

## FY20 RSM IPR



# MVN - Geochemical Fingerprinting of High Shoaling Reaches of the Calcasieu Ship Channel - Dave Perkey & Jeff Corbino

**BLUF:** Sediment from high-shoaling reaches of the Calcasieu collected & geochemically fingerprinted for comparison to a library of source-signatures to estimate the relative contribution of distinct sediment sources.

### Challenge / Objectives

- Capture fluid mud & underlying shoals
- Catalogue terrestrial signature above Saltwater Barrier structure
- Navigate travel restrictions & laboratory backlogs

### Approach

Multiple Survey Techniques – Dual Freq. Fathometer, Rheatune, Lead Line

Depth-Controlled Media Collection

Lab Methods Consistent w/ 2019 Effort



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### District/Other USACE PDT Members

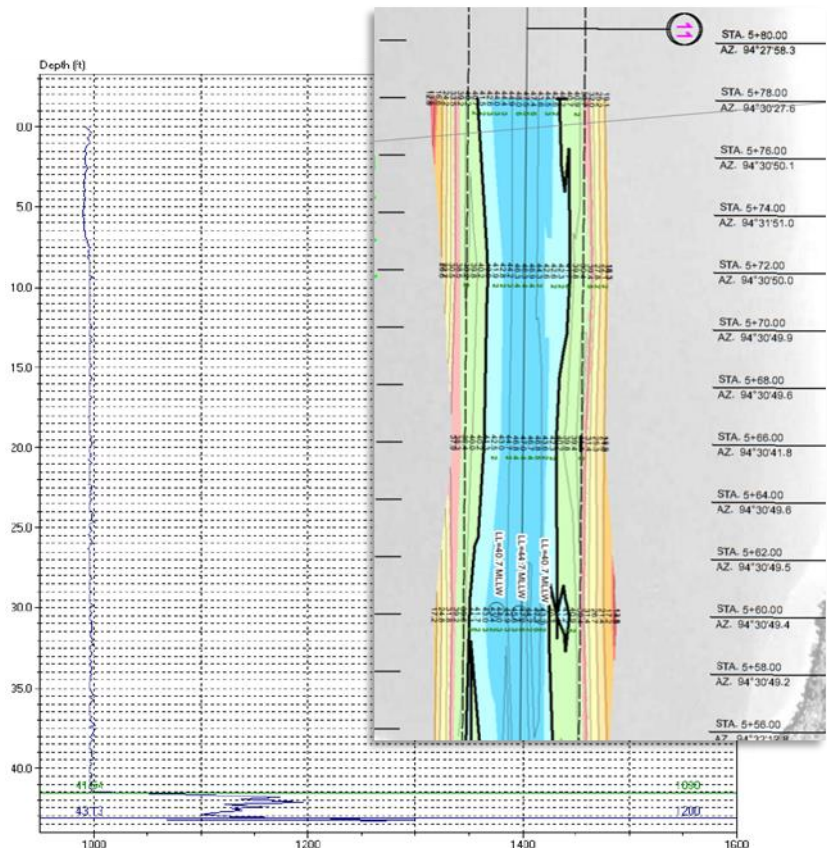
Jeff Corbino (CEMVN-OD)  
Darren Flick (CEMVN-PD-PER)  
Dave Perkey (CEERD-HNF-M)  
Anthony Priestas (CEERD-HNF-M)

### Stakeholders / Partners

Lake Charles Harbor & Terminal District

### Leveraging / Collaborative Opportunities

Builds on FYs 2018 & 2019 RSM CSC  
Source / Shoal Modeling & Fingerprinting  
Sets Stage for Refining CSC Budget  
DOTS – CSAT Updated Shoaling Rates



