An Overview of the DWH Incident Natural Resource Damage Assessment Early Restoration Program in Alabama

Marsh Island (Portersville Bay) Restoration Project Update

July 29, 2014

Conference on Ecological and Ecosystem Restoration (CEER 2014)
New Orleans, Louisiana
Marsh Island was selected as one of eight DWH Incident NRDA Early Restoration Plan Phase I projects.
Marsh Island (Portersville Bay) Restoration Project

- Marsh Island is a state-owned island located in the Portersville Bay Portion of Mississippi Sound, in south Mobile County, AL
- State ownership gives the project a high likelihood of success
Marsh Island (Portersville Bay) Restoration Project
Marsh Island (Portersville Bay) Restoration Project

- The island has lost over 100 acres of its aerial extent since 1900.
- Current rates of erosion are 6-10’/year.
Marsh Island (Portersville Bay) Restoration Project
Historic Shorelines
Imagery: Fall 2010 NRDA Imagery

- 2001 NOAA Shoreline Composite
- 1958 NOAA Shoreline Data

0.25  0.125  0  Miles
The Marsh Island Project Goals:

- **Restore 50 acres of Salt Marsh.**
- Protect the remnants of Marsh Island
- Create approximately 5,000 linear feet of tidal creeks.
Original Conceptual Plan

Marsh Island (Portersville Bay)
Restoration Project
Conceptual Plan
Imagery: Fall 2010 NRDA DOQQs

Approx. 245,000 CY of Sediment
Approximate 50 Acres of Restored Marsh with Plantings and Tidal Creeks

Approx. 5,000 Linear Feet of Created/Restored Tidal Creeks
~4,000' of Bagged Oyster Shell

Approximately 5,700' (~23 - 200' Segments) of Segmented Emergent Breakwater with 20-40' Gaps Between Segments
Engineering, Design & Permitting Status:

- Design & Engineering started November 1\textsuperscript{st} 2012.
- Site Investigations, Topo-Bathy Surveys, Geo-tech and Section 106 investigations are complete.
- Interagency Coordination and Response to Comments in Process.
- Construction Drawings and Documents at 80\% Design Stage, waiting on issuance of USACE Permit for finalization.
Current Design:
A request for technical proposals for WAU designs was issued in February 2014.

Four (4) companies submitted full responses:
- Walter Marine & GAEA Consultants
- Wayfarer Env. Tech., Inc.
- Living Shorelines Solutions, Inc.
- Modular Gabion Systems, Inc.

All four proposed systems were determined to meet the project breakwater requirements, and may be proposed for use by bidding construction contractors.

Other designs may also be proposed but may require additional review by ADCNR.

Rip-Rap will also be a bid alternative for breakwater construction.
Breakwater Options
Walter Marine
Ecosystems
Breakwater Options: OysterBreak™

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OysterBreak Armor Units may be either consolidated concrete or OysterKrete depending on project needs.

Set crest elevation by adjusting alignment seaward or landward along slope.

OysterBreak™ and OysterKrete® trademarks are owned by Ora Technologies, LLC and licensed exclusively to Wayfarer Environmental Technologies.

Note: For more information, visit www.wayfarerich.com.
Breakwater Options:

LSSI WAD®

Dimensional Drawings of the WAD® Breakwater
Breakwater Options:
Good Old-Fashioned Rock
Next Steps

- Finalize Interagency Coordination & Receive USACE/ADEM Permit
- Finalized Design Drawings and Construction Bid Documents
- Issue Request for Construction Bids
- Construction
- Monitoring
Monitoring

- Construction performance monitoring for one year.
- Project monitoring for four years considering typical marsh parameters (elevations, areal extent and vegetative communities, etc…).
Questions?

Contact Information:
Will Brantley
Alabama State Lands Division
will.brantley@dcnr.alabama.gov
334.242.3484