



**Living on the Edge**  
*Protecting Our Bays and Estuaries*

# Coastal Bend Bays & Estuaries Program

## FY 2009 Comprehensive Annual Work Plan

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# **COASTAL BEND BAYS & ESTUARIES PROGRAM**

## **FY 2009 Comprehensive Annual Work Plan**

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## **I. Introduction**

### **History**

In its 1987 reauthorization of the Water Quality Act, the U.S. Congress established the National Estuary Program (NEP) to promote long-term planning and management of nationally significant estuaries threatened by pollution, development, or overuse. The Administrator of the Environmental Protection Agency (EPA) was given authority to convene Management Conferences and to award Federal financial assistance grants to approved state programs for the purpose of developing and implementing a CCMP. The Act defines criteria by which Management Conferences are charged with balancing the conflicting uses in target estuaries, while restoring or maintaining their natural character.

The Coastal Bend Bays & Estuaries Program (formerly the Corpus Christi Bay National Estuary Program) was formally established in October 1992 with committee meetings beginning in late 1993. The CBBEP was one of the first NEPs to use a streamlined approach to the development of a CCMP. The goal of the CBBEP to complete a Preliminary CCMP within 12 to 18 months (from 09/01/94) and a Final CCMP in approximately four years (by September 1998) was achieved.

A State-EPA Management Conference Agreement detailing this and other specific outputs of the four-year program was signed in May 1994 by the Regional Administrator of the EPA and the Chairman of the State-lead agency for the Program, the Texas Natural Resource Conservation Commission (now the Texas Commission on Environmental Quality - TCEQ). The Program Office had been established as a program of the TNRCC since December 1993. In 1999, CBBEP became a non-profit organization to lead implementation.

### **CBBEP Operations**

The project area encompasses the estuarine environment of 75 miles of the south-central Texas coastline, and includes the 12 counties of the region known as the Texas Coastal Bend. This 514 square mile area of water includes all bays, estuaries, and bayous in the Copano, Aransas, Corpus Christi, Nueces, Baffin, and upper Laguna Madre bay systems, which together represent three of the seven major Texas estuaries.

The Priority Issues for the CBBEP are:

- Alteration of Freshwater Inflow into Bays and Estuaries
- Condition of Living Resources
- Loss of Wetlands and Estuarine Habitats
- Degradation of Water Quality
- Altered Estuarine Circulation
- Bay Debris
- Selected Public Health Issues

The *Coastal Bend Bays Plan* has been developed to address each of these priority issues under the following categories of action plans: Human Uses; Maritime Commerce and Dredging; Habitat and Living Resources; Water and Sediment Quality; Freshwater Resources; and Public Education and Outreach. The projects selected for implementation reflect a combination of priority and readiness or feasibility for implementation. Implementing Partners for other actions

of the *Bays Plan* will likewise be called upon to begin and continue to implement their own portions of the *Plan*. The role of Program staff is multi-faceted, but will include at a minimum the following tasks: (1) acquire, manage, and disperse funds to implement the *Bays Plan*; (2) develop and implement partnership projects with local governments, state and federal agencies, and private organizations; (3) monitor, track, and report on implementation performance by implementing partners, and work to maintain implementation commitments; and (4) coordinate the environmental monitoring and assessment of Plan implementation effectiveness.

## **Work Plan Development**

The FY 2009 Comprehensive Work Plan will allow the CBBEP to continue the implementation of the *Coastal Bend Bays Plan*. This Work Plan describes implementation projects and administrative support that will be undertaken pending approval and receipt of funds by the funding entities.

All data and information produced under the auspices of the CBBEP will adhere to standardized formats and be made publicly accessible. A public participation strategy, refined under the 'public education and outreach' chapter of the *Bays Plan*, will continue to guide public participation efforts in Comprehensive Conservation and Management Plan (CCMP) implementation. The list of Priority Issues, refined through public input and characterization projects will continue to serve as the focus for implementation.

## **II. Starting Date**

The starting date for this FY 2009 Comprehensive Work Plan will be September 1, 2008.

## **III. Federal and State Program Coordinators and Project Officers**

### **Federal**

Ms. Barbara Keeler  
CBBEP Program Coordinator  
U.S. EPA Region 6  
Marine and Wetlands Section (6WQ-EM)  
1445 Ross Avenue, Suite 1200  
Dallas, TX 75202-2733

Ms. Betty Ashley  
CBBEP Project Officer  
U.S. EPA Region 6  
Office of State & Tribal Program Section (6WQ-AT)  
1445 Ross Avenue, Suite 1200  
Dallas, TX 75202-2733

### **State**

Mr. Jeff Foster  
CBBEP Program Coordinator  
Texas Commission for Environmental Quality  
NRC Bldg, #3300  
6300 Ocean Dr.  
Corpus Christi, TX 78412

#### **IV. Accomplishments To Date**

The CBBEP achieved its primary goal for FY 2008, which was to continue the successful initiation and completion of projects developed to implement the *Coastal Bend Bays Plan*. The Program and its partners achieved programmatic progress on 94 percent of CCMP actions. Action-specific environmental progress directly attributed to CBBEP activities has resulted in thousands of acres of restored or protected habitat. The Program's success in leveraging funds for CBBEP projects has also been noteworthy. Broad support for the Program's activities is evidenced by the range of contributors, including local governments, industries, NGOs and state and federal agencies. The CBBEP Management Conference has not made any changes in the priorities as listed in the CCMP.

All project deliverables identified during the FY 1999 through FY 2004 implementation years have been completed. FY 2005 through FY 2006 projects are expected to be complete by August 31, 2009. FY 2007 projects are expected to be completed by August 31, 2009.

#### **V. Goal for FY 2009**

The overarching goal for FY 2009 is to continue the successful implementation of the *Coastal Bend Bays Plan*. CBBEP Implementation Teams continue to identify, initiate and select project ideas for inclusion in the Program work plans. The teams are: Habitat & Living Resources, Human Uses Team; Maritime Commerce and Dredging Team; Water & Sediment Quality Team; and Environmental Education & Outreach Team. The CBBEP Coordination Team, consisting of all the chairs of the Implementation Teams and key members of the Conference, coordinates the annual work plan recommendations to the CBBEP Board of Directors, and reviews and proposes update recommendations to the *Bays Plan*.

#### **VI. Implementation of Projects**

Project activities for FY 2009 have been selected for their contribution towards implementation of the *Coastal Bend Bays Plan*. Twenty-five projects will be implemented in FY 2009. A comprehensive list of projects outlining project numbers, titles, action items, performing party(s), and budget can be found in Table 1: FY 2009 Comprehensive Annual Work Plan Outline. This list represents the combined efforts of the many volunteers who have donated their time and expertise to help assure the successful implementation of the *Coastal Bend Bays Plan*.

#### **VII. Project Deliverables/Schedule**

Specific project deliverables and schedules for completion are to be negotiated with the sub-contractor of the project and will be included in the scope of work of the project contract. The project contract and any amendments will be subject to review by funding entities and are incorporated into this annual work plan by reference.

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**Project #0901      Matagorda Island Marsh Restoration – Implementation Phase 2**

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**Performing Organization:**                      **Aransas National Wildlife Refuge (ANWR)**  
**Total Project Funding:**                      **\$150,000**  
**CBBEP Bays Plan Actions:**                      **HLR-1**

Habitats found on Matagorda Island include gulf beach and low dunes on the eastern shoreline, coastal prairie with freshwater emergent marshes in the interior, and an estimated 15,000 acres of intertidal estuarine emergent marshes on the southwestern boundary. In the 1950's large portions of the estuarine marsh were sectioned off with constructed levees so that they could be drained for cattle production. The area remained in this condition until the late 1970's when several dozens culverts where installed to restore natural hydrology to the sectioned off marsh areas. Since that time, many of these culverts have collapsed or have become clogged so that tidal exchange in the marsh has been restricted or eliminated.

CBBEP developed an Adaptive Management Plan (AMP) to guide restoration efforts within the 15,000 acre western marsh, and provided funding for implementing the first phase of restoration actions as recommended in the AMP. During the first phase of implementation, ANWR used the AMP to leverage funds provided by CBBEP, thereby increasing the project budget (and acreage restored) by approximately 300%.

