October 2002

West Hackberry Vegetative Planting Demonstration (CS-19)

Project Status

Approved Date: 1991
Cost: $246,240
Project Area: N/A
Status Completed March 1994
Net Benefit After 20 Years: N/A
Project Type: Demonstration: Vegetative Planting and Sediment Trapping

Location

The project is located in Cameron Parish, Louisiana, approximately 6 miles southwest of Hackberry. West of Vincent Island and the West Hackberry Oil and Gas Field, the project area includes 4,519 acres of brackish marsh.

Problems

Dredging navigation canals has led to increased water fluctuations and opportunities for saltwater intrusion, resulting in the death of vegetation. As a result, a vast expanse of marsh has converted to shallow open water area with long fetch lengths that facilitate wind-induced wave erosion along shorelines.

Restoration Strategy

In April 1994, 6,000 linear feet of hay-bale fencing segments were constructed parallel to the project area shorelines in an effort to reduce erosion from wind-induced wave energy, and increase the amount of sediment deposition.

In June 1994, 4,750 California bulrush (*Schoenoplectus californicus*) plants were installed along 11,875 linear feet of marsh shoreline to protect against wave erosion.

California bulrush plantings after prolonged exposure to elevated salinity levels.

Progress to Date

California bulrush plantings were initially successful, creating 4.3 acres of emergent vegetation that formed an effective wave buffer. However, following droughts in 1996 and 1999-2000, less than 1.2 acres survived. During the drought of 1996, salinity levels rarely fell below 20 parts per thousand (ppt) for six weeks, and salinity levels averaged 15 to 20 ppt for the period of drought in 1999 to 2000. Prolonged exposure to these extreme conditions exceeds the typical salinity tolerance of California bulrush. Nevertheless, some plants did manage to survive the droughts and eventually showed gain in lateral spread, although thinning within the plots was noted.

The results suggest that once a planting becomes established in a new environment, some survival is possible during periods of drought and heightened salinity of the magnitude observed in this study. Because the drought conditions at this project site were historically atypical, planting California bulrush is still considered a viable restoration tool in marshes with low-salinty habitat conditions. This project is on Priority Project List 1.

For more project information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
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(318) 473-7756

Local Sponsor:
Louisiana Department of Natural Resources
Baton Rouge, LA
(225) 342-7308

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Vegetative Planting

Sediment Fence

Project Boundary

N

0.5 0 0.5 Miles

0.5 0 0.5 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle

Map Date: August 19, 2002
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