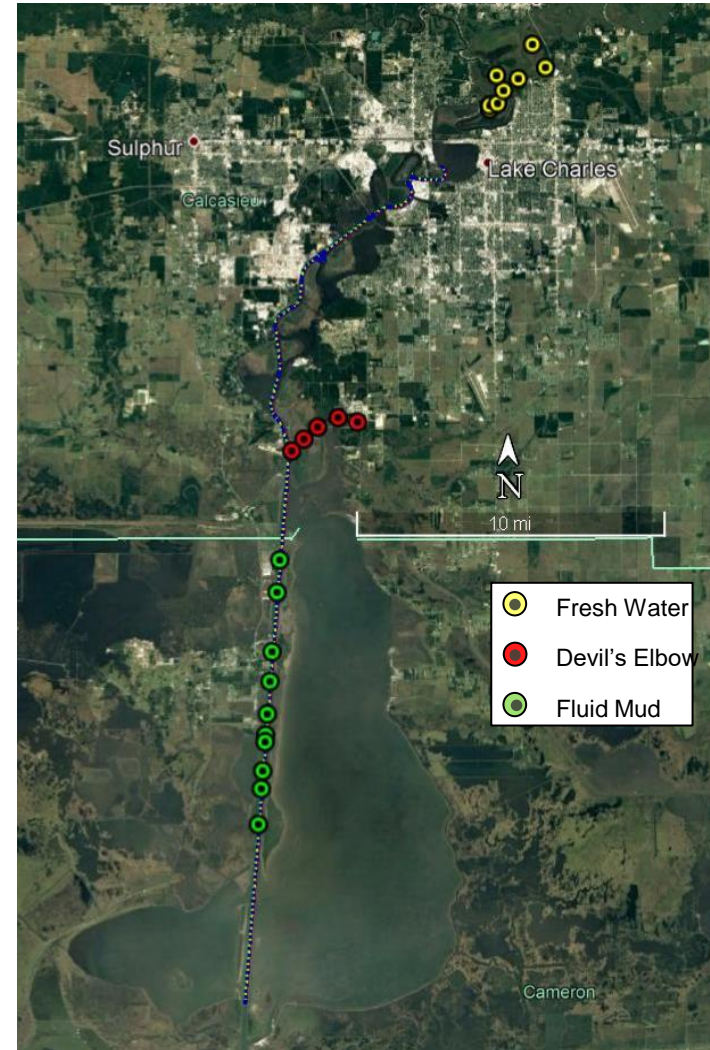
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Identification of additional sample sites within the high shoaling areas of CSC (February 2020)

Collection of Samples (June 2020)





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**Primary Challenge** – No clear evidence that “dominant” shoal material sources exist, and annual shoal material supply in excess of 4 Million Cubic Yards cannot be explained

**Lessons Learned** – Engineering recommendations from historic General Design Memorandum may provide insight into long-standing problems.



***If shoal material sources can't be identified in the system, look outside of the system.***

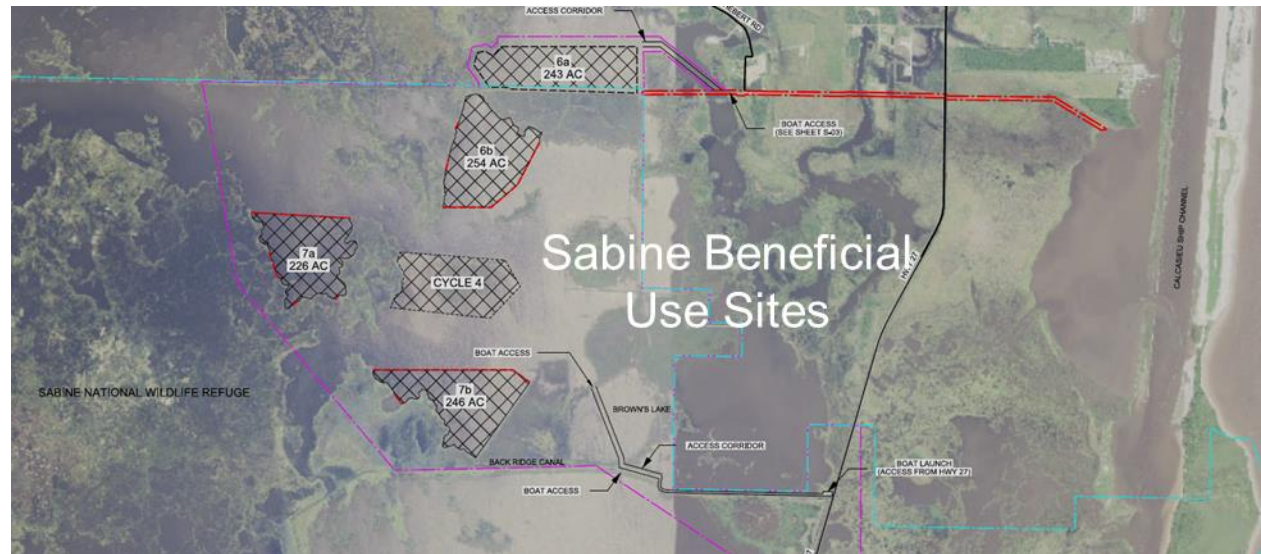


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**CSC Provides Access to 12<sup>th</sup> Largest National Port with \$200B in Ongoing & Planned Expansion**

**\$30M - \$40M Annual CSC O&M Requirement (all segments, 12 MCY / yr)**

**DMPFs need Upgrading & Beneficial Use Opportunities becoming more Distant**



***Multi-Year RSM Effort will  
Direct Engineering Solutions to meet Dredging Needs***