



## TEXAS GULF COAST RESTORATION PRIORITIES

*Photograph by Charles Kruvand*

AUDUBON TEXAS - COASTAL CONSERVATION ASSOCIATION - COASTAL BEND BAY AND ESTUARIES PROGRAM - DUCKS UNLIMITED

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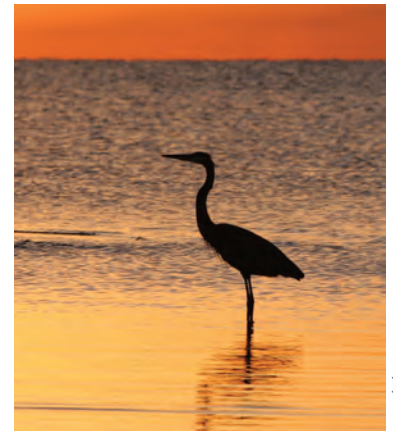
HOUSTON WILDERNESS - LONE STAR CHAPTER OF THE SIERRA CLUB - NATIONAL WILDLIFE FEDERATION

NATURE CONSERVANCY OF TEXAS - OCEAN CONSERVANCY - TEXAS CONSERVATION ALLIANCE - TEXAS CONSERVATION FUND

Our organizations fully support passage of the bipartisan ***RESTORE the Gulf Coast Act of 2011***, introduced in the United States Senate in July 2011. This legislation would dedicate 80 percent of Clean Water Act penalties related to the Deepwater Horizon blowout to the protection and restoration of the Gulf of Mexico. As explained in the following pages, these funds can be used effectively in Texas to meet many high-priority protection and restoration needs. Addressing these needs will benefit local economies all along the Texas Gulf Coast. Moreover, protection and restoration of Texas Gulf coast resources will contribute positively to the statewide economy by ensuring the sustained vibrancy of our tourism, recreation, fishing, and shipping industries.

## Texas and the Gulf of Mexico

The Gulf Coast is both an economic powerhouse and an ecological treasure for the United States. It is home to some of the country's busiest ports, supports extraordinary commercial and recreational fisheries, produces about a third of the nation's oil and gas, provides habitat for millions of migratory waterfowl and other birds, generates more than \$34 Billion in tourism activity every year, and provides almost 20 million jobs.



With its 370-mile coastline, Texas is a major player in the economy of the Gulf of Mexico and the country. The Texas coast hosts three of the country's top ten ports, and the state ranks first in the country in the total value of waterborne commerce, virtually all of it dependent on Gulf ports and heavily used sections of the Gulf Intracoastal Waterway. Texas also has four of the Gulf of Mexico's ten most productive fishing ports, and both commercial and recreational fishing factor heavily into the state's economy. Commercial fishing is valued at \$150-to-\$200 million per year and saltwater recreational fishing generates an estimated \$2 billion in economic activity annually. The coast attracts about a quarter of the travel dollars spent in Texas each year and accounts for 37% of Gulf of Mexico tourism and recreational employment. Oil and gas development have long been a mainstay of the Texas Gulf Coast economy—these industries generated \$26-billion in wages in 2008. All of these economic engines, in Texas as throughout the Gulf of Mexico, depend in one way or another on strong and resilient coastal and Gulf ecosystems.

The Deepwater Horizon disaster focused the nation's attention on both the astounding ecological richness of the Gulf of Mexico and the significant contributions the Gulf region makes to the national economy. Like hurricanes Katrina, Rita, and Ike, it also highlighted the vulnerability of these ecosystems to disaster. To avoid additional catastrophic losses, we must ensure that ecosystems throughout the Gulf of Mexico are healthy and resilient enough to withstand and recover from future natural or man-made disasters.

## Investing in Gulf of Mexico Restoration

Recognizing that the health and productivity of many Gulf ecosystems have been in decline for decades and that the Deepwater Horizon disaster added an acute stress to a system already in chronic distress, many experts and policy makers are calling for a major investment in the restoration of this region. Though Texas coastal marshes and beaches were fortunately spared direct damage from the Deepwater Horizon blow out, the spill adversely affected fisheries, marine mammals, sea turtles, migratory birds and other resources Texas holds in common with its Gulf coast neighbors. Equally important, Texas Gulf coast habitats, protected and restored, can help compensate for the overall losses in other parts of the Gulf.

In fact, certain features of the Texas coast make the protection and restoration of its ecosystems critical to the overall health and resiliency of the Gulf of Mexico. The state has an unparalleled system of bays and estuaries that serve as nursery grounds for hundreds of species of fish and other marine life. It has more miles of intact, ecologically significant Gulf barrier islands than any of the other four Gulf states. Next to Florida, it has the largest extent of intact sea grass beds, most of which need protection, as well as several areas with good sea grass restoration potential. The Texas coast is part of both the Central and Mississippi migration flyways, and is thus critical to hundreds of species of migratory birds. Texas beaches also provide most of the nesting habitat for the critically endangered Kemp's ridley sea turtle in the U.S. portion of the Gulf.

