



# Unique Dredging and Placement Projects



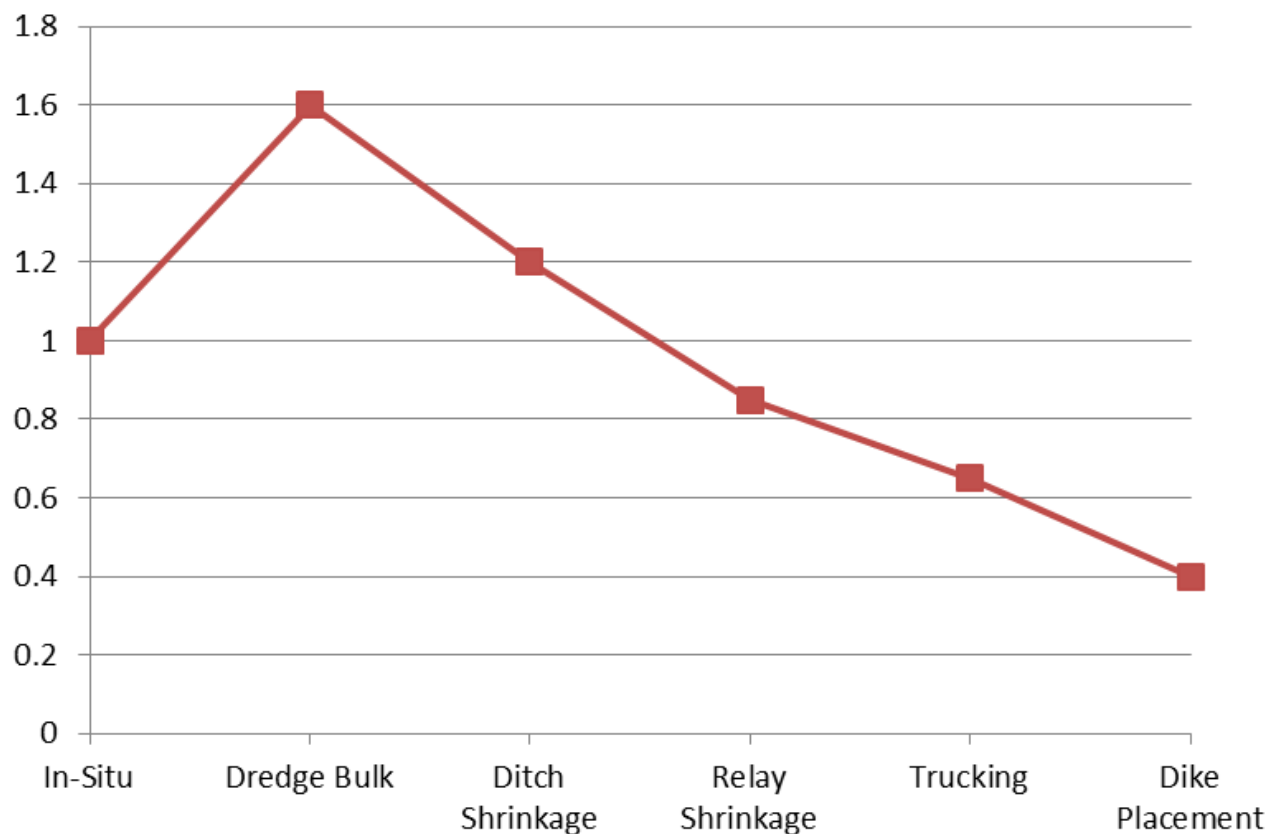
Presented by  
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October 22, 2015

# Presentation Overview

- Dredging Basics, A Short Review
- On-site Aquatic Placement
- Confined Aquatic Disposal
- Beneficial Use Sites
- Coastal Mississippi: An Update

