



# PLAQUEMINES PARISH COASTAL INITIATIVES

WEDA

November 20, 2014

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Director of Coastal  
Zone Management





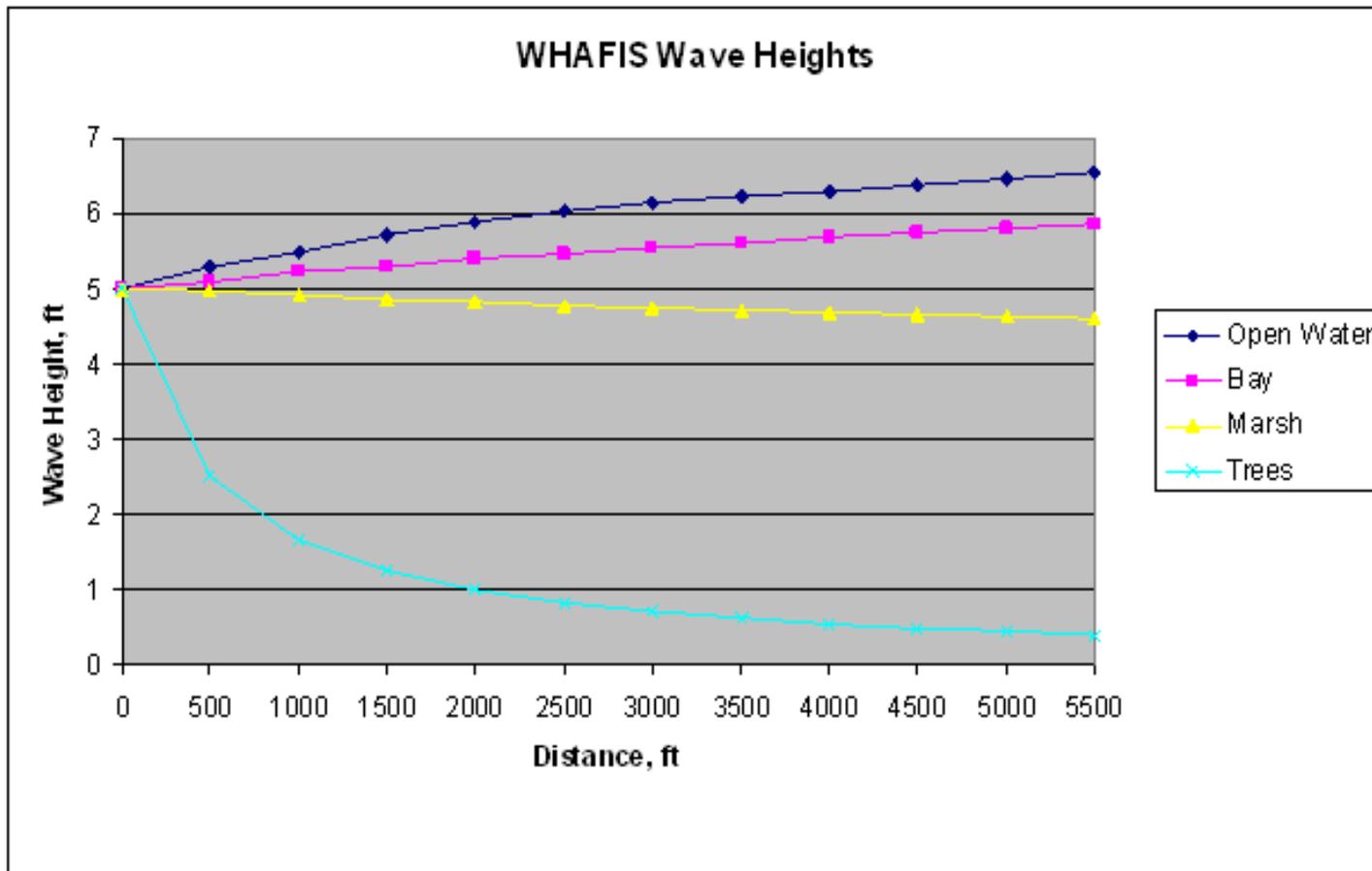


LA 281





# REDUCING WAVE HEIGHTS



Modeling has shown that tree barriers significantly reduce wave action.





