Pensacola Bay Living Shoreline Project Conceptual Design

Project Update & Public Input Meeting

February 24, 2020
6:00 PM

Redeemer Lutheran Church

Agenda

- Purpose and Goals for Tonight
- Project Team Introductions
- Presentation: Project Concepts
  - Project Elements
  - Conceptual Designs
  - Next Steps
- Open House
- Public Feedback

Project Team

Gulf Coast Ecosystem Restoration Council

Florida Department of Environmental Protection

Escambia County Florida

Florida Department of Economic Opportunity

Volkert

SCE South Coast Engineers

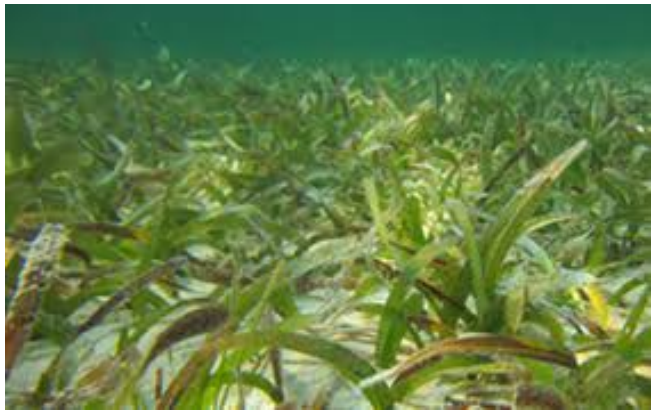
Engineering for the Coast

Overview of Project

- Pensacola Bay Living Shoreline Project will enhance and protect approximately 3 miles of shoreline at 3 sites in Pensacola Bay
- Project Includes:
  - Design and construction of breakwaters
  - Creation, protection and/or enhancement of emergent marsh, submerged aquatic vegetation (SAV) and sandy shoreline habitat

What is a Living Shoreline?

- A protected and stabilized shoreline that is made of natural materials such as plants, sand, or rock.
- Replace typical shoreline armoring such as bulkheads, riprap, and seawalls
- Living shorelines can:
  - Minimize coastal erosion
  - Provide habitat for plants, wildlife, and people
  - Improve water quality
  - Increase biodiversity
  - Provide recreational opportunities
  - Make coastlines more resilient to storms



What Goes Into a Project?

Goals of the Pensacola Bay Living Shoreline Project

Two grants are funding this project:

