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Galveston Bay

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Galveston Bay Joins National Movement Towards Proper Marine Sewage Disposal

by Samra Jones-Bufkins,
GBNEP Public Participation Director

Discharge of untreated sewage from many sources is one of the causes of pathogenic contamination in Galveston Bay water. Sewage treatment plant malfunctions, overflows and bypasses, along with agricultural runoff are major causes. In addition, the Galveston Bay system is home to over 9,000 recreational boat slips, with Clear Lake having approximately 5,600 of those slips, including nearly 500 whose owners live on the boats full time. One estimate is that 1.45 million gallons of raw sewage are being dumped somewhere—probably into the Bay—every year. These Bay waters are used by swimmers, wade fishermen, wind surfers, jet skiers, sailors and water skiers, not to mention the fish and oysters that live in the bay and are harvested for human consumption.



TNRCC photo

The Clear Lake area is the third largest recreational boat basin in the country. Boaters from other states cruising through Texas coastal waters always express surprise at the lack of pump-out facilities in Texas marinas.

Discharging untreated or improperly treated waste into the Bay introduces disease-carrying microorganisms which contaminate the water and aquatic organisms. People are put at risk by eating shellfish taken from the contaminated water or by swimming in it.

Federal law calls for fines of up to \$2,000 for boaters caught dumping sewage within three miles of shore, or those who don't have an approved marine sanitation device installed. Some, if not all of the marina leases in Clear Lake have provisions requiring zero discharge within the marinas, but unfortunately this is rarely enforced, due in part to the lack of legal options for marine sewage disposal.

There are only five marine pump-out facilities in the Galveston Bay area, and while that is inadequate for the large number of boats, many boaters are not even aware of the need for proper marine sewage disposal. For that reason the Galveston Bay Foundation has been awarded a \$16,000 action plan demonstration grant to establish a boater education program and pilot pump-out project.

A specific goal of the project is to provide an example of how boaters and marina operators in the Galveston Bay area can be educated and moti-

(continued on back page)

Coastal Preserves: Protecting the Best of What's Left

by Frank Shipley, Ph.D., GBNEP Program Director

Many coastal protection measures developed as part of the National Estuary Program are aimed at solving problems. Indeed, there seem to be very few areas along our coasts that are not subject to a wide variety of problems—Galveston Bay among them. But this project was conceived with a slightly different twist: to protect two important systems within Galveston Bay which have not yet experienced major, irreversible human-caused changes. Christmas Bay and Armand Bayou remain relatively pristine habitats, reminiscent of what the Bay must have been like prior to European settlement.

Assuring the protection of Christmas Bay and Armand Bayou involved the following project objectives: (1) official designation of these two areas as preserves under State of Texas authority; (2) convening of a multi-agency task force within the Galveston Bay National Estuary Program to frame protective management plans; (3) establishing boundaries and deploying state of the art remote monitoring of selected environmental conditions; (4) staging of an intensive, multi-agency field survey to help define management needs; and (5) drafting of management plans for each area, to function as "living" guides to the stewardship of these areas.

Background

Christmas Bay is a pristine secondary bay in the far southwestern portion of the Galveston Bay system. Christmas Bay is an exceptional finfish and shellfish nursery area and harbors eight endangered or threatened species. Seven waterbird nesting colonies surround this shallow, relatively pristine Bay. The greatest concern for Christmas Bay is habitat loss. Fringing marsh wetlands have declined 8.4% between 1956 and 1979 (less decline than the rest of the Bay). Three of four submerged seagrass species found in Christmas Bay are nowhere else in the Galveston Bay system, and even though this Bay is a last refuge for sea grasses in Galveston Bay, the seagrass meadows in this system have declined 36 percent from 1956 to 1987.



TNRCC photo

Christmas Bay is home to nearly 90% of the remaining seagrass beds in the Galveston Bay System. This submerged vegetation is vital habitat for juvenile finfish and shellfish

Armand Bayou is a bottomland hardwood bayou on the western shore of Galveston Bay with a relatively undeveloped watershed (considering the surrounding urban setting). The Bayou has been drastically altered by land subsidence of up to nine feet, due to groundwater and petroleum withdrawal. As a result, all 275 acres of wetlands present in 1956 have been lost, with minimal natural establishment of new wetlands. Water quality is a critical concern, with both point and non-point sources of waste water increasing 35 percent over the last decade. Concerns include effects of development of the forested watershed and waste water discharges that exceed the assimilative capacity of the Bayou.

