Coastal Bend Bays & Estuaries Program

FY 2004 Comprehensive Annual Work Plan

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I. Introduction

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 Conferees 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 (TNRCC). The Program Office has been established since December 1993, as a program of the TNRCC, with a non-profit organization established in 1999 to lead implementation.

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 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.

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.

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.

II. Starting Date

The starting date for this FY 2004 Comprehensive Work Plan will be September 1, 2003.

III. Federal and State Program Coordinators and Project Officers

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IV. Accomplishments To Date

The CBBEP achieved its primary goal for FY 2003, 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 Estuary Council has not made any changes in the priorities as listed in the CCMP.

All project deliverables identified for FY 1999, FY 2000 and FY 2001 have been completed. FY 2002 and FY 2003 projects are expected to be complete by August 31, 2003, with some projects requiring no-cost time extensions beyond the expected completion date. The Estuary Council committees continue to identify, initiate and select project ideas for inclusion in the Program work plans.

In FY 2003 the CBBEP initiated a number of projects funded by various state, federal and local support. The following brief discussion highlights several of these projects.

Coastal Bend Regional Water Quality Monitoring Program – This phase of the CBBEP's water quality monitoring and assessment effort establishes a routine, baseline monitoring program that provides resource managers with an ongoing assessment of water quality and addresses special areas of concern.

Keepers of the Coast – This project continues to provide a series of 'hands-on' learning experiences for youth and educators through the Texas State Aquarium. Targeting rural school districts with limited funding has provided enhanced learning experiences such as outreach visits and field trips, family learning events, and classroom activities utilizing the teaching guide which focuses on the Gulf of Mexico and its coastal habitats.

Various Public Outreach and Education Projects – An ambitious public outreach strategy continues to be undertaken. The Program has produced a sixteen page "Info-pack" and distributed over 17,000 copies via Newspaper throughout the Coastal Bend Area. Planned media events were held with project partners: Goose Island Habitat Restoration Project with the TPWD and the TGLO, Causeway Island Habitat Restoration with the Texas General Land Office; Nueces Delta Habitat Protection project with Texas Nature Conservancy. There was TV news coverage on the Corpus Christi Beach project, Nesting Platforms at Causeway Island, Nueces Delta project, and the Shamrock Island project. Outreach activities included Earthday/Bayday Celebration, International Migratory Bird Day Celebration, 2003 Boat Show, the crab trap removal main event at Conn Brown Harbor in Aransas Pass; and the Coastal Expo with TPWD.

Colonial Waterbird / Avian Resources Project –The Program continues to a focus on the management of Colonial Waterbirds and their habitat through the implementation of the Rookery island Management Plan. Management for nesting sites has proven successful as evidenced by marked increases in nesting birds at various managed sites.

V. Goals for FY 2004

The primary goal for FY 2004 is to continue the successful initiation and completion of projects developed to implement the *Coastal Bend Bays Plan*.

The CBBEP continues to focus on habitat protection and restoration, assisting the recovery of species of concern, and public education and outreach. This work plan allocates funds for efforts to protect and restore estuarine wetlands lost to erosion. Halting and reversing the long-

term decline of intertidal marsh habitat and associated uplands is critical to the long-term health of the bay system.

Public Education and Outreach remains an important component of the *Bays Plan.* The Advisory Committees of CBBEP have shown great interest in focusing on public outreach through the media, with emphasis on the priority issues as described in the *Bays Plan.*

The Rookery Island Strategic Master Plan has been developed by CBBEP staff, and focuses on maintaining healthy populations of colonial waterbirds with specific emphasis on those species showing a significant population decline. CBBEP has two avian biologists on staff who will continue to implement the Master Plan.

Maintaining a long-term water quality monitoring program is an important component of our effort to assess the health of the bay system. Monitoring data allows the CBBEP and other resource managers to identify "problem" areas and focus limited financial and manpower resources. Areas not meeting the water quality standards for their designated use will be monitored more frequently. Sources of pollution will be identified and remediation strategies developed for areas not meeting the standards.

The CBBEP's current advisory committee organization includes two committees, a scientific-technical advisory committee and a citizen's advisory committee, with broad and sometimes overlapping responsibilities. The CBBEP will be dissolving those two committees in favor of four new advisory committees, each with a more clearly defined purpose. The intent of these changes is to make participant involvement more efficient and productive.

