AROUND THE BEND

News of the
Coastal Bend's Bays & Estuaries

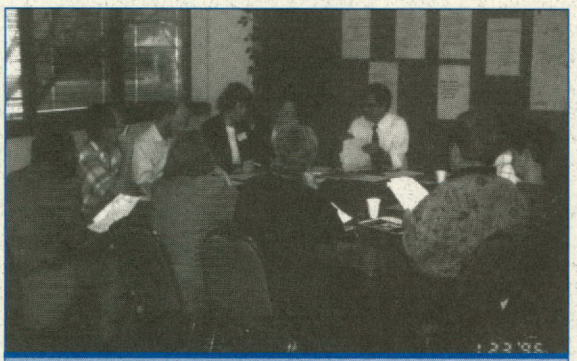
Vol. 2, No. 2 -Spring 1996

170 People Attend First Action Planning Workshop

Discussions were anything but sedate at the CCBNEP's first Action Planning Workshop held January 23-25 in Corpus Christi. The purpose of the workshop was to begin the development of the Preliminary Coastal Bend Bays Plan, by brainstorming lists of potential management actions for each of thirteen resource management issues.

More than 170 people participated in the two and one-half day workshop, each assigned to one of the thirteen 'Action Plan Task Forces'. Invitations to the workshop went out to 165 organizations identified by the Management Committee as key stakeholders in bay resource management. Team leaders for the Task Forces are local residents, selected for their expertise and prior involvement in their respective issue.

In commenting on the outcome of the workshop, CCBNEP Director Richard Volk said that "bringing together so many stakeholders with diverse interests is an important milestone for the Program. The process of getting acquainted and laying a foundation for mutual trust and respect is as important, if not more so than, the product of a Plan."



Public Health Action Plan Task Force works on gathering information for the first draft of the Preliminary Coastal Bend Bays Plan.

"Since the 1930s, this region has seen a 150 percent increase in its human population and significant expansion of its economic base," Volk said, "an expansion that in almost every aspect has been related either directly or indirectly to the bay system. While there have been many improvements in human practices, piecemeal degradation of our bay resources has occurred, and the results are observable." He urged participants to "think outside the box," and imagine what will be needed to maintain a high quality-of-life for Coastal Bend residents in the

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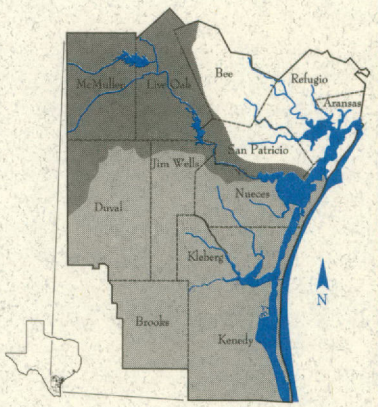
Action Plan Task Forces and Team Leaders

Human Uses	Ray Allen, Coastal Bend Bays Foundation
Public Health	Christina Thompson & Joanna Mott, TAMU-CC Center for the Sciences
Bay Debris	Jay Reining, Coastal Bend Bays Foundation
Brown Tide/Harmful Blooms	Kyle Spiller, Texas Parks & Wildlife Department
Habitat/Living Resources	Wes Tunnell & Liz Smith, TAMU-CC Center for Coastal Studies
Dredging	Tom Rodino, U.S. Coast Guard & Mike Wike, Hollywood Marine
Freshwater Resources/Diversion	Tom Ballou & John Clements, Reynolds Metals Co.
Water/Sediment Quality	Jim Bowman, TNRCC Region 14
Point Sources	Jim Gooris, Koch Refining Co.
Urban Runoff	Paul Carangelo, Port of Corpus Christi Authority
Agricultural Runoff	John Michael, Naismith Engineering
Maritime Issues	Tony Alejandro, Port of Corpus Christi Authority
Public Outreach	Leslie Peart, Texas State Aquarium & Terry Branch, EPA Region 6

ON THE INSIDE



Corpus Christi Bay National Estuary Program Study Area

Financial Planning Advisory Committee Starts Work

Twelve members, representing various expertise in the fields of public and private financing for resource management programs, have been appointed by the CCBNEP Policy Committee to serve on the Program's newly created Financial Planning Advisory Committee (FPAC). The main role of this committee will be to examine the funding needs in order to implement the Coastal Bend Bays Plan, and to recommend to the Management Committee a way to fund such implementation.