ANWR has been equally successful in obtaining commitments for the second phase of implementation. A minimum of four sites (as recommended by the AMP) will be addressed, restoring 500+ acres.

**Project Objective:**

Implement restoration actions at a minimum of three locations, as recommended by the Matagorda Island Western Marsh Adaptive Management Plan.

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**Project #0902 Colonial Waterbird Management**

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**Performing Organization:** CBBEP  
**Total Project Funding:** \$175,000  
**CBBEP Bays Plan Actions:** HLR-1, HLR-4

The Living Resources Characterization Report prepared for the Estuary Program documented the declining populations of certain colonial waterbird populations. Some species of colonial waterbird have experienced a 90% reduction in breeding pairs since the 1960's. Colonial waterbird populations are indicators of the overall health of the estuary. Bird watching, especially viewing colonial waterbirds, is an important and growing component of ecotourism and the local economy.

Building on the efforts of the CBBEP Colonial Waterbird projects in previous years, this project will continue the implementation of specific management actions of the *CBBEP Colonial Waterbird Rookery Island Management Plan*. Management actions will include efforts to reduce human-disturbance, nesting substrate management, vegetation management to enhance rookery island habitat, and predator control where necessary. Outreach will continue to be a crucial component in achieving project objectives.

**Project Objectives:**

1. Continue efforts on enhancement and construction of nesting habitat.
2. Continue to promote public programs to protect colonial waterbirds.
3. Assist in efforts to note fluctuations of colonial Waterbird populations for management purposes.
4. Install signage to reduce impacts of human disturbance on waterbird colonies.
5. Implement predator control efforts.

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**Project #0903 Coastal Bend Environmental Science – Learning on the Edge**

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**Performing Organization:** CBBEP  
**Total Project Funding:** \$107,000  
**CBBEP Bays Plan Actions:** PEO-2, PEO-3, PEO-5

The CBBEP's Environmental Education & Outreach Implementation Team (EEOIT) identified challenges that teachers face as they embark in meeting the Texas Education Agency's (TEA) established Texas Essential Knowledge and Skills (TEKS) state requirements. Teachers teaching science in the primary schools are often ill-equipped to instruct students in the sciences resulting in area students receiving low scores on the Texas Assessment of Knowledge and Skills (TAKS). CBBEP has developed a program to be delivered by the CBBEP Environmental Educator titled "Coastal Bend Environmental Science: *Learning on the Edge*". This program is specifically designed to provide the following:

Summer Teacher Academy

The CBBEP Environmental Educator will deliver a locally based environmental science curriculum and provide training to area teachers by integrating some of the Program's well-regarded science education programs. The educator will provide training to teachers in the use of the curriculum through interactive sessions, encouraging them to go beyond what conventional textbooks currently provide. The educator will demonstrate the use of the curriculum materials so teachers can observe the actual presentation of the material to real students. This program is designed to target Grades 3-5 to support preparation for the state-mandated TEKS assessment in Grade 5. The summer workshops will include delivery of the *Kritters 4 Kids* curriculum that teaches school children about the importance of wildlife and habitat, the threat of urbanization, local ecosystems, and food webs. Additionally, the program will provide teachers several teaching tools such as thermometers, magnifying glasses, bug jars for use in their classroom and in the field.

In-classroom Curriculum and Field Trips to the Nueces Delta Preserve

This project will address the gap that exists between the delivery and implementation of new curriculum by teachers. Follow-up visits to assist teachers further with implementation of the curriculum in their classrooms would be conducted throughout the school year by the Environmental Educator. Teachers will be invited to participate in CBBEP coordinated field trips to area sites that provide them and their students hands-on experiences in the local environment.

**Project Objective:**

To aid teachers in the community to increase their knowledge, skills and provide resources to more effectively teach science to their students in local schools.

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**Project #0904      CBBEP Habitat Protection Media Campaign**

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**Performing Organization:**                      **CBBEP**  
**Total Project Funding:**                      **\$35,000**  
**CBBEP Bays Plan Actions:**                      **BTR-1, PEO-2, PEO-3, PEO-5**

Public outreach continues to be a key element of the CBBEP to educate Coastal Bend residents about the importance of bays and estuaries to their communities. The CBBEP will utilize local and regional media, which includes television, radio, print, and websites, to implement the goals of the CBBEP Public Outreach Strategy. The priority issues for this media campaign as identified in the *Coastal Bend Bays Plan* are: - Altered Freshwater Inflow Into Bays and Estuaries - Non-point Source Pollution - Loss of Wetlands and Estuarine Habitats - Degradation of Water Quality - Condition of Living Resources - Altered Estuarine Circulation - Public Health Issues

Some or all of the priority issues listed above will be considered for public outreach through media.

**Project Objective:**

The goal is to use the media to provide the public with the environmental science knowledge to make sound decisions regarding the effective management of bay resources and to promote environmental stewardship through increasing awareness of the resources and the issues regarding their use.

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**Project #0905      Nueces Delta Shoreline Habitat Erosion Protection –  
Assessment, Permitting and Implementation**

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**Performing Organization:**                    **Coastal Technology  
(& To Be Determined for Implementation)**  
**Total Project Funding:**                    **\$70,000**  
**CBBEP Bays Plan Actions:**                **HLR-1**

The Nueces River Delta consists of 10,000+ acres of water, marsh, and adjacent uplands. Before the construction of the Choke Canyon Reservoir and Lake Corpus Christi dams, the Nueces River flowed through the heart of the delta, supplying ample fresh water for wildlife and a steady source of sediment to offset erosion acting on the shoreline of Nueces Bay. Today, the river only overflows its banks after extreme weather events, so the delta is denied much-needed fresh water and sediment.

Over the past few years, researchers have reported to CBBEP that the delta’s shoreline along Nueces Bay appeared to be eroding at a rapid rate. In order to substantiate these reports, CBBEP commissioned a study by University of Texas Marine Science Institute to document this erosion and quantify the rate at which it has been occurring. This study determined that, from 1997 to 2005, the shoreline of the Nueces River Delta eroded at an average rate of 8.2 feet per year.

The erosion of the delta is causing the on-going loss of emergent intertidal and subtidal marsh habitat. This disappearing fringe protects additional inland habitat: marsh, open-water channels and small lakes, and uplands that depends on the lower-lying marsh. As the size of these habitats decrease, so will the abundance and diversity of the wildlife that breeds, nests, and shelters in the delta.

During FY2007 and FY2008, CBBEP retained a professional engineering firm to conduct field investigations and develop some preliminary conceptual alternatives that will reduce the effects of erosion. This project will continue that effort by considering those alternatives, selecting a preferred alternative for implementation, developing a U.S. Army Corp of Engineers permit application, and developing an implementation plan (scaled to available funding) for a demonstration project.

**Project Objectives:**

1. Complete preliminary design for the selected shoreline stabilization alternative.
2. Develop and submit a USACE permit application.
3. Implement Pilot Project subject to available funds.

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**Project #0906 Coastal Bend Priority Habitat Atlas**

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**Performing Organization:** To Be Determined  
**Total Project Funding:** \$50,000  
**CBBEP Bays Plan Actions:** HLR-1

The conservation of priority habitat, including acquisition, has been a key focus of CBBEP for many years. While CBBEP's annual base funding is generally not sufficient to fund (in whole) large-scale acquisition and conservation projects, the program has been successful in securing additional monies for projects such as:

- Nueces Delta Preserve – Property Acquisition and Habitat Restoration
- Nueces Bay Portland Causeway – Property Acquisition, Marsh Restoration, and Shoreline erosion control
- Oso Bay Shoreline – Property Acquisition and Public Access Management
- Aransas River Delta – Property Acquisition
- Port Aransas Nature Preserve – Property Acquisition and erosion control

Other Coastal Bend organizations that conduct conservation/acquisition activities include the Coastal Bend Land Trust, The Nature Conservancy, Aransas First, and various local governments (city and county parks). At present, there is no centralized effort to coordinate and discuss activities among these organizations.

