

FY20 RSM IPR

NAB, Post-Project Monitoring of Rhodes Point Navigation Project, YEAR 2

POC: Jacqueline Seiple



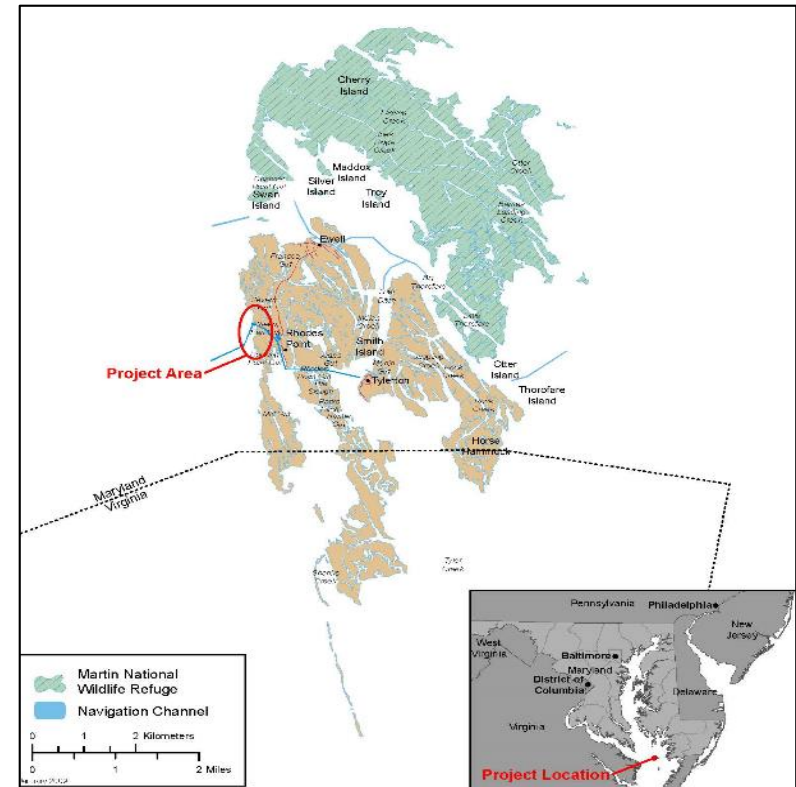
BLUF: This project presents an important opportunity to conduct post-project monitoring (RSM Phase 4) of recently constructed navigation features in a dynamic coastal environment in the Chesapeake Bay, MD.

Objectives

- Evaluate project performance (reduction of shoaling in channel, shoreline stabilization)
- Evaluate impacts to SAV
- Compile lessons learned for plan formulation and engineering design

Approach (FY2019 & FY2020)

- Evaluation of bathymetric data
- Grain size analyses
- Structural stability analysis
- Shoreline analysis
- Submerged Aquatic Vegetation (SAV) monitoring





District/Other USACE PDT Members

- Jacqui Seiple, PM/Planner (NAB)
- Chris Spaur, Biologist (NAB)
- Danielle Szimanski, Navigation (NAB)
- Andrew Payson, Navigation (NAB)
- Warunika Amarasingha, Geotech (NAB)
- Daniel Mensah, Civil (NAB)
- Luis Santiago, GIS (NAB)
- Safra Altman, Biologist (ERDC-EL)
- Matt Balazik, Biologist (ERDC-EL)