The initial determination of (management) needs is not the responsibility of the FPAC. Rather, this will come from the Action Plan Task Forces acting on information coming from the scientific studies.

Chairing the FPAC is Joe Moseley, a principal at Shiner, Moseley, and Associates, who has also served as a Management Committee member since the Program's inception. Speaking of the Committee's role, Moseley said, "In developing the Program's funding strategy, the FPAC will first inventory all potential funding sources. We will then set out to assess the feasibility and/or acceptability of each funding source based on the benefits and beneficiaries of proposed management actions."

In concert with Plan development, FPAC members will evaluate the cost associated with each management action and will make recommendations on how best to match the cost of each action, and the designated lead organization for each action, with a funding source.

For more information, contact Jeff Foster at 512/985-6767.

Governor Bush Appoints John Baker as Chair of Policy Committee

TNRCC Commissioner, John Baker, has been appointed by Governor George Bush to serve as Chairman of the CCBNEP Policy Committee, as of January 22nd. Commissioner Baker takes over the Policy Committee Chair left vacant upon Commissioner John Hall's departure from the TNRCC last fall.

John Baker, a native of Temple, served as Agricultural Advisor to EPA Administrator William K. Reilly, from 1991 to 1993 during the Bush Presidency. He has more than 20 years experience with environmental and agricultural issues, and previously served on the Board of Directors of the Texas Corn Producers Board, the Lone Star Corn Growers Association, the Texas Beef Council and the Texas Farm Bureau. He also served on an advisory committee to the Texas Water Commission (a predecessor agency to the TNRCC) addressing the implementation of underground fuel storage tank regulations.

Commissioner Baker is a former tenured professor of Soil Science and Agronomy at Oklahoma State University where he was awarded a doctoral degree in Soil Science in 1970. He also was awarded an M.S. and B.S. degrees in Agronomy from Oklahoma State University and Texas A&I University, respectively. Commissioner Baker is married and the father of two daughters, with three grandchildren.

The CCBNEP is very pleased to welcome Commissioner Baker, and to be joined by his considerable experience in resource management.

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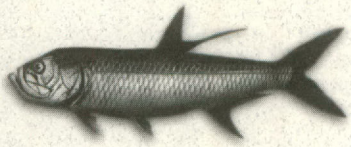
context of the additional quarter million people that are projected within the next 35 years.

The products of the workshop - 'action agendas' for each of thirteen Task Forces - have been synthesized into the Preliminary Coastal Bend Bays Plan, now under review and revision by Management Conference members. This Preliminary Plan will undergo continued development and focused reviews between now and September 1997, at which time an official draft of the Coastal Bend Bays Plan will be released for public comment.



"Around the Bend" is produced quarterly by the Corpus Christi Bay National Estuary Program with funding from the U.S. Environmental Protection Agency and the Texas Natural Resource Conservation Commission. For more information about the Program, call 512/985-6767.

Contributors to this issue include Hudson DeYoe, Ingrid Dierlam, Rick Hay, Darryll Echols, Mercedes Salinas, Ralph Sherman, Richard Volk, and Kim Withers.

News items, photographs, and letters are welcome and may be submitted to the CCBNEP office, TAMU-CC Campus Box 290, 6300 Ocean Drive, Corpus Christi, Texas 78412. The submission deadline for the next newsletter is May 31, 1996.

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Tidal Flats Play Important Role in Local Ecosystem

When most people look out across a tidal flat, they are immediately struck by its apparent bareness. These vast areas of virtually featureless sand and mud can be overwhelming in scale and the plants and animals which live there can be easily missed. Even animals as large as shorebirds can be virtually invisible to an untrained eye.

Tidal flats are mostly unvegetated sand and/or mud environments found primarily on the bay sides of barrier islands. Unlike most areas where tidal flats are found, the constant winds in the Coastal Bend govern the flats rather than the tides thus, they are often referred to as "wind-tidal flats." South Texas is covered by wind-tidal flats, particularly adjacent to the Laguna Madre on Padre Island.

Although it may not appear that much is happening on these stretches of undeveloped land, two activities are certainly taking place: First, these flats serve as significant feeding areas to thousands of shorebirds on the Texas Gulf Coast such as plovers, sandpipers, herons and egrets; and secondly, tidal flats have become the playground to dune buggies, four-wheelers, and other vehicular traffic.