**Project Objective:**

The objective of this project is to; 1) coordinate with other organizations and individuals to identify important fish and wildlife habitat on both public and private lands in the Coastal Bend area; 2) develop strategies to provide for conservation of those habitats; and 3) develop informational materials to be provided to land-owners that explains the importance and options for protecting habitat on their land.

The primary goals of the tasks and deliverables proposed as part of this project are to 1) to guide CBBEP fund-raising and implementation activities as they relate to habitat conservation/acquisition (especially large-scale projects), and 2) to exchange information and hopefully coordinate efforts among the various Coastal Bend conservation organizations in order to achieve the greatest possible benefit.

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**Project: #0907 Educational Field Trips to Area Facilities**

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**Performing Organization:** To Be Determined  
**Total Project Funding:** \$30,000  
**CBBEP Bays Plan Actions:** PEO-3, PEO-5

Classroom teachers today face an almost overwhelming challenge of helping students progress through the required subject material. Many of the students that are being exposed to scientific concepts for the first time have never really spent much time outdoors or in dedicated environmental education facilities. There is a need to bring classroom concepts alive in the proper setting through field trips.

CBBEP will request proposals from local organizations to conduct environmental education learning experiences (field trips) for students and their teachers. The RFP will be designed to allow the selection committee to assess the quality of the learning experience along with the number of students and teachers that will be able to participate. The funding is intended to support the entity providing the educational trips including associated educational materials, and any necessary and reasonable costs associated with transporting the teacher and students from the school to the destination.

**Project Objective:**

Getting students out of the classroom and into the outdoors adds greatly to the students understanding of natural processes. The goal is to plant seeds of appreciation and passion for a new generation of naturalists, biologists, and nature lovers to protect and preserve the Coastal Bend through educating school children about preserving our environment and protecting our animals and plant life.

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**Project #0908      Matagorda Island Marsh Restoration – Adaptive Management Plan (Phase 2)**

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**Performing Organization:**            **HDR Engineering**  
**Total Project Funding:**            **\$18,500**  
**CBBEP Bays Plan Actions:**        **HLR-1**

In FY 2007, CBBEP developed an Adaptive Management Plan (AMP) to guide restoration activities within Matagorda Island’s 15,000 acre Western Marsh. Implementation of the first phase of actions recommended by the plan is nearing completion, and CBBEP is working with Aransas National Wildlife Refuge (ANWR) and HDR, Inc. to install monitoring stations within the marsh in order to document improvements to water flow/circulation.

The AMP has been instrumental in not only guiding restoration efforts, but also in allowing ANWR to secure several hundred thousand dollars of additional funds to implement the actions recommended by the AMP.

The goal of this project is to update the AMP with recommendations for a second phase of implementation actions, based on conditions documented after completing the first implementation phase.

**Project Objectives:**

1. Gather and evaluate data from (previously installed) monitoring stations.
2. Evaluate data to make recommendations for a second phase of restoration actions.
3. Update the Adaptive Management Plan to reflect the recommended actions.

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**Project #0909 Nueces Bay Causeway Marsh Restoration - Implementation**

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**Performing Organization:** HDR (& To Be Determined for Implementation)  
**Total Project Funding:** \$411,000  
**CBBEP Bays Plan Actions:** HRL-1

Portland Causeway supports the section of U.S. Highway 181 that crosses the mouth of Nueces Bay between Corpus Christi and Portland. Historically, this area consisted of significant amounts of crucial marsh habitat. Approximately 180 acres of marsh habitat was lost to dredging and construction of the causeway in the late 1940s, and approximately 160 acres of marsh has been lost to subsequent erosion. This assessment does not include impacts caused by the construction of the roadway or railroad that existed prior to the 1940s.

Based on a habitat assessment conducted in 2006, the general health of the remaining marsh complex is good, supporting a variety of fisheries (including crucial nursery habitat) and providing foraging and loafing opportunities for migratory colonial waterbirds. Low-marsh communities, dominated by smooth cordgrass (*Spartina alterniflora*), are much more ecologically productive than mid-marsh communities and adjacent uplands. Unfortunately, it is the low-marsh communities that have suffered the greatest loss – to the point where they are no longer the dominant community type in the area.

The marsh complex and adjacent uplands also serve as a buffer, protecting U.S. Highway 181 from erosion. As stated earlier, approximately 160 acres of this protective buffer has been lost since the 1940s. The causeway also provides public access for bird watchers, wade-fishers and light watercraft. Currently, public access along the Nueces Bay side of the Portland Causeway is largely unmanaged, increasing the vulnerability of crucial habitat and adding to the effects of natural erosion.

CBBEP has initiated protection and restoration efforts by 1) acquiring 33 acres of undeveloped property along the north side of the Portland Causeway, and 2) spending nearly \$140,000 to develop conceptual plans and obtain a U.S. Army Corps of Engineers (USACE) permit application. CBBEP has secured CMP funds (in the amount of \$211,000) for restoration and associated actions (such as final engineering design and public access management). Marsh restoration will consist of adjusting bottom elevation to support low-marsh communities, designing channels for adequate circulation through the raised areas, and planting appropriate vegetation. The marsh complex and causeway will be protected by an earthen or stone berm.

**Project Objectives:**

1. Restore crucial habitat, resulting in an increase to ecological productivity and diversity
2. Protect crucial infrastructure (Highway 181) by providing an increased buffer from wave energy
3. Provide appropriate managed public access to Nueces Bay.

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**Project #0910      Coastal Bend Prairie and Marsh Invasive Vegetation Management**

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**Performing Organization:**            **USFWS – Aransas National Wildlife Refuge**  
**Total Project Funding:**            **\$48,000**  
**CBBEP Bays Plan Actions:**        **HLR-1**

Critical habitat types in the Coastal Bend include coastal salt marsh, wetland, forest, and prairie. All these coastal environments have experienced significant declines since the turn of century. All along the United States coastal habitat is being developed at an alarming rate. Resulting in coastal prairie alone being reduced to less than 1% of what it was once. This unsustainable loss makes it imperative that we protect, enhance and stabilize coastal areas wherever possible. Several invasive species have become established in these areas with the assistance of historical and/or adjacent land use practices as well as oil and gas activities. Impacts associated with the spread of invasive plants include: (1) critical habitat loss for federally endangered whooping crane and federally threatened piping plover. (2) negative shifts in flora composition from a native community to stands of invasive grasses and shrubs. (3) decrease in the diversity of migratory birds and other native fauna.

This project proposes to manage invasive species in a 3,500 acre project area, across four target locations:

- the southern portion of Matagorda Island (Aransas National Wildlife Refuge)
- Nueces Delta Preserve (Coastal Bend Bays and Estuaries Program)
- Goose Island State Park (Texas Parks and Wildlife Department)
- Mustang Island State Park (Texas Parks and Wildlife Department)

**Project Objectives:**

1. Detect, map and identify all invasive plant species within the 3,500 acres of the treatment area.
2. Comprehensive surveys will be conducted on 3,500 acres of the treatment area by foot, ATV, and aerial flyovers. All invasive species encountered will be mapped and GPS locations recorded. Approximately 267 acres infested with invasive species will be chemically treated and 10 acres will be mechanically treated. This information will be made available to all partners and housed within the Refuge Lands GIS database and will be used to develop species distribution and density maps.
3. Reclaim approximately 300 acres of habitat within the mapped area by eradicating invasive vegetation.
4. Invasive woody vegetation with a stem diameter of 2 inches or more will be treated via an injected herbicide capsule. Invasive grasses and plants with a stem diameter of less than 2 inches will be treated via a surface application of herbicide.
5. Provide training and assistance (to the organizations that manage the four project locations) on methods for surveying and treating invasive vegetation.
6. Develop an Operational Management Plan (OPM) to control invasive species within the four target areas.

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**Project #0911      Greenbelt Protection Strategies for Aransas County**

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**Performing Organization:**                      **CBBEP**  
**Total Project Funding:**                      **\$10,000**  
**CBBEP Bays Plan Actions:**                      **HLR-1**

Live Oak Peninsula is located within the Corpus Christi/Aransas Bay system, and is hydrologically connected to the Nueces watershed, Aransas/Mission watersheds, and the Gulf of Mexico (through Aransas Pass). The peninsula's vegetation is comprised of coastal woodland (primarily Live Oak-Red Bay Association), coastal prairie, and freshwater wetlands. These habitats harbor a high diversity of resident wildlife, and support large numbers of migratory neo-tropical birds.