## Texas Priorities:

Based on available information about current ecosystem and species status, existing and planned protection and restoration projects and other information, we have identified the following priority categories of investment for Texas:

- **Coastal habitat protection and restoration;**
- **Securing freshwater inflows for the productivity of bays and estuaries;**
- **Oyster reef restoration;**
- **Sustainable fisheries management;**
- **Protection of vulnerable and endangered marine species; and**
- **Enhanced monitoring and research on critical ecosystems and species.**

## Coastal Habitat Protection and Restoration

Priority habitats in Texas for restoration include coastal marsh and wetlands, barrier islands, sea grass beds, and migratory bird and waterfowl habitat.

### *Coastal Marsh and Wetlands*

Coastal marshland is a critically important, but fragile, ecosystem which provides nursery areas for fish and shellfish, and habitat for hundreds of thousands of ducks and other birds. Healthy marsh also improves water quality through the uptake of nutrients and other pollutants, helps reduce coastal erosion, and can provide a buffer against storm surge. According to the Gulf Coast Joint Venture, “over half of the coastal wetlands for the entire conterminous United States are in the Gulf of Mexico region. Total coastal wetlands for Texas



Ryan Hagerity, USFWS

account for 6% of the national total and 12% of the regional total, but they have been diminished significantly over the past 5 decades. Loss of coastal wetlands in Texas is estimated at 8.9 square miles per year (5,696 acres) between the mid-1950's and the early 1990's.” Threats to a healthy coastal marsh include salt water intrusion, channelization, poorly-planned development, invasive plant species, pollution, subsidence and, in some areas, sea level rise.

Protection and restoration of coastal wetlands and marshes is needed in all areas of the Texas coast, but particularly in the Chenier Plain, Galveston Bay, Nueces Bay and Laguna Madre/South Padre Island, including Bahia Grande. Funding needs include acquisition (from willing sellers) and management of new state and federal protected areas, mostly adjacent to existing refuges, parks or wildlife management area); construction and maintenance of salt water barriers; invasive plant removal; re-vegetation of appropriate areas; and implementation of water-quality-protection measures. Funding is also needed to purchase conservation easements along the lower/coastal reaches of significant rivers and streams to provide buffers and filters to reduce erosion and non-point source pollution that can undermine the ecological health of coastal wetlands and marsh.

## Coastal Habitat Protection and Restoration (Cont'd)

### *Sea grass protection and restoration*

Sea grasses provide valuable habitat and play a key role in the marine food web for commercially and recreationally important fish species. They also help stabilize the near-shore bottom of recreational fishing grounds. It has been estimated that 20% to 50% of the Gulf of Mexico's sea grass beds have been lost in the past 50 years and the Deepwater Horizon incident caused further damage to beds in the northern Gulf. Sea grass habitat is threatened by several factors, including poor water quality and physical destruction by boat propellers.



Texas Parks & Wildlife Dept.

Funding is needed to reduce boat related damage to seagrasses through initiatives like establishing protected sea grass zones and designated boat corridors, to implement measures to reduce damaging non-point source pollution and to replant and restore damaged areas.

### *Barrier island shoreline stabilization and protection for shorebirds and colonial water birds*

Texas' remarkable barrier island system not only helps protect coastal communities from storm surge, it is vital habitat for nesting shorebirds and colonial water birds. The 130-mile-long Padre Island is the world's longest barrier island; it protects nearly a third of the Texas Gulf Coast from storm surge and shields important marsh and sea grass habitat along the back-bay side of the Island. Audubon Texas, which manages 13,000 acres of shoreline habitat, notes that the state has the largest colonies of Roseate Spoonbills and Reddish Egrets in the world, and is home to large populations of Brown Pelicans, plovers, oystercatchers and terns. These islands also support critical nesting areas for the critically endangered Kemp's ridley sea turtle. Barrier islands and some coastal shorelines are eroding due to the operation of nearby canals or waterways and the presence of various jetties and other structures.



U.S. Fish & Wildlife Service

Major funding needs include implementation of erosion-reduction and restoration strategies, including beneficial use of dredge material and other techniques to stabilize eroding islands and shorelines, particularly along the Gulf Intracoastal Waterway. Funds are also needed for management measures (removing invasive vegetation and predators) to protect key nesting and rookery sites for colonial water birds. In addition, funding is needed to purchase and protect undeveloped portions of the barrier islands, as well as to buy-out willing sellers of existing developed property that could be restored.

