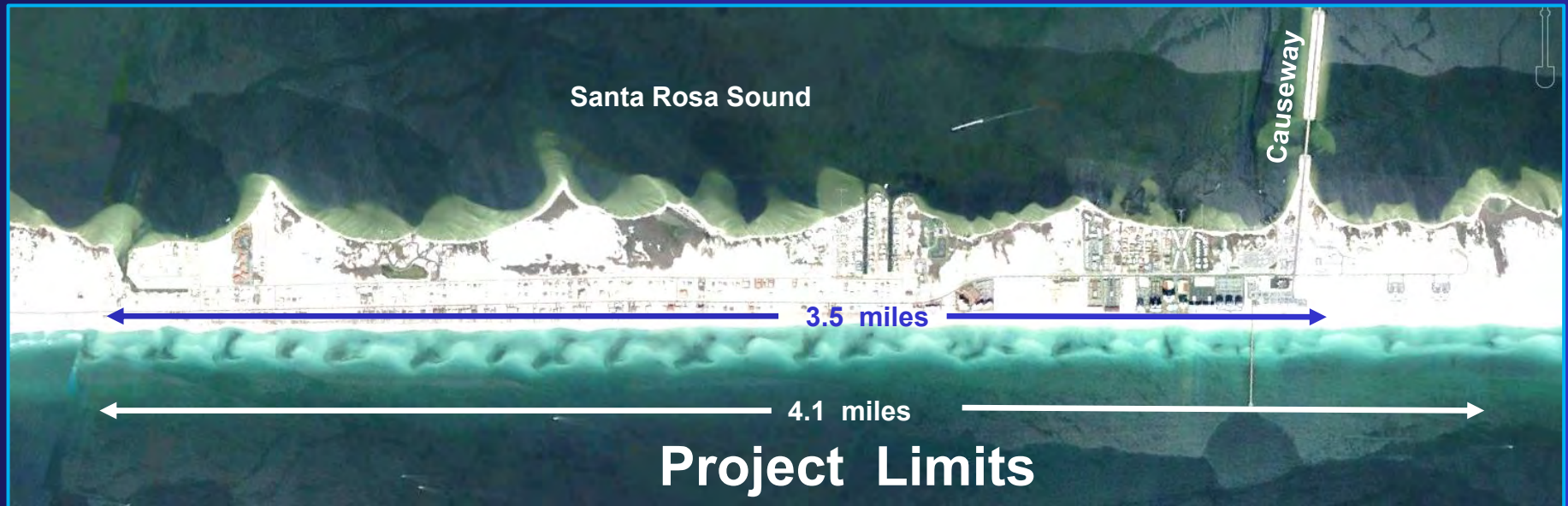


# Navarre Beach Dune and Berm Nourishment Project

Navarre Beach  
Lease Holders and Residents Association  
October 19, 2024

Charles “Tem” Fontaine III, P.E.



# **Presentation Overview**

- **Pre-Project Conditions**
- **Project Status/Expected Schedule**
- **Construction Expectations**
- **Dune Overwalks**
- **Dune Restoration**
- **West End/National Seashore**
- **Questions**



# Project History - July 18, 2005 - Post Hurricane Dennis





# Project History – Initial 2006 Construction



# **Project Status & Expected Schedule**

- **December 2024 Contractor Mobilization**
- **Late December 2024 Commence Dredging**
- **30 to 60 day dredging**
- **January to February Demobilization**



# Construction Expectations





May 3, 2006



# Submerged Pipeline Installation











April 3, 2006



## Sand Color QA/QC





# Dredging – Wet Sand is Dark



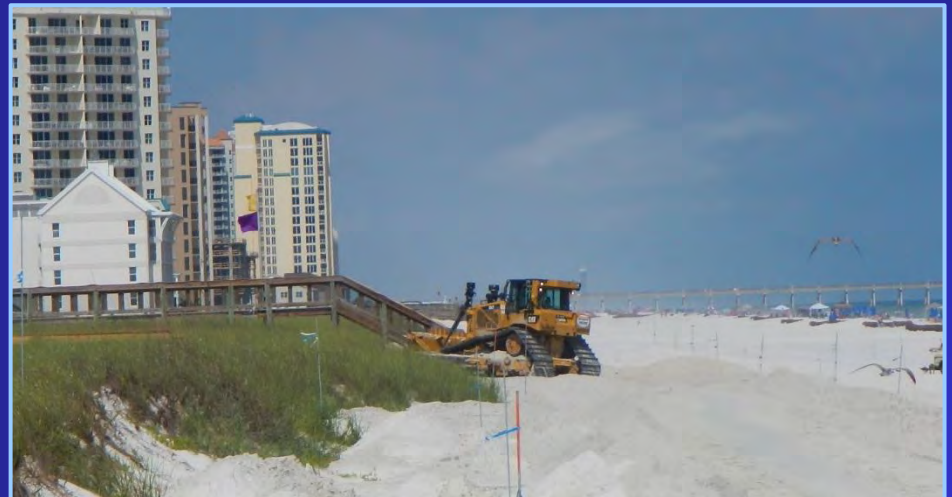
# Public Safety – Drivers Cannot See You!