Program staff will continue to seek additional partners to assist with the implementation of the *Bays Plan*.

VI. Implementation of Projects

Project activities for FY 2004 have been selected for their contribution towards implementation of the *Coastal Bend Bays Plan*. Fourteen projects will be implemented in FY 2004. A comprehensive list of projects outlining project numbers, titles, action items, performing party(s), and budget can be found in Table 1: FY 2004 Comprehensive Annual Work Plan Outline.

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.

Project #0401 **Implement Texas Seagrass Monitoring Program in the CBBEP Study Area**

Performing Organization: **University of Texas Marine Science Institute**
Total Project Funding **$150,000**
CBBEP Bays Plan Actions: **HLR-1**

Data collected in 1994 documented that seagrass meadows covered over 92,000 acres of bay bottom in the Coastal Bend, representing almost 40 percent of the seagrasses found in all Texas waters. While a number of researchers have conducted limited surveys and studies since 1994, there has not been a comprehensive update of the status and trends analysis previously conducted by the CBBEP.

The importance of seagrasses to the health and productivity of the bays and estuaries is recognized by resource managers. The Seagrass Conservation Plan of Texas (1998) called for the development and implementation of an on-going monitoring program.

Project Objectives:
1. To monitor status and trends of seagrass distribution at 1:24,000 scale in the CBBEP project area.
2. To establish 16-20 high-resolution (1:9,600) sites for long-term monitoring and assessment.

Project #0402 Nueces Bay Zinc Contamination Source Study

Performing Organization: **Texas A&M University Corpus Christi – Center for Coastal Studies**
Total Project Funding: **$150,000**
CBBEP Bays Plan Actions: **WSQ-1, WSQ-5, PH-2**

Studies by the Texas Department of Health (TDH) have documented the contamination of oysters with elevated concentrations of zinc. As a result, Nueces Bay has been closed for the commercial harvest of oysters since 1995. In response to the action by TDH, TCEQ has included Nueces Bay on the official State list of impaired water bodies (303(d)) list.

Because Nueces Bay is on the 303(d) list, the TCEQ is required to develop and implement a total maximum daily load (TMDL). Understanding whether the source of the zinc in oysters is a result of physical and chemical processes acting on historically contaminated sediments, or new zinc contamination finding its way into Nueces Bay through river inflows, wastewater discharges or other means is needed before corrective actions can be designed and implemented.

Project Objectives:
1. To collect sediment samples for analysis of zinc contamination to better characterize the potential contribution of sediments to the water column and oyster contamination
2. To collect water samples for analysis of both total and dissolved zinc to understand pathway for concentration in oyster tissue.

Project #0403 Nueces Bay Fish and Shellfish Contaminants Study

Performing Organization: **Texas Department of Health**
Total Project Funding: **$100,000**
CBBEP Bays Plan Actions: **PH-2, WSQ-1**

TDH closed Nueces Bay to the taking of molluscan shellfish in 1995 after laboratory analyses revealed elevated levels of zinc in oysters collected from the bay. In 2002, TDH reassessed potential health risks from consumption of contaminated seafood from Nueces Bay. TDH collected fish, crab, and oyster samples from Nueces bay; samples were analyzed for heavy metals (arsenic, cadmium, copper, lead, mercury, selenium, and zinc), pesticides, polychlorinated biphenyls (PCBs) and semi-volatile organic compounds (SVOCs). As expected from historical data, the 2002 study revealed elevated zinc levels in oysters (range 479-2300 ppm). One of three spotted sea trout samples collected in the 2002 survey contained PCBs (Aroclor 1260) at a level that exceeds TDH guidelines for protection of human health.

From the 2002 data, TDH toxicologists concluded that regular or long-term consumption of oysters from Nueces Bay containing high concentrations of zinc could result in systemic adverse health effects that included anemia and changes in serum cholesterol profiles; consequently, TDH concluded that consumption of oysters from Nueces Bay constitutes a public health hazard. Although, only one spotted seatrout contained PCBs, TDH was unable to determine whether a health hazard from PCB contamination would cause a public health hazard. TDH found nothing to suggest that consumption of blue crabs or finfish from Nueces Bay other than spotted seatrout would pose a hazard to public health.

