of the benefits of Galveston Bay and efforts citizens can do at home to protect the bay; increase news coverage of the event and efforts citizens can do at home to protect the bay 10%; increase the dollar value of free publicity from the news coverage by 10%.

Intermediate: Increase awareness of behavior changes associated with protection of the bay.

Long Term: Increase awareness level of the positive behavior changes citizens can do at home to protect the bay by 10%.

Pressures (+/-): Increase positive behavior changes among targeted audiences associated with sustaining Galveston Bay.

8. Trash Bash 2011

CCMP Actions Implemented: PPE-3, 5

SAP Objectives: *PPE (Public Stewardship – Goal 1, Objective B; Public Awareness - Goal 2, Objective B; Public Education - Goal 1, Objective B)*

Lead: Houston-Galveston Area Council

FY 11 Budget: \$1,500

Milestones: Upon approval thru 8/31/11

Description: Trash Bash is a successful volunteer-based litter cleanup event that has been held at multiple sites in the Houston-Galveston area on an annual basis since 1994. The mission of Trash Bash is to "promote environmental stewardship of our watershed through public education by utilizing hands-on educational tools and by developing partnerships between environmental, governmental and private organizations." This grant’s funds help promote and implement the Trash Bash 2010 by paying for items such as, but not limited to, printing and postage of promotional materials and for acquiring supplies for the participating sites.

Status: Project has been funded at various levels since its inception.

Outputs/Products: Final report

Outcomes

Short-term: Increase number of new participants by 10%; increase pounds of trash collected by 1%; increase pounds of materials recycled by 10%; increase awareness level of the connection between littering, how litter enters into our waterways, and the negative impacts it has on neighboring communities, fish and wildlife by 10% at one Trash Bash location (Mason Park); increase news coverage of the Trash Bash event and the harmful environmental impacts of littering on our area waterways by 10%; increase the dollar value of free publicity from the news coverage by 10%.

Intermediate: Increase awareness of behavior changes associated with litter prevention in a neighborhood located next to Mason Park.

Long Term: Increase awareness level of the connection between littering, how litter enters into our waterways, and the negative impacts it has on neighboring communities, fish and wildlife by 10% at all Trash Bash locations (Mason Park). Decrease the amount of trash flowing into area waterways through educating citizens on appropriate behavior changes i.e. do not litter in your neighborhood, along the roads, etc.

Pressures (+/-): Continued increase in the amount of trash flowing into area waterways from influxes in populations not familiar with the harmful environmental impacts of littering and disconnection with community pride associated with litter-free neighborhoods.

9. State of the Bay Symposium 2012

CCMP Actions Implemented: PPE-1, 3, 4, 5, 6, 7, 8; RSC-3

SAP Objectives: PPE (all goals are potentially covered, but particularly Public Awareness - Goal 2, Objective A)

Lead: Galveston Bay Estuary Program and Galveston Bay Foundation

FY 11 Budget: \$30,000

Milestones: Upon approval thru mm/dd/yyyy

Description: The Galveston Bay Estuary Program, in partnership with the Galveston Bay Foundation, will host the Tenth State of the Bay Symposium tentatively scheduled for March 2012 in Houston, Texas. The Estuary Program hosts the symposium to provide an opportunity for stakeholders to interact and share successes, the latest monitoring and research findings, and challenges for the future. The Estuary Program typically welcomes presentations and panel sessions of special interest to estuary business, industry, recreation, education, academic, local government, resource management, and environmental communities. The content of the presentations need not be limited to Galveston Bay, but applicable to estuarine systems such as the bay.

Status: Project has been funded since its inception.

Outputs/Products: Final report

Outcomes

Short-term: Increase number of new participants—exhibitors, volunteers, attendees, and partnerships—by 10%; increase the return rate of previous year's participants and exhibitors; increase the number of local governments represented at the symposium by 10%; increase news coverage of the event.

Intermediate: Increase collaboration and recognition of the event.

Long Term: Continue to provide forums to discuss implementation efforts, share successes, and discuss the latest monitoring and research findings, and challenges for the future

Pressures (+/-): Ability to raise funds to support the event.