# COASTAL RESTORATION IN PLAQUEMINES PARISH



Coastal Restoration in Plaquemines Parish will include:

1. Maintaining adequate flood protection for residents

2. Providing “Forested Ridges” adjacent to levees

**Phase 1**

3. Replenishment of wetlands areas

**Phase 2**

4. Redevelopment of the barrier islands

**Phase**



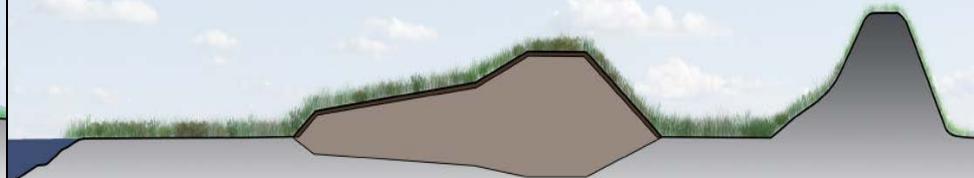
# CONSTRUCTION OF FORESTED RIDGES



**1.** Existing conditions: High wave energies on levee faces



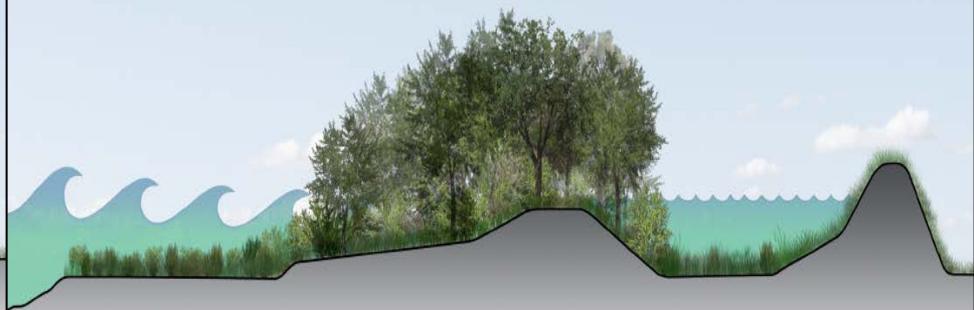
**2.** Historic ridge restored using Mississippi River sediments



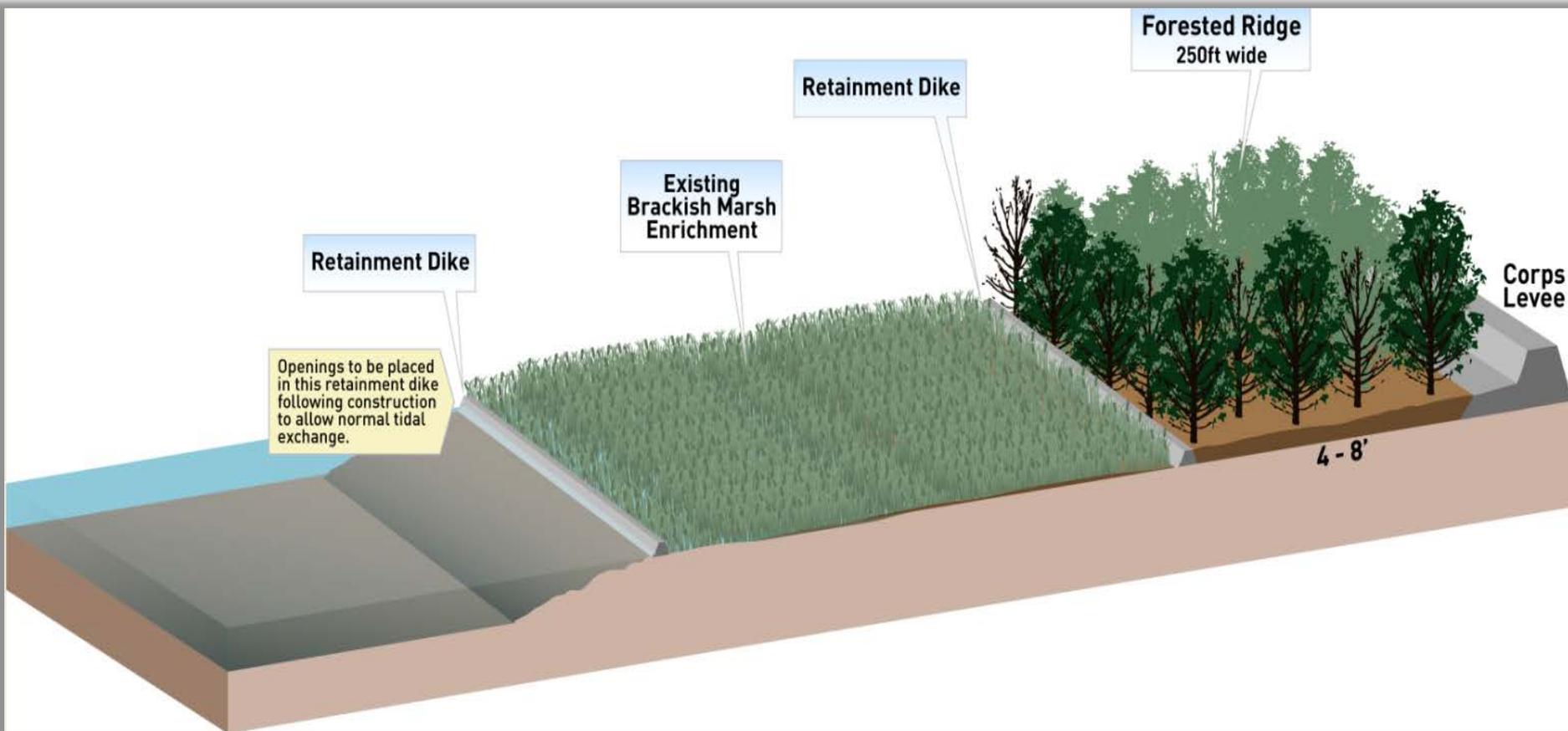
**3.** Vegetation can offset subsidence elevation losses over time