TDH continued listing Nueces Bay as an area closed to the harvesting of oysters due to zinc contamination. TDH recommended collecting several more spotted seatrout specimens for analysis of PCBs to better characterize the prevalence of this contaminant in this species. TDH suggests continuing to monitor fish and shellfish from Nueces Bay for the presence of zinc and other contaminants.

Project Objectives:

1. To collect spotted seatrout specimens for analysis of polychlorinated biphenyls (PCBs) to better characterize the prevalence PCBs in spotted seatrout and determine the risk associated with consumption of spotted seatrout from Nueces Bay.
2. To collect oysters from five or more sites in Nueces Bay to assess whether differences exist in the spatial distribution of zinc in oysters.
3. To continue monitoring other target fish and shellfish from Nueces Bay for the presence of heavy metals, pesticides, and PCBs.

Project #0404 Bacteria Source Tracking in Copano Bay

Performing Organization: **Texas A&M University - Corpus Christi**
Total Project Funding: **$289,900**
CBBEP Bays Plan Actions: **PH-2, WSQ-1, WSQ-5**

The purpose of this project is to determine the source of bacterial contamination in Copano Bay through bacteria source tracking. Copano Bay is listed on the state's 303(d) list of impaired waters for the harvesting of oysters. Both the Texas Department of Health (TDH) and the Texas Commission on Environmental Quality (TCEQ) want to determine where the contamination is originating so that a Total Maximum Daily Load (TMDL) can be developed. In addition, if the source is non-human in origin (as expected), TDH will use this data to begin reviewing changes in oyster harvesting rules.

As part of this project, Texas A&M University-Corpus Christi will develop a Quality Assurance Project Plan (QAPP), expand their existing DNA bacteria database and will analyze samples collected during eight events at 14 stations within Copano Bay. Analysis of the samples will include filtration of water samples, isolation of *E. coli*, and verification of the samples. Thirty isolates will be verified from each station. Of these, 25 will be analyzed for antibiotic resistance, and a subset of 10 isolates will be fingerprinted by PFGE (Pulse Field Gel Electrophoresis). Water quality samples from 8 events will be analyzed and included in the final report.

Project Objectives:
1. To expand the existing DNA bacteria database of possible contributors of fecal bacteria to Copano Bay.
2. To collect and analyze bacteria samples from Copano Bay.
3. To determine the relative contribution of bacteria to Copano Bay by source.

Project #0405 Support Local Land Trust Conservation Efforts

Performing Organization: **Coastal Bend Land Trust**
Total Funding: **$50,000**
CBBEP Bays Plan Actions: **SM-3, HLR-1, HLR-2**

During the development of the *Coastal Bend Bays Plan*, the CBBEP Management Conference called for the establishment of a locally administered land trust fund for the dedicated purpose of habitat protection. During FY 2000, and 2001 the CBBEP provided the Coastal Bend Bays Foundation with funds to establish the Coastal Bend Land Trust (CBLT). The purpose of this project is to continue to assist the CBLT with their conservation efforts.

Over the past four years, the CBLT has become incorporated as an independent organization, formed a Board of Directors, developed a detailed business plan including operating and organizational procedures, developed a strategic financial plan aimed at achieving financial security, and updated outreach materials including a landowner information brochure. The CBLT has also identified specific habitat protection objectives and focus areas within the CBBEP region and acquired property and/or conservation easements within those focus areas for the purpose of preserving habitat, maintaining open space, and ensuring watershed and water quality protection within the CBBEP region. The CBLT has become an active focal point for conservation efforts through acquisition of property and conservation easements within the CBBEP region.

The major objectives of this project are to continue the process of informing landowners about the benefits of land conservation and conservation easements, to continue acquiring property and/or easements for the purposes of conservation, develop a CBLT Property Acquisition and Management Policy, perform and complete baseline assessments of all CBLT Properties, and prepare management plans for all CBLT properties.

Project Objectives:
1. Contact and inform landowners about the benefits of land conservation and conservation easements.
2. Acquire property and/or easements for the purposes of conservation.
3. Develop a CBLT Property Acquisition and Management Policy
4. Perform and complete baseline assessments for all CBLT properties.
5. Develop volunteer recruitment and training methods.