Three municipalities are located along the peninsula's eastern shoreline: Fulton-Rockport, Aransas Pass, and Ingleside. Large amounts of residential and industrial growth have occurred along this shoreline. The entire peninsula has experienced unprecedented growth during the past five years. Concern for continued unplanned development has been raised from county officials, residents, and conservation organizations.

CBBEP recently funded a project with the goals of 1) analyzing land-use patterns within Live Oak Peninsula, 2) identifying remaining critical habitat, and 3) providing information for an environmentally sound master plan. The project synthesized available GIS layers from various sources (Aransas County, San Patricio County, City of Rockport/Fulton, Center for Coastal Studies TAMU-CC, CBBEP, etc.); summarized terrestrial, wetland, and estuarine habitats for use in communicating the importance and sensitivity of these natural resources; and formed a working group of interested stakeholders to identify commonalities and challenges of the future growth strategies in Live Oak Peninsula.

Officials from Aransas County and the City of Rockport, as well as local residents and land owners, have displayed increasing interest in developing strategies to protect remaining habitat (especially from out-of-state developers) by forming protected greenbelts.

The goal of this project is to assist Aransas County (and its municipalities) in the development of policies and procedures that will lead to a) establishing greenbelt protection targets, b) identifying protection strategies, and c) implementing those strategies. Participation for local government leaders is crucial to the success of this effort.

**Project Objectives:**

1. Form a Workgroup with representatives from local governments, conservation organizations, and residents. Distribute relevant data (such as from both the above-described previous project) to the Workgroup, in a user-friendly format (such as pdf documents, as opposed to data that requires the use of GIS software).
2. Facilitate meetings of the Workgroup, in order to a) establish greenbelt protection targets, b) identify protection strategies, and c) develop a work plan for the implementation those strategies.

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**Project #0912 Debris Management at Public Access Sites**

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**Performing Organization:** CBBEP  
**Total Project Funding:** \$8,000  
**CBBEP Bays Plan Actions:** BD-1

Bay debris poses public health risks and reduces the aesthetic appeal of the bay system. It can degrade habitats, snare aquatic and wildlife species. These impacts result in costs: to the shrimper who tears his net by hanging up on debris; to the windsurfer who steps on a broken bottle; to the tourist industry when hotel rooms are unfilled because potential visitors would rather visit cleaner beaches; and to agencies and organizations who devote thousands of hours to cleaning the beaches along the bays.

Debris clean-up along the shoreline is a continual challenge along the Texas Coastal Areas. Every year, numerous clean-up events are coordinated and hundreds of tons of debris are collected and disposed. During certain periods of the year, heavy visitation by tourists results in overflowing garbage receptacles causing debris to be spread over large areas. Additionally, frustrated beach goers leave debris behind, not willing to transport it to with them to their lodging site. Since prevention is generally more cost-effective than clean-up, CBBEP will approach this issue by strategically placing large garbage receptacles in areas of high use to prevent debris from being mismanaged and ending up along the bay shorelines.

Project implementation will occur during the three most critical weekends of 2009 (Memorial Day, Fourth of July, and Labor Day) and other key dates throughout the year.

**Project Objective:**

To reduce the amount of debris along coastal roadsides and shorelines by the placement of large garbage receptacles in three Strategic Locations:

- Lighthouse Lakes Kayak Park
- Padre Island (exact location TBD)
- Clem's and Billing's Marina
- Other sites as needed

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**Project #0913 Lower Nueces river Kayak Launch & Recreational Area**

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**Performing Organization:** CBBEP & Port of Corpus Christi Authority  
**Total Project Funding:** \$40,000  
**CBBEP Bays Plan Actions:** BTR-2, PEO-2

The opening of the Joe Fulton Trade Corridor gave the public access to a portion of the lower Nueces River that had previously only been accessible by boat. Not only did the Corridor grant access to the Nueces River, additional access was simultaneously provided to the Nueces River Delta located beyond the northern bank of the Nueces River. With the growing popularity of kayaking and other paddle craft an opportunity to establish a Paddle Craft Launch & Recreational Fishing Area has been created by the opening of the Port of Corpus Christi's Joe Fulton Trade Corridor.

The Port of Corpus Christi has security and safety concerns about vehicles pulling off the edge of the Joe Fulton Trade Corridor in restricted areas. The creation of an improved park area would help direct recreation seekers to use the provided area instead trespassing across restricted property.

**Project Objectives:**

1. Develop a parking and staging area for paddle craft users.
2. Install a bollard perimeter to keep vehicles in the approved parking areas.
3. Install rest areas (benches, tables, shade) in the provided park area for recreational fishermen.
4. Provide a kiosk with aerial map of the Nueces River Delta for paddle craft users.
5. Install educational signage about the Nueces River Delta, and the CBBEP Nueces Delta Preserve.
6. Work with Texas Parks & Wildlife Department to develop a Paddle Trail covering the lower Nueces River and Nueces River Delta.

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**Project #0914     Redfish Bay Causeway Enhancement Plan Facilitation**

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**Performing Organization:**                    **CBBEP**  
**Total Project Funding:**                    **\$5,000**  
**CBBEP Bays Plan Actions:**                **HLR-1, HLR-2, HLR-4, HLR-10, BTR-1, BTR-2, BTR-3**

The Redfish Bay Causeway (TX HWY 361), which connects Aransas Pass (main land) to Port Aransas (barrier island), is built on spoil islands made of dredge material from the Aransas Channel piled up next to the original railroad track/wooden road that ran to Tarpon, Texas on Mustang Island in the 1940's. Included along Redfish Bay Causeway are properties located in Aransas Pass city limits and Nueces County, with ownership belonging to belonging to the Port of Corpus Christi, GLO, Nueces County, TX Dot, and private property.

Increased tourism and recreation in the Redfish Bay area and a lack of information readily available to educate the "drive-up public", this project will expand on previous work done by the CBBEP (project # 9902) to protect and enhance habitat while enhancing the human user experience with minimal impacts. This phase of the project is for strategic planning and networking including but not limited to a site survey inventory and creation of an action plan for implementation plus an annual assessment for the parks department. The "enhancements for habitat" will include removing invasive species and replacing with native vegetation as well as perch and nesting frames for migratory species, which in turn will improve nature tourism. The "enhancements for human use" will include designated water access points, port a can, trash facilities and limiting access with educational information; showing by example and explaining with signage, habitat protection.

**Project Objectives:**

1. Facilitate meetings- encourage all municipalities to coordinate and head in the same direction. This *initial request* is to identify the issues and potential enhancements for habitat, vegetation, and human uses by all vested partners and experts in the appropriate fields.
2. Project introduction by email, arrange a meeting for brainstorming.
3. Follow up meeting with information gathered from brainstorming meeting (vegetation survey, wildlife estimate, etc...) Discuss potential partnerships.
4. Present final draft of 'Redfish Bay Causeway Enhancements' and create an annual review for the city to use to measure success.
5. Hold workshop for city and all other partners in the project asking for volunteer partnering, cooperation on assignments, and project leadership.
6. Follow up action meeting with co-ops discussed at workshop, finalize co-op meetings, and set a 6 month follow-up progress meeting.

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**Project #0915 Voluntary Saltwater Fishing Guide Accreditation Program**

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**Performing Organizations:** TPWD, CBBEP  
**Total Funding:** \$7,500  
**CBBEP Bays Plan Actions:** BTR-2, PEO-1

Interest in recreational fishing is rapidly increasing in Texas, thus creating additional pressure on marine resources and resulting in increased incidence of user conflict. There are over 900 licensed saltwater fishing guides in the state of Texas. Many in the fishing public hold fishing guides and their opinions in high regard, viewing them as leaders in the fishing community. Willing professional fishing guides who have been educated in matters of marine resource management and conservation, as well as ethical fishing and boating practices, will set an example for their clientele through their use of proven conservation strategies. The demonstration and emphasis of the importance of these techniques will serve to educate current and future generations about ethical behavior, resulting in increased protection for marine resources and a reduction in user conflicts. Texas Parks and Wildlife proposes to develop a voluntary fishing guide certification program for the purposes educating participating guides in marine resource issues and establishing a standard of ethics by which participating guides would be required to abide. The program will be developed with input from a workgroup comprised of guides from the various regions of the Texas coast.

