AROUND THE BEND

News of the
Coastal Bend's Bays & Estuaries

Developing a Regional Monitoring Strategy

As the CCBNEP continues its work to identify existing and potential resource management problems, Conference members must also begin to develop management actions and a regional monitoring program that will provide information on the effectiveness of the implemented actions. A well designed regional monitoring strategy requires careful consideration of a complexity of ecosystem processes and linkages. And like other efforts under the auspices of the Program -- resource assessments, action planning, and public outreach -- the task will greatly benefit from a coordinated, goal-driven process involving all stakeholders.

The identification of goals and key questions for a regional monitoring strategy was the focus of a September 11th workshop involving more than 65 scientists and resource managers from around the State. Participants discussed the assessment needs of various biological, physical, and chemical components of the bay system, and worked in small groups to identify the specific objectives, current efforts, and opportunities for enhanced coordination as items to be considered in developing a regional strategy. Participants were also asked to provide one-page summaries of their ongoing monitoring activities which, along with summary discussions from the workshop, will be published in a 'proceedings' document this Spring. The workshop was co-sponsored by and took place at the U.T. Marine Science Institute in Port Aransas.

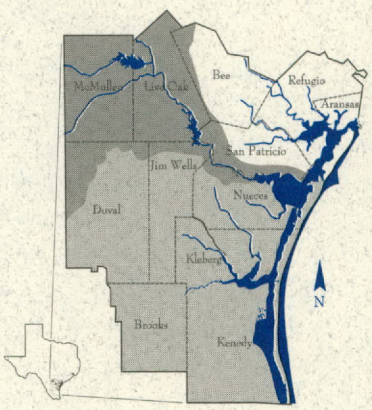
"A monitoring program means many different things to the various agencies and institutions, so it is important to define the word 'monitoring' when you use it", said Terry Whitledge, Acting Director of the UTMSI, in opening the workshop. "The situation has been made worse during the previous two decades as the term 'monitoring' has been used to describe some measurement programs that had no scientific goals other than to collect large amounts of data which were never analyzed." These and other problems of poorly designed programs were discussed throughout the day, as participants struggled with the central question of how to design the optimum monitoring program focused on the overall health of our bay system, while balancing the continuing need for more data on individual components of the ecosystem.

Over 65 scientists and resource managers participated in the first "Coastal Bend Monitoring Workshop" at UTMSI in September.

During the next several months, CCBNEP staff, along with a subcommittee of the Program's Scientific-Technical Advisory Committee (STAC), will put together a preliminary regional monitoring strategy. "We will attempt to gain participation in this effort not only from STAC members, but also from relevant universities, industry, environmental groups, volunteer monitoring groups, government agencies, and others currently involved with monitoring in the region", said CCBNEP Director, Richard Volk. "In developing the final strategy, we will use workshops and other mechanisms to solicit comments and suggestions from stakeholder groups, the scientific community, and the general public. We will also develop interagency agreements to coordinate activities, while identifying funding mechanisms and opportunities to contain costs." The strategy will eventually contain a clear description of monitoring goals and objectives; protocols for sampling, analysis, and data management; and other quality assurance/quality control procedures.

For more information, contact Richard Volk at 512/985-6767.

ON THE INSIDE



Corpus Christi Bay National Estuary Program Study Area

Wetlands an Integral Part of the Coastal Bend's Ecosystem

Wetlands are a major feature of the landscape in almost all parts of the world, including the Texas Coastal Bend. Swamps, bogs, marshes, mires, fens, and other wet ecosystems are found throughout the world, present on every continent except Antarctica and in every climate from the tropics to the tundra. Wetlands support an amazing array of wildlife from Whooping Cranes and other migrating fowl to shrimp, crabs, and many recreationally important fish species.

Wetlands are unique due to their hydrologic conditions and their role as ecotones between terrestrial and aquatic systems, and are valuable as sources, sinks and transformers of a multitude of chemical and biological materials. They are referred to as "the kidneys of the landscape" because of the cleansing function they perform, which is critical since they receive wastes from both natural and human sources. Other benefits provided by wetlands include flood prevention, shoreline protection, and recharging of groundwater aquifers.