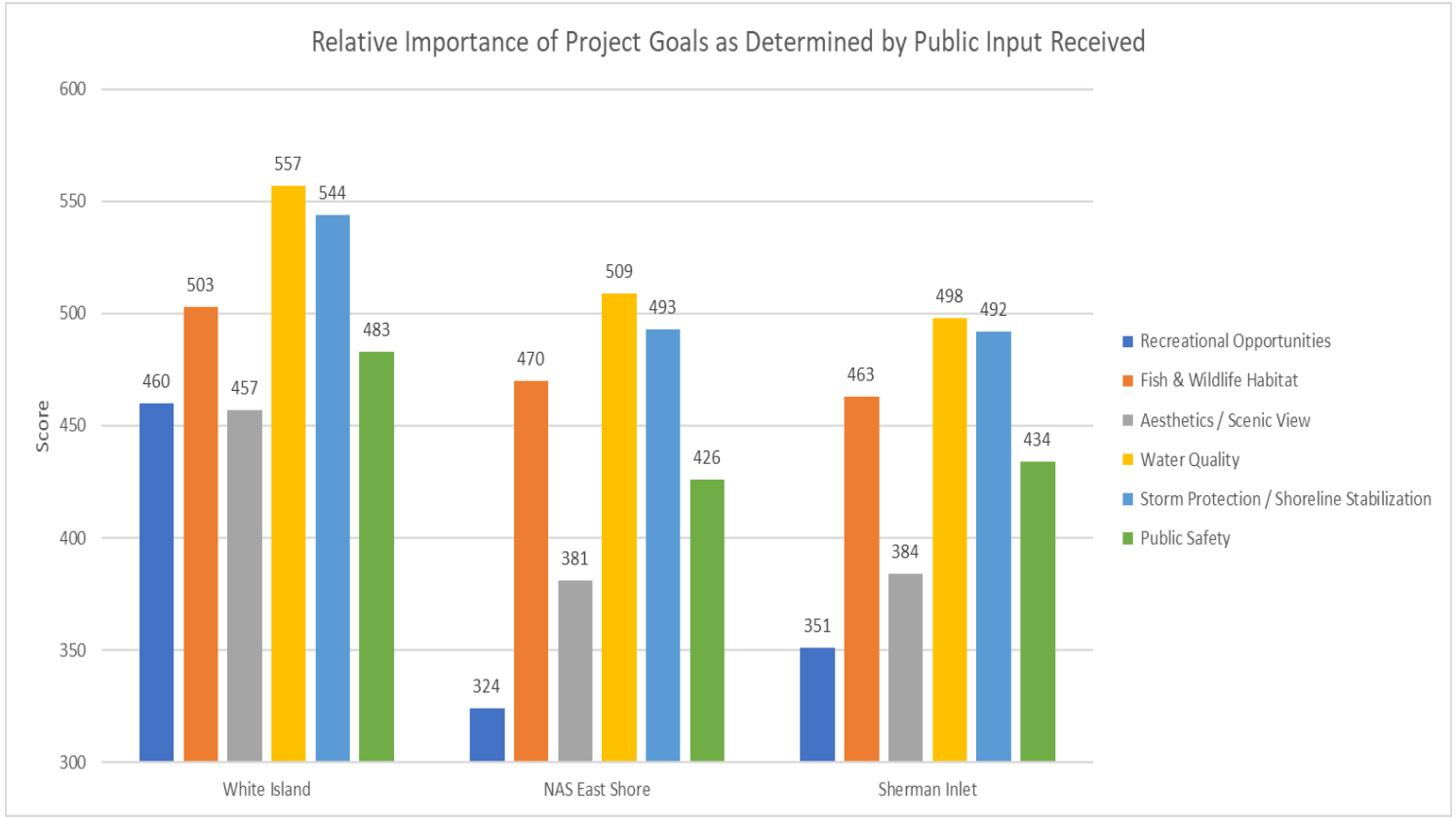
- RESTORE Council FPL 1 ($217,499.38 Planning)
- State of FL Defense Infrastructure Grant Agreement ($375,532.21)

Goals of Grants

- Use natural shoreline stabilization approaches to reduce shoreline erosion along the west shore of Pensacola Bay
- Design breakwaters to promote a healthy functioning reef habitat
- Create and protect marsh and submerged aquatic vegetation habitat
- Enhance force protection and delineation of the Military Exclusion Zone around the perimeter of NAS Pensacola

Results of Pre-Design Online Public Survey