Requested funding will be used to help develop the program and will cover costs associated with hosting workgroup meetings, hosting workshops for guides, and purchasing/creating educational materials for guides and clients.

**Project Objective:**

To educate and train fishing guides through a voluntary program in the areas of marine resource conservation, safety, and ethical angling, so they may more effectively serve as leaders in conservation in the Texas sport fishing community.

- TPWD will be able to leverage a partnership with fishing guides to enhance protection and conservation of Texas' marine resources.
- More anglers can be reached on a one-on-one basis contributing to an improved fishery, a greater understanding of marine resource conservation issues, and a culture of ethics and etiquette on the water.
- Participating fishing guides will benefit by being publicly recognized by TPWD as leaders in conservation of marine resources, and by increasing the level of professionalism within the fishing guide community.
- Clients of participating fishing guides will be provided with an enhanced outdoor experience by virtue of having a guide that is more knowledgeable about the marine environment.

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**Project #0916      CBBEP Public Outreach Events and Activities**

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**Performing Organizations:**            CBBEP  
**Total Project Funding:**            \$35,000  
**CBBEP Bays Plan Actions:**        PEO-1, PEO-2, PEO-3, PEO-4, PEO-5, BTR-1

One of the most important goals of the *Bays Plan* is to educate citizens about the ecology of the bay system, its many environmental and economic values, and how an individual can make a positive difference to ensure its long-term health. To accomplish this, the Public Education and Outreach Action Plan is designed to: raise the public’s environmental awareness; foster community stewardship of bay resources; and increase individual involvement in bay resource management issues.

Helping residents and visitors to understand the complex issues concerning bay resource management will be a priority. In addition to understanding how the bay system functions, it is important that citizens develop a sound appreciation for the significant value and economic impact derived from the renewable resources of the bays. As a result of the need for the Public Outreach Events and Activities, the CBBEP will participate in the following:

- Community Events and Festivals
- CBBEP Educational Materials
- CBBEP Website
- CBBEP E-Newsletter
- Other Outreach Opportunities
- National Ocean Sciences Bowl

**Project Objective:**

To provide the general public with the environmental science knowledge to make sound decisions regarding the effective management of bay resources and to promote environmental stewardship through increasing awareness of the resources and the issues regarding their use.

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**Project #0917      “Mud Between the Toes” – Educational Field Trips to the  
Nueces Delta Preserve for Grades K-12**

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**Performing Organizations:            CBBEP**  
**Total Project Funding:            \$10,000**  
**CBBEP Bays Plan Actions:        PEO-2, PEO-3, PEO-5**

The need to instill a sense of personnel stewardship of natural resources and enrich the youth experiences in science has been a focus of CBBEP. Over the existence of the CBBEP, outreach and educational efforts to youth have been targeted by various activities and projects supported by the Program. Efforts include facilitating school visits, providing educational materials and facilitating field experiences for schools within the CBBEP Project Area. Recently, increased attention to efforts by the area educational system to improve science and math knowledge in the local youth has concerned area leaders.

The EEOIT has voiced their interest and support for continued involvement of CBBEP in helping the educators with the challenges of inspiring youth to take an interest in science and the outdoors.

**Project Objective:**

Specifically, the team recommended that CBBEP utilize the Nueces Delta Preserve as the destination of Educational Day Trips throughout the school year. CBBEP Staff will coordinate and conduct 30 trips to the Nueces Delta Preserve. Funds for this project will be used to provide for supplies, bus cost reimbursement, and funds to reimburse the campus for a substitute, should one be needed.

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**Project #0918 Coastal Bend Wilderness Adventures**

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**Performing Organizations:** Youth Odyssey & CBBEP  
**Total Project Funding:** \$36,314  
**CBBEP Bays Plan Actions:** PEO-1

The Coastal Bend Wilderness Adventures will be conducted through a partnership formed between the CBBEP and Youth Odyssey, Inc. (YO), a non-profit organization based in Corpus Christi. YO focuses on teaching life skills to at-risk youth.

The purpose of the Coastal Bend Wilderness Adventures is to provide experiential outdoor recreational, educational and life skills activities to 150+ low-income, minority, and at-risk youth (middle school and high school age) referred to the program by the Corpus Christi Independent School District. The youth who will participate have not traditionally had the opportunity to visit or participate in outdoor activities.

CBBEP has purchased 5,400 acres in the Nueces Delta and has set aside a portion containing uplands, wetlands, and open water for use by youth and other groups. This is the first time that the property will be used for prolonged on-the-ground youth activities.

The Wilderness Adventures will use CBBEP's largely undeveloped Nueces Delta Coastal Preserve (and Mustang Island State Park and Goose Island State Park) as a forum for camping, kayaking/canoeing, and experiential learning. CBBEP proposes to undertake with YO:

- Five three-day camping trips; ten youth per trip, and
- Ten one-day overnight trips; ten youth per trip (trips begin around noon one day and conclude around noon the next).

These efforts will support the TPWD's Community Outdoor Outreach Program goals by teaching basic outdoor skills including camping --- campsite selection, tent pitching, fire building, Leave No Trace ethics and fishing. Team building and further life skills will be taught through more challenging efforts such as canoeing/kayaking in a rough but safe coastal environment, the use of an existing rope course near the delta, hiking and exploration of an undeveloped natural area, and orienteering using a GIS locator, compasses and topography maps. Educational efforts will be based on CBBEP's "Learning on the Edge Curriculum," designed to teach about the area's unique environment, and TPWD's Project WILD and Project WILD Aquatic Programs.

**Project Objective:**

The Coastal Bend Wilderness Adventures will provide positive outdoor experiences to youth currently underserved by Texas Parks and Wildlife. CBBEP's partnership with YO will provide the opportunity for at-risk youth to use the recently acquired large nature preserve and two state parks to learn both individual and group problem-solving skills, while having fun and respecting the environment. There are no costs to the participants.

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**Project: #0919    CBBEP/CBBF Community Outreach Partnership**

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**Performing Organization:** Coastal Bend Bays Foundation  
**Total Project Funding:** \$50,000  
**CBBEP Bays Plan Actions:** PEO-1, PEO-2, PEO-3, PEO-4, PEO-5

The CBBEP is constantly working to promote public/private partnerships as stated in the *Coastal Bend Bays Plan* to help achieve its educational goals. One of the benefits of the partnership between the CBBEP and Coastal Bend Bays Foundation (CBBF) is addressing the need for continued dialogue between competing user groups and the need for an engaging, public forum to allow for individual input into the public policy debate. The *Bays Plan* calls for continued involvement from CBBF, as the region prepares itself for ever-increasing numbers of people wanting to make use of the bays and estuaries. Minimizing conflict through informed discussion will help achieve the overall objective of ensuring the public's safety, health, and enjoyment of our bays and estuaries.

The CBBEP will work closely with the CBBF on the project objectives outlined below but will not be limited to only those listed. The environmental education and outreach activities will include: monthly Coastal Issues Forums, bay-resource/related workshops, the Adopt-A-Beach program, the continuation of the Earth Day celebration held in April, and the coordination of the annual CBBF Conservation and Environmental Stewardship Awards. The CBBEP will be acknowledged as one of the major funding partners at the various events and activities.

CBBEP is the most important funding partner for CBBF programs. The CBBF is a public interest organization (non-profit 501(c)(3)) dedicated to the conservation of freshwater and coastal natural resources through communication, advocacy, research and education.

**Project Objectives:**

1. Host, organize and coordinate turnkey operation of Earth Day festival.
2. Host, organize and coordinate turnkey operation of Adventure Bay at Bayfest.
3. Host, organize and coordinate CBBF Conservation and Environmental Stewardship Annual Awards Banquet.
4. Conduct monthly Coastal Issues Forums to increase communication between resource managers, users and general public.
5. Organize and coordinate Adopt-A-Beach beach clean ups.
6. Organize and coordinate bay-resource/related workshops with CBBEP's approval.
7. Continue to seek matching funds.