Until very recently, wetlands were disappearing at an alarming rate in the United States and elsewhere. The U.S. Fish and Wildlife Service (USFWS) reports the loss of about half of the wetlands in the lower 48 states since the early 1600s. Threatened with pollution and a loss rate of more than 1,000 acres a day, the value of wetland systems is now being recognized and efforts to protect them are taking the form of management plans, regulations, and voluntary efforts.

In an effort to identify and conserve wetland systems in our area, a new project is being funded by a grant from the Environmental Protection Agency through the Texas General Land Office (GLO), with support from the CCBNEP. Dr. Elizabeth Smith, wetlands biologist with the Center for Coastal Studies at TAMU-CC, and Mr. Tom Calnan, a biologist with the GLO, will spearhead the project which runs from September 1995 to August 1996.

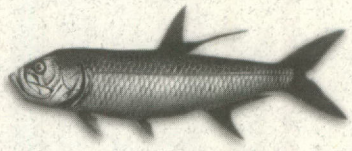
The purpose of this project is to identify and evaluate potential sites in the Corpus Christi/Nueces Bay area for wetland restoration, enhancement, or creation, and to develop sound, scientifically based plans to restore, enhance, or create wetland functions.

An advisory committee comprised of professionals from industry, local, state, and federal government, academia, and private citizens, has been created to help identify and evaluate sites for restoration, enhancement, or creation. The group met in mid-October to outline and discuss the priorities pertaining to wetland systems in the Coastal Bend. One of the many issues arising from the meeting was the definition of terms such as restoration, functionality, and success and their relevance to the project. Another important debate that emerged from the discussion was the need to identify a reference wetland for comparison purposes in order to determine success or failure of a creation or enhancement project.

This section of Oso Bay, behind the new Center for Environmental Studies and Services on the TAMU-CC campus, is a productive wetland, home to many birds and other wildlife.

The next meeting, scheduled for the first quarter of 1996, will include discussion of the identification and mapping of potential wetland areas and evaluation of such areas for restoration, creation, and/or enhancement.

For more information, contact Hudson DeYoe at 512/985-6767.



"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 Doug Baker, Mari Brennan Barrera, Susan Cox, Nicole Fisher, Diane Stallings, and Richard Volk.

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 February 20, 1996.

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This project has been funded in part by the United States Environmental Protection Agency (EPA) under assistance agreement #CE-996363-01 to the Texas Natural Resource Conservation Commission (TNRCC). The contents of this document do not necessarily represent the views of the EPA or the TNRCC. The mention of trade names or commercial products does not in any way constitute an endorsement or recommendation for use.

Keeping our bays clean: It's our responsibility

Coastal Bend residents enjoy the benefits of our bays all year. The area's bays contain a rich variety of plants and animals that provide recreation, food, and income for area residents and a growing number of visitors. Good water quality is critical for maintaining an abundance of fish and shrimp and for minimizing public health risks. However, water quality could be threatened if the growing population of the Coastal Bend ignores the connection each resident has to the bays.

The actions of every resident and visitor have a direct impact on the water quality of the Coastal Bend's bays. All residents of the Coastal Bend live in watersheds that drain into the bays, and nearly all water used for drinking, irrigation, cleaning, municipal waste treatment, and industrial/commercial purposes drains into our bays. If polluted water is allowed to enter our waters, it will eventually reach the bays, even if discharged many miles away. For this reason, all of us share the same backyard: the bays.

Point Source Pollution

Often when we think of water pollution, we first think of sewage effluent, industrial and commercial waste water, or releases from ships. Pollution that enters the water at a distinct point can be easily identified, and is known as point source pollution. Reductions in point source pollution have been achieved throughout the country since enactment of the Clean Water Act in 1972. The implementation of modern pollution control measures by area industries has resulted in significant improvements in water quality.