Key Players

Because of the uniquely high values of both Christmas Bay and Armand Bayou, a strong consensus developed among agencies, user groups, industry, and the public for preservation. The Galveston Bay National Estuary Program served as the forum for discussion leading to this consensus, and as the spearhead to accomplish that goal. This was accomplished utilizing a fourteen-member task force to guide the work. The project relied heavily

on the existing cooperative Coastal Preserves Program of the Texas Parks and Wildlife Department and General Land Office. This program had previously designated two other preserves in Texas on the middle and lower coast.

The GBNEP undertook preservation of Christmas Bay and Armand Bayou with a series of steps as part of an NEP Action Plan Demonstration Project with funds awarded by EPA and matched with state revenue:

- ☉ Submission of a grant proposal by GBNEP based on early conceptual work by Mr. James Blackburn, a founding member of the Galveston Bay Foundation, and now a member of the GBNEP Policy Committee.
- ☉ Successful nomination of each area to preserve status before the School Land Board (representing land ownership) and the Texas Parks and Wildlife Commission (as preserve managers).
- ☉ Holding a Coastal Preserve Designation Ceremony, at which then-Senator Lloyd Bentsen announced creation of the preserves.
- ☉ Convening a multi-agency Coastal Preserves Task Force under the auspices of the GBNEP to coordinate project work to frame management plans.
- ☉ Establishing boundaries through purchase and deployment of state-of-the-art tide gauges.
- ☉ Identification of environmental and regulatory management issues through a series of contract survey projects.
- ☉ New data collection in an intensive multi-agency field survey.
- ☉ Drafting and implementation of management plans.

Lessons Learned

All told, the project was highly successful in permanently preserving these two critical Galveston Bay habitats. In accomplishing this primary objec-



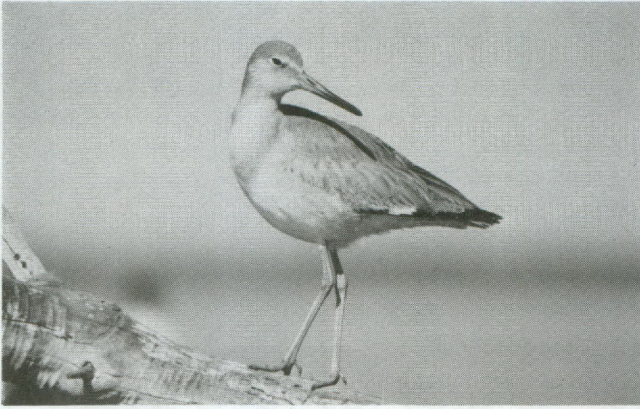
TNRCC photo

Projects of the Coastal Preserves Program

- ☉ *Phase I: Site Reconnaissance and Tide Gauge Purchase* for boundary determination and future hydrologic studies
- ☉ *Phase II: Installation, Maintenance, and Operation of Tide Gauges*
- ☉ *Environmental Inventories* of each preserve to identify ecological issues
- ☉ *Regulatory Surveys* to determine regulatory jurisdictions, gaps, and overlaps
- ☉ *Regulatory Evaluations* to determine effectiveness of current governance, and to recommend improved regulatory approaches for inclusion in the management plans (funded under Section 320 funds rather than this cooperative agreement)
- ☉ *Phase I Management Planning* to develop a multi-agency collaborative framework and initial management plan outlines
- ☉ *Phase II Management Planning* to draft a management plan for each coastal preserve
- ☉ *Phase I Implementation* to begin actions contained in the management plans
- ☉ *Phase II Implementation* to continue management implementation
- ☉ *Involving the Public* throughout the process of creating the coastal preserves and identifying management needs
- ☉ *Project Administration* by the GBNEP Program Staff

ive, the project also established a rallying point for early success of the GBNEP related to the larger issue of management of the entire Bay system under a developing Comprehensive Conservation and Management Plan. In this respect, the project established a strong early precedent for collaboration among highly diverse individuals and organizations for estuarine problem-solving. Additionally, the Armand Bayou and Christmas Bay Coastal preserves were instrumental in serving as models for creation of a similar preserve program for the entire Gulf of Mexico under the Gulf of Mexico Program, and have resulted in possible designation of Christmas Bay as the first "Outstanding National Resource Waters" in the state of Texas.