5.2D - M&R Projects for FY 2011

\$75,000

10. Assessment of "No Net Loss" of Wetlands Policy in Lower Galveston Bay Watershed

CCMP Actions Implemented: HP-4, Monitoring Program

SAP Objectives: M&R – Goal 1, Obj. A & B; Goal 2, Obj. A, B, C; Habitat Protection – Goal 2, Obj. A

Lead: To be determined

FY11 Budget: \$75,000

Milestones: New Project; TBD

Description: The proposed project seeks to assess the status of wetland mitigation sites in the Lower Galveston Bay watershed. The project will facilitate implementation of Action HP-4 of the Galveston Bay Plan, which calls for a coordinated system-wide wetland regulatory strategy. That action cannot be fully implemented without an accurate assessment of wetland mitigation activities. Funding would permit collection of data from USACE forms on location,

extent and initial condition of mitigation sites. Project staff would then check current status of mitigation wetlands using remote sensing and ground truthing. Results would be an estimate of the persistence and condition of mitigation wetlands over time.

Status: New project for FY 2011. Results will align with effort to characterize wetland loss and resource management enhancement.

Outputs/Products: Final Report

Outcomes

Short-term: Resource management guidance on improving regulatory protection

Intermediate: Increased regulatory protection and tracking of mitigation

Long Term: No Net Loss of Wetlands

Pressures (+/-): Decreased loss of wetlands

11. Bio-Indicators for Freshwater Inflows for Galveston Bay: Responding To Challenges from BBEST Recommendations

CCMP Actions Implemented: FW-1, FW-4, RSC-2, RSC-4, Monitoring Program

SAP Objectives: M&R – Goal 1 Obj. A, B; Goal 2, Obj. A, B, C; Sustaining Species Populations Goal 1 Obj. D

Lead: Texas A&M University at Galveston (TAMUG)

FY11 Budget: \$100,000

Milestones: Thru 8/31/2012

Description: Based on one of the recommendations being made by BBEST, funds are being requested to study nutrient and salinity effects on phytoplankton, Atlantic Rangia, and Wild Celery. This project would seek to provide important data on the use of biological indicators to determine the frequency, magnitude, and pulses of inflow needed to sustain Galveston Bay. This project will examine the phytoplankton samples collected in 2006, 2008-2011; develop high spatial and temporal resolution mapping of Galveston Bay water quality parameters; define influence of nutrient and sediment load on the phytoplankton in Galveston Bay; determine the distribution of *Vallisneria* plants in relation to salinity gradients Galveston Bay; determine the distribution of Rangia clams in relation to salinity gradients Galveston Bay; and using the data collected, develop a better understanding of the use of these flora and fauna as biological indicators of the effects of freshwater inflows in Galveston Bay.

Status: TAMUG is currently being funded by GBEP to continue analyzing phytoplankton samples being collected under funding from the Coastal Management Program. Match to this ongoing effort is over \$200,000 and is providing direct benefit to the development of inflow recommendation under Senate Bill 3.

Outputs/Products: Final Report

Outcomes

Short-term: Increased understanding of the role freshwater inflows on Galveston Bay, particularly response indicator species.

Intermediate: Use of indicator species to develop seasonal, magnitude and pulse event fresh water inflow amounts to ensure beneficial inflow

Long Term: Management of inflow beneficial to maintain the biological integrity of Galveston Bay.

Pressures (+/-): Decreased pressure to allocate all fresh water to human consumption.

12. State of the Bay Bibliography

CCMP Actions Implemented: HP-1 Restore, create, protect wetlands; HP-5 Acquire and protect quality wetlands; HP-6 Develop economic and tax incentive programs to protect wetlands; RSC-2 Identified Research Need; RSC-4 Increased Funding for GB Research; PPE-1 Establish citizen involvement as an integral part of the program; PPE-3 Develop a long-range adult education and outreach program; PPE-7 Develop and implement a strategy for informing, educating, and

providing local government involvement.

SAP Objectives: M&R – Goal 1 Increase Understanding Objs. A – Collaborate with research institutions & B – Support dissemination of monitoring and research; M&R – Goal 2 Make available information to the public, council, and council subcommittees, Objs. A – Obtain analyze and synthesize data of parameters effecting the bay, C – Support applied research and monitoring that is needed by the NRU and PPE.

