

Project description

The Holly Beach Sand Management Project (CS-31) area is located on the Gulf of Mexico shoreline of southwestern Louisiana, west of Calcasieu Pass in Cameron Parish. This area of coastal Louisiana is known as the Chenier Plain, which is characterized by alternating or coalescing shore-parallel ridges composed primarily of sand, shell and shell fragments deposited on top of and separated from each other by swales of emergent marsh on alluvial deposits. Historically, the general mechanism of deposition along the Chenier Plain shoreline was closely related to variations in the influx of alluvial sediment transported westward by the littoral transport system when the Mississippi River oscillated between

subdeltas. Chronic erosion in this area is caused by a deficit of sand and sediment in the littoral transport system, caused by stabilization of the Mississippi River and regulation of the Atchafalaya River to the east. In addition, the Calcasieu and Mermentau Rivers are not supplying coarse grained sediment (sand) to the area and the Cameron Jetties associated with the Calcasieu Ship Channel deflect what little material that exists away from the project area. Through the use of breakwaters, sand fencing and vegetative plantings, the Holly Beach Sand Management project attempts to reestablish and maintain a vital shoreline critical to the coast of Louisiana.

Class	2005 Project acres	2009 Project acres
Land	8,897	8,849
Water	1,894	1,946
Breakwaters	10	6
Total	10,801	10,801

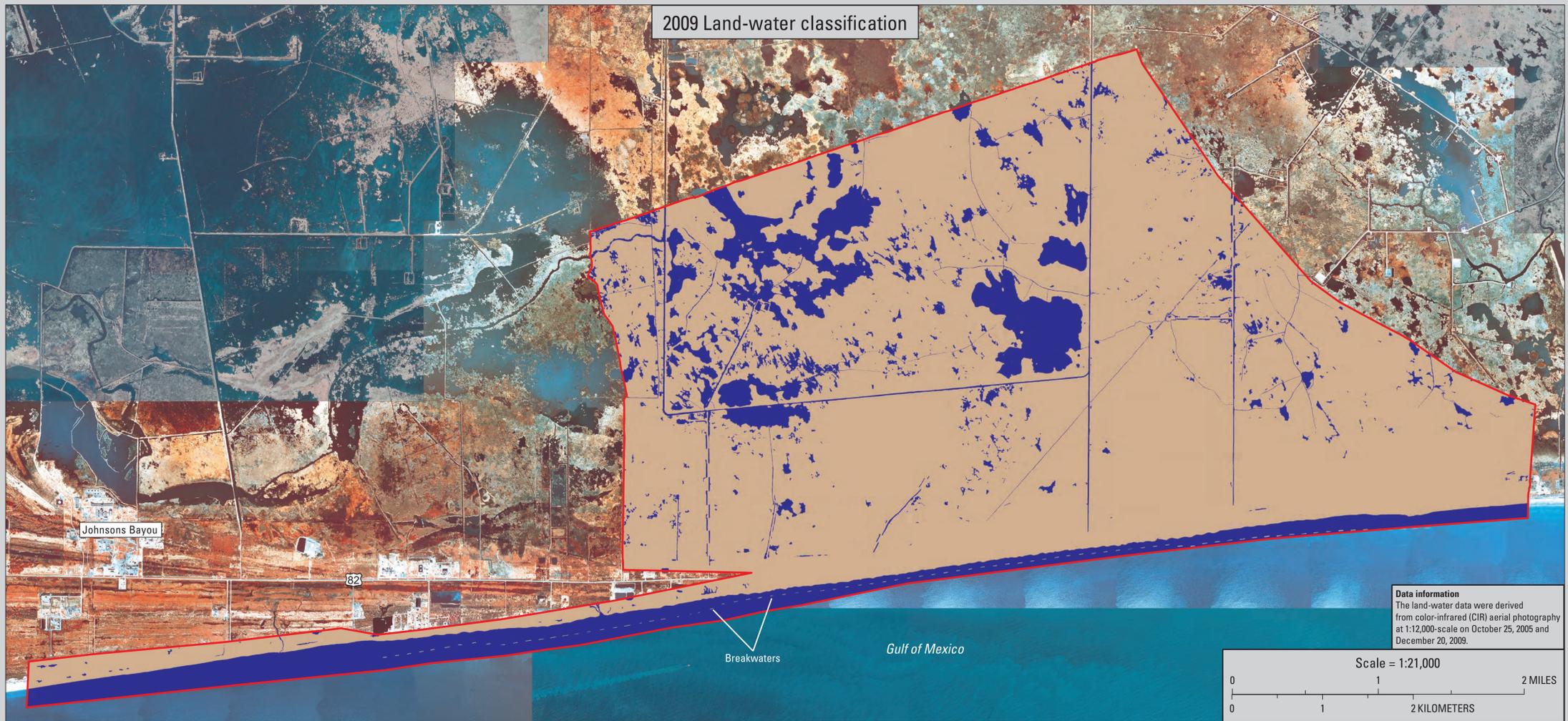
— Project area

Project features

The Holly Beach Sand Management Project (CS-31) has several features, which include modifying existing breakwaters to improve effectiveness of sand trapping, depositing an estimated 1,750,000 cubic yards (1,338,050 cubic meters) of sand on the shoreline, and stabilizing the constructed dune by using sand fencing and vegetative plantings. This amount of sand was based on estimates of the quantity needed to maintain the beach seaward of its pre-nourishment condition for 10 years. During Hurricane Rita (September 24, 2005), the sand fencing and vegetative plantings were destroyed by high wind and wave energy. The sand fencing was replaced and the vegetative plantings were replanted in 2006 but again were severely impacted by Hurricane Ike in 2008.

Land-water classification

To conduct the land-water classification, aerial photographs were scanned and classified into land and water categories. All areas characterized by emergent marsh, scrub-shrub, upland and dunes that are not affected by tide were classified as land. Areas characterized by open water, aquatic beds and mud flats were classified as water. Shoreline was established based on the line between regularly and irregularly flooded water regimes. Regularly flooded regimes are tidewaters that alternately flood and expose land surfaces at least once daily, while irregularly flooded regimes are tidewaters that flood land surfaces less often than daily.



Holly Beach Sand Management (CS-31)
Coastal Wetlands Planning, Protection and Restoration Act
2005 and 2009 Land-Water Classifications