Padre Island National Seashore stretches 68 miles in length and contains approximately 65 square miles of wind tidal flats. Analysis of aerial photographs show significant vehicular scarring to the park's flats. Research suggests that vehicle use on the tidal flats may have serious adverse affects on small and large organisms residing there. Cumulative impacts include extensive and possibly irreversible damages, to both the wind tidal flats and algal mats. Although most plants find wind-tidal flats particularly inhospitable, algae such as diatoms and blue green algae are primary producers on tidal flats, converting sunlight into carbon. In addition, blue-green algae fix atmospheric nitrogen, which can be released into flood waters to be used by other organisms. The nitrogen fixed by the immense

Aerial view of wind tidal flats at the Padre Island National Seashore shows extensive vehicular scarring.

algal flats in the Laguna Madre may be part of the reason for its high productivity despite its restricted circulation and inflow.

Padre Island National Seashore officials are now taking appropriate steps to reduce impacts to the flats within the park including research and visitor activities, and actively managing oil and gas exploration near the flats.

Because of their bare appearance, wind-tidal flats are among the most endangered environments along the Texas Coast. These lands have been targeted as areas to be filled, often with dredge material, and later developed. There have been canals dredged across them for canal homes or to provide access to oil and gas platforms, and they have been converted to other wetlands, such as cordgrass marsh. However, as their importance to the shorebirds has come to light, their importance to other organisms and to the productivity of the entire estuary has become evident.

Ongoing groundwater investigations at the Padre Island National Seashore reveal that subsurface water zones exist on the island: a seawater zone adjacent to the Gulf of Mexico, a freshwater zone from the foredunes westward to the wind tidal flats of the Laguna Madre, and a hypersaline zone adjacent to the Laguna Madre. Nitrates and phosphates in the groundwater zone of the Laguna Madre have concentrations within general groundwater ranges; however, measured ammonium levels are high and discharge to the Laguna Madre/Gulf Intracoastal Waterway. These ground water discharges provide additional influx of ammonium and other nutrients to the Laguna Madre ecosystem.

Because of their sensitivity and importance to the ecosystem, it is imperative that changes in human activities on these seemingly-vacant lands occur before more extensive and permanent damage occurs.

Household Hazardous Waste Management in Corpus Christi

Our homes contain a variety of products that are potentially hazardous to us during use and may contribute to soil and water pollution if not disposed of properly. Common household hazardous materials include paints and paint thinners, oven and drain cleaners, mothballs, floor and furniture polish, upholstery cleaners, weed killers, bug killers, household batteries, car batteries, motor oil, brake or transmission fluid and antifreeze.

"Federal and State law prohibits the disposal of hazardous waste in landfills, therefore municipalities, industries and other entities throughout the nation are sponsoring special events for their collection and proper disposal," said Ingrid Dierlam, project coordinator of Household Hazardous Waste Management at the Texas Natural Resource Conservation Commission in Austin.

The City of Corpus Christi hosts four household hazardous waste collection days at the J.C. Elliott Landfill each year. Materials are accepted from residences and is not restricted to citizens of Corpus Christi. "Typically every home has between five to 10 pounds of hazardous materials," said Ralph Sherman, assistant landfill superintendent for the City of Corpus Christi. "We do not take materials from commercial facilities and other limitations include radioactive PCBs, Dioxins, medical waste, explosives and compressed gas cylinders," he said.

At the event held on January 27, 1996, 335 vehicles visited the landfill, of which 92 were participants of

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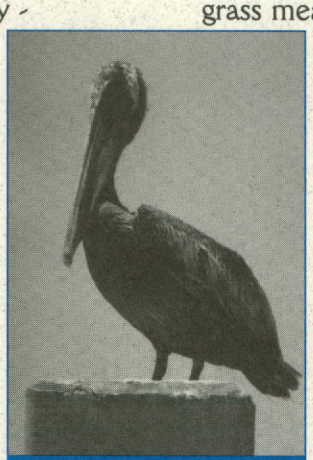
CCBNEP's Living Resources Report Goes to Press

After hundreds of hours of research by scientists in the Coastal Bend, the report, *Current Status and Historical Trends of Living Resources within the CCBNEP Study Area,* has been completed and is now being printed. The CCBNEP partnered with the Center for Coastal Studies at Texas A&M University - Corpus Christi to conduct the study with Dr. Wes Tunnell and Dr. Quenton Dokken serving as Principal Investigators.