Armand Bayou is relatively pristine despite its location in the densely-populated Clear Lake area. Nevertheless, most of its wetlands have been lost over the years.



Willetts (*Catoptrophorus semipalmatus*) are among the shorebirds commonly seen in the Galveston Bay area.

Status and Trends of Selected Living Resources in the Galveston Bay System

by Albert Green, Principal Investigator
Texas Parks and Wildlife Department

It's not uncommon to hear casual comments about the number of birds or fish that once were in Galveston Bay. Population trends for the animal life in the Galveston Bay system is of great importance to nearly everyone, whether they are a commercial fisherman whose livelihood depends on a viable population, or a nature enthusiast who enjoys watching the birds and other wildlife around the Bay. GBNEP recently funded a project to determine which species were declining and which were increasing.

Population trends for the animal life in the Galveston Bay system is of great importance to nearly everyone, whether they are a commercial fisherman whose livelihood depends on a viable population, or a nature enthusiast who enjoys watching the birds and other wildlife around the Bay. GBNEP recently funded a project to determine which species were declining and which were increasing.

The purpose of this project was to evaluate the status and trends of several selected species, to identify potential problems, as indicated by declines in abundance, and to initiate the investigation of the probable causes of these declines.

The species studied include groups fundamental to maintaining the Galveston Estuary ecosystem and economically important taxa: commercially and ecologically important finfish and shellfish, locally breeding birds, alligators, plankton, and open bay and marsh benthos (bottom-dwellers and sediment dwellers).

This study contributes to the long term goal of the GBNEP by beginning to develop a measuring stick for assessing the health of the Galveston Estuary. This was done by estimating the recent abundance of several populations living in or adjacent to the Galveston Estuary, and comparing them to past abundances.

Conclusions:

Using the concept that biodiversity and ecological processes can be used to measure ecosystem health leads to the conclusion that the overall health of the Galveston Estuary System appears to be fair to good. This conclusion was based on the observation that there was not a wholesale decline in species population abundances and that a large number of species was present in all trophic levels,

indicating that energy and material transport within and between trophic levels was occurring more or less naturally.

However, apparent long term declines indicated in striped bass, green turtle, and mottled ducks, northern pintail, blue winged teal, and all other colonial water birds except olivaceous cormorants, provides ample reason for concern. This coupled with the knowledge that there have been major losses of wetlands and possibly oyster reef, that pressure for development along estuarine shoreline continues, and that the total harvest of animals that depend on the estuary has increased by 2000 percent during the last 100 years (including offshore harvest of shrimp and menhaden), provides reason to question whether the health of the Galveston Estuary can be maintained.

There were some significant increases in populations, namely in American alligators, red drum, spotted seatrout, Atlantic croaker, black-bellied plovers, willets, sanderlings western sandpipers and olivaceous cormorants. Although not a subject of this study, the brown pelican population also has increased. These provide evidence that the ecosystem is still operating and that rehabilitation programs can have an effect.

Comparisons of data in available literature on phytoplankton, zooplankton and benthic populations indicated that primary production has been high, and that the respective assemblages were

reasonably healthy in recent years. These diagnoses were made with caution and with the knowledge that very few of the sampling stations were located in the vicinity of point source discharges or major industrial complexes.

Depressed benthic assemblages were found around brine separator platforms, and it is probable that similarly depressed fauna may be found at other localities throughout the bay and along the bay margin. Assemblages in the center of the bay appear to be normal for the prevailing salinity regime.

All the conclusions in this study regarding trends were made with the knowledge that data sets generally suffered from one or more of the following: sampling periods were short relative to population dynamics, spatial or temporal representation was poor, effort was not known, and sample sizes were small.