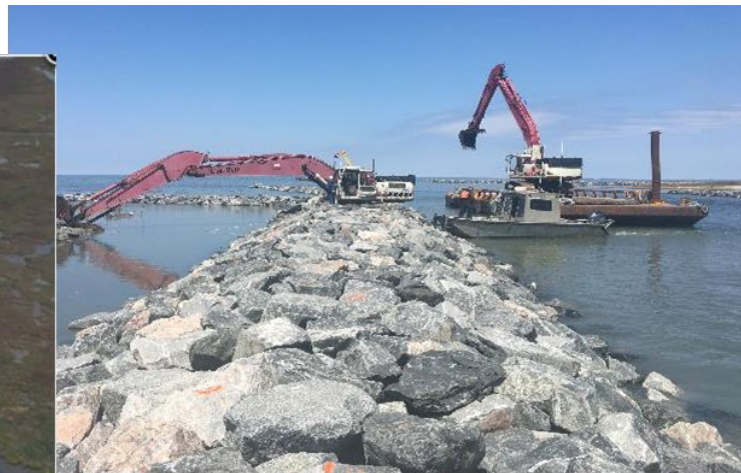
Leveraging/Collaborative Opportunities

- Existing data:
 - Rhodes Point Project data
 - SAV data (MDDNR, VIMS)
- Swan Island/Martin's National Wildlife Refuge collaboration
- Monitoring for Completed Navigation Projects Program

Stakeholders/Partners

- Maryland Department of Natural Resources
- USFWS Martins National Wildlife Refuge
- Smith Island United (residents of Smith Island)





Navigation Project Timeline:

Construction jetties & sill: **June 2018**

Channel dredging: **December 2018**

Planting: **June & September 2019**



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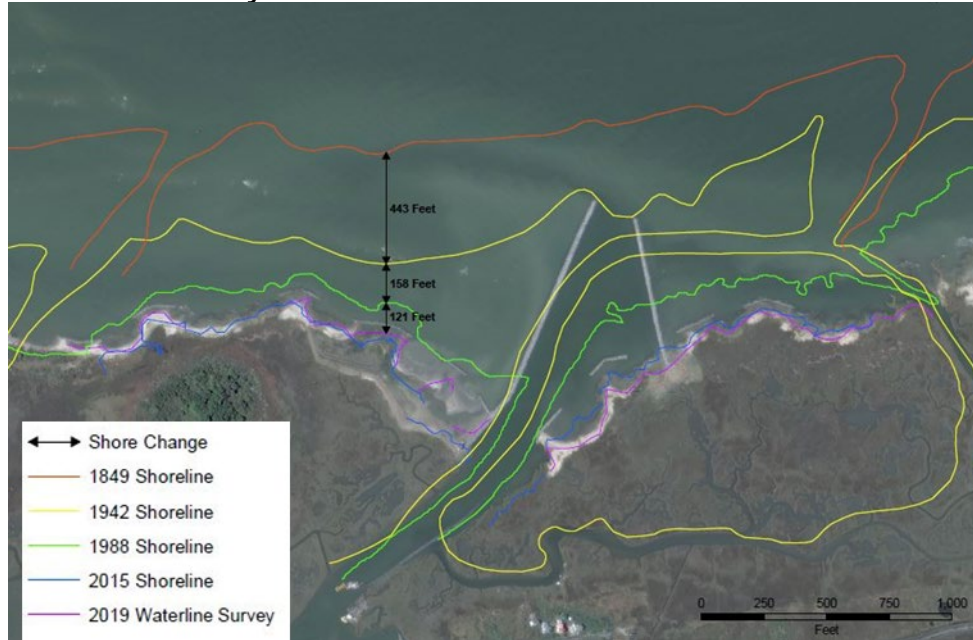
Accomplishments/Deliverables

- Geotechnical Report
- Shoreline Analysis
- Maps of Bathymetric changes
- SAV Monitoring Report
- Technical Report