# Review—A Yard Is Not a Yard Is Not a Yard

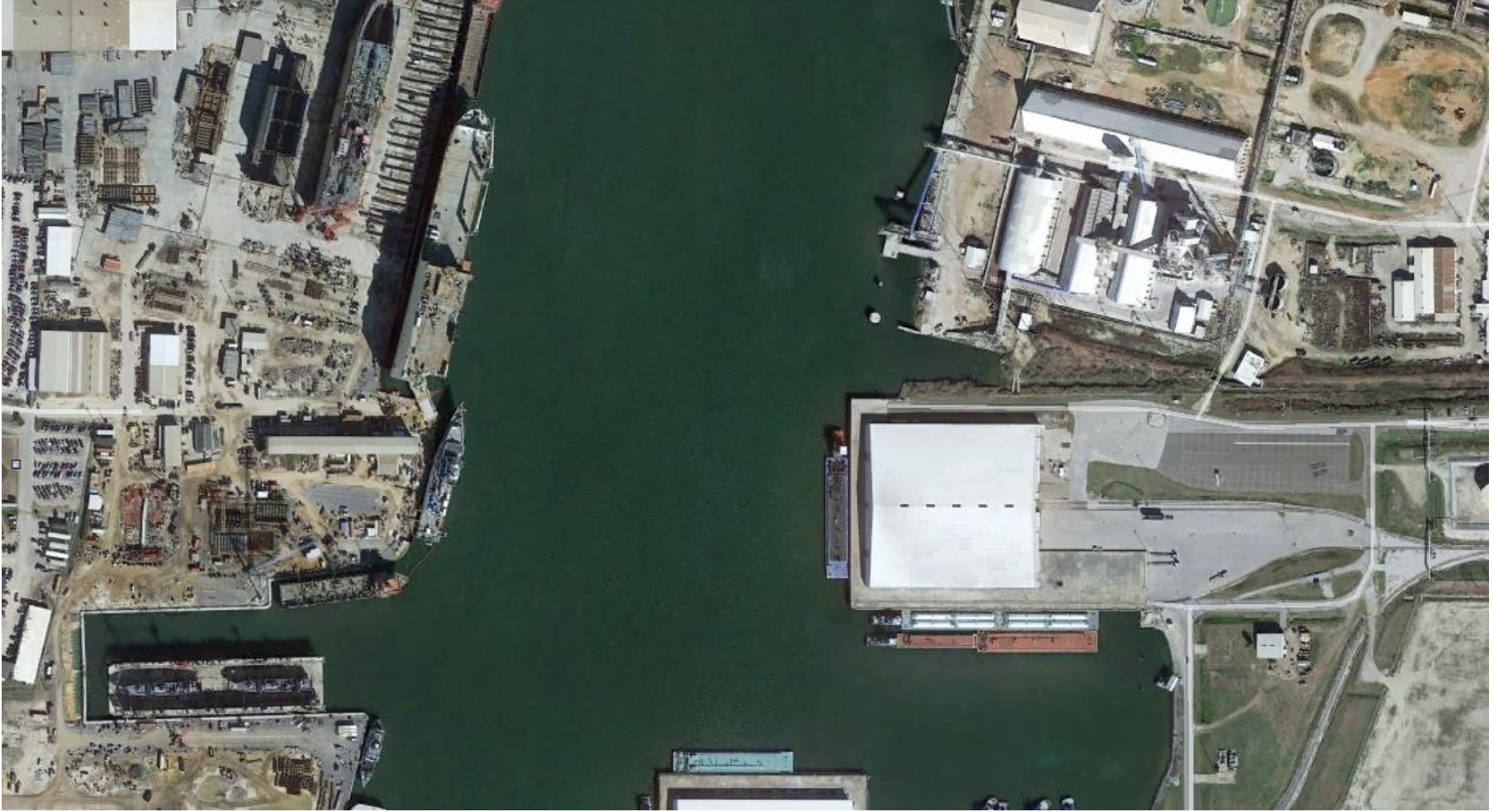
In situ, Intermediate, and End State



# On-site Placement



# Inner Harbor Berths



# Dredging Method





# Commercial Landfill

- Regulations
  - Federal: U.S. Environmental Protection Agency (USEPA)
  - State: DEP, DEQ, etc.
  - Local
- Processing for transport
  - Additives (e.g., Portland cement, etc.)
- Transport
  - Marine
  - Truck
  - Rail



# On-site Placement

- Regulations
  - Federal: USEPA
  - State: DEP, DEQ, etc.
  - Local
- Transport
  - Barge
  - Truck and rail
  - Conveyor





# On-site Placement

- Measurement and payment
  - Cubic yard (CY) in situ
- Liabilities and risks
  - Owner vs. landfill
  - Managed risks
- Contaminant stability
  - AVS SEM
  - Hydric conditions