Other data are available but have not been synthesized and recorded in usable form. Nevertheless, the record was adequate to support the conclusions drawn and to provide information for improving future monitoring programs.

The full document (GBNEP-19) is available in very limited quantities from the GBNEP office and the Galveston Bay Information Center at the Texas A&M University-Galveston. The document is also available at numerous area libraries, a list of which is published in this issue of *Bayline*.



Corpus Christi Bay Latest Addition to the National Estuary Program

by Michael Wagner,
U.S. EPA Region VI

On October 22, 1992, then-U.S. Environmental Protection Agency Administrator William Reilly announced the addition of the Corpus Christi Bay System to the National Estuary Program.

"We welcome the Bays of Corpus Christi, Tillamook, and San Juan to the National Estuary Program," Reilly said. "This is one of EPA's most popular programs, for it enlists the energy and enthusiasm of surrounding communities to improve the environment. It focuses first and foremost on protecting and restoring the overall health of the resource." Reilly went on to add, "We look for great things to come from our new partnerships."

The Corpus Christi Bay National Estuary Program will encompass the estuarine environment of 75 miles of the south-central Texas coastline. Within the Corpus Christi Bay system is found Padre Island, the longest barrier island in the world, and the Laguna Madre, an extremely rare hypersaline lagoon. Both of these natural features are state, national, and international treasures.

The citizens living in and around the Corpus Christi Bay estuarine system have expressed concerns about declining environmental conditions that have appeared in the last few years. The ability to catch a fish on a weekend trip, walk on a clean beach or eat an oyster from the Bay is no longer a certainty. A recent oil spill in the inner harbor, barge collisions in the ship channels, a ruptured pipeline that spilled into a coastal marsh, and a new port facility planned for supertankers are indicative of the potential sources of accidental releases of contaminants into the bays.

A public-private partnership called a Management Conference, much like the Galveston Bay National Estuary Program Management Conference will develop a Comprehensive Conservation and Management Plan over the next three to five years to identify solutions to the problems of the estuary. Although this plan will be the final product of the Corpus Christi Bay National Estuary Program, it hardly signals an endpoint. Implementation of the plan and revitalization of one of the nation's most unique natural resources is the ultimate goal.

Bay Day 1993: A Spectacular Event

by Marie Nelson, Public Education Coordinator
Photos by Mary Stark-Love

Sylvan Beach Park on the shores of Galveston Bay was full of fun and excitement on June 12th and 13th as twenty thousand people came out for Bay Day '93. Founding sponsors of the event, the Galveston Bay National Estuary Program and the Galveston Bay Foundation are pleased to report a 30% increase in attendance and in day-of-event revenues over last year.



Docents from the Houston Zoo were among the Bay Day nature exhibitors.

learning interesting facts about our Bay and our local environment. After completing a scavenger hunt form, they entered a drawing for a set of binoculars and a Texas Wildlife Viewing Guide by Gary L. Graham, donated by U.S. Fish and Wildlife Service.



Bay Day Bayside Gumbo Cook-Off." Seventeen teams entered a seafood "stew with a roux" in the cook-off and competed in three divisions while the Sam Brothers played authentic zydeco music.

In the Open Competition, teams competed for the "Golden Pot Award." First Place went to Insulation Contractors and Supply of La Porte. Second Place went to Hollywood Marine, and Third Place went to the Gulf Coast Conservation Association.



Michael Martin Murphey headlined the Bay Lights Concert on Saturday night.

Saturday evening brought entertainment at its best, with Michael Martin Murphey and the Bay Lights Concert. A crowd of over 5,000 sang along and danced under the starlit sky. A spectacular fireworks display over the water finished off a perfect day. Sunday was equally beautiful.

We must have done something right, as tropical Storm Arlene, in the Gulf

Bay Day '93 emphasized music, laughter, and good food. More importantly, Bay Day was filled with folks ready to share what the bay means to them. Over 70 exhibitors representing commerce, heritage, nature, and waterfront activities shared how their organizations and businesses use the bay and are working to preserve its productivity.