Civil Transects, June 2019

Shoreline analysis 1849 to 2019



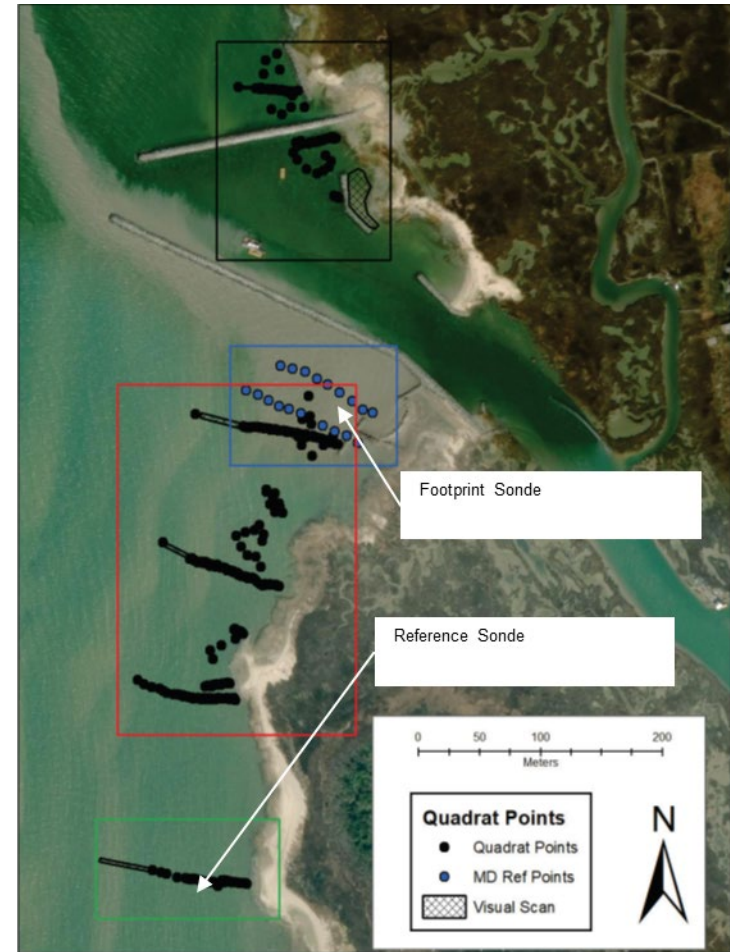
Month	Year	Volume (yd ³)
June	2015	7564.5
November	2017	8793.5
September	2018	5780.8
November	2018	1926.0
February	2019	573.0
July	2019	579.9
IBD - Immediately before dredging		
AD - After dredge		

Channel volume calculations



SAV Monitoring

- Monitoring in June 2019 (Zostera and Ruppia)
- 2 Rounds of monitoring in 2020
 - June (Ruppia)
 - August (Zostera)
- YSI water-quality sondes deployed within reference area and project footprint
 - Deployed in late June
 - Plan to retrieve in Late August