- Recreational use was rated extremely important for White Island.
- Fish and Wildlife Habitat, water quality and storm/shoreline protection were rated as extremely or very important for all 3 sites.
- Protection of NAS mission was identified as critical for Sites B and C.



Other Input and Coordination

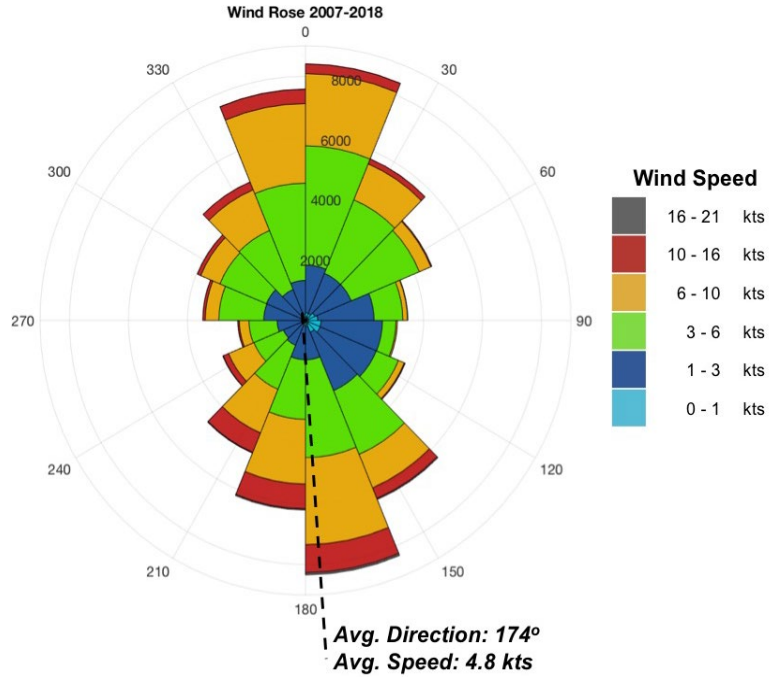
- This project serves as a pilot for the RESTORE Council's Interagency Regulatory Efficiencies Working Group
- Working group met in May, 2019
- Exploring opportunities to support completion of required permits in a timely manner.