# Dune Overwalk

1. Within Dune Template – Buried in place.
2. Above Dune Template – Sand pushed under dune Overwalk as well as possible.





## Dune Repair



## Mon R-198





# West End Dune Repair/Overwalk





**Thank You!**

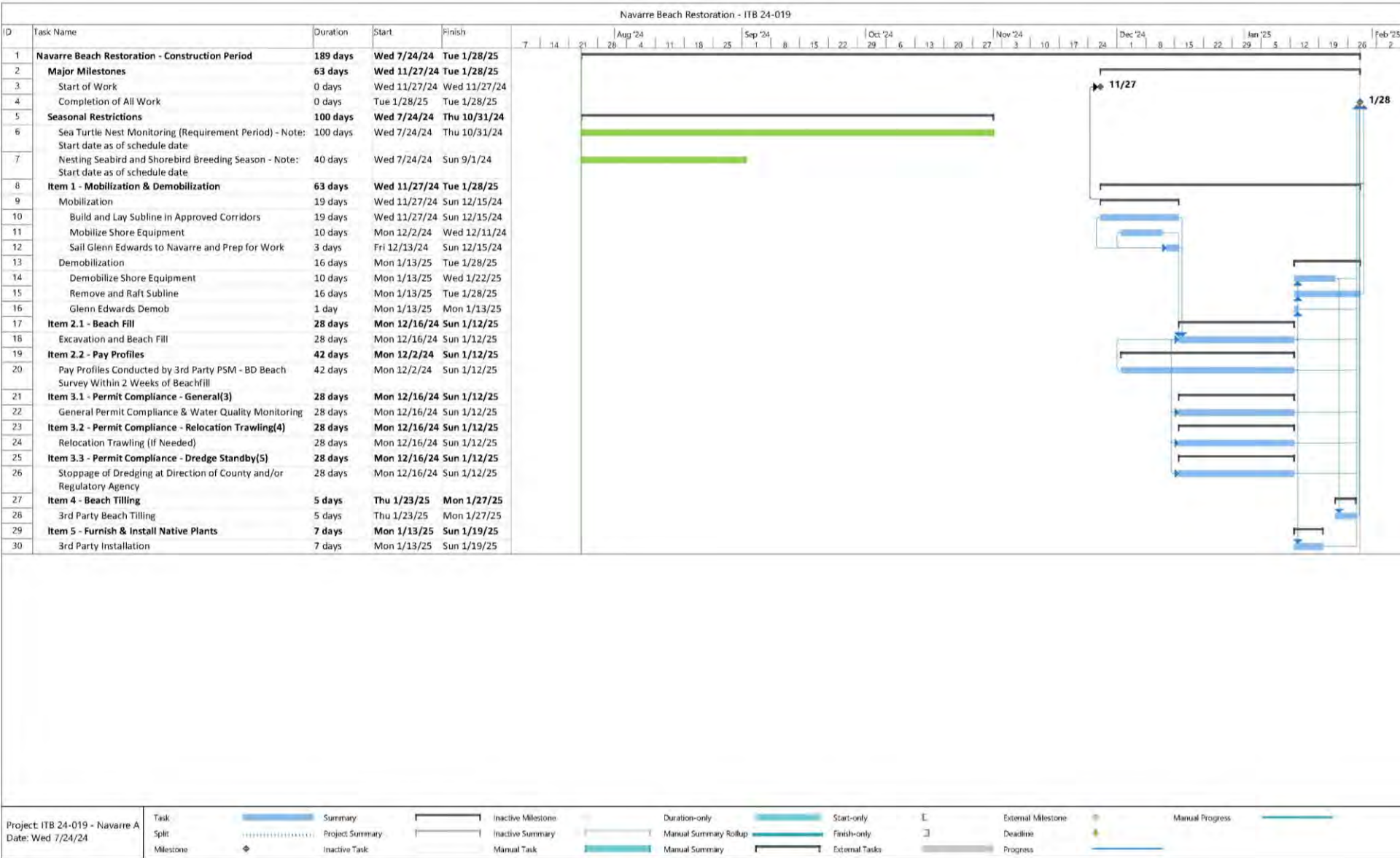
**Questions?**

**Tem Fontaine  
Coastal Technology Corporation**

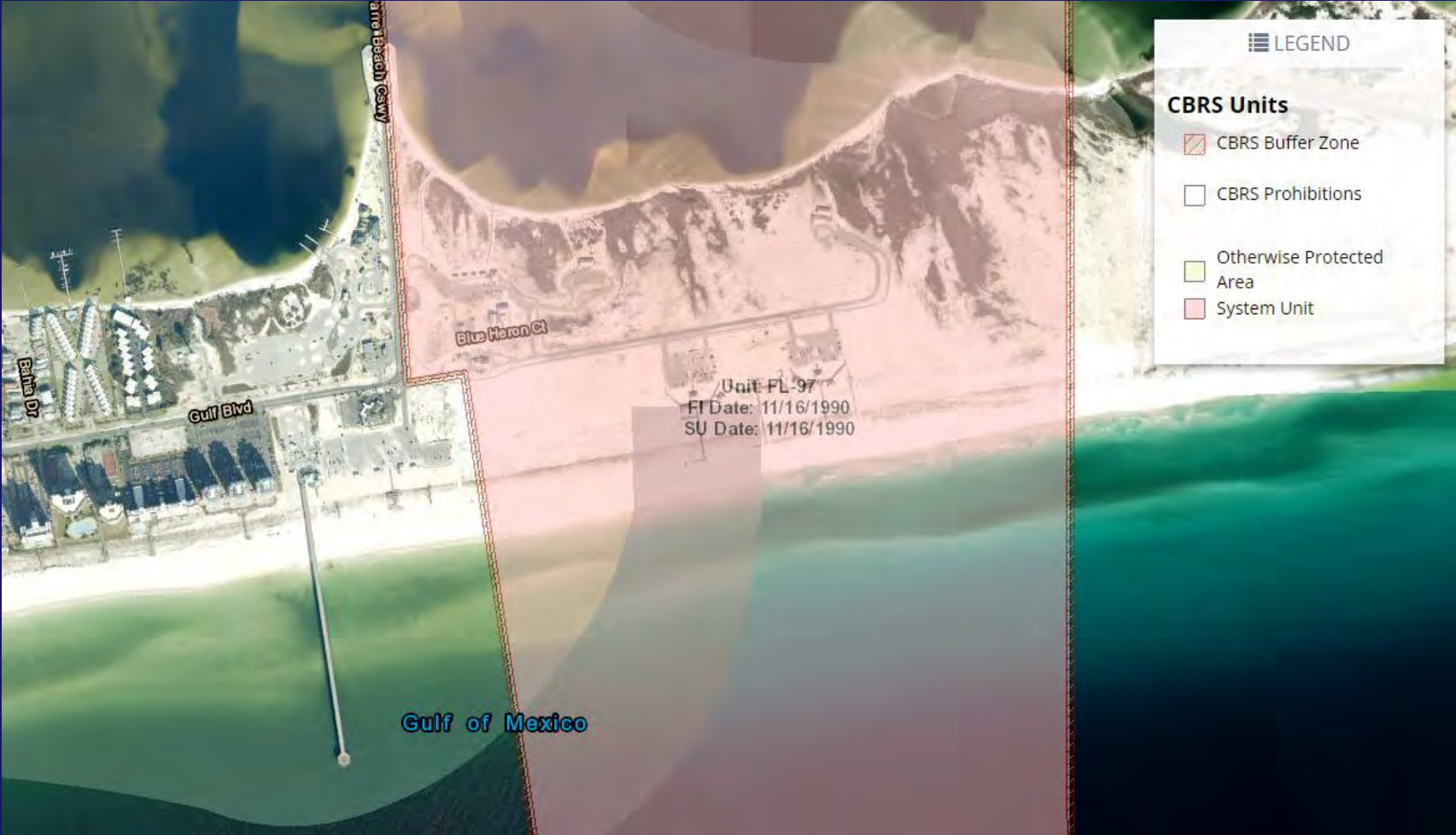
***coastaltechcorp.com***



Project Status & Expected Schedule



# CBRA Zone





# CBRA Zone

- ☒ Located within a System Unit of the CBRS and does not meet an exception to the CBRA (see additional information/comments below)
- ☐ Due to many competing priorities, the Service is unable to provide an opinion on the applicability of the CBRA's exceptions to this action/project at this time. FEMA may elect to proceed with the action/project if it has determined that the action/project is allowable under the CBRA. Please note that any new commitment of Federal funds associated with this action/project or a related future project is subject to the CBRA's consultation requirement.