# On Site Placement for Restoration



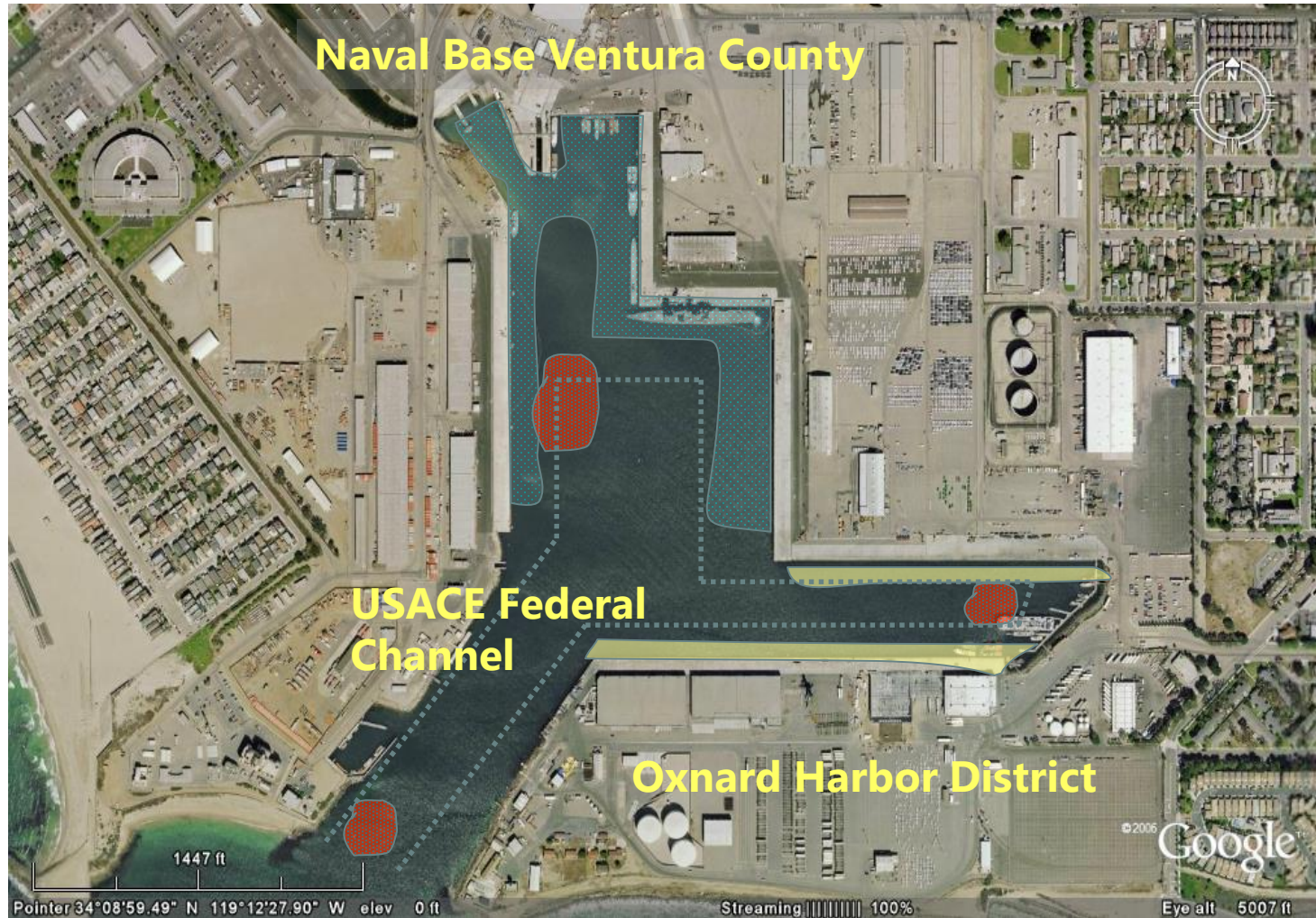
# Confined Aquatic Sites





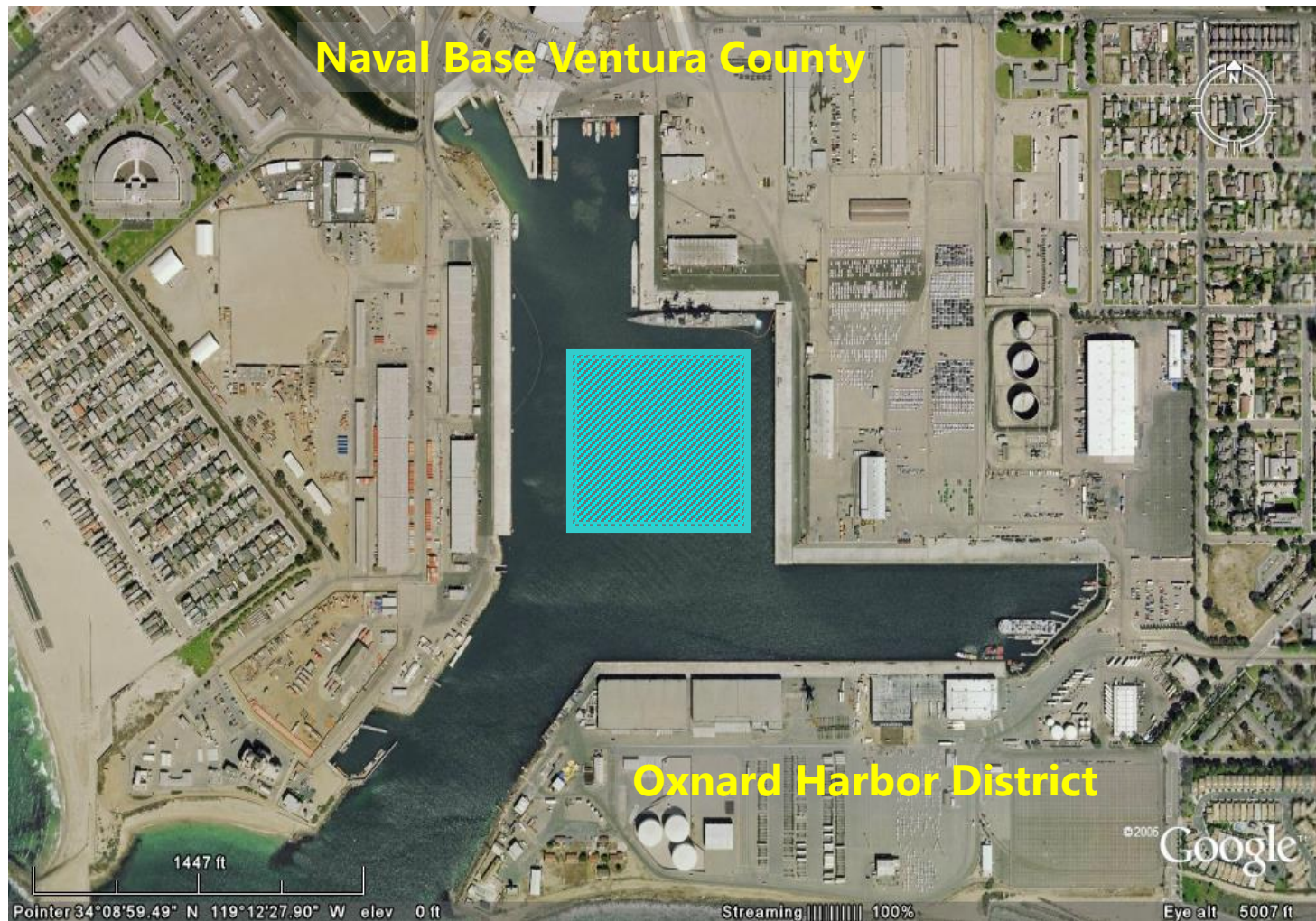


# Port Hueneme Impacted Sediment Locations





# Construction Sequence





# CAD Excavation





# Contaminated Sediment Dredging

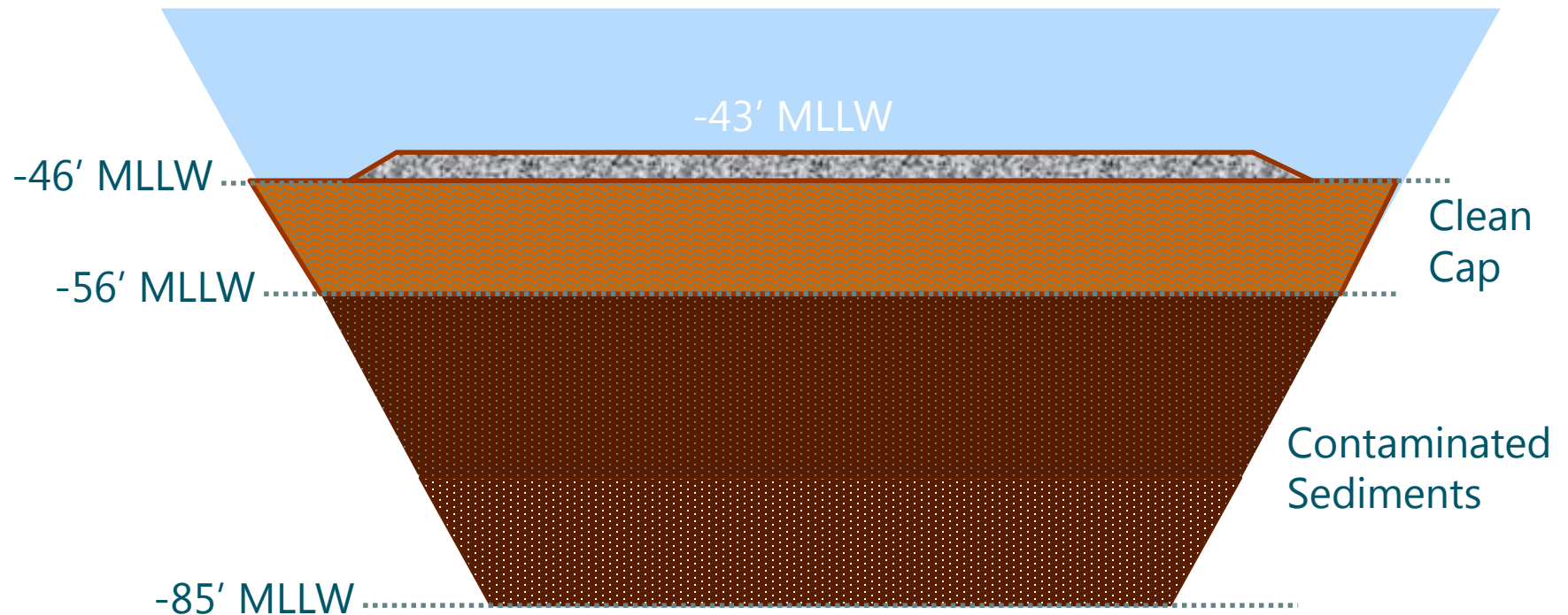




# CAD Cell Capping



# Port Hueneme CAD Cross Section



# Beneficial Use Sites

# Beneficial Use (BU)



- Beach nourishment
- Agriculture and products
  - Topsoil
  - Aquaculture
- Berms
  - Stable and feeder
- Land creation
- Land improvement
- Marsh and intertidal habitat





# BU Marsh Design

- Design Considerations
  - Foundation
  - Dredge material properties
  - Placement methods
  - Density phases
- Lessons learned
  - Marsh now
  - Larger sites and adaptive management

# Coastal Mississippi: An Update

# History and the BU Law

- 2001 & 2002
  - USACE and DMR identify potential BU sites
  - Develops Master Plan for BU in Mississippi
  - Deer Island identified as a pilot project and completed in 2003
- 2008
  - Beneficial Users Group (BUG) formed
  - State and federal agencies, co-chaired by DMR and USACE
  - Private stakeholders (e.g., local ports)
- 2010
  - BUG recommends revised legislation
  - House Bill 1440 passed March 2010
  - Coastal Wetlands Protection Act § 49-27-61,

# Deer Island Marsh Creation Project: 2001 to 2003

- Components:
  - 7- to 8-foot-high dike
  - Easterly wing dike
  - Flash board riser weirs
  - Offset to provide bayou
- Dredged material from Biloxi Lateral Channel
- Approximately 40 acres were filled with 365,000 cy of sediment





