



House Select Committee on Hurricane Ike Storm Devastation
to the Texas Gulf Coast

Galveston Public Hearing
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Testimony of Robert J. Stokes, Jr.
President and General Counsel
Galveston Bay Foundation

“Hurricane Ike Impacts to the Natural Resources of the Galveston Bay Estuary”

The mission of the Galveston Bay Foundation (“GBF”) is to preserve, protect, and enhance the natural resources of Galveston Bay and its tributaries for present users and posterity. Its balanced programs in conservation, education, advocacy, and research strive to ensure that Galveston Bay remains a beautiful and productive place for generations to come. GBF has been in existence for over 20 years. It was formed to be inclusive of all Galveston Bay users and its board includes representatives who are recreational, commercial, and industrial users of Galveston Bay. It balances the multiple uses of Galveston Bay and attempts to reach consensus on issues facing Galveston Bay by bringing those multiple users of the bay together to address those conflicts.

Galveston Bay provides the citizens of Texas important natural resources, recreational opportunities and economic benefits. At over 660 square miles, Galveston Bay is the seventh largest estuary in the United States. However, it is the *second* most productive estuary in the United States. It produces an incredible bounty of seafood. It had the largest oyster production of any estuary in the country and the largest commercial harvest of blue crabs in Texas. It also produces over half of Texas’s bay shrimp in an average year. Overall, it generates over 1/3 of the state’s commercial fishing income—\$358 million a year. Furthermore, it holds the third largest concentration of privately-owned marinas in the entire country and sport fishing and associated expenditures in and around Galveston Bay have been estimated to generate as much as \$2.8 billion per year.

In prior public hearing testimony on the devastation wrought by the storm, this committee has heard that Hurricane Ike severely impacted the health and livelihood of the citizens of the Galveston Bay region through the destruction of dwellings, schools, transportation and other infrastructure. GBF is very concerned for our area residents, many of whom are our members and partners. But we also want to ensure that the committee receives testimony about Ike's impact to Galveston Bay itself, as it is both a positive quality of life driver for those in the region and an economic driver.

Hurricane Ike greatly impacted the natural resources of Galveston Bay, although many of the impacts are still being fully assessed. Key impacts include:

- Destruction of half of the oyster reefs in Galveston Bay due to the accumulation of storm-generated sediments and storm debris.
- Accumulation of storm debris on the bay bottom and tributaries, which poses safety, navigation and environmental health risks.
- Extensive and substantial damage to key public access points to Galveston Bay including Galveston Island State Park

Oyster reefs, in particular, were particularly hard hit by the storm. Oyster reefs in Galveston Bay are critically important because they not only provide a huge commercial fishing impact as previously noted, averaging over \$10 million in ex-vessel value per year from 2005-2007, but they also provide crucial habitat to fish and other living species and provide important water quality benefits. Oysters are filter-feeders, sweeping out tiny plants (phytoplankton) and animals (zooplankton) from the water as they feed. In doing so, they also filter out sediments and other pollutants, and as a result they clarify the water and improve its quality. Oysters depend on moving waters to feed this way and are therefore found on top of the bay's sediments in areas of adequate current. As they are permanent features on the bay bottom and do not move, they are subject to natural and man-made impacts. Storm-generated sediments and debris from Ike now cover many of the oyster reefs in Galveston Bay, physically smothering the live oysters. According to an October 2008 preliminary assessment by the Texas Parks and Wildlife Department (TPWD), approximately one-half of the 16,000 acres of consolidated oyster reef (as opposed to areas of scattered shell) in Galveston Bay have died because of being covered by sediment and debris. TPWD estimated that the cost to restore these 8,000 acres of

reefs, through placement of limestone aggregate to serve as the place for larval oysters to settle and grow new reef, is \$320 million. We encourage the Legislature to help bring funding to this oyster restoration effort to support both the health of the bay and the commercial fisherman who depend of this resource for a living. Another opportunity for restoration would involve creating a system where the oystermen were forced to return some of the shell they harvest back into the bay to serve as substrate. We encourage the Legislature to authorize and fund a program where oystermen and TPWD would work together to return oyster shell into the bay as this would be beneficial for all bay users, especially the oystermen.

Another major concern is the accumulation of storm debris on the bay bottom and in tributaries of the bay. The debris presents not only a hazard to navigation, but a threat to safety and human health as well. This debris includes everything from sunken boats loaded with fuel and other potential pollutants, to cars and portions of dwellings. Given the large recreational boating community, commercial and recreational fishing boat traffic, and port-industry boat traffic, the potential for injury, loss of life and loss of property is significant. The Texas General Land Office (GLO) maintained an inventory of marine debris in Galveston Bay prior to Hurricane Ike and that inventory has blossomed significantly. It is important to ensure that the GLO continues to lead this effort to remove marine debris from Galveston Bay and that it has appropriate funding to ensure this happens.

A third concern is the damage incurred at public access points across Galveston Bay, including boat ramps, bait stations, state parks, and wildlife management areas. The general public relies heavily on these access points in their use of Galveston Bay. Those without private access to the bay may now be left without any access due to damage from Hurricane Ike. TPWD has confirmed that 40 of its state parks and wildlife management areas were damaged by Hurricane Ike. The crown jewel of these parks in the Galveston Bay system is Galveston Island State Park which was heavily damaged by the storm. It is imperative to make repairs to these areas as fast as possible not only for access reasons, but because many of these parks and other areas are significant economic engines for the region. The Galveston Island State Park is one of the state's most successful in this respect. TPWD is eligible to use FEMA funding to make much of the necessary repairs. However, it requires that TPWD have access to funds that can be spent and then

reimbursed by FEMA. The total repair costs for the 40 facilities are estimated to be \$99 million dollars. Without assistance from the legislature, potentially via a special appropriations or revolving Hurricane fund, TPWD will not have access to the money to make these repairs, despite the fact that much of the cost will later be reimbursed by FEMA. It is imperative that the Legislature gives TPWD access to these funds as quickly as possible to allow them to make necessary repairs.

Last, GBF would like to highlight the resiliency of wetland restoration projects and shoreline protection efforts that were completed throughout the bay area prior to the storm. As you may know, the Galveston Bay region has lost over 35,000 acres of wetlands during the last sixty years. Wetlands provide a natural buffer from storm surges and absorb floodwater. Over the last fifteen years, a variety of stakeholders, including Texas Parks & Wildlife, the General Land Office, the Galveston Bay Estuary Program, and the Galveston Bay Foundation have worked together on multiple wetland restoration and shoreline protection projects across Galveston Bay. These projects were designed to restore lost wetlands and protect nearby shorelines from erosion. We are pleased to say that the vast majority of these projects weathered the storm in strong fashion. It is difficult to measure any mitigating impacts any individual project may have had from the devastation wrought by Ike, but the projects survived as designed and undoubtedly provided buffer from Ike's waves. I strongly encourage the Legislature to look upon these wetland restoration projects as an excellent investment and continue to provide funds for the projects through state agencies and state funding mechanisms such as the Galveston Bay Estuary Program and the Coastal Erosion Planning and Response Act.