

EVALUATION OF A BARRIER ISLAND RESTORATION PROJECT,  
EASTERN ISLE DERNIERES, LOUISIANA

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Barrier islands fringing the Mississippi Delta offer considerable protection to Louisiana's gulf coast. Among those islands, Eastern Isle Dernieres, which had suffered a 38% diminution in area since 1955, was selected by Terrebonne Parish for an \$850,000 restoration project initiated in 1985. Shortly after its completion, the island was visited by three hurricanes. This thesis investigates the overall effectiveness of the project and of its several components.

Island profiles and aerial reconnaissance spanning pre-project, post-project, and post-hurricane conditions and volumetric compilations determine losses and relocation of project sands while an assessment of survival rates among introduced and natural species are employed to arrive at recommendations for future projects.

Three distinct topographic zones have evolved on the restoration site: 1) a featureless, barren, low-lying western tract; 2) a central zone dominated by a large hummocky dune field with dense vegetation; and 3) a sparsely vegetated eastern area which has experienced some shoreline erosion.

Coupe Danny and Coupe Juan (inlets) were cut through areas outside the study tract vulnerable to breaching. Shoreline erosion was greatest east of the project indicating that the restoration was successful for the first 16 months and should be considered for implementation elsewhere along Louisiana's fragile barrier coast.