Lead: Houston Advanced Research Center

FY 11 Budget: \$40,000

Milestones: Upon approval thru 11/30/2011

Description: The Galveston Bay Estuary Program is amending the State of the Bay Contract with the GeoTechnology Research Institute of the Houston Advance Research Center to add an additional task to add to the State of the Bay Bibliography by completing a literature review on ecosystem services; analyze case studies on ecosystem service studies; and complete a white paper on the results. The white paper will be used in a workshop of experts in the field of ecosystem services and local stakeholders and decision makers in September 2011. The outcome of the workshop will be a strategy to conduct an ecosystem services pilot study in the Lower Galveston Bay watershed. Deliverables from this workshop will be highlighted and a key theme at the next State of the Bay Symposium scheduled for March 2012. An additional three months is being added to complete this additional task.

The Galveston Bay Estuary Program and its partners have a target of 50,000 acres of wetland and flood plain habitat by 2015. To support this objective, the Galveston Bay Estuary Program and its partners are developing a conservation program that targets key local stakeholders with information on the importance of wetland habitat. One area of wetland habitat information that is currently a data gap is understanding of the full range of ecosystem services and associated value, both market and non-market of wetland and flood plain habitat. 1) This amendment will benefit the program in initiating work to better understand ecosystem values and place those values into terms that key stakeholders will understand to potentially make informed decisions; 2) The ecosystem services strategy developed will form the basis of a future pilot study focused on wetland and habitat conservation; and 3) Results of this amendment will form the subject base at the State of the Bay Symposium in March 2012.

Status: Amendment is currently being signed by both parties.

Outputs/Products: Final report

Outcomes

Short-term: Complete bibliographical search and white paper.

Intermediate: Develop ecosystem services pilot study Request for Grant Application for FY 2012 and use in State of the Bay Symposium in March 2012.

Long Term: Use of information by Estuary Program and stakeholders to increase the public and local decision makers understanding of wetland and flood plain habitat value and ecosystem services.

Pressures (+/-): Population growth and development practices continue to impact the region's wetland and associated habitat resources which degrade local water quality, wildlife and fishery habitat, and economic value of Galveston Bay. Placing the results in the hands of decision makers has the potential to incorporate wetland values in long range planning and encourage increase protection.

SECTION 5: FY 2011 PROJECTS
SECTION 5.3: FY 2011 STATE-FUNDED PROJECTS

The projects outlined in this work plan were developed by the Natural Resource Uses Subcommittee, Water and Sediment Quality Subcommittee, Monitoring Subcommittee, Public Participation and Education Subcommittee, and the Monitoring and Research Subcommittees, ranked by the Budget and Priorities Subcommittee, and submitted to the Galveston Bay Council for approval in April. The Council approved projects listed in this work plan at the April 28, 2010 quarterly meeting.

Project Name	Year(s)	FY 2011 Request	Total Project Budget
<i>No State-Funded Salaries</i>			
ADMIN TOTAL		\$0	
<i>Virginia Point Protection and Restoration Project</i>	<i>2011</i>	<i>\$100,000</i>	<i>Moved to FY12</i>
1. Invasive Species Management	2011	\$80,000	To be leveraged
2. Starvation Gap Protection and Restoration	2008-2012	\$27,214	\$1.05 million
3. Lower Galveston Bay Wetland Protection and Restoration	2011-2012	\$250,000	\$2 million+ (CWPPRA)
NRU TOTAL		\$357,214	
4. Highland Bayou/Pearland Watershed Projects	2010-2011	\$25,000	\$500,000
WSQ TOTAL		\$25,000	
<i>No State-Funded PPE Projects</i>			
PPE TOTAL		\$0	
<i>Bio-indicators for Freshwater Inflow</i>	<i>2011</i>	<i>\$100,000</i>	<i>Federal Funds used</i>
<i>Emerging Contaminants</i>	<i>2011</i>	<i>60,000</i>	<i>Canceled</i>
5. State of the Bay Bibliography	2011	15,000	\$40,000
M&R TOTAL		\$15,000	
FUNDING REQUEST GRANT TOTAL	\$397,214		