Project #0406 Nueces Bay Ichthyoplankton Monitoring

Performing Organization: **Center for Coastal Studies, Texas A&M University-Corpus Christi**
Total Funding: **$20,000**
CBBEP Bays Plan Actions: **FW-1, WSQ-4**

Nearly all marine fishes have an early life history involving a planktonic phase. Variability in numbers of larvae surviving through the dispersal and settlement phase can be the ultimate determinant in adult population sizes, creating a great potential for enormous variation from season to season. Numerous estuarine-dependent species (those utilizing the estuary as a nursery ground for the early portion of their life cycle) spawn well offshore and their eggs and larvae must be transported into coastal and estuarine nursery grounds against the net seaward flow. These species (including several commercially important ones) typically have extended larval periods, which are subjected to the widest degree of physical processes and can ultimately affect recruitment. Along the lower Texas coast, the Corpus Christi/Nueces Bay system serves as an important estuarine nursery ground for fish.

Alternative efforts to maximize freshwater inflow to the Nueces River Delta, such as the Rincon Bayou channel and pipeline, are being pursued. To determine the ecological benefits and to provide assurances that “no harm" is caused by utilizing these efforts, water quality, biological, and ecological response data must be collected and analyzed. This ichthyoplankton monitoring project will attempt to determine the type and extent of effects the altered flows may have on fish populations and community structure.

Although the ichthyoplankton monitoring project is being implemented by Texas Parks and Wildlife, CBBEP funding will provide the needed additional support for student workers to assist with field sampling and laboratory analysis. Texas Parks and Wildlife will provide a copy of the results of their monitoring project to the CBBEP.

Project Objectives:
1. Provide new graduate student assistance to water quality and biological monitoring in Nueces Bay, Rincon Delta and the Nueces River Tidal.
2. Expand our knowledge of larval fish recruitment to the Nueces delta with the addition of inflow from the Rincon Bayou and a pipeline project.
3. Continue our documentation of the ichthyoplankton distribution of commercially important, estuarine-dependent finfish to the system with changes to inflow amounts and locations.
4. Assess the spatial and temporal distribution of larval and post-larval fish within Nueces Bay, Rincon Delta and the Nueces River Tidal.
5. Determine if the discharge of the Nueces River away from the delta region acts as a “recruitment barrier” for transport and recruitment of fishes into the Nueces delta.

Project #0407 Keepers of the Coast

Performing Organization: **Texas State Aquarium**
Total Funding: **$25,000**
CBBEP Bays Plan Actions: **PEO-3**

The Keepers of the Coast educator/student outreach project was successfully implemented in FY 2001. This project provides educators with the opportunity to enhance current classroom teaching strategies with the resources of additional education facilities. The project provides staff development in the environmental sciences for teachers in targeted grades in the CBBEP area school districts selected based on economic need, minority population, and historically low visitation rate to the Texas State Aquarium (TSA). The selected school districts have limited funds for extended learning experiences such as outreach visits and field trips.

The teachers receive classroom and field instruction during a workshop designed to focus on area watershed and coastal resources. The goals of the workshop are to introduce national environmental education standards, to review state standards, and incorporate standards and school curriculum requirements into resources provided by TSA (e.g. TSA Marine Science Activities, Project WILD). Emphasis is on science and math with social studies and language arts incorporated. The workshop will also provide information on establishing local community clean-up projects using strategies from organizations such as Texas Parks and Wildlife Department and the Ocean Conservancy.

Keepers of the Coast outreach instructors participate directly in educating students in each of the participating districts. Educational materials presented to the students include inland and coastal environmental science and support material provided to the educators. Educational materials utilized and those developed through this project, will conform to state and national academic and environmental education standards, and outreach and field trip programs utilized by this project will continue to address CBBEP issues.

Project Objectives:
1. Select the target schools within the CBBEP area.
2. Select a teacher coordinator for each participating campus.
3. Conduct professional development sessions for participating teachers.
4. Conduct educational outreach programs for participating schools.
5. Coordinate and implement educational field trips to local facilities.
6. Host an Educator Open House.
7. Provide logistical support.