## Additional Information/Comments

*Sand placement within FL-98P (an Otherwise Protected Area is not prohibited (only Federal Flood Insurance is) but sand placement within a System Unit -- FL-97, for the intent of structural protection is not consistent with the three purposes of CBRA. The Service finds that dune or berm placements often inhibit natural processes such as overwash events on barrier islands which allows for over-growth of vegetation. Increased vegetation eventually restricts the use of coastal areas by beach nesting birds (least terns, black skimmers, snowy plovers). Sufficient sands remain for nesting sea turtles. Piping plovers prefer the bayside mudflats that form from overwash events. Lacking the needs to any other imperilled species, we find this proposed project as inconsistent with the purposes of the CBRA.*

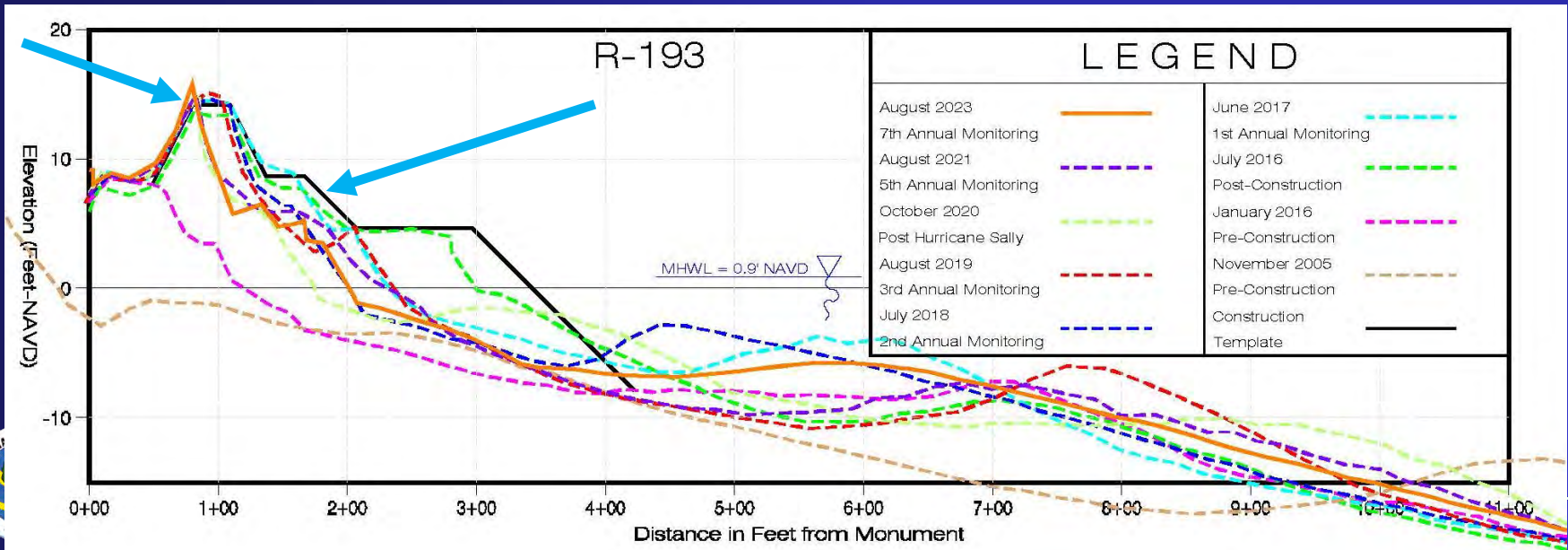
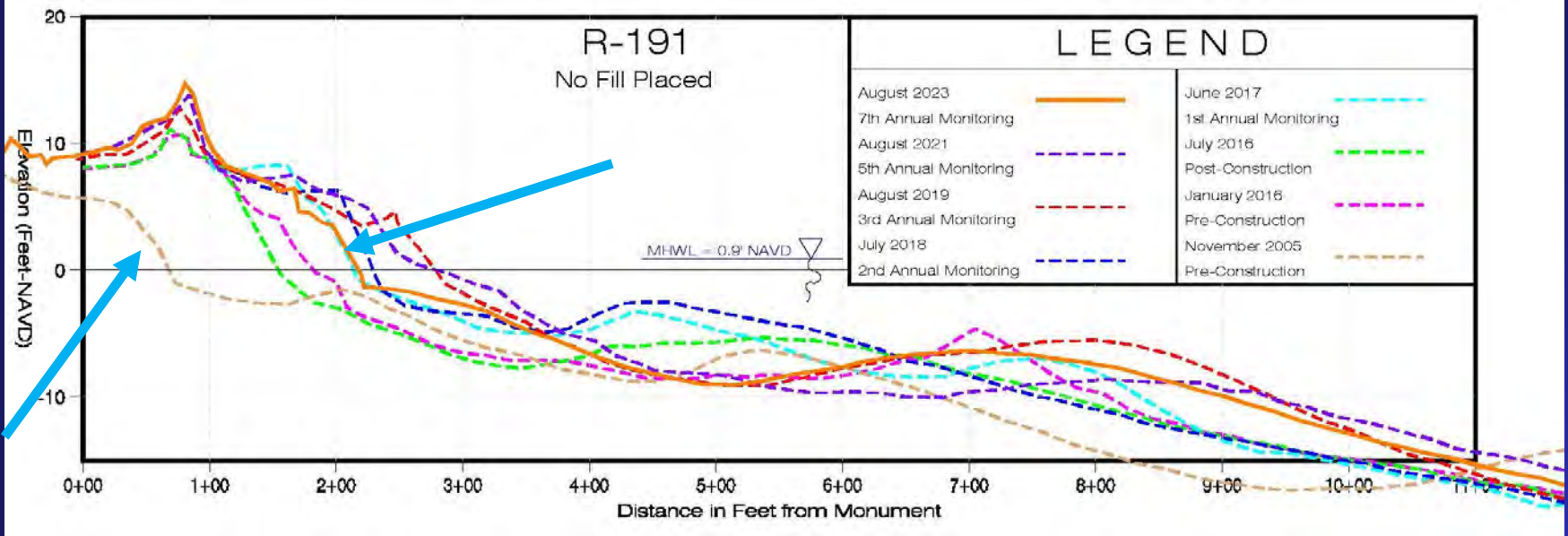