SECTION 5: FY 2011 PROJECTS
SECTION 5.4: FY 2011 STATE-FUNDED PROJECT DESCRIPTIONS

State-Funded NRU Projects for FY 2011

1. Invasive Species Management

SAP Objectives: *Habitat Protection Goal 2 Obj. A, B; Species Protection Goal 2 Obj. A, C; Public Education Goal 1 Obj. B*

CCMP Actions Implemented: HP-1, SP-1, SP-10, PPE-1

Project Lead: Galveston Bay Foundation, Armand Bayou Nature Center

FY11 Budget: \$80,000

Milestones: upon signature thru 8/31/2013

Description: The NRU Subcommittee allocates funding each year to the Invasive Species Work Group to secure additional contributions for invasive species management efforts. This project involves invasive species control at several sites within lands under conservation management, addressing four of the highest risk species identified in the Galveston Bay Invasive Species Risk Assessment (TCEQ Contract 582-02-53287) - Brazilian peppertree, Chinese tallow, salt cedar and water hyacinth. GBF and Armand Bayou Nature Center (ABNC) shall employ proven control methods, including herbicide application, prescribed mowing, prescribed burns, or other viable means to complete work identified at each site.

Invasive species are those that establish, successfully reproduce, out-compete, and displace or replace native species. The impacts of invasive species can be ecologically and economically devastating to a region, and the Houston-Galveston metropolitan area, including the Lower Galveston Bay Watershed, is no exception.

During the 2001 review of the priorities and goals established in The Galveston Bay Plan, invasive species were identified as the one of the highest priority problems contributing to habitat loss. In 2004, the Galveston Bay Estuary Program (GBEP), the Houston Advanced Research Center (HARC), and the Environmental Institute of Houston at the University of Houston-Clear Lake (EIH-UHCL) completed an invasive species risk assessment for the Lower Galveston Bay Watershed. The project identified 296 species (including 166 plant species) as current and potential invaders of the Lower Galveston Bay Watershed. Each species was ranked by a group of experts according to ecological risk. The risk assessment also outlined a series of recommendations to enhance prevention and control of invasive species.

Status: New project

Outputs/Products: Final Report

Outcomes

Short-term: Treatment of areas infested with invasive species on selected areas proposed.

Intermediate: Prevent the spread and entrenchment of invasive species within the Galveston Bay watershed, support ongoing water hyacinth management program.

Long Term: Support effective management of high-risk invasive species in Galveston Bay watershed. Prevent severe damage to Armand Bayou ecosystem from water hyacinth.

Pressures (+/-): Decreased damage to natural ecosystems from invasive species.

2. Starvation Gap Protection and Restoration

SAP Objectives: HP-Goal 1 Objective C; Goal 2 Objective B; WSQ Goal 1 Objective C, SP-Goal 1 Objective C; PS-Goal 1 Objective B; PA-Goal 1 Objective B, PE-Goal 1 Objective B; EP-Goal 2 Objectives A, B.

CCMP Actions Implemented: HP-1, 2, 7, 8; SP-1; NPS; PPE-1, 3, 5.

Project Lead: Texas Parks and Wildlife Department

FY11 Budget: \$27,214

Milestones: 2008-08/31/2012

Description: This project involves the installation of approximately 2,400 feet of erosion control structures to protect approximately 23 acres of existing estuarine wetlands in West Bay, along the north shoreline of Galveston Island in West Bay. This project will protect large expanses of rapidly eroding tidal marshes, and restore approximately 50 acres of marshes and shallow open water habitats lost to subsidence and erosion. Partners will also plant seagrasses within protected areas to continue the highly successful effort to re-establish seagrasses as a major component of the West Bay ecosystem. This project will connect two highly successful partnership efforts recently completed at Delehide Cove and Starvation Cove in West Bay, and will involve local community members in planting restored marshes, thereby providing an outstanding opportunity to provide education on the importance of protecting Texas' valuable coastal resources.

Status: Received \$900,000 from 2007 Cycle of CIAP. TPWD currently soliciting construction bids.

Outputs/Products: Final Report

Outcomes

Short-term: Engineering and design plan for restoration project, and securing external funding for all or part of project.

Intermediate: Placement of breakwater and restoration materials at Starvation Gap.

