Restoration of the Northern Tip of Mon Louis Island: 
**Surmounting Challenges to Project Implementation Through Teamwork**

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**Project Purpose:** To address immediate threats to a critical portion of Mon Louis Island adjacent to the mouth of East Fowl River, the most downstream portion of the Fowl River Watershed.

**Project Goals:**
- Stabilize the Mobile Bay shoreline of the northern tip of Mon Louis Island using practical habitat-friendly measures.
- Create/enhance aquatic, wetland, and upland habitats to the extent possible.
Geotechnical Investigations

**LEGEND**

- **Soil Test Borings**
  - December 2013
- **Vibracore Test Locations**
  - Channel (December 2013)
  - Supplemental (April 2014)

- **Shorelines**
  - 1979 Shoreline
  - 1997 Shoreline
  - 2006 Shoreline
  - 2011 Shoreline
Hydrographic and Topographic Surveys

Coastal Processes Evaluation
Alternate Alignments for Shoreline Stabilization
Shoreline Stabilization Measures

Alternative Breakwater / Living Shoreline Concepts Evaluated:

• Alternative 1  Continuous Rock Dike Breakwater
• Alternative 2  Segmented Rock Dike Breakwaters
• Alternative 3  Continuous Oyster Break™ Breakwater

Selected Alternative  - Continuous Rock Dike Breakwater  - Why?

• “Tried and true” measure for stabilizing shorelines in areas of high wave energy.
• Demonstrated longevity and durability.
• Aesthetics and public acceptance.
Sources of Fill for Marsh Creation

- Fowl River navigation channel – sediments unsuitable.
- Transport and delivery to site by truck or barge (with mechanical unloading).
  - Beneficial use dredge material sites – Fowl River Disposal Site – unsuitable. ASPA Disposal Site – Suitable quality and volume.
  - Costs estimated at ~$30-$45 per cubic yard
- Sandier material was identified in surficial sediments at Vibracore locations SVB-7, 8, 9, and 10, so the use of this area as a hydraulic dredging borrow source was recommended.
  - This source was discouraged by the USACE.
Combine MLI Restoration with Channel Maintenance Funding?

Evaluation of Sediments from Fowl River Open Water Disposal Area (April 2015)
Combine MLI Restoration with Channel Maintenance Funding?

Advantages:

• Mobilize one dredge for marsh creation fill and for channel maintenance dredging (cost savings).

• Environmental regulatory clearances already exist for Fowl River Open Water Disposal Area.

• Potential impacts of open water borrow area “hole” (water quality and wave climate) can be avoided by replenishment with channel sediments.
Design Strategy
Next Steps:

• Regulatory Coordination and Individual Permit
• Finalize Engineering Design
• Bidding and Procurement
• Construction
• Monitoring
Project Features – 1st Phase

- Access channel for breakwater construction
- Construct breakwater (1,540 lf)
- Marsh fill behind breakwater (25,000 CY fill, 40,000 CY dredge)
- Navigation channel dredging (100,000 CY base, 50,000 CY advance maintenance)
  - Backfill open water borrow area
  - Thin-layer dispersal in disposal area
Project Features – 2nd Phase

After consolidation of marsh fill:
- Final grading
- Construct tidal channel
- Wetland planting
More Information?

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