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**Project: #0920 Oso Creek Watershed – Failing On-Site Sewage Facility  
Assistance in Nueces County (Year 3)**

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**Performing Organization:** Nueces County  
**Total Project Funding:** \$84,000  
**CBBEP Bays Plan Actions:** WSQ-1, WSQ-3, NPS-3

Oso Creek and Oso Bay are on the State’s 303(d) List of Impaired Waters for failing to meet the contact recreation use criteria due to high values of *Enterococcus* bacteria in the waters of Oso Creek and Oso Bay. Certain areas in the Oso Creek/Bay watershed are served by single home privately owned on-site sewage facilities (OSSFs). In many cases these systems have failed. Consequently, because sewage is not properly managed, bacteria is evident in the runoff from these areas. In an effort to reduce bacteria entering the Oso Creek watershed, this project seeks to install properly OSSFs where none exist, replace malfunctioning OSSFs where needed, or decommission nonessential OSSFs at individual home sites in the Oso Creek watershed. The objective of this project is to improve water quality in the Oso Creek and Oso Bay, and their watersheds, by reducing the amount of *Enterococcus* bacteria entering the Oso Creek and Oso Bay from discharge and storm water runoff from OSSFs.

This is a multi year effort and is on its third year. During the first and second years, a plan that included a needs assessment and prioritization of failing OSSFs was developed and plans for the first tier of OSSFs to be upgraded repaired and/or replaced were made. This year’s goal is to review the assessment and prioritization plan and to repair and/or replace additional OSSFs in the watershed .

**Project Objectives:**

1. To reduce bacteria entering Oso Creek originating from improperly functioning on-site sewerage facilities in the watershed through assistance to low income private home owners in the form of replacement/repair of their malfunctioning or non-existent on-site sewage system.
2. Identification and prioritization of malfunctioning OSSFs in the Oso Watershed that meet the criteria of this project for repairs or replacement.
3. Work with Nueces County in the Oso Creek watershed to assist homeowners that meet the criteria to install properly functioning on-site sewage facilities where none exist, replace malfunctioning where needed or decommission nonessential facilities where other treatment options have become available.
4. Confer and collaborate with the Texas Commission on Environmental Quality - Total Maximum Daily Loads Team with implementing a TMDL solution.

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**Project: # 0921    Fresh Water Inflow/Salinity Monitoring of Rincon Bayou Pipeline Discharge in the Nueces Delta**

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**Performing Organization:**                    Texas A&M University-Corpus Christi  
**Total Project Funding:**                    \$40,000  
**CBBEF Bays Plan Actions:**                FW-1, FW-2, FW-3, FW-4

This project seeks to monitor freshwater inflows by measuring salinities at various stations down stream of a diversion pipeline in order to calculate spatial and temporal environmental affects as well as the amount of freshwater needed to manage a healthier estuary within the Nueces River Delta located near Corpus Christi, Texas.

The City of Corpus Christi (City) is required to provide freshwater inflows into the Nueces Estuary based on the 1995 Agreed Order. Very simplistically, every month the City is required to “pass through” to the bays and estuaries an amount of water equal to the measured inflow into the Choke Canyon Reservoir / Lake Corpus Christi Reservoir System (Reservoir System), up to a target amount. The target amount varies by month and combined volume of the Reservoir System.

Normally, a river flows through a delta area prior to making its confluence with its receiving water body. The Nueces River is different in that flows into Nueces Bay at a point along the south shore of the bay, 2 ½ to 3 miles from the delta-bay interface, completely bypassing the delta. Only during times of severe flooding, causing over-banking of the river, or locally heavy rain, did much freshwater make it into the delta proper.

In 1993, the US Bureau of Reclamation (USBR) implemented the Rincon Bayou Demonstration Project to increase the opportunity for freshwater flow events into the upper delta and to monitor subsequent changes to the delta productivity. The study concluded that “the overall effects of the demonstration project on the ecology of Rincon Bayou and the upper Nueces Delta were positive to the environment and were directly attributable to the more frequent diversion of fresh water.”

To provide even more freshwater diversions during normal flow conditions, the City has had a pipeline and pump station built to divert up to the first 3,000 AF of pass-through flows from above the saltwater barrier dam directly into the upper Rincon Bayou.

The primary project objectives will be to monitor the freshwater inflows coming into the delta via the new pipeline by recording salinities within the water column at various stations down stream in order to calculate spatial and temporal environmental affects as well as the amount of freshwater needed to manage a healthier estuary.

**Project Objectives:**

1. To monitor salinity at 4 locations in the Rincon Bayou and upper Nueces Delta in order to track the freshwater inflows via the diversion pipeline.
2. Provide input to the City and the Nueces Estuary Advisory Councils concern for potential modifications to the Agreed Order based on the results of the project. The data gathered through this project will compliment the information from other monitoring projects being conducted in the Rincon Bayou.

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**Project: #0922 Little Bay Water Quality Characterization**

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**Performing Organization:** To Be Determined  
**Total Project Funding:** \$45,000  
**CBBEP Bays Plan Actions:** WSQ-1, WSQ-4, WSQ-5

The aim of this project is to assess water quality in Little Bay. Little Bay lies at the heart of Rockport and is a focal point for recreation and ecotourism. Partly as a consequence of its heavy use, however, Little Bay has suffered a decline in water quality as evidenced by elevated bacterial counts, large declines in seagrass abundance, and low bird counts. The City of Rockport and its residents have shown a strong interest in the Little Bay system and a concern for its ecological future. Demonstrating their commitment to understanding Little Bay and improving the water quality, the Rockport City Council and Mayor Pearson passed Resolution No. 07-15 creating the Rockport Water Quality Committee in August of 2007 to conduct periodic water quality testing.

Past monitoring efforts in Little Bay include volunteer efforts to sample hydrological indicators by the Rockport Water Quality Committee and the Texas Stream Team Program. In addition, bacterial sampling has been completed by volunteers for the Water Quality Committee and the Texas Beach Watch Program. While these efforts have indicated several potential problems, they have been inconsistent and insufficient in scope or duration to adequately characterize water quality. This project seeks to implement consistent and professional sampling that will expand the scope of past monitoring efforts in Little Bay system. The proposed monitoring effort will include water quality characteristics such as temperature, salinity, dissolved oxygen, turbidity, pH, and chlorophyll a.

Two monitoring stations will be placed in strategic locations within Little Bay that will best represent the water quality within the bay for a period of one year. The City of Rockport has agreed to continue the monitoring project after the first year of sampling is completed. The two stations will record continuous real time data that will be available to the public via a webpage that will be housed with the contractor who gets the contract. Four data sondes will be purchased in order to provide a backup sonde for each station that will be used while the other is being calibrated and maintained. A final report will be developed after the first years sampling that summarizes the water quality data of Little Bay.

The City of Rockport's Water Quality Committee, as a separate project, will be characterizing bacteria and seagrass within Little Bay.

**Project Objective:**

To characterize the water quality of Little Bay.

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**Project #0923      Corpus Christi Marina Debris Collection Pilot Project**

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**Performing Organization:**                      **City of Corpus Christi**  
**Total Funding:**                                      **\$50,000**  
**CBBEF Bays Plan Actions:**                      **WSQ-1, BD-1, WSQ-5**

The purpose of this project is to establish a pilot project to capture and remove storm water borne litter entering the Corpus Christi Municipal Marina (Marina) and to develop a debris management plan for the Corpus Christi seawall area.

The Marina has a total of 15 stormwater outfalls emptying into the marina proper, draining roughly 1200 acres of the City of Corpus. An estimated 18 tons of litter enter the Marina via the stormwater system following a typical 1" rain. Marina staff spends hours of tedious work scooping litter from the water using makeshift handheld nets. Most floating trash is scooped up by Marina staff, while non-floating trash ends up on the bay bottom. In addition to being unsightly, the health of the bay bottom in the Marina is at risk, and possibly contributing to elevated bacteria levels within the Marina. The proposed catchment system will eliminate both floating and non-floating trash, and, due to the catchment design, the time and effort it takes for litter removal will be a fraction of existing methods.