Long Term: Increased estuarine marsh complex in the Galveston Bay Watershed.

Pressures (+/-): Decreased erosion pressure on marshes due to placement of breakwater.

3. Lower Galveston Bay Wetland Protection and Restoration

SAP Objectives: HP-Goal 1 Objective C; Goal 2 Objective B; WSQ Goal 1 Objective C, SP-Goal 1 Objective C; PS-Goal 1 Objective B; PA-Goal 1 Objective B, PE-Goal 1 Objective B; EP-Goal 2 Objectives A, B.

CCMP Actions Implemented: HP-1, 2, 7, 8; SP-1; NPS; PPE-1, 3, 5.

Project Lead: Texas Parks and Wildlife Department

FY11 Budget: \$250,000

Milestones: upon signature – 08/31/13

Description: This project with Texas Parks and Wildlife Department is comprised of two wetland protection and restoration projects in the lower Galveston Bay Watershed. Texas Parks and Wildlife Department is the central project administrator for both projects. TCEQ/Estuary Program funds will serve as seed funds to leverage approximately \$1,949,000 from the USFWS-administered Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) program, along with additional state, local, and private sources, for wetland protection and restoration work at Bird Island Cove in West Galveston Bay and along Dickinson Bayou. Approximately 60 acres of vital habitat within the lower Galveston Bay Watershed will be restored.

A. Bird Island Cove Restoration

The Galveston Bay system has lost a net of nearly 35,000 acres of wetlands, and most of its seagrasses, since the 1950s. A significant portion of this wetland loss, and much of this seagrass loss occurred in the West Bay area, due in large part to subsidence and subsequent erosion. Despite these losses, West Bay is considered one of the more pristine component bays within the Galveston Bay system, and consequently, resource managers have concentrated resources to protecting remaining natural areas and restoring lost wetlands and

seagrasses.

The Bird Island Cove Restoration Project will involve the installation of approximately 4,400 linear feet of breakwater, the restoration of 52 acres of intertidal marsh complex (salt flat marsh, salt flat, intertidal marsh and protected shallow water), and the protection and enhancement of existing estuarine habitats by hydraulically dredging material from designated nearby borrow area(s). This project serves to close the gap between other successful projects fostered through the Estuary Programs Natural Resource Uses subcommittee including McAllis Point Acquisition, McAllis Point Restoration, Ostermayer Bayou Acquisition, Jumbile Cove Restoration, and the West Bay Stimulus Restoration. Through these projects, the TCEQ/Estuary Program contributed \$842,363 to leverage \$10,088,662 and protect/restore 616 acres along the north shoreline of Galveston Island.

The Bird Island Cove component will significantly enhance the Galveston Bay Estuary Program and partners' wetland protection and restoration work in West Bay, which has received national recognition.

B. Dickinson Bayou Wetland Restoration

The Texas Commission on Environmental Quality's 2008 report on Total Maximum Daily Load (TMDL) for dissolved oxygen (DO) in Dickinson Bayou showed that the anthropogenic changes made to the bottom contours of Dickinson Bayou contribute significantly to the non-attainment of dissolved oxygen (DO) criteria.

The Dickinson Bayou Restoration project involves the placement of approximately 1,777,778 square feet of material to restore natural bottom contours and vegetate 8 to 10 acres of historic marsh habitat in Dickinson Bayou. This project will restore historic bottom contours and the habitats that provide biochemical interactions and improve water quality to the downstream tidal portions of the bayou. The direct benefits of this project will result in improved fish and wildlife habitat, increased productivity of nursery fish and benthic species as well as improved water quality and stormwater filtration in Dickinson Bayou. This project is consistent with three other successful, similarly-constructed restoration efforts in Dickinson Bayou that were completed in 1994 by Texas General Land Office and in 2006 by the Galveston Bay Foundation.

Status: New project

Outputs/Products: Final Report

Outcomes

Short-term: Restoration of 52 acres of intertidal marsh complex in Galveston Bay; Placement of 4,400 LF of breakwater (geotextile tube) in West Bay; and restoration of natural bottom contours and 8 to 10 acres of historic marsh habitat in Dickinson Bayou

Intermediate: Involvement of local citizens in planting protected areas within this project to build awareness of economic and ecological problems associated with erosion and habitat loss, and to educate citizens on the values of wetland and water quality protection.