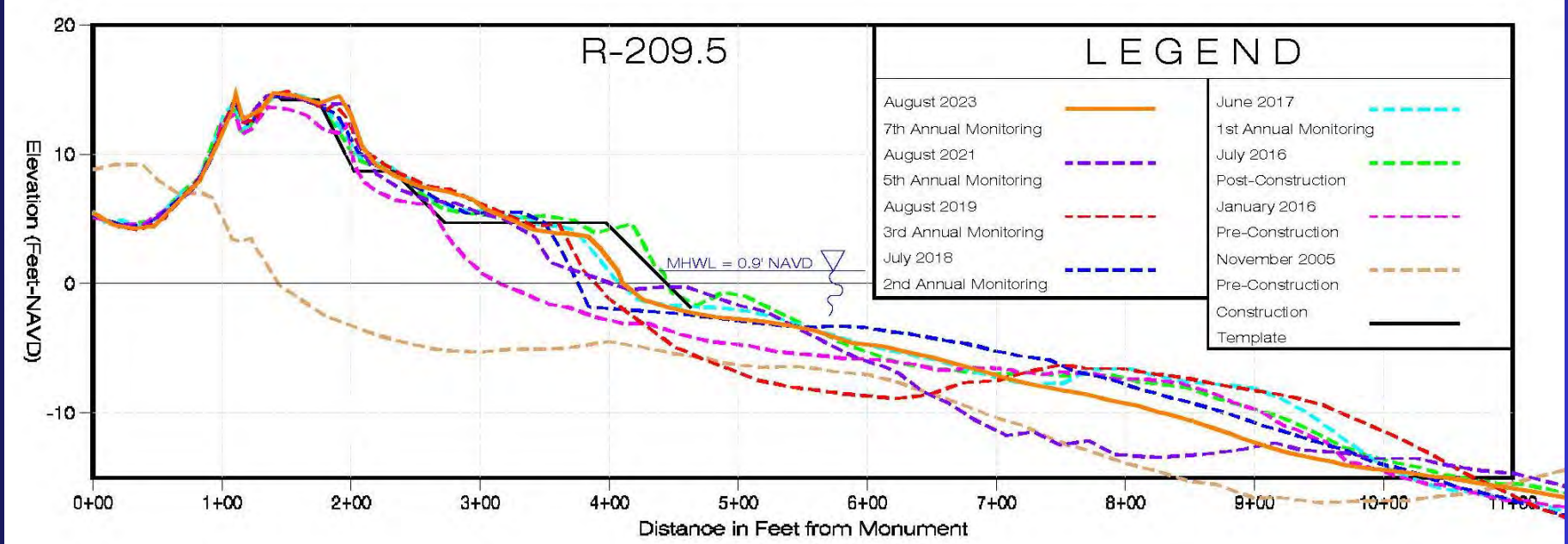
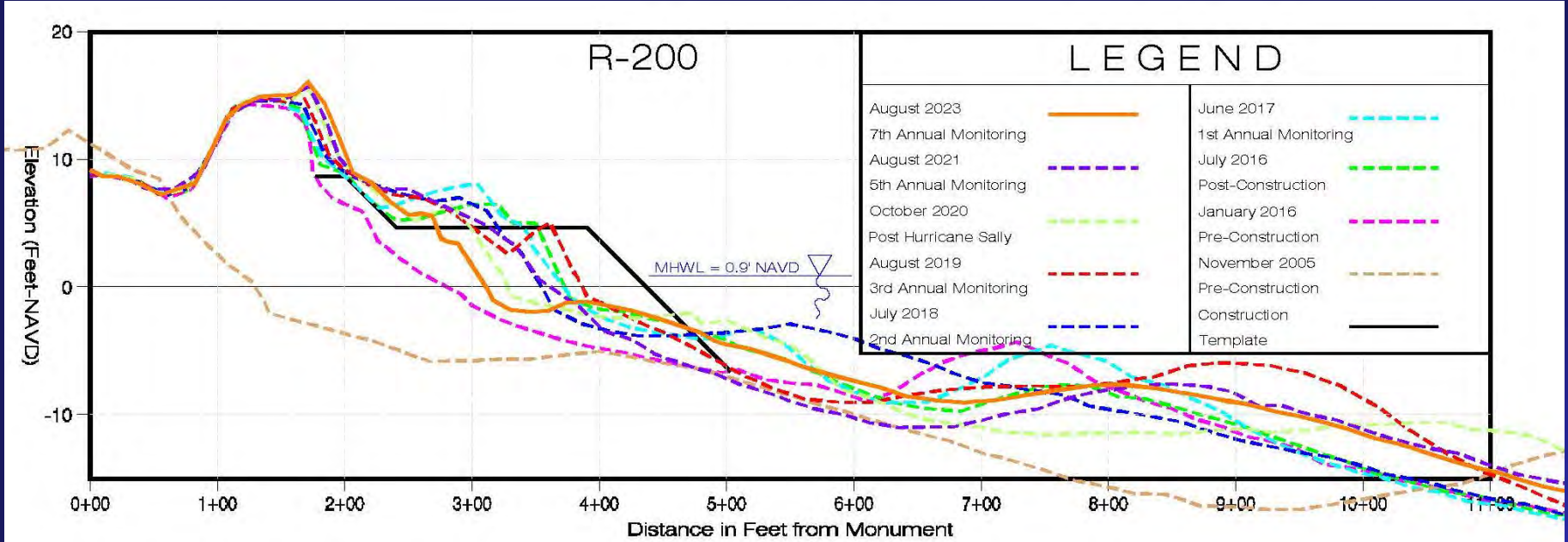
# Long-Shore Transport