Project #0408 Public Outreach Events and Activities

Performing Organization:		**CBBEP**
Total Funding:	**$13,000**	**Community Events and Festivals**
	$10,000	**Coastal Bend Wildlife Photo Contest**
	$ 5,000	**CBBEP Newsletter "Living On The Edge"**
	$ 5,000	**CBBEP Website**
	$ 5,000	**CBBEP Educational Materials**
	$ 5,000	**CBBEP Annual Meeting and Public Forums**
	$ 2,000	**National Ocean Science Bowl**
	$ 5,000	**Other Outreach Opportunities**
	$50,000	
CBBEP Bays Plan Actions:		**BTR-1, PEO-2, PEO-3, PEO-5**

The goal of these public education and outreach projects is 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.

Project Objectives:

Community Events and Festivals – CBBEP's presence at community events plays an important role to draw the public's attention to bay resources and environmental protection. Community events may include: Earth Day/Bay Day, Bayfest, Great Texas Birding Classic, International Migratory Bird Day, and other area events. In addition, the CBBEP will sponsor an interactive wetland display to be used for educational purposes at these community events.

Coastal Bend Wildlife Photo Contest – The purpose of the contest is to save, create and maintain wildlife habitats through partnerships with private landowners. The winners split prize money with landowners from a 10-county area.

CBBEP Newsletter "Living On The Edge" – This informational newsletter will serve as an important outreach tool and help keep Estuary Council members and the general public informed about local environmental issues and activities of the CBBEP.

CBBEP Website – One of the CBBEP's most informative and interactive tools has become a tremendous resource for the general public. The CBBEP will continue to refresh website, improve navigation, information flow, and increase interactivity.

CBBEP Educational Materials – The CBBEP will continue to update and develop materials that will serve as general information and/or overview about the Program. The materials will be distributed at all events, meetings, outreach, schools, etc.

CBBEP Annual Meeting and Public Forums – The CBBEP Annual Meeting will bring together all Estuary Committees for project updates including past, present, and future status. The CBBEP sees an opportunity to partner with the Coastal Bend Bays Foundation on their monthly forum meetings. This creates an educational opportunity for the public.

National Ocean Science Bowl - This event provides the opportunity to increase knowledge of the aquatic environment on the part of students, their teachers and parents, as well as to raise public awareness of ocean-related concerns.

Other Outreach Opportunities - 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. Program staff will utilize local and regional media (newspapers, television and radio stations, etc.), other public events, exhibit ideas, and other CBBEP materials to implement the goals of the CBBEP Public Outreach Strategy.

Project #0409 Teaching Environmental Science I & II

Performing Organization: **Texas A&M University-Corpus Christi**
Total Funding: **$15,000**
CBBEP Bays Plan Actions: **PEO-3**

One of the many goals of the *Coastal Bend Bays Plan*, is to provide curricula for all levels of environmental education and promote greater use of outdoor educational facilities as a means of reaching children, young people, and adults. The environmental science courses include workshops and teacher training classes that focus on training key educators and leaders within the project area to subsequently train others within their organizations or community.

TES I - The TES course is designed to increase teachers' understanding of environmental concepts and principles regarding air, water and waste management, and a clean and healthy environment. The goal is to provide balanced information and to promote partnerships among teachers, government agencies, businesses, and community organizations. Course activities will include fieldwork, field trips, hands-on lab activities, and guest speakers. Grades assigned for the course will be "credit" (CR) or "no credit" (NC). Course content will enhance the ability of participating teachers to satisfy the Texas Education Agency's requirements included in the Texas Essential Knowledge and Skills (TEKS).

TES II – A graduate course offered to a maximum of twenty-five Corpus Christi and surrounding area secondary (6-12) public and private school teachers. Course participants will receive formal and informal training focusing on important land, air and water issues relating to the environment/conservation including the ecologic and economic importance of management issues unique to the Coastal Bend environment. Tuition for teachers is included and three (3) hours of graduate credit will be awarded by TAMUCC to each participant completing the course. The Texas Education Agency will award each course participant with Forty-five (45) hours of TEEAC credit.

TES I and II participants receive various teaching aids/materials during the course. Transportation to and from the field is provided. Recruitment and selection of course participants will be handled jointly by the TCEQ, CBBEP, and TAMU-CC. The TCEQ, CBBEP and CCS will provide course-appropriate written materials for each course participant. TCEQ will provide, administer, collect and analyze evaluations for each course participant following each major course activity including a final course evaluation. All evaluations will serve as guidelines for future course improvement/refinement.

