

A Bioengineering Approach to Coastal Shoreline Stabilization

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Refugio County, TX 1994: Highway fencing and parachute barrier planted with smooth cordgrass.



Project Site

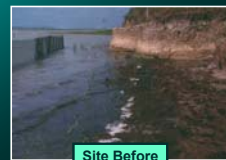


Highway Fencing



Parachute Barrier

Portland, TX 1997: Cellular blocks planted with gulf cordgrass and marshhay cordgrass.



Site Before



Cellular Block and Mat



Blocks With Vegetation

ABSTRACT: There are approximately 1,500 acres of land lost over 1,000 miles of the Texas Gulf Coast every year. Both Gulf Coast shoreline and coastal bays are affected by coastal erosion. Rising sea levels, over-grazing practices, and increasing development have rendered these shorelines susceptible to erosion. The mission of the Kika de la Garza Plant Materials Center (PMC) is to develop and transfer effective state-of-the-art plant science technology to meet customer and resource needs. As such, the PMC has worked for over 20 years investigating bioengineering approaches to coastal shoreline erosion.

Fulton, TX 2002: Historic building protected by fiber encapsulated soil planted with gulf cordgrass and marshhay cordgrass.



Site Before

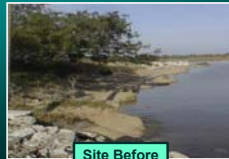


Encapsulated Soil With Plants



Site After

Kaufur-Hubert Park in Kleberg Co., TX 2003: Coastline protected with rock and fiber encapsulated soil planted with seashore dropseed, gulf cordgrass, and marshhay cordgrass.



Site Before



Rock and Encapsulated Soil



Site After

South Padre Island, TX 2004: Sand dune shaped, covered with coconut fiber matting, and planted with local seaoats and bitter panicum.



Before - Little Vegetation



Planting the Dune



Sand Dune After Construction

Palacios, TX 2005: Erosion site planted with smooth cordgrass, black mangrove, saltmarsh bulrush, and black needlerush.



Site Before Planting



Transplants



Site After Planting

PLANTS USED IN PROJECTS:



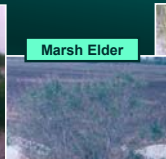
Smooth Cordgrass



Gulf Cordgrass



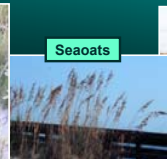
Marshhay Cordgrass



Marsh Elder



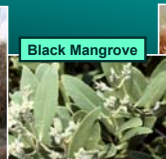
Seashore Dropseed



Seaoats



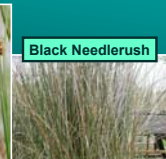
Bitter Panicum



Black Mangrove



Saltmarsh Bulrush



Black Needlerush

For More Information Contact:
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Cooperators for these projects include:



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