

# Water Grand Challenges: Water Governance

## Coastal Water Management in Texas

**Background** –The Texas coastal zone is the area “seaward of the facility designation line, three marine leagues into the Gulf of Mexico”.<sup>1</sup>More than 3,300 miles of estuaries and bays and 367 miles of beach comprise the Texas coastline.<sup>2</sup>Maintaining coastal water quality and quantity in Texas is vital to insuring the longevity of key industries such as fisheries management, tourism and recreation, and coastal agriculture. Fluctuations in water quality parameters resulting from nonpoint source pollution can adversely affect estuarine ecosystems, putting wildlife populations and coastal industry at risk. Maintaining sufficient water quantity for coastal watersheds has also inspired debate and speculation in recent years. Over-allocation of water rights for agricultural, municipal, and industrial purposes may limit freshwater flow to coastal wetlands where endangered species such as the Whooping Crane feed and breed.<sup>3</sup>In order to maintain coastal development, the [Coastal Coordination Council \(CCC\)](#) was founded in 1991 through the Texas Coastal Program under the General Land Office (GLO). Until 2010, the CCC was responsible for distributing federal funding through the Texas Coastal Management Program (CMP) to regional and statewide projects designed to maintain coastal health and stewardship.<sup>1</sup>A review of the CCC conducted by the [Texas Sunset Commission](#) in 2010 led to the abolishment of the Council. Responsibilities formerly associated with the CCC were given to the Texas CMP under the GLO as of January 1, 2012.<sup>4</sup>

The GLO is the primary state agency charged with regulating the coastal water programs in Texas. However, water quality standards, wildlife, and fisheries management for water associated estuarine environments and wetlands are regulated through the Texas Commission on Environmental Quality (TCEQ) and the Texas Parks and Wildlife Department (TPWD). The TCEQ in conjunction with the Texas State Soil and Water Conservation Board (TSSWCB) is the regulatory agency responsible for monitoring and managing water quality in Texas. Texas Parks and Wildlife Department is the agency responsible for managing boating, fishing, hunting, recreational use of the natural resources on the coast.

**Texas Coastal Water Management**–There are many non-governmental organizations (NGOs) and government agencies involved in coastal management and water resource protection in Texas. Local and national NGOs, river authorities, and private organizations receive funding for coastal projects through partnerships or projects under the Texas CMP with the Texas GLO. The Texas CMP was established to help “ensure the long-term environmental and economic health of the Texas coast through management of the state's coastal natural resource areas”. The Texas Coastal Program received approval from the National Oceanic and Atmospheric



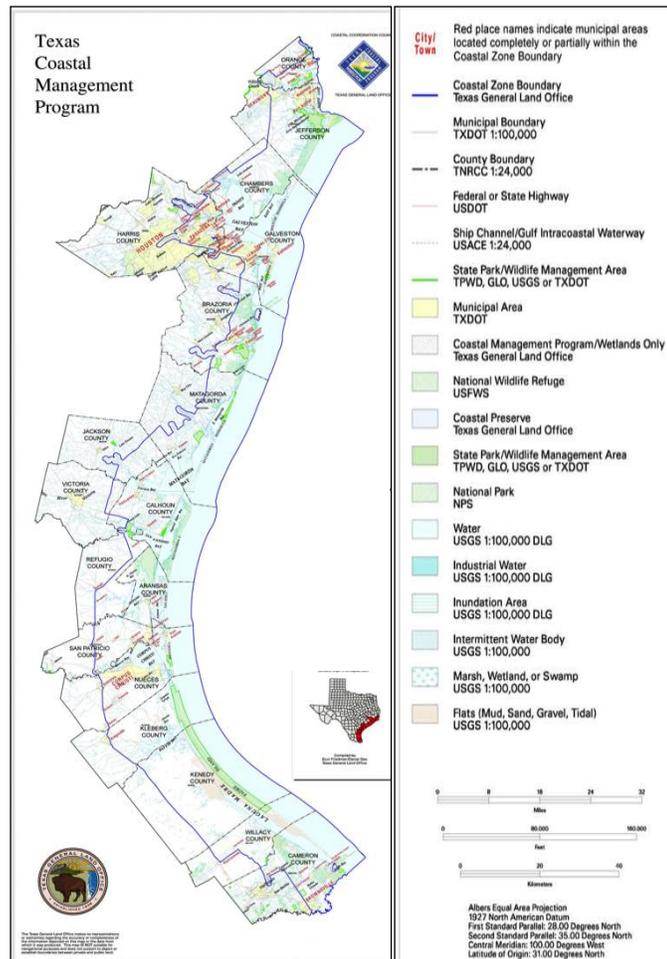
Administration(NOAA) in 1996 and is chaired by the commissioner of the Texas GLO.<sup>5</sup>Under this directive, annual funding for the Texas CMP from NOAA totals approximately \$2.2 million. **Ошибка! Закладка не определена.** Authority for the Texas CMP and other Coastal Programs stems from the 1972 [Coastal Zone Management Act](#).<sup>2</sup>