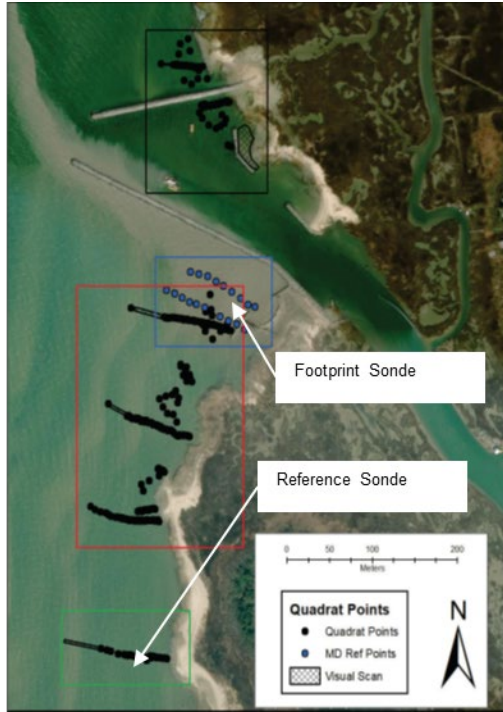


Monitoring Design

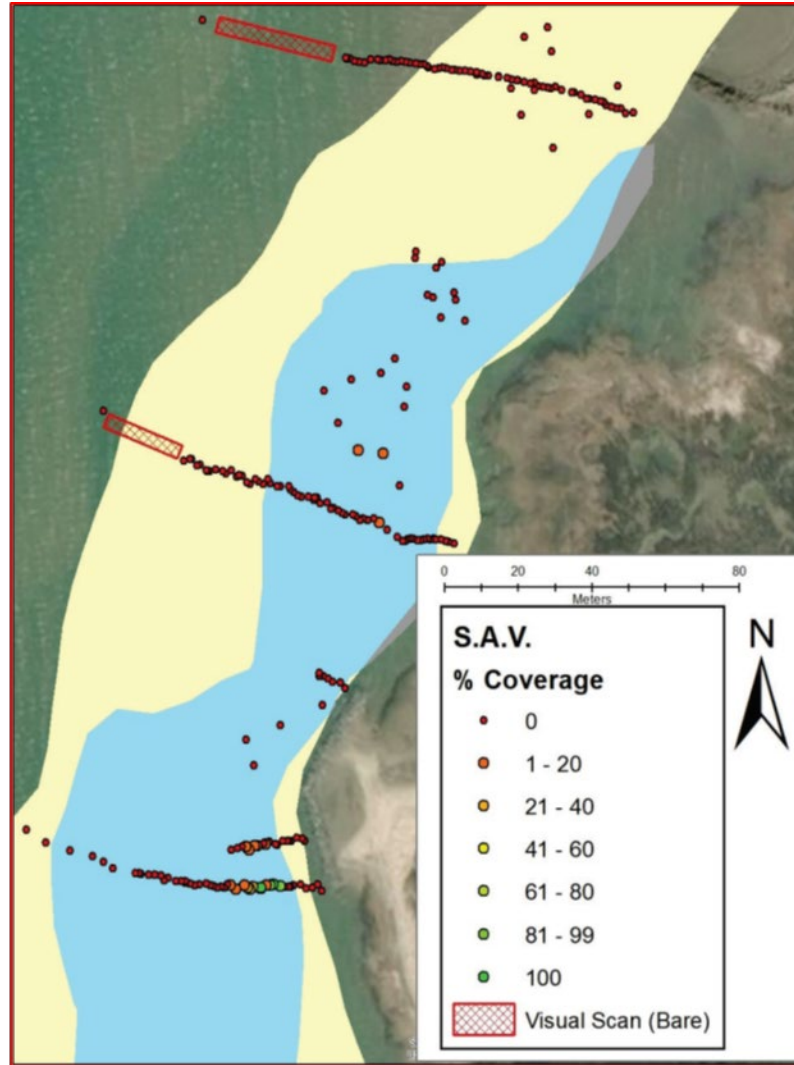
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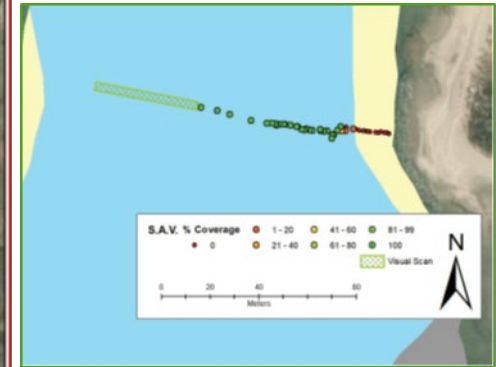
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Monitoring Design



Project Area



Reference Site

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Challenges/Lessons Learned

- COVID-19 survey cancellation/delays
- Difficulty in interpreting data:
 - Project is still essentially at Year 0/1, difficult to draw conclusions based on limited data set
- Data collection is costly, especially in a hard to access area where weather is unpredictable
- USACE has expertise and resources available and willing to help

Path Forward/Future Recommendations

- Ask the Monitoring of Completed Navigation Projects Program to review data and assist with data interpretation
- Revisit the project in several years to determine if project is still meeting objectives and to evaluate SAV recovery



Benefits

Efficiency & technical benefits:

- Engineering – inform design and placement of navigation features
- Plan formulation – inform SAV management decisions – impacts, avoidance, recovery

Relationship Building:

- Demonstrating to resource agencies that we are considering project impacts on the environment and are trying to learn from implemented projects
- Understanding resources that are available to RSM project teams and stakeholders (e.g., relationships recently used to assist MDDNR with CAP 204(e) program request)