# West End Survey Data







# **Program Status**

- **2000 Feasibility Study – Initial Project Planning**
- **2002 Sand Search Investigation – Offshore borrow site with ~14.5 Mcy. (~9.5 Mcy remaining).**
- **Project status since 2006 – maintain “shovel ready”.**
- **FDEP Local Government Funding Request (LGFR)**
  - **LGFR Requires Public Access**
  - **LGFR can fund up to 50% Project costs**
  - **Public Access designed to maximize LGFR Funding**
- **FEMA “Engineered Beach” – Reimburse up to 75% of damages. (Sally was about 250,000 cy).**
- **County exploring extending project to the west (GINS historically has resisted beach restoration).**



# **Project Status & Expected Schedule**

**(as presented to BCC)**

- **Project Permits**
  - **FDEP – Expires 1/7/2029; only need NTP**
  - **USACE – Expires 11/14/2029**
- **FEMA Supplemental EA – expected June 2023 (draft complete. Out to public notice.)**
- **FEMA Obligate federal funds – expected July 2023**
- **FDEP LGFR Agreement – expected May 2023**
- **Construction Easements – expected July 2023**
- **Prepare Final Design – expected June 2023**
- **Bid Project – expected July 2023**
- **Obtain FDEP NTP – expected September 2023**
- **Construction – expected September 2023 start**



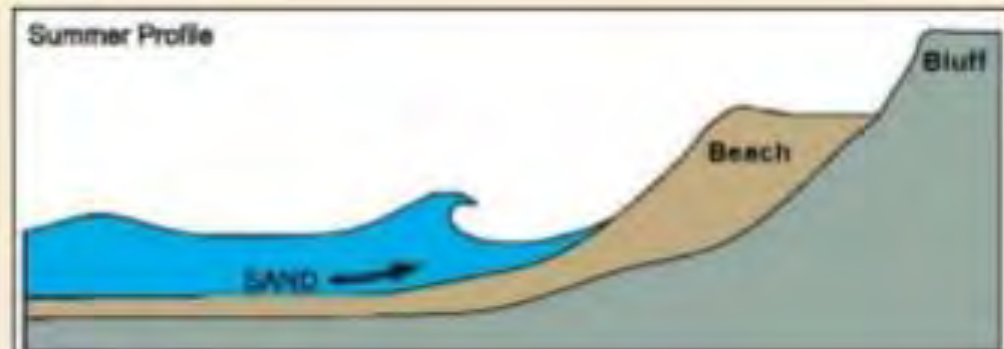


# Cross-Shore Transport

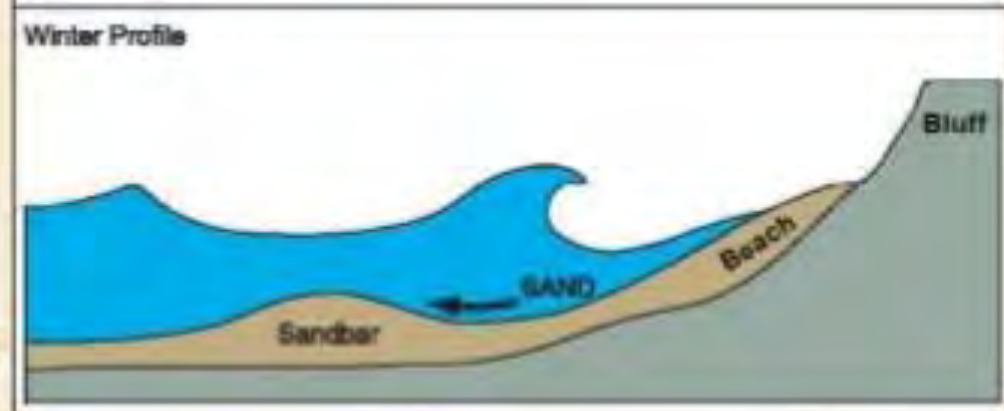
LLODERA Y I.M. BRACERO MARRERO, QAMG117, UPR-PP, 2015

