

West Galveston Bay: Executive Summary

Conservation Vision

The West Galveston Bay Conservation Area is part of Texas' biologically rich coastline. Barrier islands buffer the bays and marshes from the turbulent Gulf of Mexico. The patchwork of interlaced bays and marshes teems with marine life, birds, and small mammals. Saline and brackish marshes connect the bay system to the coastal prairies and freshwater marshes farther inland, important habitat for native plants and animals and for numerous species of migrating birds. This area has a rich natural history, but also a history of human perturbations and habitat loss. Many ecological processes and natural communities are still in place; however, others have ceased to exist or are in danger of disappearing. The Nature Conservancy of Texas will work to ensure that the conservation area remains an ecologically functional landscape, with intact tallgrass prairies, coastal marshes and open water estuaries. The Conservancy will collaborate with local communities to encourage water conservation, habitat preservation, and pollution controls that help sustain the native and migratory species of West Galveston Bay.

Introduction

The West Galveston Bay Conservation Area is located within the 600-square-mile Galveston Bay estuary system, one of the most productive estuaries in Texas and a prized locale for commercial and recreational activity. The conservation area extends from the northeast end of West Bay, just southwest of Interstate 45, westward, ending just west of Drum Bay (Figure 1). This 77,273-hectare (190,943-acre) area is part of a larger system of connected bays (open water estuaries) and associated habitats within the Galveston Bay watershed. This watershed serves not only native plants and wildlife but also the Houston metroplex and numerous surrounding cities and towns.

Figure 1. West Galveston Bay Conservation Area



The myriad habitats within West Galveston Bay all play a role in maintaining the health of the ecosystem. Upland prairies slow rainwater and runoff, trapping some sediment and contaminants within plant roots. Marsh plants continue the work, filtering out more sediment and pollutants, helping keep the bay waters clear and pollutants and excess nutrients to a minimum. Freshwater marshes reduce the frequency and severity of flooding, and their ability to store and slowly release water helps maintain stable salinity in the estuary system. Both freshwater and saltwater marshes slow erosion and even contribute to soil accretion, actually building new land along the shoreline. Prairies and marshes are not the only protectors of the system: oyster reefs in the bay slow waves and protect the shoreline from erosion. Oyster reefs also provide food and refuge for many other estuarine animals, some commercially or recreationally important. Bays and coastal wetlands support an abundance of aquatic wildlife, including blue crabs, oysters, shrimp, and finfish, all critical elements of the food web. Submerged aquatic grasses in the bay

and in wetlands act as refuge and nursery areas for estuarine and marine species. The bay and wetlands serve as nursery grounds for more than 95 percent of the recreational and commercial fish species found in the Gulf of

Mexico, helping Galveston Bay rank second nationally in seafood production. Rare diamondback terrapins and endangered Kemp's Ridley sea turtles have been found in the bay waters. The conservation area is well known for its excellent birding. Three-quarters of the bird species found in North America use some part of Galveston Bay as a migratory stopover site or breeding area. The shoreline of the conservation area has been identified as critical habitat by the Western Hemisphere Reserve Shorebird Network, and its wetlands are the winter home for large duck populations. The federally-endangered piping plover nests in the bay area, as do state-listed white-faced ibises and reddish egrets. The uplands of West Galveston Bay are a mosaic of salty prairie, sandy prairie, and coastal tallgrass prairie. These prairies provide important stopover and wintering habitat for a wide variety of grassland birds, a rapidly declining group of migratory birds. The prairies also support many regionally endemic plants, such as Texas windmill grass, Texas prairie-dawn, and coastal gayfeather.

The Challenge

Since the 1950's, the Galveston Bay system has lost at least 17 percent of its wetlands and over 50% of its tallgrass prairie. One of the greatest threats to wetlands historically was subsidence of the land due to groundwater withdrawal. Although subsidence has returned to background levels, negative effects persist. In addition, sea level has been steadily rising over the past 15 years, contributing to the continued drop in the coverage of emergent marshes. Wetlands are also drained, filled and otherwise altered for residential and commercial development, flood control, and agriculture (especially livestock grazing and rice production). Agricultural conversions were the primary source of lost coastal tallgrass prairie in the past. Today, such conversions are being replaced by residential and urban development--a decidedly more permanent habitat change. Fire suppression has allowed the encroachment of woody native and non-native plants, including Chinese tallow, into prairie formerly dominated by grasses. Pollution is an increasing problem for West Galveston Bay as well. Two types of pollution occur here, point source and non-point source. Point source pollution comes from a discrete location, such as a permitted industrial discharge site. Non-point source pollution comes from a number of different and often scattered sources (e.g., oil and grease washed off city streets, combined with pesticide, herbicide and fertilizer runoff from lawns and agricultural fields).

The Solution

The West Galveston Bay Conservation Area supports a diverse array of aquatic and terrestrial species, as well as important natural communities. This project offers the opportunity to protect approximately 20 miles of relatively continuous coastal habitat. Within the site and in the larger landscape that influences the conservation area, the Nature Conservancy will work to protect the natural communities that characterize this area and support its native species:

- **Coastal Tallgrass Prairie**
- **Saltwater and Brackish Wetlands**
- **Freshwater Marshes**
- **Open Water Estuary**
- **Submerged Aquatic Vegetation**

To protect these communities, the Conservancy will initiate projects and work with partners to:

- Protect buffer areas around ecologically intact coastal tallgrass prairie, saltwater, brackish and freshwater marshes, open water estuaries, and submerged aquatic vegetation.
- Help reduce or minimize water pollution within the conservation area.
- Maintain or enhance populations of native plant and animal species within West Galveston Bay.