



### **Working with Nature:**

#### ***An Economically and Environmentally Sound Storm Surge Alternative for Houston-Galveston Area***

The organizations that support this storm surge alternative urge elected leaders and public agencies to first prioritize working with the natural landscape to better protect people and property. To do so reflects a shift in thinking--requiring private industry and individuals to pay their fair share in protecting their own assets and in adapting to the new norm of intense storms.

Non-structural elements must be a significant part of any storm surge protection solution. This is reflected in Texas's General Land Office's Coastal Resiliency Master Plan and should receive the same analysis as the structural components during this planning phase. These conservation values for the Texas Gulf Coast will result in a more efficient use of public dollars

This storm surge alternative will deliver better results when cities, counties, and other entities make coordinated non-structural improvements, such as:

1. adopt the tightest coastal development, building, and planning standards possible;
2. prepare and use coastal geo-hazards maps to stop the destruction of wetlands and barrier islands, as well as the ill-advised placement of industrial facilities or housing;
3. improve coordinated emergency and evacuation planning, equipment acquisition, and implementation;
4. acquire more public and private conserved open space and conservation easements; and,
5. plan operation and maintenance on a longer time frame by considering 100 years into the future.

### **Our Storm Surge Alternative**

Below, we have identified key scenarios and opportunities for an alternatives analysis. Due to sea level rise and increased storm intensity, all alternatives must consider operations and maintenance by including a 100-year planning horizon.

#### **Galveston Island and Bolivar Peninsula Area**

1. Protect and expand existing public and private conservation lands on our barrier islands.
2. Consider the feasibility of protections that safeguard the populated east end of the City of Galveston.

3. Institute coordinated local, state, and federal programs of voluntary buyouts, in particularly vulnerable, risky, and ecologically sensitive areas in Galveston County.
4. Acquire land buffers around existing public and private conservation lands so that these landscapes can migrate inland as sea level rises.
5. Implement ecological restoration projects for Galveston Island and Bolivar Peninsula.

#### **Houston Ship Channel & Baytown Area**

1. Require risk assessment by facility owners on industrial complexes, storage tanks and units in areas subject to storm surge.
2. Require implementation of storm surge and flood protection mitigation strategies in industrial complexes by facility owners, such as building and/or improving existing industrial and other levee structures.
3. Consider the feasibility of a structure at/or near the mouth of the Houston Ship Channel in Upper Galveston Bay that protects communities and the natural resources from storm surge.
4. Protect and expand existing public and private conservation lands.

#### **NASA, Clear Lake, West Side of Galveston Bay, and Texas City, La Marque, and Hitchcock Areas**

1. Consider a levee and gate at/or near the Clear Lake and NASA area.
2. Improve and maintain the Texas City Levee.
3. Protect and expand existing public and private conservation lands.

#### **San Luis Pass and Christmas Bay Area**

1. Implement TPWD Follet's Island Initiative or larger conservation land project.
2. Implement ecological restoration projects for Christmas Bay and other habitats behind Follet's Island.
3. Protect and expand existing public and private conservation lands on our barrier islands.

#### **East Side of Galveston Bay Area**

1. Protect and expand existing public and private conservation lands.
2. Institute coordinated local, state, and federal programs of voluntary buyouts, in particular vulnerable, risky, and ecologically sensitive areas in Galveston and Chambers Counties.
3. Implement ecological restoration projects for the East side of Galveston Bay.

#### **Conclusion: The Triple Bottom Line to Enhance Communities**

When social, environmental and financial values are considered, protection of natural resources will rise to the top in any cost benefit analysis and more effectively keep people out of harm's way.

Our goal is to provide an economically feasible alternative that will protect people from dangerous pollutants, protect the refinery and petrochemical infrastructure from storm surge breach, and protect our remaining important and ecologically sensitive places in and around Galveston Bay.