# Pre-Katrina

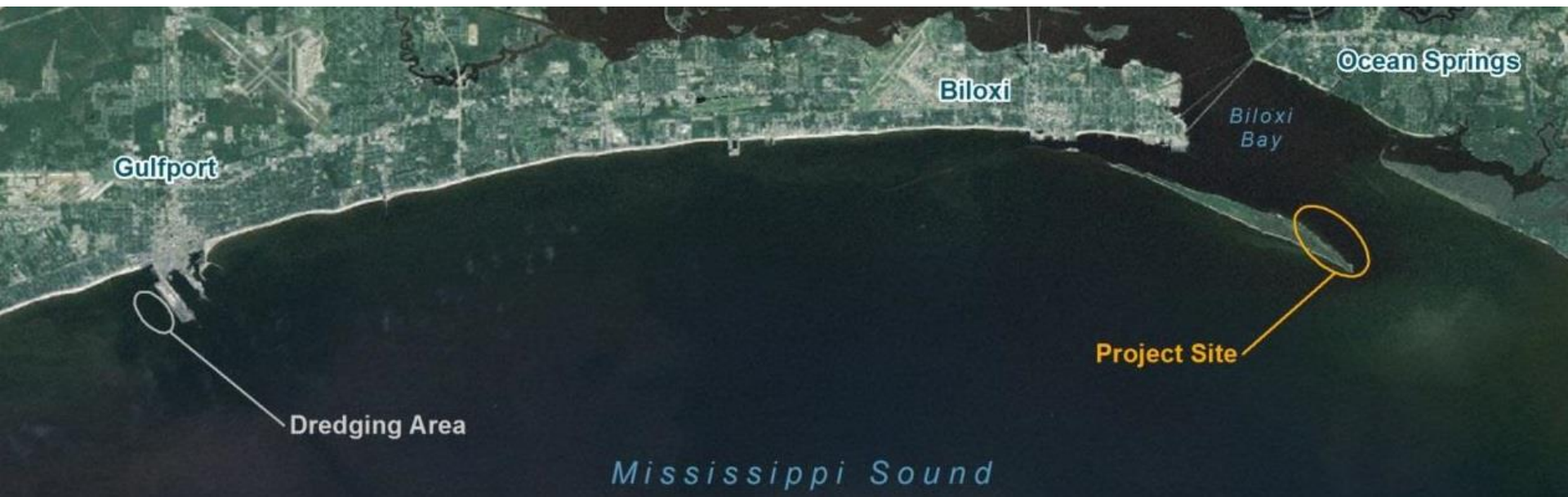


# Post-Katrina





# Deer Island BU and Port of Gulfport 2012



- Designed with DMR, Port, and Stakeholders
- USACE rebuilt existing cell under MsCIP
- Refill existing BU cell and construct additional expansion area BU cell
  - Open at the western end to encourage circulation and habitat development
  - Can be expanded for additional material
  - Mimics the historic 1850s footprint
  - Intertidal plant species
  - Chenier for nesting