In order to maximize efforts and supplement as many projects as possible along the coast, the Texas GLO manages to increase state-funding for coastal and water conservation projects by matching dedicated capital with federal and local partnership opportunities. These funds are then distributed to state and local entities to fund projects in the following areas:

1. Coastal Natural Hazards Response
2. Critical Areas Enhancement
3. Public Access
4. Waterfront Revitalization and Ecotourism Development
5. Permit Streamlining/Assistance, Governmental Coordination and Local Government Planning Assistance
6. Water Sediment Quantity and Quality Improvements<sup>2</sup>

**Coastal Water Programs Overview**– Since 2003, nearly 500 coastal projects have received funding through the TCMP, 45 of which have been specifically for water quality improvement. Funded projects are very diverse, ranging from water resource management through experiential learning and environmental education to modeling beach erosion and shifting coastal morphology.<sup>6</sup>

Every award cycle, potential grantees must register with the Texas GLO to submit an application for one of the six approved project areas. Funds allocated for separate projects vary from year-to-year. Coastal projects funded through the Texas CMP focus on water quality improvement and do not necessarily mention freshwater or environmental needs to restore coastal habitat. Wetlands and ecosystem recovery projects that are funded through the TCWP may involve water and sediment quantity management.<sup>6</sup>



**Figure 1: Map of Texas Coastal Management Programs<sup>7</sup>**

**Coastal Water Quality and Quantity and Habitat Program Overview** –Watershed Protection Plans, Total Maximum Daily Loads (TMDLs), Coastal Management Plans, or Water Quality Management Plans (WQMPs) are all considered to be water quality improvement plans. Stipulations for management of WQMPs with regard to nonpoint source pollution are laid out in [Senate Bill 503](#). This bill enacted by the Texas State Legislature in 1993 outlines non-point source pollution control and soil conservation measures relating to coastal zone management.<sup>8</sup> An education-based program established through the GLO to monitor water quality of Texas’ recreational beaches during the summer months, the [Texas Beach Watch Program](#) is tasked with collecting water samples weekly from 65 recreational and high-traffic beaches along the Texas Coast.<sup>5</sup> As a measure to track water quality, this data is then added to an [interactive map](#) where website patrons can observe shifting water conditions and areas with elevated amounts of bacteria.

Coastal programs that include a water quantity component focus on ecosystem recovery and restoration. Maintaining the health of coastal habitat and ecosystems requires a sufficient supply



of freshwater. Wetlands and ecosystem recovery projects that are funded through the TCWP involve water management and water sediment quantity management.<sup>6</sup>

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<sup>1</sup> Office of Ocean and Coastal Resource Management. "Ocean and coastal management in Texas, Texas' coastal program." November 14, 2012. <http://coastalmanagement.noaa.gov/mystate/tx.html> (accessed May 28, 2013).

<sup>2</sup> Texas General Land Office. Coastal Management Program. <http://www.glo.texas.gov/what-we-do/caring-for-the-coast/grants-funding/cmp/>. (accessed May 27, 2013).

<sup>3</sup> United States Fish and Wildlife Service. "Species Status and Fact Sheet Whooping Crane." North Florida Ecological Services Office. 1, 2013, May. <http://www.fws.gov/northflorida/whoopingcrane/whoopingcrane-fact-2001.htm> (accessed May 28, 2013).

<sup>4</sup> Texas General Land Office. *Coastal Coordination Advisory Committee*. <http://www.glo.texas.gov/GLO/boards-and-commissions/coastal-coordination-advisory-committee/index.html> (accessed June 6, 2013)

<sup>5</sup> Texas General Land Office. *Texas Beach Watch.com*. <http://www.texasbeachwatch.com/> (accessed May 28, 2013).

<sup>6</sup> Texas General Land Office. Coastal Project Search. <http://www.glo.texas.gov/what-we-do/caring-for-the-coast/grants-funding/grants.php> (accessed May 28, 2013)

<sup>7</sup> Friedman, S, and D Gap. "Texas Coastal Management Program." [http://www.glo.texas.gov/what-we-do/caring-for-the-coast/\\_documents/landing-page-folder/CoastalBoundaryMap.pdf](http://www.glo.texas.gov/what-we-do/caring-for-the-coast/_documents/landing-page-folder/CoastalBoundaryMap.pdf) (accessed May 28, 2013).

<sup>8</sup> Texas Legislature Online. "73(R) SB 503 Engrossed Version." 1993. <http://www.legis.state.tx.us/tlodocs/73R/billtext/html/SB00503I.htm>.