## Wave: Beach profile

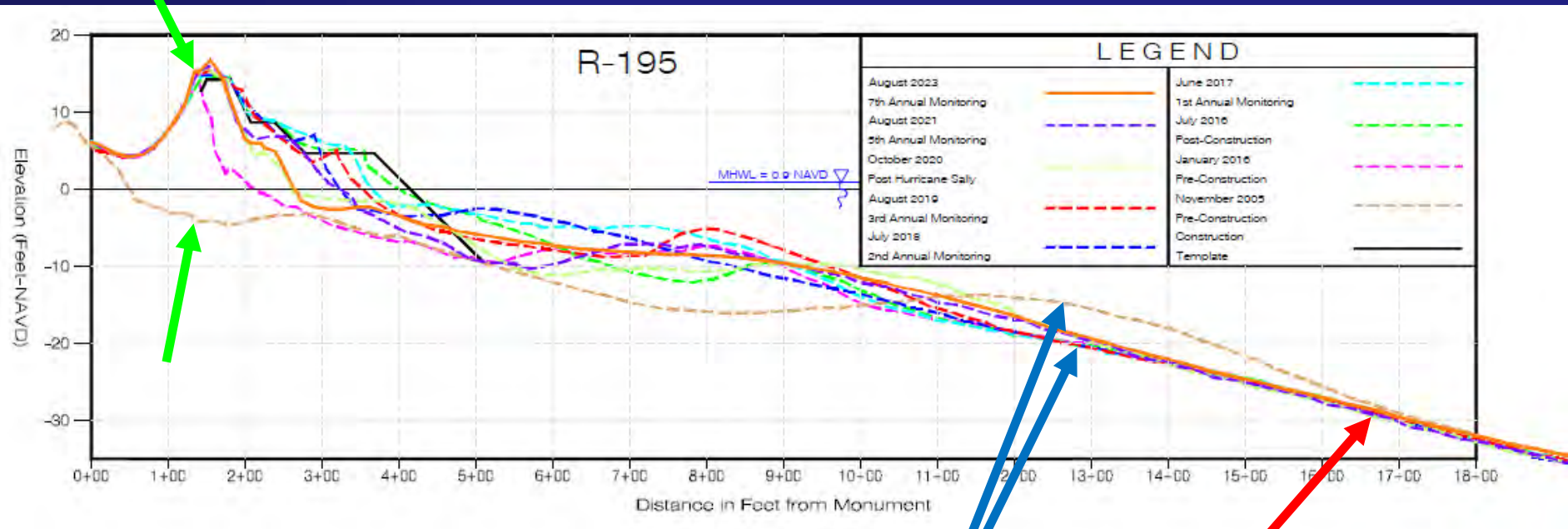
Light wave activity



Heavy wave activity

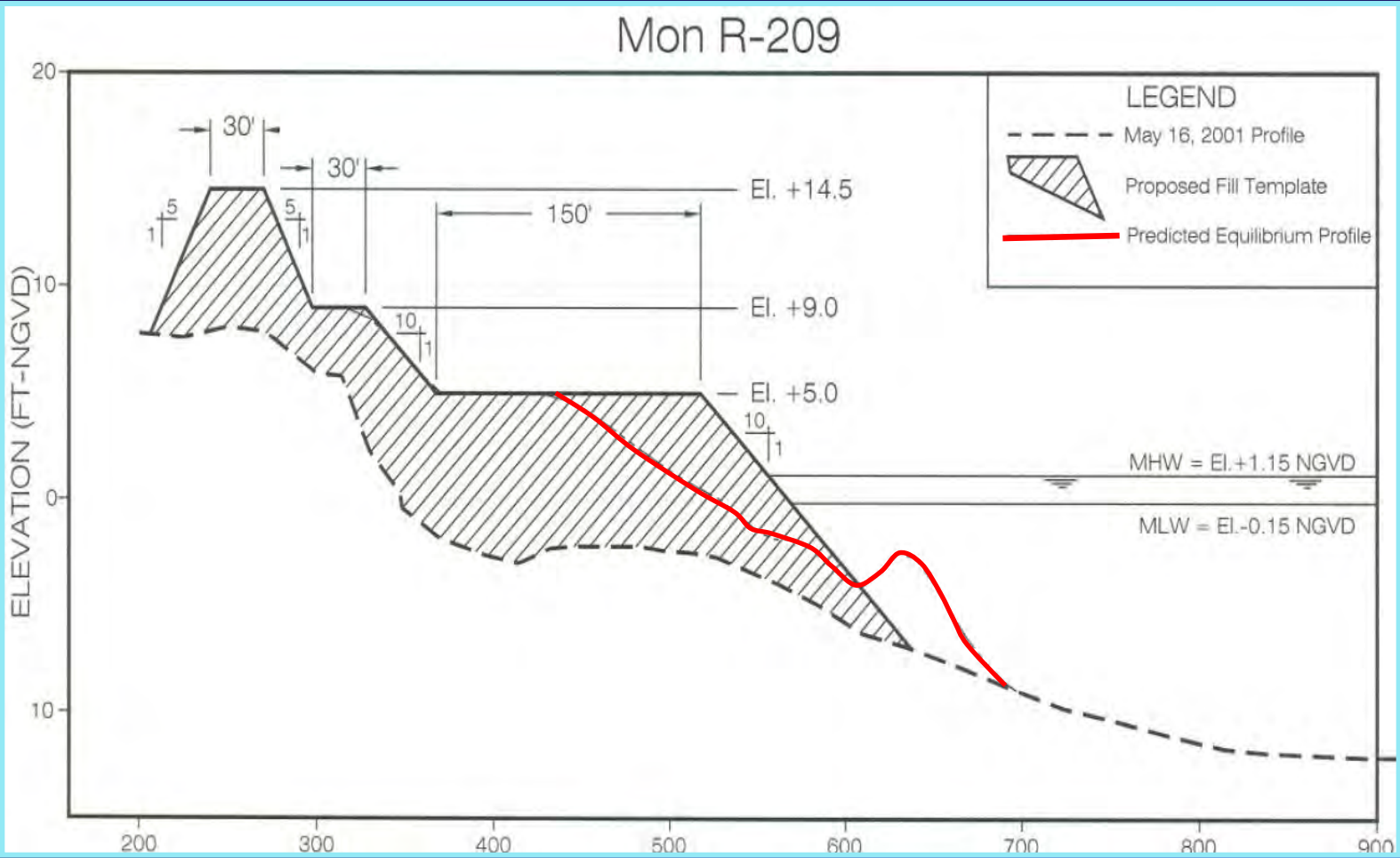


# Cross-Shore Transport Depth of Closure

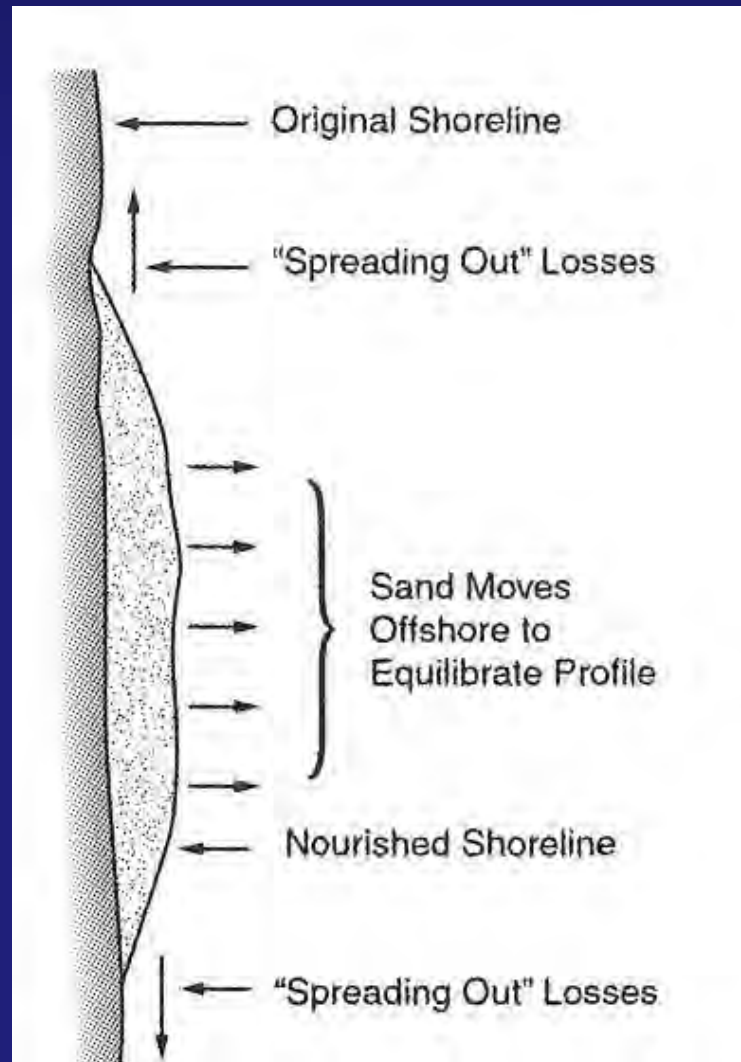




# Beach Nourishment - Sediment Transport



# Beach Nourishment - Sediment Transport

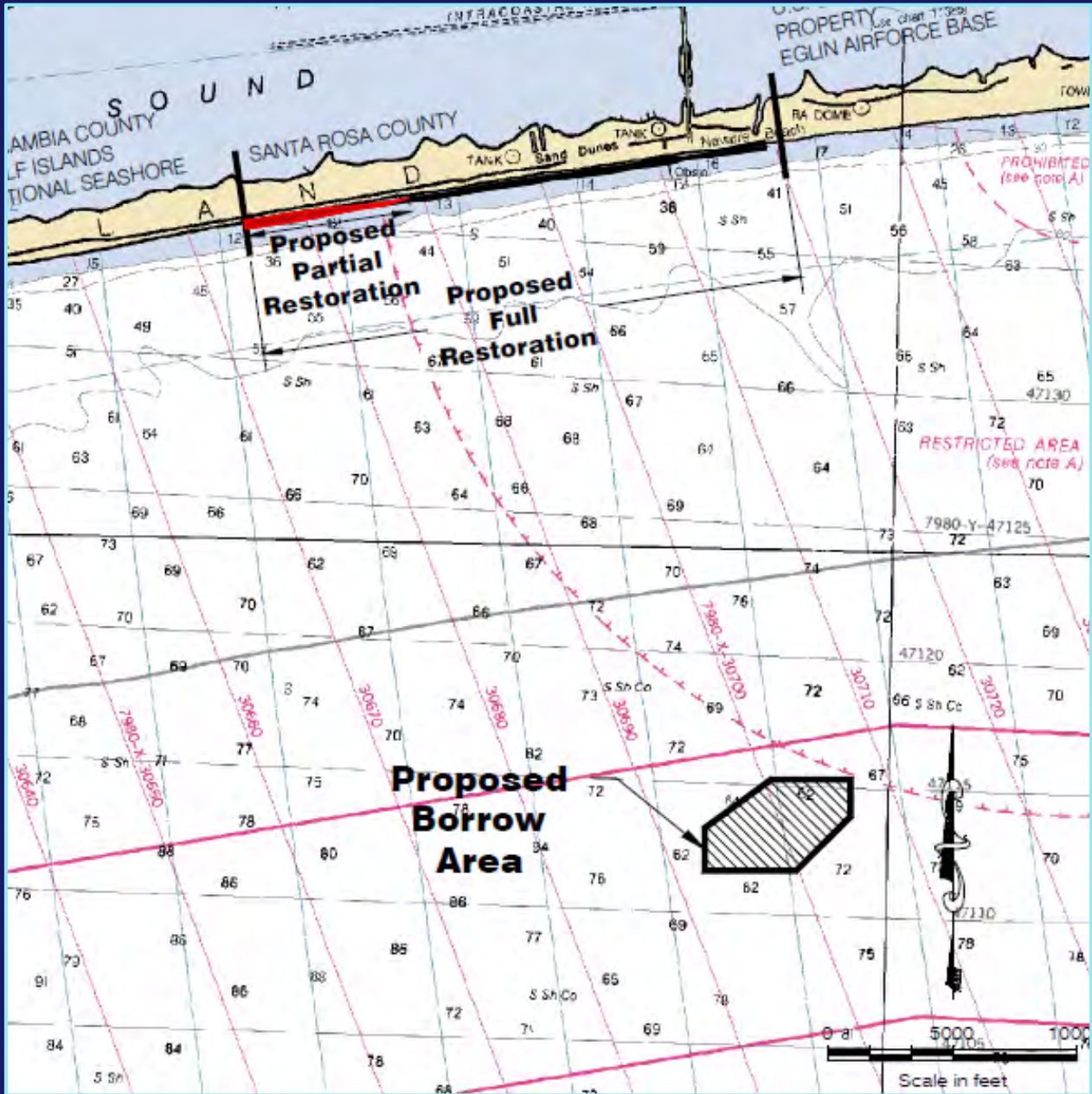