Coastal Conditions Assessment

- A properly designed living shoreline accounts for the existing features of the environment.

- Data examined included information on:
  - tides
  - local wind characteristics
  - existing habitats
  - sediment transport
  - elevation of the land
  - depth of the water

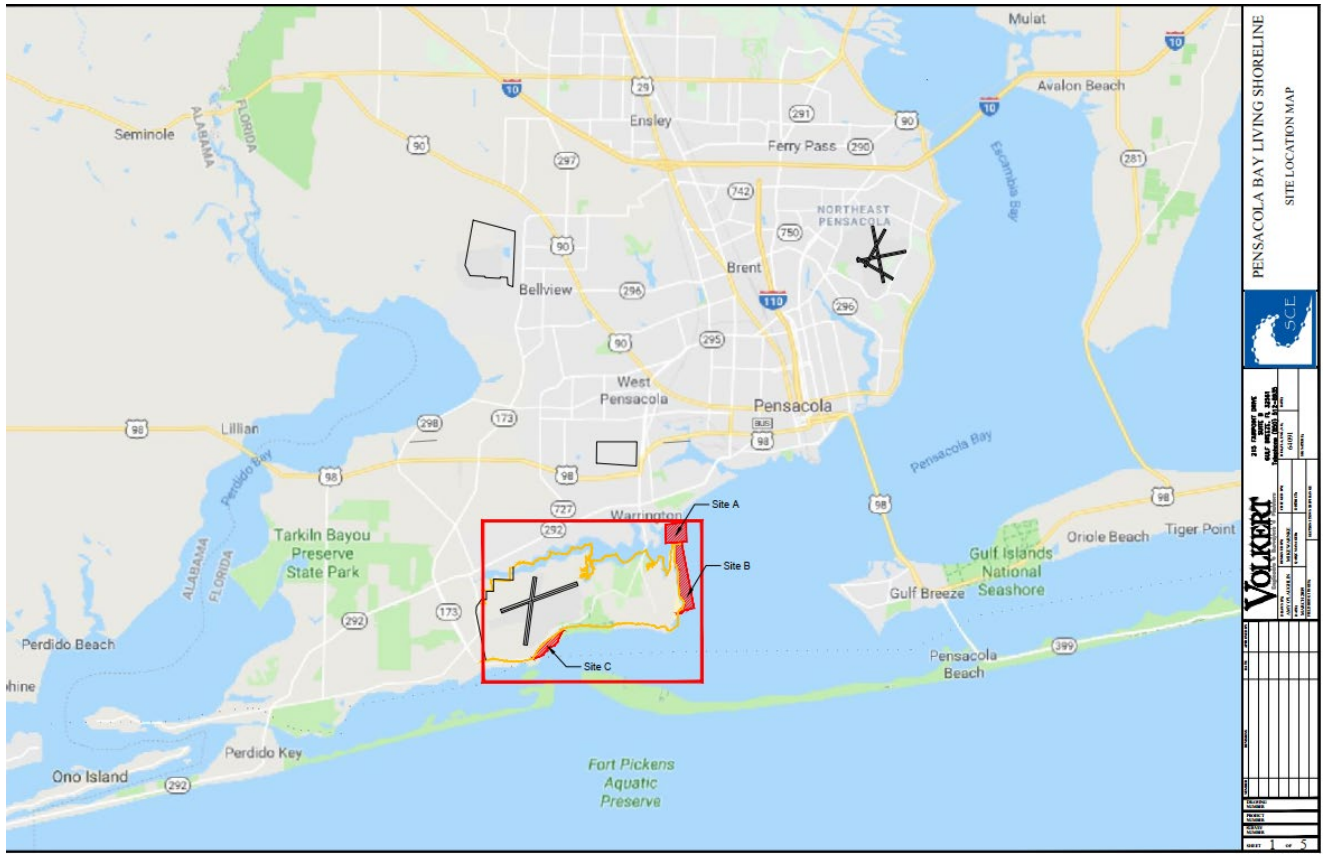