Nonpoint Source Pollution

But even with these positive steps to protect our water, there is evidence that water quality has not improved as much as expected. It is now recognized that pollution which enters the water at many indistinct locations is a major cause of water pollution near urban areas. This is called nonpoint source pollution, and its origins are more difficult to identify. Nonpoint source pollution is commonly a result of surface runoff during rainfall events. Pollutants deposited on streets, parking lots, fields, and yards are carried away during rain storms and eventually drain into rivers and then to bays. These pollutants are more difficult to control because they are so diffuse.

Depending on the population size, urban areas exhibit a wide range of nonpoint source pollution from industrial, commercial and residential sources. Urban pollutants consist of nutrients, such as nitrogen and phosphorus; sediments; toxic substances; and oil and grease. In residential areas, homeowners can unknowingly contribute to water pollution. Household items used for lawn care and auto maintenance pose a threat to water quality if stored, used or disposed of improperly.

Residents of the Coastal Bend are an integral part of protecting water quality. The benefits gained from a clean and productive bay system add to the enjoyment for residents and visitors alike. Only the collective efforts of our community can ensure a healthy future for us all.

What you can do: a few simple steps

- Most people are aware that petroleum products are toxic to aquatic life. But statistics show that the amount of non-recycled motor oil improperly dumped each year in the United States is 10 to 20 times the amount spilled from the Exxon Valdez. Since stormwater flows directly into the bays without treatment, oil and chemicals should never be poured into the storm drain system.

  Today it is very easy for the do-it-yourself mechanic to properly dispose of used oil. Most service stations now accept used motor oil. Used oil filters can be disposed of at some service stations for a small fee, or they can be taken to the Elliott Sanitary Landfill in Corpus Christi for free disposal. Whether you do the work yourself, or take it to a professional, remember that leaking fluids such as oil, grease, brake fluid, and antifreeze will have a negative impact on our backyard, the bays.

- Landscaping can be a source of homeowner pride. However, many residents are not aware that improper use of fertilizers contributes to poor water quality. Runoff containing nitrogen and phosphorus -- components of fertilizer -- can cause algal blooms in rivers and bays. As these blooms die, oxygen in the water is decreased, resulting in fish kills, discolored water, and strong odors.

  The Texas Water Development Board suggests fertilizing only twice a year, in the spring and early fall. Residents should choose fertilizers that contain at least 30% water insoluble nitrogen in a 3-1-2 ratio. Remember, just because a little fertilizer is good, it doesn't mean that a lot is better: using excess fertilizer can be "money down the "storm" drain". Do your part: read and follow label instructions.

- Pesticides and herbicides also pollute water. These chemicals enter the stormwater runoff, and can kill plants and animals in the bays. Residents can ensure that the area's rivers, lakes and bays stay productive by carefully selecting the type, timing and quantity of pesticides used. Use of pesticides can be reduced by landscaping with native species, or xeriscaping. Xeriscaping is gaining popularity, especially in arid regions like the Coastal Bend. Native species need fewer pesticides and less water as well. For more information on xeriscaping in the Coastal Bend, call the Xeriscape Coalition at 883-2862.

Eleven New Characterization Projects Get Underway

Studies will result in "State of the Bays" Report

The CCBNEP has expanded its characterization studies to include 11 projects that will be undertaken during 1996 to further the community's understanding of the state of the Coastal Bend's bays and estuaries. A total of $536,500 has been allocated to complete these projects, which will include analyzing point source discharges to area bodies of water; nonpoint source pollution and its possible effects on the Brown Tide; and investigating selected public health issues.

"These studies, combined with results from first year projects now being completed, will give us the most comprehensive picture to date of the status of the Coastal Bend's bays and estuaries," said Richard Volk, Program Director of the CCBNEP. "Our goal is to understand the linkages between observable in-bay environmental impacts and the sources of those impacts, whether of human or natural origin."

The following projects are being conducted in partnership with the organizations listed below. Studies will focus on bays and estuaries of the 12-county Coastal Bend region. They will be completed by Fall 1996, and the results will be made available to the public at that time. For additional information about a specific project, contact Hudson DeYoe at the CCBNEP office.

- Seagrass Mapping and Trend Analysis for Aransas and Copano Bays and their Associated Bays, Texas Parks and Wildlife Department.