## Coastal Habitat Protection and Restoration (Cont'd)

### *Habitat protection and restoration for migratory birds*

The Texas Gulf Coast has experienced tremendous wetlands loss due to urban and commercial development, reduction of rice acreage, altered hydrology, and saltwater intrusion. The remaining wetland habitats continue to support a rich diversity of wildlife species, but further restoration and conservation efforts are needed to ensure that the Texas Gulf Coast continues to fulfill its historical role as one of the most important wintering and migration habitats in North America for continental populations of waterfowl, shorebirds, landbirds, waterbirds, and other wetland wildlife. For example, the Gulf Coastal Prairie provides important habitat for more than one million migrating and wintering shorebirds, millions of ducks and other waterfowl. Habitat protection and restoration for migratory birds will support the goals of numerous national and regional conservation plans including: the North American Waterfowl Management Plan, United States Shorebird Conservation Plan, North American Waterbird Conservation Plan, Partners in Flight Bird Conservation Plan, Gulf Coast Joint Venture Regional Habitat Initiative Area Plans, Gulf Coast Joint Venture Mottled Duck Conservation Plan, Gulf Coast Joint Venture Shorebird Plan, Reddish Egret Conservation Plan, and Ducks Unlimited's International Conservation Plan. The Gulf Coastal prairies and marshes are priority areas under all of these plans, and all of them call for protection, restoration, and enhancement of Texas' Bolivar Peninsula, badly damaged by Hurricane Ike, is a particularly important stopover area for migratory birds. Funding is needed to implement the protection, restoration, and enhancement of coastal wetlands, grasslands, coastal woodlots, and riparian corridors that are identified as important habitat in these various existing bird conservation plans. In addition, restoration of some areas will require a reliable source of native plants and seeds, which is likely to require new native plant nurseries.



Charles Krivand

### Securing Freshwater Inflows

Adequate freshwater inflows are essential to maintaining the salinity gradient that supports productive fisheries and healthy bays and estuaries. Texas has undertaken and invested in a significant effort to develop environmental flow standards for its major bays and estuaries. During this process it has become clear meeting environmental flow standards will require the use of voluntary market transactions to secure freshwater inflows at the right time and place over the coming years. The Texas Water Trust or other mechanisms could be used to facilitate these transactions, which could provide value to existing water rights holders, as well as important environmental benefits.

Funding is needed to engage in voluntary transactions with willing sellers for leases or purchases of water rights in key areas, particularly in the Galveston, Matagorda, and San Antonio Bay regions.

### Oyster Reef Restoration

Oysters were another species significantly damaged during by the Deepwater Horizon incident. Globally, oyster reefs are the single most impacted marine habitat (85% loss from historic levels). The Gulf of Mexico supports the only remaining significant wild oyster harvest in the world and has some of the best of the few remaining reefs. This therefore presents a tremendous opportunity for large-scale oyster reef conservation. More than 8,000 acres of oyster reefs were lost in Galveston Bay during Hurricane Ike. Restoring oyster reefs in key areas can help the industry bounce back, relieve pressure on the recovering Louisiana oyster reefs, restore and enhance essential fish habitat and return the filtering function of oysters that benefits overall bay health. Funding is needed for large-scale oyster reef restoration, particularly in Galveston Bay.

## Sustainable Fisheries

Healthy, sustainable populations of finfish and shellfish are critical components of the Gulf ecosystem and essential for vibrant coastal communities. Over the past several decades, these fisheries have suffered from over-use and lack of modernized management. The Deepwater Horizon blowout occurred in the heart of areas used by a number of commercially and recreationally important fish species, such as blue-fin tuna and red snapper. Fisheries can be improved through better management and through the use of best available fishing technologies that make fishing more efficient and cost-effective and alleviate sources of environmental stress. Data collection and monitoring of fish populations, implementation of improved fishery management measures and support for fishermen to adopt more efficient gear can help ensure that fish populations (and fishermen) recover from the oil spill and past degradation.



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Texas needs increased funding for the following: 1) enhanced private recreational fishery surveys, charter boat data collection mechanisms and fisheries-independent monitoring focusing on reef fish and pelagic species; 2) oyster reef monitoring; and 3) and investments in gear conversion programs aimed at reducing bycatch of species affected by the Deepwater Horizon oil spill and optimizing fishing efficiencies.

## Vulnerable and Endangered Marine Species

Sea turtles and marine mammals such as dolphins, porpoises and whales were directly affected by the Deepwater Horizon blowout. Protection and management of key turtle nesting grounds along the Texas coast and key foraging areas in Texas bays will be important strategies in sustaining viable populations of sea turtles Gulf-wide. Funding is needed to fully implement existing recovery plans, to survey and monitor population trends of these key species in the Gulf of Mexico and to conduct research to better understand their life history and conservation needs.



U.S. Fish &amp; Wildlife Service

## Endowment for Monitoring and Research

An endowed Gulf ecosystem research and monitoring program established at the regional or state level would give Texas access to a new, permanent and stable source of funding for monitoring near-term and long-term trends in marine and migratory species potentially affected by the Deepwater Horizon incident. Many of these species are of importance to the commercial and recreational fishing industries. In addition, research and monitoring funds are needed to detect latent or lingering impacts, track resource recovery, and evaluate the restoration effectiveness of investments made in the priority areas described above.