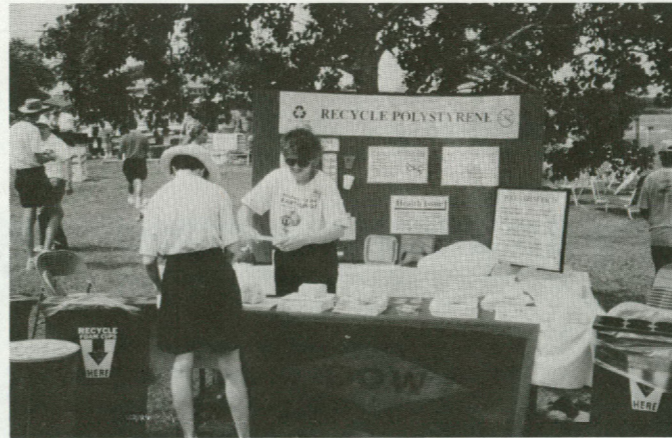
The first and most important step toward preserving our natural resources is to learn about them, so many young people at Bay Day participated in the Bay Scavenger Hunt. They visited with exhibitors,

The Bay Day Obstacle Course, designed and built by the U.S. Fish and Wildlife Clear Lake Field Office, gave kids the opportunity to explore some of the obstacles encountered by wildlife in the underwater environment.

Highlights of the event included spontaneous helicopter rescues utilizing the U.S. Coast Guard HH-65A Dolphin Helicopter. The U.S. Customs Service Blackhawk Helicopter was on display, along with presentations by Customs officials with the narcotics detection Customs Canine Team. Kite flying demonstrations by the Texas Sky Riders Kite Club brightened up the sunny skies.

Competing for their Regional Championship, the colorful J-29 sailboats participated in the Sailing Regatta. A Boating Relay in front of the park featured canoes, sea kayaks and graceful windsurfers.

Good food was in no short supply at Bay Day. Some of the area's best food vendors came to the event, and Saturday afternoon was the "Great



The Gumbo cookoff included a polystyrene recycling station provided by Dow Chemical Co.

Participants in the Government Agencies Division competed for the "Gnarliest Gumbo" Award. First Place went to the City of La Porte City Council. Second Place went to the City of Morgan's Point, and Third Place to the Texas Parks and Wildlife Department, Coastal Fisheries Branch. Judges for the competition were Bill

West of KLDE Radio, Robert Smith and Andy Anderson, Channel 26 weathermen and Ken Grissom, Houston Post Outdoors Editor.

Public votes were tabulated for the gumbo "People's Choice" award. Hollywood Marine was the overwhelming favorite, with Second Place going to Techna Craft and Third Place to the U.S. Fish and Wildlife Service.

of Mexico brought rain and more rain throughout the area the following weekend.

For those of you who were unable to join us, we missed you, and Galveston Bay missed you too, because the people who came to the event left with a greater appreciation for this important resource and with a better understanding of what the Bay means to the people, the economy, and the ecology of our area. We hope to see everyone at Sylvan Beach June 11 and 12 of 1994, for the biggest Bay Day yet!



The U.S. Coast Guard demonstrates water rescue techniques.



Captain Ed Roe, President of the Clean Channel Association, instructs two willing volunteers in oil spill cleanup techniques.



The Seabrook Volunteer Fire Department demonstrates the capabilities of the only fireboat in the United States run by volunteers.



Over 20,000 people attended Bay Day 1993 at Sylvan Beach, in LaPorte.

Publication List

of the Galveston Bay National Estuary Program

The following publications are available to the public at no charge. You may obtain these at one of the offices listed below.