This project will focus on developing a plan that looks at where the majority of debris enters the Marina, identify specific outfalls and implement a method of capturing the debris using installed catchment nets. This pilot project will construct and install expandable catchment netting at four stormwater outfall locations in order to contain bay debris more effectively and efficiently. This project will also allow Marina staff to remove large quantities of bay debris safely and dispose of properly. Based on the results of the pilot project in removing bay debris effectively, the Marina Management Plan for Debris will call for the installation and implementation of similar catchment debris nets at all storm sewer outfalls within the Marina. In addition, coordination with several of the City of Corpus Christi's departments such as Storm Water, Parks and Recreation, Solid Waste, and Environmental Services will focus public education in an effort to reduce the amount of litter that ends up on the streets of Corpus Christi.

**Project Objectives:**

1. Conduct a pilot project for capturing and removing debris from the Marina.
2. Develop a management plan, identify debris contributing stormwater outfalls, and construct and install four catchment devices for collecting debris before it enters the bay system and can no longer be obtained.
3. This projects long term goal is to clean up large quantities of debris entering the Corpus Christi Bay system.

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**Project #0924      CBBEP Property Management**

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**Performing Organization:**            CBBEP  
**Total Project Funding:**            \$30,000  
**CBBEP Bays Plan Actions:**        HLR-1

The CBBEP is responsible for managing several properties including over 5,000 acres along the Nueces River along the delta and approximately 70 acres along the Oso Bay. The CBBEP Nueces Delta Preserve is located 3 miles from the City of Odem and 20 miles from downtown Corpus Christi. The CBBEP Nueces Delta Preserve consists of approximately 5,400 acres in San Patricio and Nueces Counties that are owned and managed by the CBBEP as a conservation site for the purpose of preserving natural habitat, function and species diversity in the Nueces River delta. The preserve is rich in diversity that can be characterized by Tamaulipan thorn scrub, grasslands, lomas, freshwater wetlands, riverine riparian habitat, brackish wetlands, coastal wetlands mud flats and shoreline. The CBBEP's secondary goal for the preserve is for the property to be used for a variety of educational and research opportunities.

The funds provided by the project support the necessary management and routine maintenance of the properties, including but not limited to road maintenance; fencing maintenance: gates; brush control, habitat and predator management (as appropriate necessary) and property taxes.

**Project Objective:**

Provide for the ongoing maintenance and management of the Nueces Delta Preserve and other CBBEP Properties.

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**Project #0925      CBBEP Nueces Delta Preserve Infrastructure Improvements**

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**Performing Organization:**                    CBBEP  
**Total Project Funding:**                    \$43,193  
**CBBEP Bays Plan Actions:**                PEO-1, PEO-2, PEO-3, PEO-4, PEO-5

Interest in utilizing the CBBEP Nueces Delta Preserve continues to grow. In order to meet the growing demand and to improve the educational activities at the NDP certain infrastructure improvements need to be made. Previous improvements at the NDP include the construction of a pavilion, both a nature blind and water quality monitoring platform on the Rincon Bayou, installation of portable toilets and garbage dumpster, and road improvements.

The next phase of improvements could include a classroom building, installation of electricity and potable water, and the construction of hiking trails with educational kiosks.

CBBEP will seek matching funds to the greatest extent possible.

**Project Objective:**

Improvements to the property for enhanced educational activities.

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**Project #0926      Nueces Bay Boat Ramp Repairs**

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**Performing Organization:**                    **CBBEP & To Be Determined**  
**Total Project Funding:**                    **\$9,000**  
**CBBEP Bays Plan Actions:**                **BTR-2**

Hurricane Dolly (July 2008) brought high wind, tide, and wave action to the Coastal Bend. The Nueces Bay Boat Ramp which is located at the base of the Portland Causeway sustained major damages to one of the two courtesy docks July 23-24, 2008. After the storm, a site visit was made and found that the entire deck of the courtesy dock on the eastern side of the ramp had been separated from the pilings by wave energy and high tides. The two large deck portions were found floating near the boat ramp. The deck portions of the courtesy dock were hauled out by the bait shop owners to allow boaters use of the ramp.

The Nueces Bay boat ramp receives daily use from recreational boaters, fisherman, chartered guides, and resource agencies. It is imperative that the courtesy dock be repaired as soon as possible. The two sections of courtesy dock appear to be intact and in good functioning order. The nails securing the deck to the pilings had rusted through and could not sustain the high levels of wind, tide, and wave action.

Upon completion of this project the courtesy docks at the Nueces Bay Boat Ramp will be restored to prior conditions (like new). This project will allow ramp users returned use of the courtesy docks for staging outings on the water. With these improvements ramp users will more efficiently use the single ramp providing improved access to Nueces Bay.

**Project Objectives:**

1. Assess the damage occurred during the storm.
2. Hire contractor to lift the deck sections and place the sections onto existing support pilings.
3. Through bolt the deck to the support pilings.
4. Replace missing deck boards.

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**Project #0927 Colonial Waterbird Rookery Island Habitat Enhancement**

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**Performing Organization:** CBBEP  
**Total Project Funding:** \$120,011  
**CBBEP Bays Plan Actions:** HLR-1, HLR-4

Most species of colonial nesting waterbirds such as pelicans, herons, terns and gulls, have experienced population declines over the past forty years. One of the principal reasons for this decline is loss of nesting habitat in our surrounding bay systems. These birds have several basic requirements to nest successfully, thereby replacing themselves and hopefully reversing declines in their populations. Most nesting activity in the Coastal Bend occurs on small islands that do not support populations of predators such as raccoons or coyotes, are remote enough so that invasion during nesting season is not likely, support substrate types (brush for wading birds, bare ground for terns, skimmers, etc.) that are required by the various species, and are not subject to excessive disturbance and destruction by human activities.

CBBEP's Colonial Waterbird and Rookery Island Management Plan has identified the need for increasing the size of existing rookery islands, and managing areas for the benefit of nesting birds. This suite of birds includes several high priority species of conservation concern, including American oystercatcher, Black skimmer, and Gull-billed tern. All species have been experiencing a decline, likely as a result of decreased available nesting area and factors associated with interspecific colony dynamics.

Habitat enhancement actions will be implemented in accordance with recommendations in CBBEP's Colonial Waterbird and Rookery Island Management Plan. Typical habitat enhancement actions include shoreline stabilization, placement of dredge material to increase usable nesting area, installation of nesting platforms, vegetation management, predator control, and installation of instructional signage.

**Project Objective:**

Continue efforts on enhancement and construction of nesting habitat and predator control in Nueces Bay, Corpus Christi Bay, and the Upper Laguna Madre for the benefit of colonial waterbirds.

## **VIII. Program Administration**

CBBEP administrative staff (3 FTE's) will provide organizational and logistical support for Estuary Council and subcommittee meetings, and coordinate/communicate as necessary with appropriate groups, including stakeholder groups, state and federal agencies, local governments, and professional groups relevant to CCMP implementation. Staff will:

1. Acquire, manage, and disperse funds to implement the *Bays Plan*;
2. Monitor, track, and report on implementation performance by implementing partners, and work to maintain implementation commitments;
3. Develop a prioritized biennial work plan and budget for Estuary Council review and approval;
4. Coordinate the periodic update of the *Bays Plan*, the *State of the Bay* report, the *Implementation Strategy*, and other key documents of the program;
5. Provide logistical support for all meetings, workshops, symposia, and special events related to program mission;
6. Provide for overall program coordination with EPA Region 6 and TCEQ.
7. Participate in regional, state, and national conferences and meetings relevant to estuarine management.
8. Develop and implement policies and procedures for an emergency contingency plan which will include: protecting financial records, office equipment, computers, and other vital records and equipment; employee responsibilities; backup and storage of data; and recovery actions.
9. Continued implement a management system to track and assess Quality Assurance Project Plans (QAPPs) and determine required corrective actions and follow-up to be completed on date determined by TCEQ.