Although still federally listed as "endangered," Brown Pelicans are steadily increasing in number. Corpus Christi Bay contains one of the largest nesting colonies of the Brown Pelican on the Texas coast.

The major tasks for the Living Resources Project included an extensive literature survey of estuarine living resources, data acquisition and analysis to determine temporal and spatial trends of these resources, identification of probable causes for changes in living resources, and finally, identification of data and information gaps as a result of those analyses.

"The summarization and analysis of the living resources of the CCBNEP study area have been rewarding, yet almost an overwhelming task," Tunnell said. "For resource managers this report should serve as a status reference of what is currently known about the living resources of the area, and to scientists, a challenge of what still needs to be done in areas of little or no information," he said.

Highlights of the report are outlined below.

- Overall, the living resources of the CCBNEP study area appear to be in a moderate state of health; the range is from good to bad in certain parts of the study area. Information is inadequate to make sound scientific and management decisions on certain issues.

- The ecology and biology of only two of the eight habitats found in the study area, seagrass meadows and open bay habitats, have been studied extensively. Coastal marshes, oyster reefs, and tidal flats have received the least attention.

- Much of the information available in all habitats concerns abiotic features and processes; habitat functions and processes are not well studied.

- Information concerning linkages between habitats is intuitive and anecdotal; there have been no studies which attempt to determine relationships between habitats.

The Long-billed Curlew is federally listed as a "species of concern." They are frequently seen on grassy areas and open fields throughout the CCBNEP study area.

- A total of 3,104 species (836 plants, 2,342 animals, plus other organisms) have been documented in the study area. The plants are dominated by diatoms and vascular plants. The animals are dominated by invertebrates. The annelids, molluscs, and arthropods dominate the invertebrates. Birds are the most diverse vertebrate group followed by fish.

- Analysis of fisheries data revealed shifts in dockside commercial landings of shrimp and fish, but fairly consistent crab harvests. Changes in consumer demand and fishery regulations make it difficult to determine what part changes in population abundance has on harvest trends.

- No overall trends in bird populations were identified except for decreasing numbers of breeding colonial waterbirds.

- Forty-nine species in the study area are Federally listed as Endangered, Threatened or Candidate species. Of these, one plant, five sea turtles, one marsh turtle, one marsh snake, and four birds live in estuarine areas.

- Exotic or introduced species which have been identified as having the most significant negative impacts on living resources are the edible brown mussel and fire ants.

- Habitat loss/degradation and dredging have been identified as having the most significant negative impacts on living resources.

This 1,400 page report will be published in four volumes, including an Executive Summary volume. The CCBNEP gratefully acknowledges and extends its appreciation to the authors for their dedicated professionalism in making this project a success.

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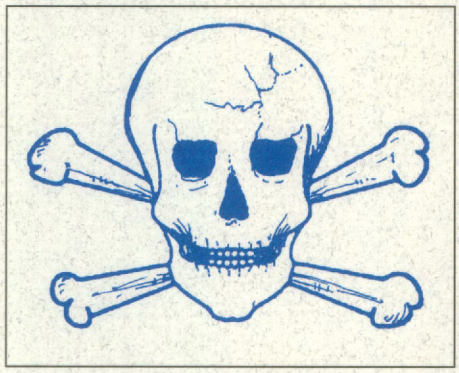
previous collections. Approximately 400 gallons of waste oil, 92 lead-acid batteries, 624 old tires, 5,200 pounds of hazardous paint, 55 gallons of solid waste pesticides, fertilizers and chemicals and 7,350 pounds of other hazardous materials were collected for proper disposal or recycling. Approximately 220 gallons of latex paint were donated to Operation Paintbrush for beautification projects.

Eliminating all household hazardous waste products is impossible, therefore we must use them sparingly, recycle anything that can be recycled, properly dispose of anything that cannot be recycled, and use environmentally safe alternatives whenever possible.

Guidelines for properly dealing with household hazardous wastes:

• Identify hazardous products before you buy or use them. Look for the following words on product labels: WARNING; CAUTION; DANGER; Flammable; Volatile, Toxic Corrosive; Caustic; Reactive; Poison; Harmful if Swallowed; Eye irritant; Skin irritant; Wear rubber gloves; Do not mix.



• Don't let products go to waste. Buy only what is needed to do the job. Avoid over purchasing with the thought that you can use it later.

• Use only as directed. Follow directions on labels carefully for using products and disposing of empty containers.