Galveston Bay National Estuary Program

Bay Plaza One
711 West Bay Area Boulevard
Suite 210
Webster, Texas 77598
Phone: 713-332-9937

Galveston Bay Information Center

Texas A&M University, Galveston
Jack K. Williams Library
P.O. Box 1675
Galveston, Texas 77553
Phone: 409-740-4703

Report Publication Series

Proceedings: Galveston Bay Characterization Workshop	Feb. 1991	GBNEP-6
Christmas Bay Environmental Inventory	Mar. 1991	GBNEP-7
Armand Bayou Environmental Inventory	Mar. 1991	GBNEP-8
Christmas Bay Regulatory Survey (out of print)	Mar. 1991	GBNEP-9
Armand Bayou Regulatory Survey (out of print)	Mar. 1991	GBNEP-10
Fiscal Year 1992 Work Plan	Aug. 1991	GBNEP-11
Shoreline Survey Unpermitted Discharges to Gal. Bay (out of print)	Aug. 1991	GBNEP-12
Armand Bayou Regulatory Effectiveness Study	Dec. 1991	GBNEP-13
Christmas Bay Regulatory Effectiveness Study	Dec. 1991	GBNEP-14
Characterization of Nonpoint Sources and Loadings	Jun. 1992	GBNEP-15
Wetland Plant Communities, Gal. Bay System	Mar. 1992	GBNEP-16
Fiscal Year 1993 Work Plan	Aug. 1992	GBNEP-17
Segmentation Development for Gal. Bay	May 1992	GBNEP-18
Characterization of Selected Living Resources in Gal. Bay	Jun. 1992	GBNEP-19
Toxic Contaminant Characterization of Aquatic Organisms in Gal. Bay	Jul. 1992	GBNEP-20
Characterization of Selected Public Health Issues in Gal. Bay	Aug. 1992	GBNEP-21
Ambient Water and Sediment Quality of Gal. Bay	Aug. 1992	GBNEP-22
Proceedings: The Second State of the Bay Symposium - Feb. 4-6, 1993	Feb. 1993	GBNEP-23
Environmental Management Inventory of Gal. Bay	Oct. 1992	GBNEP-24
Recreational Fishery By-Catch in the Gal. Bay System	Nov. 1992	GBNEP-25
Galveston Bay Bibliography	Apr. 1993	GBNEP-26
Framework for Action: Galveston Bay Management Evaluation	Jan. 1993	GBNEP-27
Dredge and Fill Activities in Galveston Bay	Apr. 1993	GBNEP-28
Non-Fishing Human Induced Mortality of Fisheries Resources in Gal. Bay	May 1993	GBNEP-29
Sediment Quality Assessment Survey of Galveston Bay	May 1993	GBNEP-30
Trends and Status of Wetland and Aquatic Habitats in the Gal. Bay System	Apr. 1993	GBNEP-31
Fiscal Year 1994 Work Plan	Aug. 1993	GBNEP-32

Videos

<i>Balancing Act</i> (Armand Bayou and Christmas Bay)	Oct. 1990
<i>Oyster Harvesting and Conservation in Galveston Bay</i>	Oct. 1991
<i>Conflicting Uses of Galveston Bay</i>	Oct. 1991
<i>The Galveston Bay Ecosystem</i>	May 1992

Special Publications

Galveston Bay Area Residents' Handbook

a guide to responsible lawn care, household cleaning, automobile and boat care, and proper maintenance of septic systems and other issues to be considered by residents living in the 5 county area.

Hazardous Waste Wheels

an easy to use "wheel" with helpful information about less toxic alternatives to some of the products you may use around the house or in the garage, that may be hazardous to the environment.

Home Inventory

a guide to responsible care of hazardous household products as you take an inventory of the products you use and properly label and manage these products for a safer home

Local Governments Workshop a Success

On July 9, local government representatives from cities and counties around the Bay joined GBNEP staff and volunteers for a day-long focus group review of draft Comprehensive Conservation and Management Plan (CCMP) action plans affecting local governments. The participants, including elected officials, planning and development staff members, and technical staff from city and county departments, heard an overview of the GBNEP priority problems, and some suggestions for greater local government involvement in the CCMP drafting process.

Myron Knudson, Director of the Water Management Division of the U.S. EPA Region VI, and Chairman of the GBNEP Management Committee, discussed the importance of local governments involvement in the CCMP development process due to their anticipated large role in CCMP implementation.

The participants had the opportunity to comment on the pre-draft action plans in facilitated work

group sessions on topics such as nonpoint source pollution, point sources, growth management and planning, and wetlands and shoreline modification.