- Current Status and Historical Trends of Wetlands and Other Coastal Habitats within the CCBNEP Study Area, U.S. Fish and Wildlife Services.

- Analysis of Point Source Discharges (including oil field brine discharges) in the CCBNEP Study Area, University of Texas Center for Research in Water Resources.

- Current Status and Population Trends of Selected Marine Fauna in the CCBNEP Study Area, Texas Parks and Wildlife Department.

- Characterization of the Effects of Anthropogenic and Natural Influences on Vegetated and Unvegetated Bay Bottom Habitats, University of Texas Marine Science Institute.

- Analysis of Agricultural Nonpoint Source Loadings to Baffin Bay and their Potential Role in the Perpetuation of the Brown Tide Phytoplankton Bloom, University of Texas Marine Science Institute.

- Coordination of the King Ranch Study of Runoff into Baffin Bay with the CCBNEP Study of Nonpoint Source Loadings to Baffin Bay (above), Texas Agricultural Experiment Station.

- Investigations of Selected Public Health Issues in the CCBNEP Study Area, Espey, Huston and Associates.

- Urban Nonpoint Source Control Demonstration Projects (two), City of Ingleside and City of Refugio.

- Wetland Restoration Planning Project for the Corpus Christi/Nueces Bay Area, Texas General Land Office.

Clean Rivers Come to the Gulf Coast

Water quantity and quality are critical issues throughout the state of Texas. Texas watersheds now serve more than 16.5 million people, and our population is expected to nearly double over the next 50 years. The combined demand for water from industrial, residential, and agricultural users is currently 75% of the state's existing capacity, with demand approaching 100% of available supplies in some watershed areas.

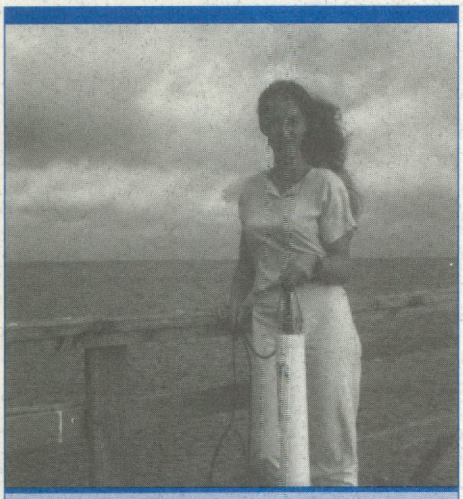
Clean, usable water is -- and will continue to be -- a priority for our state. Therefore, it is imperative that we protect the limited supplies of water we have for drinking, recreation, economic development, and the continued health and productivity of our estuaries. The Clean Rivers Program (CRP), a partnership between the Texas Natural Resource Conservation Commission (TNRCC) and 16 regional entities -- including river authorities, municipal water authorities and councils of government -- is dedicated to the protection of Texas' water resources through a regional, or watershed, approach to water resources planning. The goal of the program is to maintain and improve the quality and quantity of water within each of the 23 river basins in Texas.

The Clean Rivers Program has identified 12 tasks to be accomplished in the next two years. Priorities include developing a water quality monitoring plan and writing a water quality assessment report for each river basin in Texas, encouraging public outreach and involvement, promoting water conservation, maintaining and analyzing current and historical water quality data, maintaining a data clearinghouse in each basin, and identifying and prioritizing water quality concerns in each of the river basins in Texas.

Clean Rivers continued on page 5.

Clean Rivers (continued from page 4.)

In order to increase opportunity for local input and coordination with the Corpus Christi Bay National Estuary Program, a



Nicole Fisher, Clean Rivers Program Coordinator, prepares to sample area waters.

section of the Clean Rivers Program is now based in Corpus Christi. Nicole Fisher, the new Project Manager for the San Antonio-Nueces and the Nueces-Rio Grande coastal basins, will strive to eliminate duplication of efforts by coordinating a unified monitoring program that will gather and organize water quality information. The data collected will be analyzed to identify trends and cumulative impacts to the area's bays.