Long Term: Improvement of water quality and stormwater filtration in Dickinson Bayou, improvement of fish and wildlife habitat, and increased productivity of nursery fish and benthic species

Pressures (+/-):

4. Highland Bayou / Pearland Watershed Projects

CCMP Actions Implemented: HP-1,2,3,5; SD-5,6,7; WSQ-1,2,6,7; NPS-1,2,3,4,5,6,10,11,12,13,14; PS-1,2,5 PPE-1,3,5,7

SAP Objectives: WSQ Goal 1 Objective A; WSQ Goal 1 Objective C; Habitat Protection Goal 2 Objective B; Public Stewardship Goal 1, Objective B

Lead: Texas AgriLife Extension

FY11 Budget: \$225,000

Milestones: upon signature to 08/31/2012

Description: Funding from this grant to the Coastal Watershed Program of Texas AgriLife (CWP) will continue to foster the development of the Highland Bayou Regional Watershed Protection Plan and to implement low impact development practices in Galveston and Brazoria counties.

Currently, CWP is using American Recovery and Reinvestment Act funding, \$275,000, from FY 2010 to initiate the first 5 elements (A-E) of EPA's nine elements of a watershed protection plan (WPP) for the Highland Bayou region. Funding from FY 2011 will be used to complete the first five elements of the plan, continue stakeholder development, engage the public and plan for the completion of the last 4 elements. The development of the final four elements will be a priority for future federal or state funding. Highland Bayou is located in Galveston County and is listed on the 303 (d) List of Impaired Waters for low dissolved oxygen and high bacteria concentration. TCEQ has placed the bacteria impairment in Category 5a and the dissolved oxygen impairment in Category 5c.

In addition, two water quality implementation projects (WQIP) are planned under this grant in Galveston and Brazoria counties. In the first WQIP, CWP will coordinate a stakeholder group composed of local municipalities and county governments, special districts (e.g. drainage districts and conservation and reclamation districts), state and federal agencies, NGOs, and citizens; identify a target location with stakeholder support; and finally develop engineering, design, and costs. In the second WQIP, CWP is currently working with the City of League City on a recently awarded TCEQ 319 program non-point source project. GBEP state funds will be used as a portion of the 40% match required to receive 319 funding.

Status: Contract is being routed for approvals.

Outputs/Products: Final Report

Outcomes

Short-term: Develop local stakeholders interested in watershed protection and on the ground water quality improvements through implementation projects.

Intermediate: Secure funding and begin implementation of watershed protection plans and water quality improvement projects.

Long Term: Begin to see improvement in water quality that will lead to removal or prevention of water bodies, in Galveston and Brazoria County, from the state's 303 (d) list.

Pressures (+/-): Galveston and Brazoria County are projected to see increases in population over the next 30 years. That growth will place stress on the watersheds and habitats in the region, compounding water bodies already listed for impairments. Implementation of WPPs and WQIPs should help to decrease population pressure.

5. State of the Bay Bibliography

CCMP Actions Implemented: HP-1 Restore, create, protect wetlands; HP-5 Acquire and protect quality wetlands; HP-6 Develop economic and tax incentive programs to protect wetlands; RSC-2 Identified Research Need; RSC-4 Increased Funding for GB Research; PPE-1 Establish citizen involvement as an integral part of the program; PPE-3 Develop a long-range adult education and outreach program; PPE-7 Develop and implement a strategy for informing, educating, and providing local government involvement.

SAP Objectives: M&R – Goal 1 Increase Understanding Objs. A – Collaborate with research institutions & B – Support dissemination of monitoring and research; M&R – Goal 2 Make available information to the public, council, and council subcommittees, Objs. A – Obtain analyze and synthesize data of parameters effecting the bay, C – Support applied research and monitoring that is needed by the NRU and PPE.