The GBNEP staff would like to thank the following people for their assistance with the workshop: Jim Kachtick, Glenda Callaway, The Honorable Ray Holbrook, Mary Ann Piacentini, Dr. William R. Brown, Carl Masterson, Dave Hankla, Chuck Newell, Mary Gillette, Myron Knudson and Ken Teague.



Publication Series Distribution

These libraries should have complete sets on file:

Bureau of Economic Geology Library,
The University of Texas at Austin

College of the Mainland Library
Texas City, Texas

The Fondren Library
Rice University, Houston, Texas

Texas & Local History Department
Houston Public Library

Life Sciences Library
The University of Texas at Austin

Marine Science Institute Library
The University of Texas at Austin

M.D. Anderson Library
The University of Houston Libraries

Medical Sciences Library
NASA-Johnson Space Center

Moody Medical Library
University of Texas Medical Branch, Galveston

Neumann Library
University of Houston—Clear Lake

Pasadena Public Library
Pasadena, Texas

Rosenberg Library
Galveston, Texas

Sterling C. Evans Library
Texas A&M University, College Station, Texas

Sterling Municipal Library
Baytown, Texas

School of Public Health Library
University of Texas Health Science Center, Houston

Jack K. Williams Library
Texas A&M University, Galveston, Texas

The following libraries began receiving GBNEP publications in January, 1993, and may not have complete sets. They will receive all future publications.

Brazoria County Library System libraries:
Main Library, Angleton, Texas
Alvin, Texas Branch Library
Pearland Branch Library

Brazosport College Library
Lake Jackson, Texas

Chambers County Library System, Main Library
Anahuac, Texas

Juanita Hargraves Memorial Branch Library
Winnie, Texas

West Chambers County Branch Library
Mont Belvieu, Texas

NOTES FROM THE CHAIRMAN

photos by Samra Jones-Bufkins

Galveston Bay Day in Austin

On May 12 I had the privilege of helping to introduce the Galveston Bay National Estuary Program to the Texas State Legislature. This all-important first step towards legislative review and approval of the Comprehensive Conservation and Management Plan (CCMP) for Galveston Bay took place in the rotunda of the William P. Clements State Office Building. I was very proud of the displays set up by the Galveston Bay National Estuary Program, the



Charles Herbeck, Chairman of the Galveston Bay Foundation, Governor Ann Richards and Sen. Rodney Ellis, GBNEP Policy Committee Chairman were among the crowd enjoying Galveston Bay seafood at the Governor's Mansion on May 12.

Galveston Bay Foundation, the East Harris County Manufacturer's Association, the Greater Houston Partnership, the General Land Office and the Environmental Protection Agency. Space did not permit all participants in the GBNEP to exhibit, but the staff and volunteers did an excellent job of explaining the program to the hundreds of people passing through the rotunda during a busy day of Senate debate.

That evening a reception sponsored by the Galveston Bay Foundation (and funded by the Galveston Bay Political Education Fund) was held at the Governor's Mansion for Legislators and their staffs. Many Bay Area citizens and Management Conference members were in attendance, and all enjoyed the superb Galveston Bay seafood provided by Hillman Shrimp and Oyster Co. We were honored that



Program Director Dr. Frank Shipley and Russell Kiesling, Research Administrator, discuss GBNEP with one of the many people who stopped by the exhibits in the Rotunda of the Clements Office Building.

Governor Richards was able to spare some time from her busy schedule to join us and discuss Galveston Bay issues.

In the Fall of 1994 the completed CCMP will be submitted to the Governor and the U.S. EPA for final approval. It's quite possible that some of the elements in the plan will require legislative action, and it's not too early to create awareness of the plan among my colleagues in the Legislature. The legislators in the Galveston Bay area are aware of the GBNEP. But their support alone is not enough. In the next year we must all mount




a concerted effort to educate the rest of the state about the importance of Galveston Bay to our lives and livelihoods. Only then can we be assured that the CCMP will be a living, working document implemented for the benefit of all Texans.