All Wind Data 2007 – 2018



Conceptual Designs

Tonight we will review:

- Historic and current conditions at the project sites
- Focus of design at site
- Key considerations for design development
- Overview of design concepts



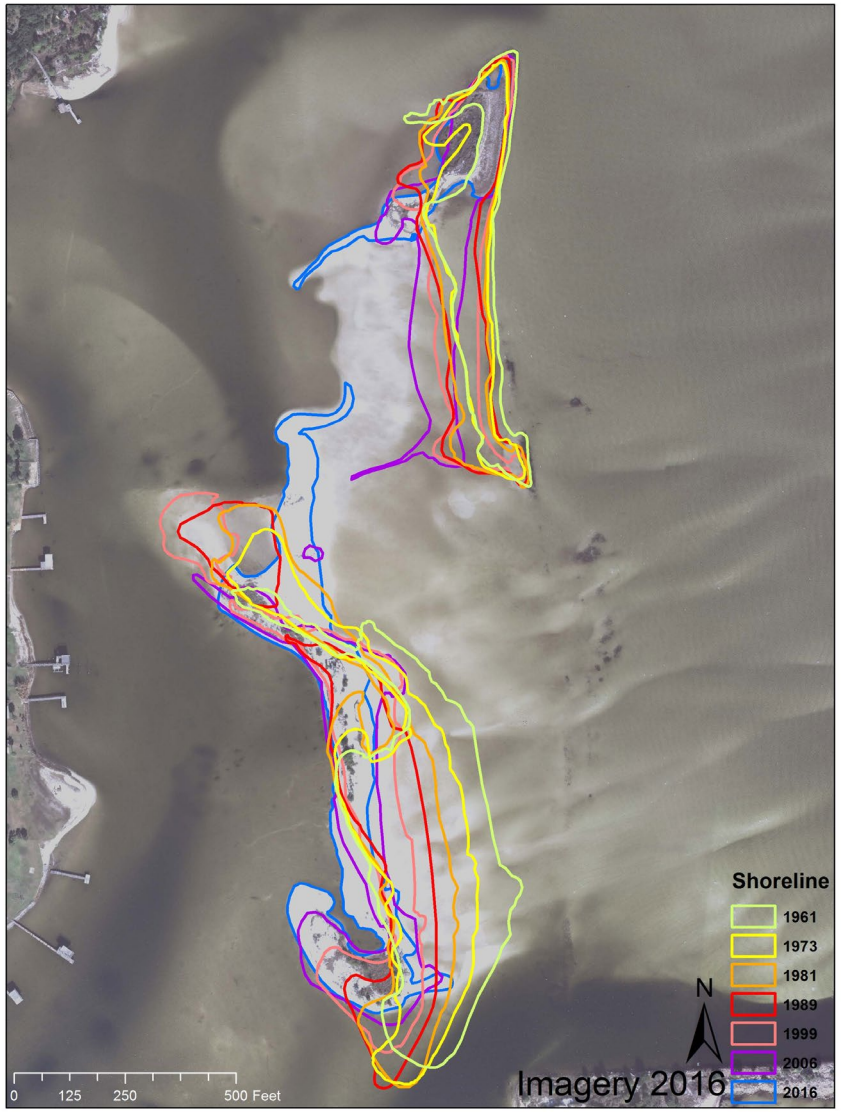
**Designs are conceptual, and subject to change*