Lead: Houston Advanced Research Center

FY 11 Budget: \$40,000

Milestones: Upon approval thru 11/30/2011

Description: The Galveston Bay Estuary Program is amending the State of the Bay Contract with the GeoTechnology Research Institute of the Houston Advance Research Center to add an additional task to add to the State of the Bay Bibliography by completing a literature review on ecosystem services; analyze case studies on ecosystem service studies; and complete a white paper on the results. The white paper will be used in a workshop of experts in the field of ecosystem services and local stakeholders and decision makers in September 2011. The outcome of the workshop will be a strategy to conduct an ecosystem services pilot study in the Lower Galveston Bay watershed. Deliverables from this workshop will be highlighted and a key theme at the next State of the Bay Symposium scheduled for March 2012. An additional three months is being added to complete this additional task.

The Galveston Bay Estuary Program and its partners have a target of 50,000 acres of wetland and flood plain habitat by 2015. To support this objective, the Galveston Bay Estuary Program and its partners are developing a conservation program that targets key local stakeholders with information on the importance of wetland habitat. One area of wetland habitat information that is currently a data gap is understanding of the full range of ecosystem services and associated value, both market and non-market of wetland and flood plain habitat. 1) This amendment will benefit the program in initiating work to better understand ecosystem values and place those values into terms that key stakeholders will understand to potentially make informed decisions; 2) The ecosystem services strategy developed will form the basis of a future pilot study focused on wetland and habitat conservation; and 3) Results of this amendment will form the subject base at the State of the Bay Symposium in March 2012.

Status: Amendment is currently being signed by both parties.

Outputs/Products: Final report

Outcomes

Short-term: Complete bibliographical search and white paper.

Intermediate: Develop ecosystem services pilot study Request for Grant Application for FY 2012 and use in State of the Bay Symposium in March 2012.

Long Term: Use of information by Estuary Program and stakeholders to increase the public and local decision makers understanding of wetland and flood plain habitat value and ecosystem services.

Pressures (+/-): Population growth and development practices continue to impact the region's wetland and associated habitat resources which degrade local water quality, wildlife and fishery habitat, and economic value of Galveston Bay. Placing the results in the hands of decision makers has the potential to incorporate wetland values in long range planning and encourage increase protection.

SECTION 6: FY 2011 GRANT BUDGET SPREADSHEET

Grant Roll Up (All Divisions/FYs)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

(a) Grant Title:		FY11 GALVESTON BAY ESTUARY PROGRAM													
(b) USAS Grant #:		900519 (Revision: 0.2)													
(c) FY(s):		2011													
(d) As of Date:		06/01/2011													
(e) Fringe Benefit and Indirect Cost Rates															
FY	Fringe Benefit Rate	Indirect Cost Rate													
2011	25.66%	32.89%													
(b) Grant Roll Up				(c) Expense Items											
(i) Grantor Goal / (m) Start / (n) PE Name				WY	1-Salaries	2-Contracts	3-Travel	4-Other	5-Supplies	6-Equip	7-Cont.	Subtotal	FB	IC	Grand Total
GOAL 2 010102 ADMINISTRATION					385,762.88	0.00	0.00	14,963.94	0.00	0.00	0.00	400,726.82	98,986.76	126,877.42	626,591.00
GOAL 2 010102 MONITORING AND RESEARCH					0.00	0.00	0.00	176,000.00	0.00	0.00	0.00	176,000.00	0.00	0.00	176,000.00
GOAL 2 010102 PUBLIC PART EDUCATION					0.00	139,137.00	0.00	234,271.00	0.00	0.00	0.00	373,409.00	0.00	0.00	373,409.00
GOAL 2 010102 WATER AND SEDIMENT QUALITY					0.00	0.00	0.00	300,000.00	0.00	0.00	0.00	300,000.00	0.00	0.00	300,000.00
GOAL 3 010102 NATURAL RESOURCE USES					0.00	0.00	0.00	100,000.00	0.00	0.00	0.00	100,000.00	0.00	0.00	100,000.00
GOAL 4 010102 MONITORING AND RESEARCH					0.00	0.00	0.00	24,000.00	0.00	0.00	0.00	24,000.00	0.00	0.00	24,000.00
(s) Total Costs					\$385,762.88	\$139,137.00	\$0.00	\$849,235.94	\$0.00	\$0.00	\$0.00	\$1,374,135.82	\$98,986.76	\$126,877.42	\$1,600,000.00
(f) Notes/Comments:															

NOTE: Amounts not rounded