• Save partially used containers. If you cannot use up a product entirely, try to find a friend, neighbor or community organization that can.

• Recycle or take to a collection site. Never throw hazardous products away with your regular trash. Instead, take them to a hazardous waste collection site. Remember that most motor oil, brake and transmission fluid, antifreeze and car batteries can be recycled at most service stations.

The City of Corpus Christi will host its next collection on April 27, 1996 from 9a.m. until 3p.m. at the J.C. Elliott Landfill.For more information on household hazardous wastes call Ralph Sherman at 512/857-6284 or Ingrid Dierlam, TNRCC at 512/239-4747.

Partnering with the King Ranch to Examine the Relationship of Agricultural Runoff & the Brown Tide

The Texas brown tide is the bloom or rapid production of a single-celled alga that has greatly affected the Laguna Madre and associated bays (Alazan, Baffin, Cayo del Grullo and Laguna Salada). This algal bloom has the distinction of being the longest-lived bloom on record. It is not clear why the brown tide has persisted so long, but there are several ideas. The Laguna Madre and associated bays have low flushing rates and therefore, the bloom is unlikely to be "washed out." There are not many organisms that like to eat (graze) the brown tide. Therefore, it is unlikely to be eliminated by grazers. Cells of the brown tide do eventually die, but the rate at which this happens is apparently offset by their growth.

One potential way to control the brown tide would be to reduce its growth rate. Growth (or division rate) of the cells is influenced by the amount of light available for photosynthesis and the supply of essential nutrients. Potential sources of these nutrients are: water runoff from land, atmospheric deposition and bay bottom sediments. To address the first source, a combined effort to examine the role of runoff from croplands on brown tide growth has been initiated. The effort consists of two studies: one sponsored by the King Ranch to characterize loadings of nutrients, pesticides and other selected constituents originating from croplands that drain to Baffin Bay and the other, funded by the CCBNEP, to examine characterizations of edge-of-bay runoff and their role in the persistence of brown tide.

The King Ranch-sponsored study is being performed by the Texas Agricultural Experiment Station (TAES) and the U.S. Geological Survey under the supervision of Dr. Bobby Eddleman of TAES. This study is obtaining data on rainfall and runoff events within a major portion of the lower Nueces-Rio Grande Coastal Basin. Runoff water is being collected at two monitoring stations as it enters the study area and at three stations when it leaves the study area. These water samples are being analyzed for different forms of nitrogen, phosphorus, and several pesticides.

The CCBNEP-sponsored study is being performed by the University of Texas Marine Science Institute under the supervision of Dr. Terry Whitledge. This study enhances the King-Ranch-sponsored study by extending the assessment of runoff to include an analysis of the quality of runoff waters to Baffin Bay and to determine chemical and biological impacts associated with such loadings.

Combined, these two experiments will indicate how agricultural runoff affects brown tide growth and which constituents in the runoff might be most important in controlling growth of the brown tide.

The CCBNEP has contracted with Dr. Eddleman to coordinate sample collection and analysis between the two projects and to produce a final integrated report. If both projects go according to plans, a final report could be released as early as spring 1997. If you would like more information about these projects, please contact Hudson DeYoe at 512/985-6767.

Calendar of Upcoming Events

April 22	Earth Day
April 27	City of Corpus Christi Household Hazardous waste Collection Day
April 29	Citizens Advisory Committee
May 2	Scientific-Technical Advisory Committee
May 6	Local Governments Advisory Committee
May 9	Management Committee and Policy Committee
June 6	Scientific-Technical Advisory Committee
June 13	Management Conference Committee

For More Information Call: 512/985-6767

CCBNEP Office Moving!

Change your address books and mailing lists! The Natural Resources Center, located on the Texas A&M University - Corpus Christi campus will be the CCBNEP's new home after mid-May. The new building will also house several other agencies such as the Texas Natural Resource Conservation Commission Region 14 office, Texas Parks and Wildlife Department, Texas General Land Office, National Spill Control School, Texas Sea Grant Program, Center for Coastal Studies and others.

CCBNEP's new telephone number (after mid-May):
512/980-3420
New fax number:
512/980-3437.
New address:
6300 Ocean Drive Suite 3301
Corpus Christi, Texas 78412

Next Newsletter

- Update on Preliminary Coastal Bend Bays Plans
- Summaries of Completed Characterization Studies
- A Look at FY '97 Studies

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