Project #0410 Walk-Through-the-Wetlands / Adopt-A-Wetland

Performing Organization:	**Texas A&M University-Corpus Christi, Center for Coastal Studies, Adopt-A-Wetland Program**
Section 320 Funding:	**$10,000**
CBBEP Bays Plan Actions:	**BTR-1, PEO-2, PEO-3, PEO-5**

One of the most important goals of the Coastal Bend Bays & Estuaries Program's *Bays Plan* is to educate citizens about the ecology of the bay system and its many environmental and economic values. Walk-Through-The-Wetlands is an interactive wetland display designed to interest and educate people about coastal wetlands. The display was first used at Bayfest 2000, where over 1000 visitors enjoyed the exhibit and learned about the values wetlands provide to people and animals. To date, over 180,000 people have taken a "walk through the wetlands."

The redesigned, user-friendly constructed wetland will be filled with wetland plants, mounted animals, and workstations which can be transported and set up on site. Interpretive stations representing various interesting aspects of wetlands are set up along a pathway designed to guide visitors completely through the wetland. Trained volunteer interpreters are available at the learning stations to share with visitors some of their knowledge of the various aspects of wetlands. Accessibility allows people of all ages and abilities to explore and learn about the plants and animals that inhabit wetlands.

Project Objectives:

1. Assist other Walk-Through-the-Wetlands partners with maintenance of the display.
2. Develop a schedule of events at which the display will be used.
3. Organize and oversee transportation, setup/break-down, and operation of display at scheduled events.

Project #0411 Committee Organization Development and Facilitation

Performing Organization: **RESOLVE, Inc.**
Total Funding: **$55,000**
CBBEP Bays Plan Actions: **PEO-4, PEO-5**

The CBBEP's current advisory committee organization includes two committees, a scientific-technical advisory committee (STAC) and a citizen's advisory committee (CAC), with broad and sometimes overlapping responsibilities. These committees serve in an advisory capacity to the Bays Council. CBBEP will be dissolving the STAC and CAC committees in favor of four new advisory committees, each with a more clearly defined purpose. The intent of these changes is to make participant involvement more efficient and productive.

The proposed project includes employing a professional development and facilitation organization to assist in the establishment of the four new advisory committees (Human Uses, Monitoring and Research, Natural Resources, and Education and Outreach Committees) and a coordinating committee, to advise the CBBEP Bays Council. The CBBEP Bays Council, an advisory committee to the CBBEP Board of Directors, is responsible for providing programmatic guidance and developing annual work plans.

The CBBEP has, on a preliminary basis, identified nine specific tasks related to planning and facilitating the development of the new advisory committees. However, service provider may propose an alternate "approach to project" with different tasks.

Project Objectives:
1. Clarify CBBEP's needs through key stakeholder interviews
2. Review and provide recommendations on draft committee guidance documents
3. Advise Program on Initial Committee make-up
4. Train Program staff and committee Chairs/Vice-Chairs in committee operations
5. Facilitate first meeting of each committee
6. Monitor Second meeting of committees
7. Prepare summary report with recommendations
8. Facilitate Bays Council Meeting
9. Committee follow-up

Project #0412 Coastal Bend Conservation Project Inventory

Performing Organization: **Texas A&M University-Corpus Christi Center for Coastal Studies**
Total Funding: **$30,000**
CBBEP Bays Plan Actions: **HLR-1, HLR-2**

The Bays Plan calls for efforts to identify habitat types that are most at risk and to work with landowners and local and state governments to conserve those habitats. Within the Coastal Bend, many separate efforts are underway to protect wetland and upland habitat. It is critical to the CBBEP's long-term environmental planning effort to be well informed and to have access to all relevant information regarding other habitat conservation projects in the CBBEP area. Additionally, as funds become available for habitat conservation projects, it is important that potential projects be identified and well delineated prior to the availability of the funds. Potential conservation projects should include project descriptions, goals, and objectives complete with aerial and ground photographs and maps.

A pilot project was initiated in FY2003 that included the development of a potential site information database (CBBEP Project #0319). This work utilized database layers incorporated in the CBBEP GIS project files from CBBEP Project #0318, as well information from the Project Advisory Committee and Coastal Bend Land Trust Land Assessment Committee. Seven sites were selected for development of supplementary characterization and project site descriptions including location, habitat types, ownership, current functions and values, justification and need for conservation action, goals and objectives, and general budget estimates.