# Port of Gulfport—2012 Restoration





# Deer Island BU Construction 2012



# Port of Gulfport—2012 Restoration (cont.)





# Current Views





# Current Views



# BU to Enhance Existing Marsh

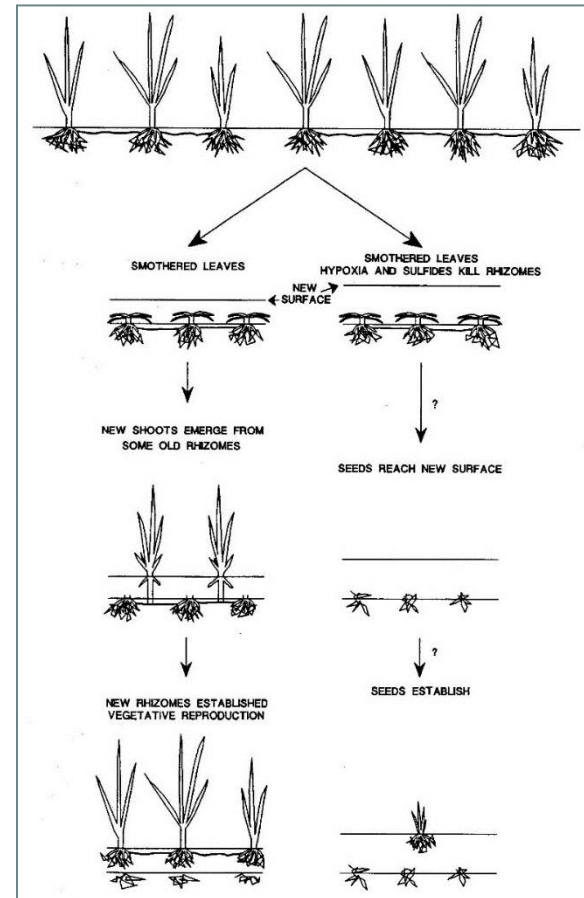
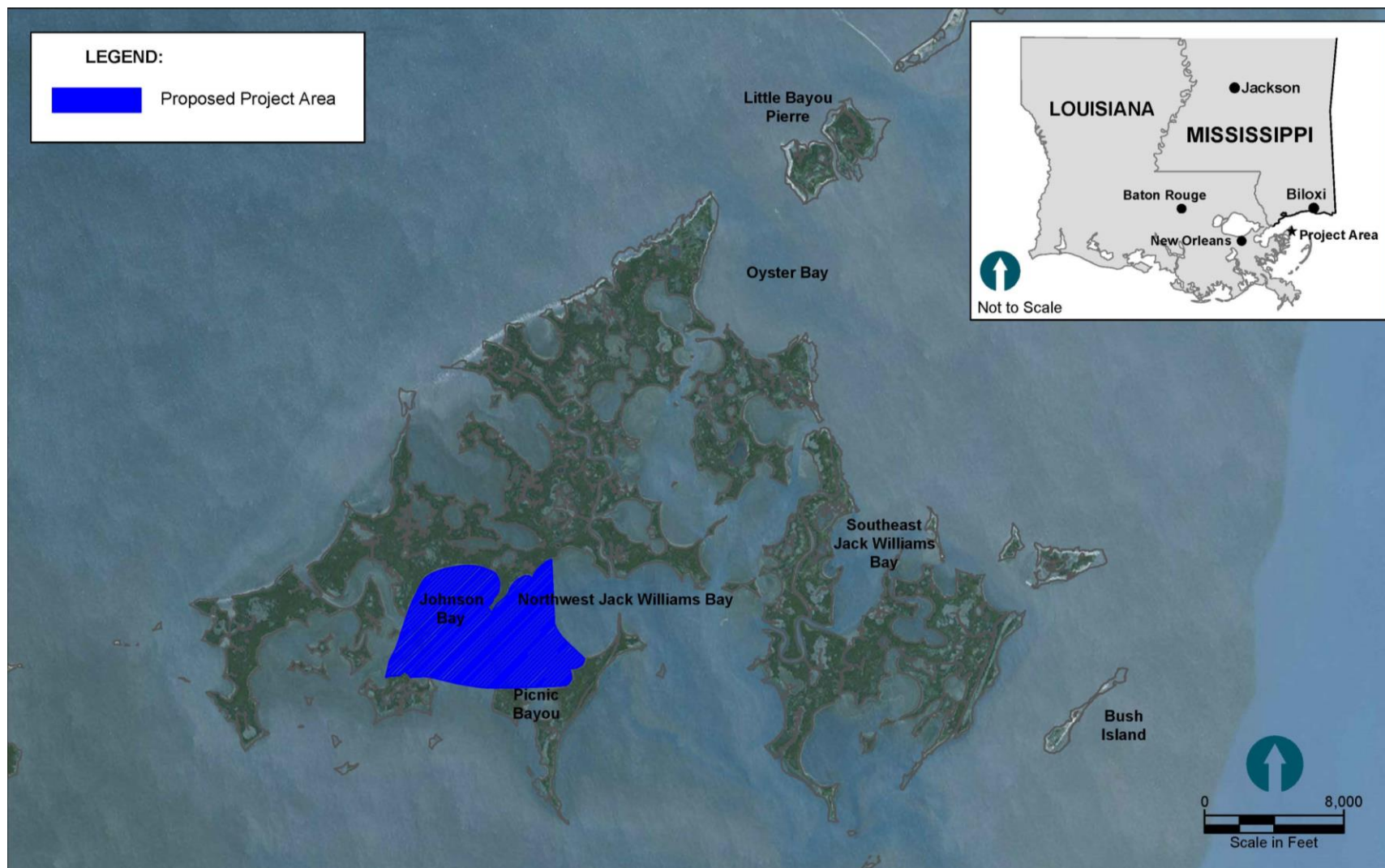


Illustration of conceptual model for marsh recovery after thin-layer disposal



# Regional Sediment Management Sites





# Questions /Discussion

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