Site “A” White Island

Site “A” White Island- Change

- Now three islands: Rock Island, White Island North, White Island South
- Erosion happening quickly, losing large trees and marsh edge

White Island (north)
Looking to the north



Site “A” White Island

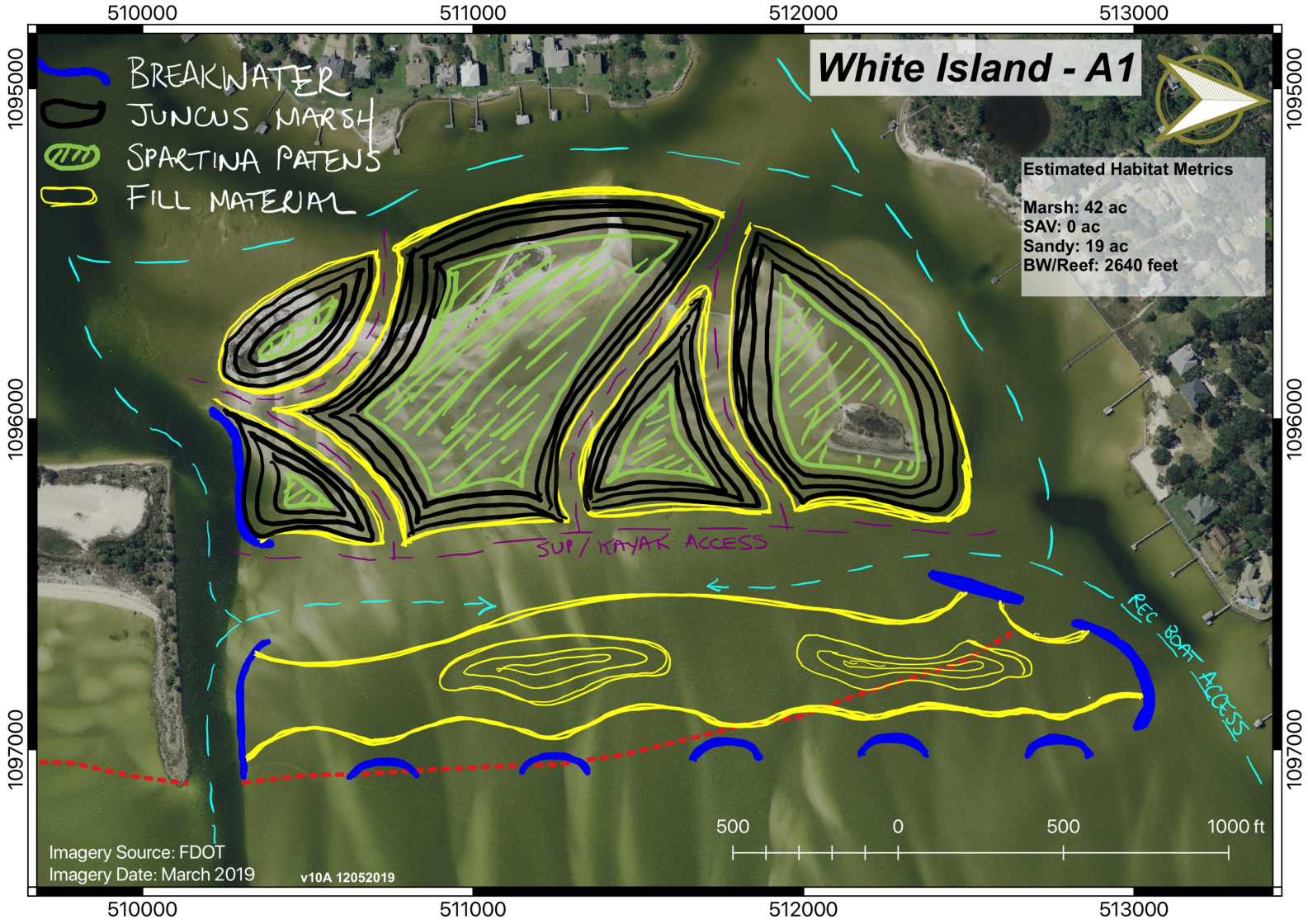
Site Focus and Goals:

