The Marsh Island Hydrologic Restoration project (Iberia Parish) is located approximately six miles south of Cypremort Point (St. Mary Parish). Since 1930, the hydrology of Marsh Island has changed because of tidally influenced erosion, oil and gas exploration and subsidence. Several oil-field canals were constructed to facilitate oil and gas exploration in the project area during the 1950s, with much of this exploration taking place in the vicinity of Lake Sand. Spoil deposited along these canals during dredging initially formed continuous banks, which disrupted surface-water flow and created ponding in interior marshes, which generally decreases wetland productivity. Surface-water flow is important to the flourishing of wetland vegetation because it is the main pathway through which nutrients and sediments are delivered.

The primary objectives of the project are to stabilize the northeastern shoreline of Marsh Island, including the northern shoreline of Lake Sand and to plug nine oil-field access canals to help restore the historical hydrology of the project area. In December 2001, approximately 2,000 feet of rock breakwaters were used to stabilize the north-eastern shoreline and 3,000 feet of rock breakwaters were used to reconstruct the north shore of Lake Sand. Oil-field canals were plugged using low-level rock dikes and earthen closures. Expected benefits of the project features are a reduction in the water exchange between the interior marshes and East and West Cote Blanche Bays. Minimizing rapid water exchange is expected to decrease the rate of marsh loss in the project area, encouraging the colonization of submerged aquatic vegetation in shallow open-water areas, and reduce the erosion rate of the northeastern shoreline of Marsh Island.