This project will consolidate project deliverables from CBBEP #0318 and #0319 to address the potential conservation and restoration needs in the Texas Coastal Bend. Data including project goals, funding entities and budgets, long-term plans, GPS coordinates, and digital site photos of other habitat conservation projects will be gathered and the information will be added to the CBBEP GIS. Additionally, the project will identify other potential project sites and develop the site characterization and site descriptions necessary to define a project. Finally, the project provide GIS support and maintenance for the program.

Project Objectives:
1. Incorporate existing information regarding conservation projects previously submitted for funding in the CBBEP area.
2. Identify potential wetland restoration, enhancement, and acquisition sites,
3. Using the site information generated, design potential wetland conservation projects,
4. Enter data into the GIS database.
5. Continue to provide assistance with maintenance and implementation of the GIS,
6. Continue to provide GIS staff training.

Project #0413 Colonial Waterbird Rookery Island Management

Performing Organization: **CBBEP**
Total Funding: **$150,000**
CBBEP Bays Plan Actions: **HLR-4, HLR-2, D-1, BTR-3, PEO-5**

The Living Resources Characterization Report prepared for the Estuary Program documented the declining populations of certain colonial waterbird populations. Colonial waterbird populations are indicators of the overall health of the estuary. Birding, especially viewing colonial waterbirds, is an important and growing component of ecotourism and the local economy.

Building on the efforts of the CBBEP in FY 2001, 2002 and 2003, this project will continue the implementation of specific management actions of the CBBEP Colonial Waterbird Rookery Island Management Plan. Management actions will include human-disturbance avoidance, nesting substrate supplementation, 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. Monitoring of colonial waterbird populations.
4. Distribute outreach materials and install signage to reduce impacts of human disturbance on waterbird colonies.

Project #0414 Shamrock Island Habitat Protection and Enhancement Project

Performing Organization: **CBBEP**
Total Funding: **$1,250,000**
CBBEP Bays Plan Actions: **HLR-1, HLR-2**

Shamrock Island is the remainder of a recurved barrier spit that once extended southwestward from Mustang Island into Corpus Christi Bay. Hurricane Celia separated the island from Mustang Island in 1970. The Shamrock Island Preserve is one of the most productive colonial waterbird nesting areas on the Texas coast. Coastal wetlands on or adjacent to Shamrock Island include marshes, mangroves, and seagrasses. The critical ecological importance of Shamrock Island was recognized in the early 1990s when the Texas Nature Conservancy led an effort to acquire the island, which had been in private ownership. Shamrock Island is located in eastern Corpus Christi Bay, Texas about two miles west of Mustang Island.

Since detachment from Mustang Island, the north and northwest areas of Shamrock Island have experienced considerable beach erosion and loss of wetlands, losing approximately 17 acres between 1950 and 1997. Without proactive measures, this trend of erosion would have continued, resulting in the loss of all valuable habitats found on the island, including submerged and emergent wetlands, beach areas, and adjacent uplands. Coastal Bend, representing almost 40 percent of the seagrasses found in all Texas waters

The U.S. Army Corps of Engineers (USACE) plans to develop a channel through Mustang Island in in the current area of Packery Channel. The Environmental Impact Statement for the project requires mitigation for the seagrasses that will be impacted by the USACE activities. This project will satisfy the required mitigation through the development and implementation of an action that will utilize an offshore breakwater to create an area that supports 16 acres of seagrasses and prvides protection to the Shamrock Island habitat.

Project Objectives:
1. Develop Alternatives Analysis for project.
2. Select an alternative and develop the design through the use of project team consensus
3. Construct breakwater and seagrass development project.
4. Monitor progress for five years to measure success
5. Develop and implement maintenance or enhancement activities as necessary.

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.

IX. Project Management

CBBEP Project Management staff (7 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, 2003, the Coastal Bend Bays & Estuaries Program will begin Year 6 of implementing the *Coastal Bend Bays Plan*. This FY 2004 Work Plan describes the proposed work to be initiated during FY 2004. Of the total funds identified in the Work Plan budget, $619,845 are new (FY 2004) federal funds, $849,777 are new (FY 2004) state funds, $1,250,000 are new (FY 2004) special funds, and $275,000 are new (FY 2004) local partner funds. The total budget for this FY 2004 Work Plan is $2,805,962.