## **IX. Project Management and Implementation**

CBBEP Project Management staff (9 FTE's) will coordinate/communicate as necessary with appropriate groups, including stakeholder groups, state and federal agencies, local governments, and professional groups relevant to *Bays Plan* implementation. Staff will:

1. Develop and implement partnership projects with local governments, state, and federal agencies, and private organizations;
2. Monitor, track, and report on implementation performance by implementing partners, and work to maintain implementation commitments;
3. Provide communication and coordination with the Texas Coastal Management Program and the Coastal Coordination Council, the Gulf of Mexico Program, the Texas Commission for Environmental Quality (TCEQ), and other relevant coastal/watershed programs;
4. Coordinate the review of proposed actions of federal, state, and local projects in an open process for consistency with the *Bays Plan*;
5. Develop a prioritized biennial work plan and budget for Estuary Council review and approval;
6. Provide for overall program coordination, including quality control/quality assurance procedures with EPA Region 6 and TCEQ.
7. Participate in regional, state, and national conferences and meetings relevant to estuarine management.

## **X. Program Expenses**

CBBEP funds will be used to support continued program implementation, evaluation, and reporting. Funds are also necessary to provide logistical support for Estuary Council and subcommittee meetings. Expense categories are as follows:

1. Travel – allows Program staff to attend state, regional and national meetings, workshops, and conferences;
2. Supplies – as needed, for the day-to-day operations of the Program;
3. Equipment – purchase of items over \$1,000, i.e. computers;
4. Other – copier rental, temporary staff, postage, communication services, accounting services, printing, etc.

## **XI. Working Capital**

The CBBEP Board of Directors has established working capital out of local funding. The funds will be set aside for possible future projects, matching funds and/or emergency funding.

## **XII. Summary**

On September 1, 2008, the Coastal Bend Bays & Estuaries Program will begin Year 11 of implementing the *Coastal Bend Bays Plan*. This FY 2009 Work Plan describes the proposed work to be initiated during FY 2009. Of the total funds identified in the Work Plan budget, \$591,750 are new (FY 2009) federal funds, \$843,881 are new (FY 2009) state funds, \$598,310 are new (FY 2009) project-specific funds, and \$275,000 are new (FY 2009) local partner funds. When combined with carryforward from previous unspent federal and state funds, the total budget for this FY 2009 Work Plan is \$2,632,518.

**TABLE 1: FY 2009 COMPREHENSIVE ANNUAL WORK PLAN OUTLINE**

PROJECT #	PROJECT TITLE	ACTION ITEM(S)	PERFORMING PARTY	EPA CWA 320 FY 09	EPA CF	TCEQ FY09	TCEQ CF	LOCAL	OTHER	TOTAL CBBEP FUNDING
0901	Matagorda Island Marsh Restoration (Implementation Phase II)	HLR-1	Aransas National Wildlife Refuge	\$10,000		\$73,000			\$67,000	\$150,000
0902	Colonial Waterbird Mgmt	HLR-1, HLR-4	CBBEP	\$100,000				\$4,015	\$70,985	\$175,000
0903	Coastal Bend Environmental Science: <i>Learning on the Edge</i>	BTR-1, PEO-2, PEO-3, PEO-5	CBBEP	\$93,851		\$11,780		\$1,369		\$107,000
0904	CBBEP Habitat Protection Media Campaign	PEO-1, PEO-2, PEO-3, PEO-5, BTR-1	CBBEP	\$30,000		\$5,000				\$35,000
0905	Nueces Delta Shoreline Habitat Erosion Protection	HLR-1	Coastal Technology	\$70,000						\$70,000
0906	Coastal Bend Priority Habitat Atlas	HLR-1	To Be Determined	\$50,000						\$50,000
0907	Educational Field Trips to Area Facilities	PEO-3, PEO-5	To Be Determined	\$30,000						\$30,000
0908	Matagorda Island Marsh Restoration – Adaptive Management Plan II	HLR-1	HDR Engineering			\$18,500				\$18,500
0909	Nueces Bay Causeway Marsh Restoration – Implementation	HLR-1	HDR & To Be Determined				\$200,000		\$211,000	\$411,000
0910	Coastal Bend Prairie and Marsh Invasive Vegetation Management	HLR-1	Aransas National Wildlife Refuge			\$48,000				\$48,000
0911	Greenbelt Protection Strategies for Aransas County	HLR-1	CBBEP/To Be Determined					\$10,000		\$10,000
0912	Debris Management at Public Access Sites	BD-1	CBBEP					\$8,000		\$8,000

PROJECT #	PROJECT TITLE	ACTION ITEM(S)	PERFORMING PARTY	EPA CWA 320 FY 09	EPA CF	TCEQ FY09	TCEQ CF	LOCAL	OTHER	TOTAL CBBEP FUNDING
0913	Lower Nueces River Kayak Launch & Recreational Area	BTR-2, PEO-3	CBBEP & Port of Corpus Christi				\$20,488	\$19,512		\$40,000
0914	Redfish Bay Causeway Enhancement Plan Facilitation	HLR-1, HLR-2, HLR-4, HLR-10, BTR-1, BTR-2, BTR-3	CBBEP				\$3,089	\$1,911		\$5,000
0915	Voluntary Saltwater Fishing Guide Accreditation Program	BTR-2, PEO-1	TWPD & CBBEP					\$7,500		\$7,500
0916	CBBEP Public Outreach Events and Activities	PEO-1, PEO-2, PEO-3, PEO-4, PEO-5, BTR-1	CBBEP		\$35,000					\$35,000
0917	"Mud Between the Toes" Educational Field Trips to the Nueces Delta Preserve	PEO-2, PEO-3, PEO-5	CBBEP		\$10,000					\$10,000
0918	Coastal Bend Wilderness Adventures	PEO-1	Youth Odyssey & CBBEP						\$36,314	\$36,314
0919	CBBEP/CBBF Community Outreach Partnership	PEO-1, PEO-2, PEO-3, PEO-4, PEO-5	CBBF			\$40,000		\$10,000		\$50,000
0920	Oso Creek Watershed-Failing On-Site Sewage Facility Assistance Year 3	WSQ-1, WSQ-3, NPS-3	Nueces County						\$84,000	\$84,000
0921	Fresh Water Inflow/Salinity Monitoring of Rincon Bayou Pipeline Discharge	FW-1, FW-2, FW-3, FW-4	TAMU-CC			\$40,000				\$40,000
0922	Little Bay Water Quality Characterization	WSQ-1, WSQ-4, WSQ-5	To Be Determined			\$45,000				\$45,000
0923	Corpus Christi Marina Debris Collection Pilot Project	WSQ-1, BD-1, WSQ-5	City of Corpus Christi		\$50,000					\$50,000
0924	CBBEP Property Management	HLR-1	CBBEP					\$30,000		\$30,000

PROJECT #	PROJECT TITLE	ACTION ITEM(S)	PERFORMING PARTY	EPA CWA 320	EPA CF	TCEQ	TCEQ CF	LOCAL	OTHER	TOTAL CBBEP FUNDING
0925	CBBEP Nueces Delta Preserve Infrastructure Improvements	PEO-1, PEO-2, PEO-3, PEO-4, PEO-5	CBBEP					\$43,193		\$43,193
0926	Nueces Bay Boat Ramp Repairs	BTR-2	CBBEP & To Be Determined						\$9,000	\$9,000
0927	Colonial Waterbird Rookery Island Habitat Enhancement	HLR-1, HLR-4	CBBEP						120,011	
	<b>TOTAL PROJECT FUNDS</b>			<b>\$383,851</b>	<b>\$95,000</b>	<b>\$281,280</b>	<b>\$223,577</b>	<b>\$135,500</b>	<b>\$598,310</b>	<b>\$1,717,518</b>
	Administrative / Travel		CBBEP	\$207,899		\$562,601		\$144,500		\$915,000
	<b>TOTAL FUNDING</b>			<b>\$591,750</b>	<b>\$95,000</b>	<b>\$843,881</b>	<b>\$223,577</b>	<b>\$280,000</b>	<b>\$598,310</b>	<b>\$2,632,518</b>