- Maximize habitat benefits (marsh, beach and dune, SAV, finfish)
- Reestablish White Island through placement of sand and establishment of appropriate native vegetation
- Design features to maximize the long-term viability of the project by keeping sand in place as much as is feasible while still accounting for ecosystem dynamics
- Provide continued recreational access

Site “A” White Island

White Island Concept A1

- Sandy shoreline on the bay side (to the east)
- Marsh habitat behind the sandy shoreline (to the west)



Site “A” White Island

White Island Concept A2

- Marsh habitat on the bay side (to the east)
- Sandy shoreline behind the marsh habitat (to the west)

Site “A” White Island

Concept Summary

- Proposed construction of:
  - marsh habitat
  - enhancement of sandy shoreline for recreation
  - rock breakwaters
  - subtidal (limestone) reefs
- Preliminary estimate for sand required: approximately 250,000 cubic yards
- Rock Needed: approximately 8,000 tons
- **Creation of 60 – 65 acres of habitat and recreational opportunities**

Site B: Eastern Shore

Site “B” Eastern Shore -Change

Site Focus and Goals

- Maximize habitat benefits (marsh, SAV, finfish)
- Assist NAS in force protection through creation of emergent breakwaters and subtidal (limestone) reefs along exclusion zone
- Stabilize the shoreline to reduce sediment input to the bay
- Design features to maximize the long-term viability of the project by keeping sand in place as much as is feasible while still accounting for ecosystem dynamics

Site “B” Eastern Shore

Site B Eastern Shore

Concept B1

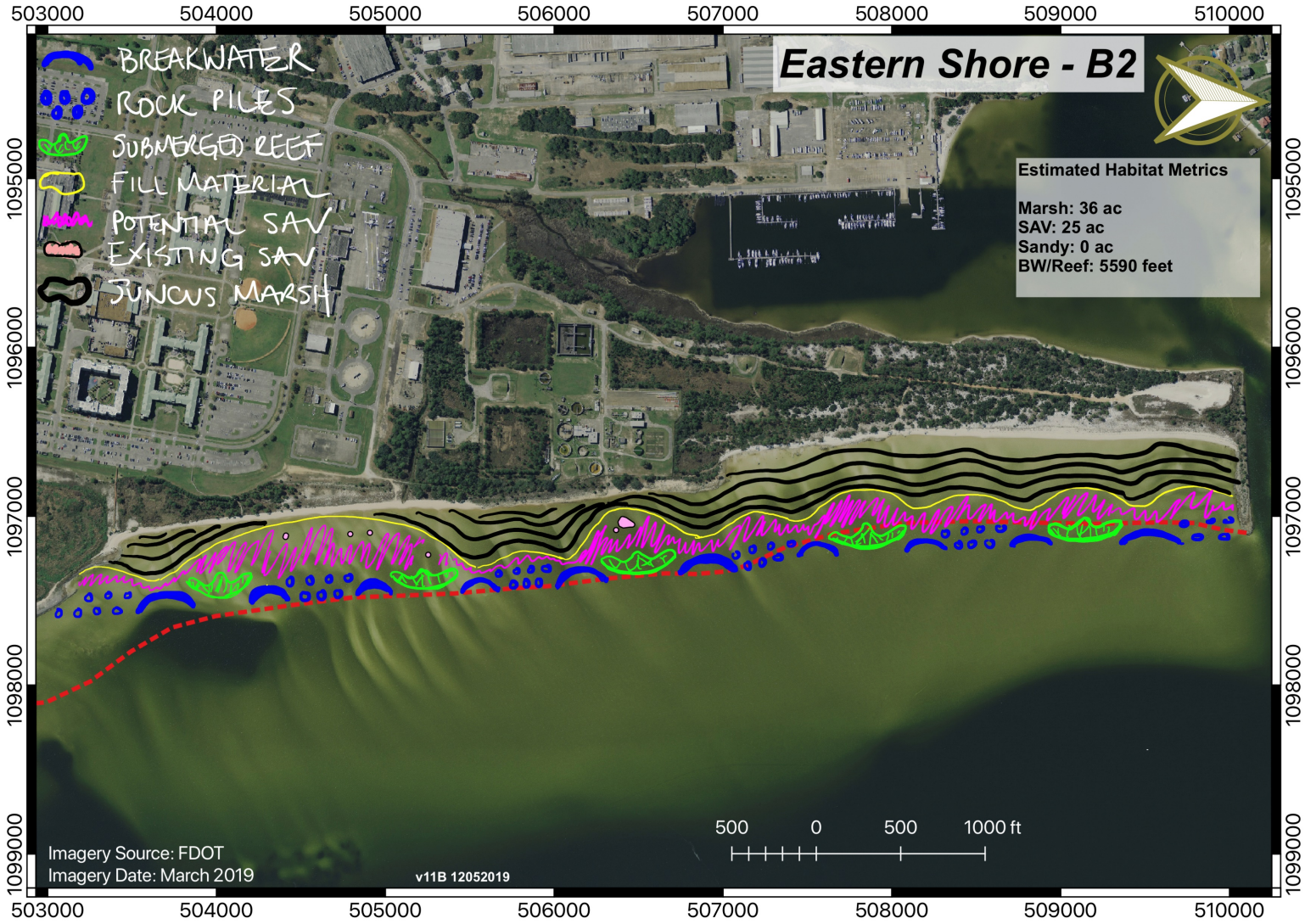
- Creates intertidal marsh and subtidal SAV habitats
- Maximizes intertidal marsh habitat
- Provides force protection for NAS through strategic placement of reefs and breakwaters