Rodney Ellis

NOTES FROM THE DIRECTOR


by Frank Shipley


Rapid progress has been made in recent months in drafting the Comprehensive Conservation and Management Plan for Galveston Bay. As the fifth round of meetings winds up for the sixteen task forces involved in crafting action plans, the document itself is beginning to take shape. In the remaining final year of our bay-wide planning effort, here are the steps we anticipate for completing our work:


 Completion of "pre-draft" action plans by September, 1993. This document will be the basis for final cost estimates and creation of an implementation strategy for actions identified in the CCMP. The "pre-draft" will offer the first opportunity for the Management Conference to review all the proposed actions together.


 CCMP Workshop, December, 1993. At this symposium, working sessions will be convened once more for the Task


Forces. Overriding issues like funding and implementation will be discussed by the Management Conference, and the results incorporated into the developing CCMP.

 Preparation of Draft Final CCMP, December, 1993-February, 1994.

 Management Conference approval of the CCMP for public release, March, 1994. At a workshop, all committees of the Management Conference will review the draft final document, and the Policy Committee will take action to release the CCMP for intensive public review.

 Public meetings for CCMP comment, April-May, 1994. At least a half dozen meetings will be held around the five-county Galveston Bay area, at which the CCMP will be presented for public comment.

 Incorporation of public comments and preparation of final CCMP, Summer, 1994.

 Formal submission of the CCMP to the Governor and to the Administrator of EPA, September, 1994. This submission triggers a 120-day official review period by EPA, followed by official adoption of the document as the blueprint for the future of Galveston Bay.

These activities complete five years of hard work by hundreds of individuals, many contributing their time as volunteers. The process is not always easy, and is not always the most efficient way to draft a comprehensive plan. But the give and take of ideas and interests that is shaping the Bay's future do represent a balanced and democratic process. As Niccolò Machiavelli noted: *"There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in success, than to take the lead in the introduction of a new order of things."*

GET INVOLVED

Yes! I would like to be involved in the Galveston Bay National Estuary Program.

- Please put me on the mailing list for the Galveston Bay National Estuary Program Information Letter "Bay Line" and other Galveston Bay information

Name _____

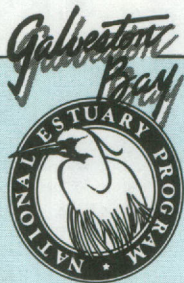
Address _____

City _____ Zip _____

Daytime Phone Number _____ Evening Phone Number _____

I would like to help with special projects: _____

I am currently a member of these environmental, civic, or business organizations: _____



**What's Inside
Issue #16:**

Galveston Bay Joins National Movement Towards Proper Marine Sewage Disposal by Samra Jones-Bufkins 1

Coastal Preserves: Protecting the Best of What's Left by Frank Shipley, Ph.D..... 2

Status and Trends of Selected Living Resources in the Galveston Bay System by Albert Green 4

Corpus Christi Bay Latest Addition to the National Estuary Program by Michael Wagner 5

Bay Day 1993: A Spectacular Event by Marie Nelson 6

Publication List 8

Local Governments Workshop a Success 9

Notes from the Chairman by Rodey Ellis 10

Program Director's Report by Frank Shipley, Ph.D..... 11

Facilities continued from page 1

vated to use pump-out facilities. The ultimate goal of the project is to reduce bacterial contamination in Clear Lake caused by raw sewage from boats.

Major objectives include a pilot pump-out program to encourage the use of pump-out facilities and evaluate the best methods. The project also aims to motivate a defined target of recreational and live-aboard boat owners and marina owners about the proper use of pump-out facilities. The pilot project will be at the Watergate Yachting Center, the largest Marina on Clear Lake.

Education of boat owners and marina operators is another major objective. Many boat owners are not aware of the laws and regulations for discharge, nor are they aware of the appropriate types of marine sanitation devices (as mandated by the Clean Water Act) or the proper use of these devices. The Galveston Bay Foundation, along with the sub-contractor Maritime Sanitation, Inc., and the Galveston County Marine Extension Service will develop a series of workshops, demonstrations and brochures for all boaters to emphasize the need for proper marine sewage disposal.

The results of the project will be publicized through local boat clubs, cruising associations, professional boating trade associations, environmental groups and regulatory officials.

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