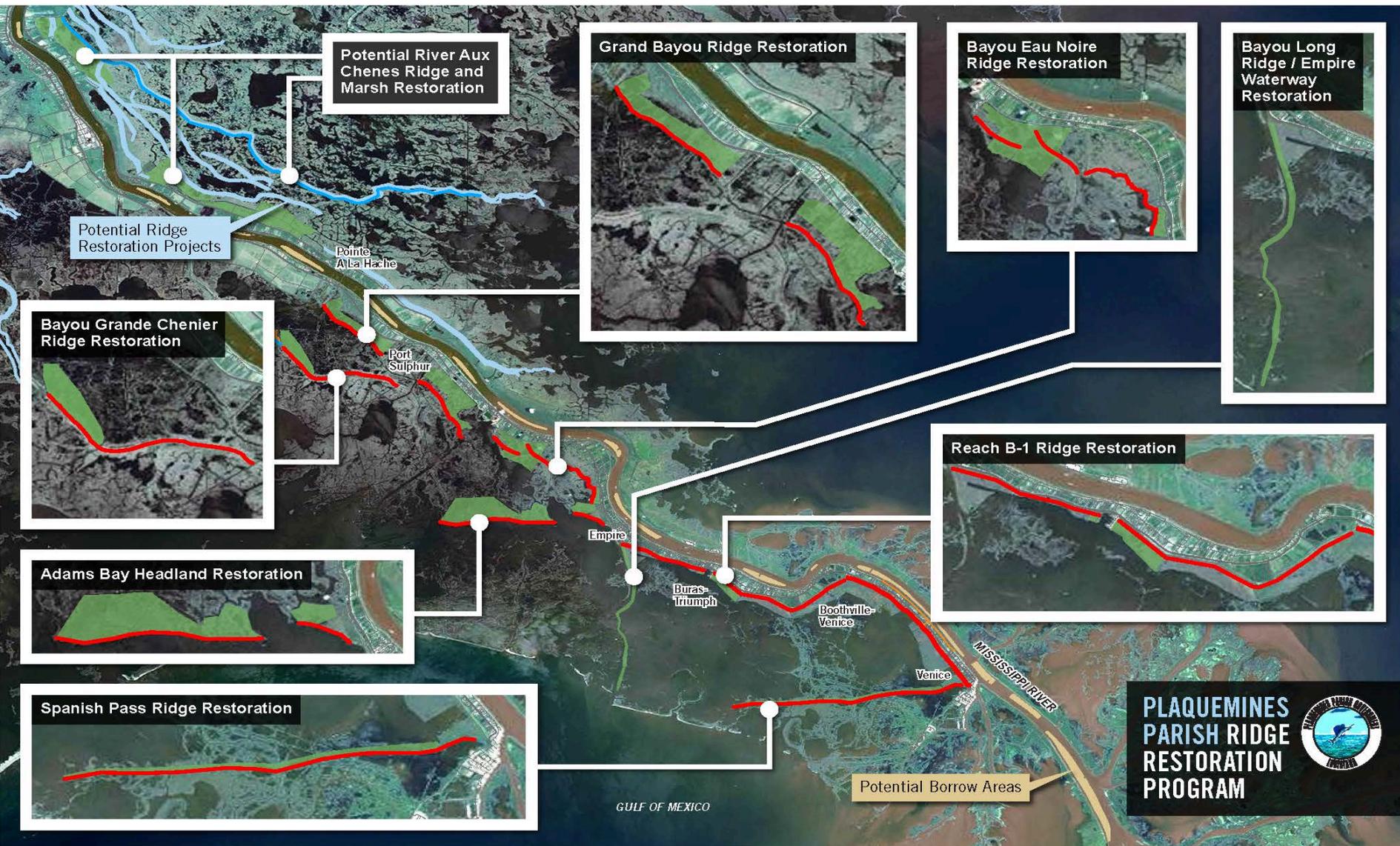
**4.** Vegetated ridge will reduce wave energy and wave overtopping