Site “B” Eastern Shore

Site B Eastern Shore

Concept B2

- Creates intertidal marsh and subtidal SAV habitats
- Maximizes SAV habitat
- Provides force protection for NAS through strategic placement of reefs and breakwaters



Site “B” Eastern Shore

Concept Summary

- Proposed construction of:
  - intertidal marsh
  - offshore segmented breakwaters
  - subtidal (limestone) reefs
- Preliminary estimate for sand required: approximately 150,000 cubic yards
- Rock Needed: approximately 12,000 tons.
- **Creation and facilitation of up to 60 acres of marsh and SAV habitat**

Site C: Sherman Inlet

Site “C” Sherman Inlet-Change

Site “C” Sherman Inlet

Site Focus and Goals

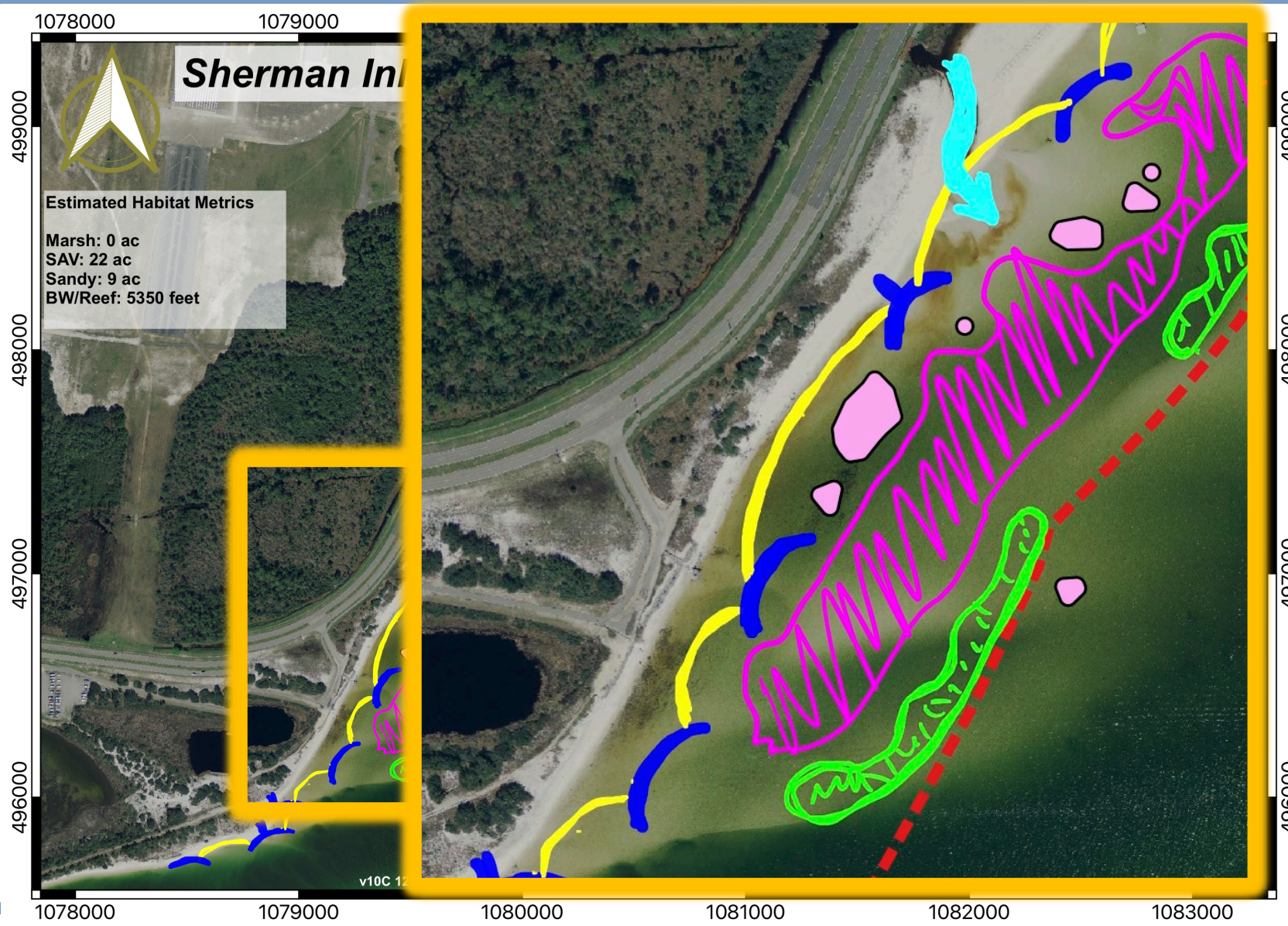
- Maximize habitat benefits (small shore birds, SAV, finfish)
- Assist NAS in force protection through creation of subtidal (limestone) reefs along exclusion zone
- Stabilize a rapidly eroding shoreline to reduce sediment input to the bay
- Design features to maximize the long-term viability of the project by keeping sand in place as much as is feasible while still accounting for ecosystem dynamics

Site “C” Sherman Inlet

Site C Sherman Inlet

Concept C1

- Stabilizes and enhances the emergent sandy shoreline habitat
- Facilitates expansion of existing SAV habitat behind reefs
- Offshore subtidal reefs to assist NAS in force protection



Site “C” Sherman Inlet

Concept Summary

- Proposed construction of:
  - headland breakwaters
  - subtidal reefs to stabilize the shoreline and facilitate SAV expansion
- Preliminary estimate for sand required: approximately 100,000 cubic yards
- Rock Needed: approximately 11,000 tons.
- **Creation of 9 new acres of sandy shoreline habitat, facilitation of up to 22 acres of SAV habitat**

Next Steps

- Hearing from you (tonight!)
- Finalizing concepts
- Additional data collection
- Determining Sediment Borrow Sites
- Engineering and Design- 30%, 60%, 90%
- Permitting and Regulatory Compliance
- Finalize Designs
- Secure construction funding

Next Opportunity For Public Input

Marine Advisory Committee
Meeting March 9, 5:30 pm
Escambia County COC

Public Input Tonight

Open House

This is your opportunity to ask questions about the designs, work done to date, etc.

Written Public Comments

Fill out a card and turn it in before leaving this evening.

Thank you!

Additional info can be found at:
https://myescambia.com/open-government/projects/project-details/nas-pensacola-bay-living-shoreline-project

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