The 1996 water quality assessment report for these two basins will provide a great deal of information about the water quality of the Coastal Bend's river basins. The report will:

- include an intensive study of the current status and historical trends of ambient water and sediment quality in the coastal basin rivers and bays;
- rank the water quality of the various bays and rivers in the coastal basins as well as identify pollutant loadings, sources, and impairments in water quality;
- contain specific recommendations to address water quality concerns identified by the program; and
- update the public on the status of various water quality studies currently in progress, and on public participation and education events.

The Clean Rivers Program strives to increase cooperation among diverse water quality agencies to address priority issues in a coordinated manner, and to provide a forum for citizens to express their concerns and contribute their ideas about water quality issues. The TNRCC and the Nueces River Authority have established a steering committee to advise on how to best achieve these goals. Committee members have been chosen to represent the diverse interests in all three Nueces basins. Members include representatives from government, industry, business, and the public. Steering committee meetings are open to the public and public participation is encouraged.

To learn more about the Clean Rivers Program, contact Ms. Nicole Fisher, CRP Coordinator at 512/994-8451, Mr. Con Mims, Director of the Nueces River Authority, at 210/278-6810, or the TNRCC in Austin at 512/239-4411.

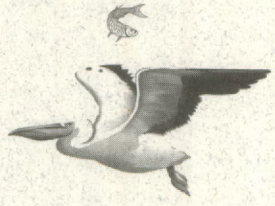
TNRCC Announces Local Governments Assistance Program

"One stop shopping is our mission," states Israel Anderson, the new manager of the TNRCC's recently formed Local Government Assistance (LGA) Program. The LGA Program will be actively involved in assisting officials and employees of county and municipal governments with their local environmental concerns. The section will be especially beneficial to smaller local governments who often lack the resources to resolve various environmental issues.

The staff of the LGA was recruited from different parts of the agency and provides expertise in air, water and waste. Anderson comes to the LGA Program from the Regulatory Outreach section in the former Environmental Training Division. Other staff members include: Gina Rushing, information specialist and air technical contact from Air Monitoring; Sandra Johnson, technical expert from Wastewater Permitting; Anne Scudday and Charles Stavely, former county judges and technical experts from Municipal Solid Waste.

The LGA staff are accessible through a toll-free telephone number, 1-800-687-9222, which is answered from 8 a.m. to 5 p.m. "We are committed to providing the best possible customer service to local governments with environmental concerns and issues," Anderson said, "and yes, the telephones are already ringing."

The CCBNEP has a copy of "The Local Government Guide to the TNRCC," the new handbook from the LGA Program office. Come by the office at Seabreeze Hall #4 on the campus of Texas A&M University-Corpus Christi to take a look, or call the LGA staff for your own copy.



Calendar of Upcoming Events

Jan. 11	Scientific-Technical Advisory Committee meeting
Jan. 18	Management Committee meeting
Jan. 23-25	Action Planning Task Forces Workshop, Sheraton Hotel, Corpus Christi
Feb. 5	Financial Planning Advisory Committee meeting
Feb. 8	Scientific-Technical Advisory Committee meeting
Feb. 15	Management Committee meeting
Mar. 7	Policy Committee meeting
Mar. 8-9	Second All-Conference Workshop, Holiday Inn Emerald Beach, Corpus Christi
April 4	Scientific-Technical Advisory Committee meeting
April 11	Management Committee meeting

For More Information Call: 512/985-6767

Attention Teachers!!!

The CCBNEP has new educational material for instructors interested in developing water resources curricula for K-12 students. The focus of these materials is the critical role of water in our environment. This approach to environmental science is especially appropriate for residents of our semi-arid South Texas region. The lesson plans utilize a wide variety of activities, including games, simulations, field trips, and traditional laboratory assignments. If you would like to check out these materials, stop by our office at TAMU-CC's Seabreeze Hall, Suite 4 or call Doug Baker at 985-6767

Next Newsletter

- Action Planning Workshop Results
- Water conservation in the Coastal Bend
- Financial Planning Advisory Committee

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