From: Coastal Processes with Engineering Applications Robert Dean/Robert Dalrymple



Project  
History

Borrow  
Area





## Project History – 2010 Truck Haul

- 11,881 cubic yards placed
- over 1,600 feet of beach
- via 593 truck loads of sand
- mitigate damages by Hurricanes Gustav and Ike
- mostly funded by FEMA





# Project History – 2016 Construction



# Project History - 2016 Construction

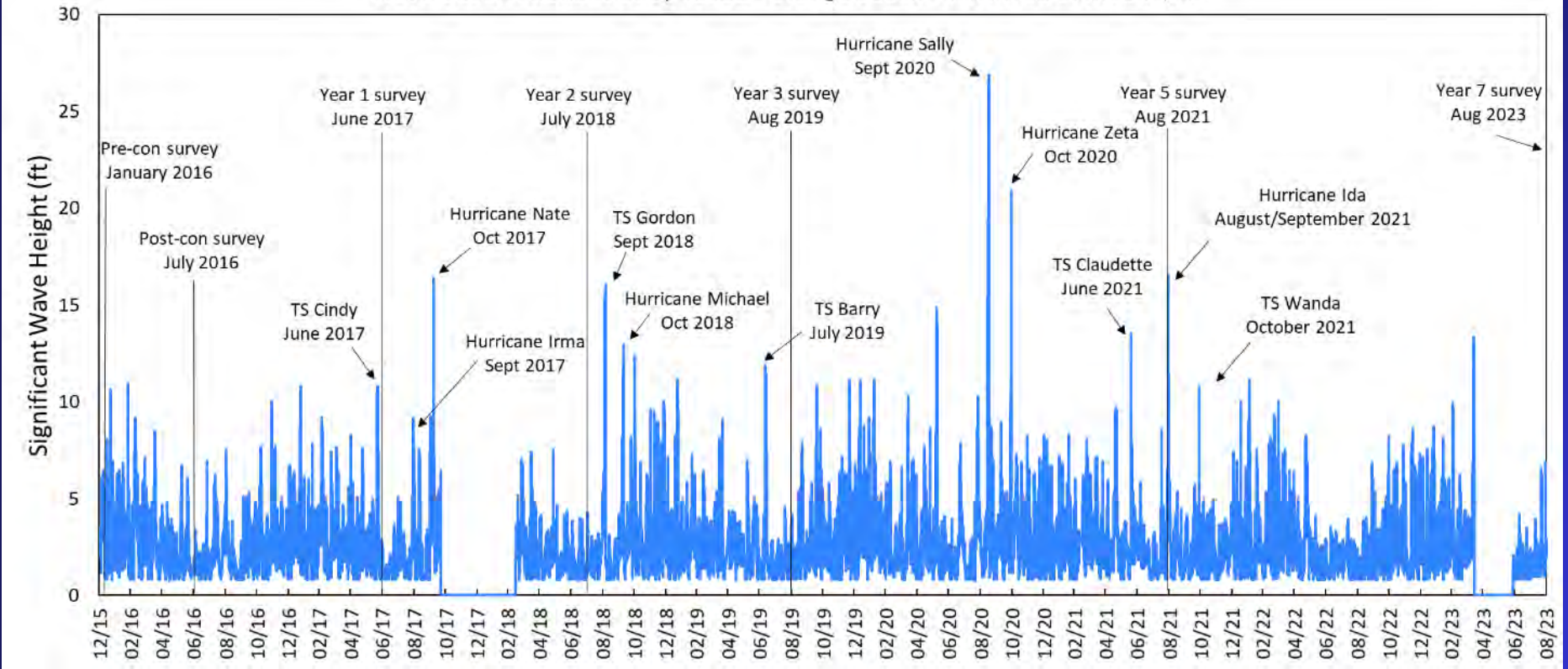




# Existing Conditions

## Wave Climate Since 2016 Project

Wave Observations at Buoy 42012 - Orange Beach - 44 NM SE of Mobile, AL



# Project History – Prior Construction Summary

- 2006 Initial Nourishment – 2.95 mcy of sand over 4.1 miles
- 2010 Truck Haul – 11,881 cy of sand over 1,600 feet
- 2016 Renourishment – 1.37 mcy of sand over 4.1 miles