# CONSTRUCTION OF FORESTED RIDGES



# RIDGE RESTORATION PROGRAM



**PLAQUEMINES  
PARISH RIDGE  
RESTORATION  
PROGRAM**



GULF OF MEXICO

Potential Borrow Areas

# RIDGE RESTORATION PROGRAM OBJECTIVES



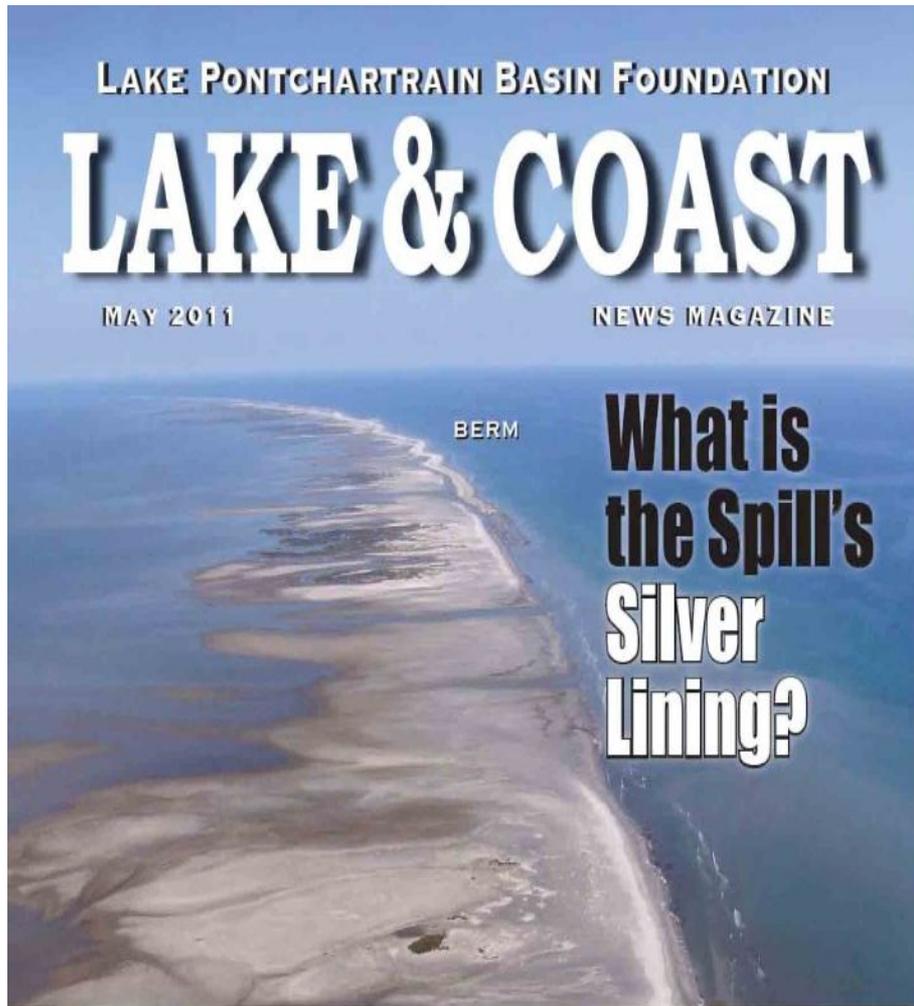
- Main Program Objective: Invest in coastal restoration projects that have the greatest impact in reduction of surge and wave heights
- Additional benefits:
  - Complementary to State Coastal Master Plan
  - Efficient to permit
  - Constructible
  - Restores historic coastal ridge and marsh habitat
  - Leverages Parish funds

# BUILDING THE BERMS



- Largest coastal project in the history of the U.S.
- Permitted in 19 days
- Environmentalists claimed that the berms would decimate the marshes and ecosystem

# MEDIA ATTENTION



“At this time, LPBF still firmly believes that the project will be beneficial for the islands. We expect the berm will buy some time for the islands and quickly create quality barrier island habitats. The berm at Chandeleur Island is potentially the most significant constructed project contributing to coastal restoration in in the Pontchartrain Basin in 2010.”

-- Dr. John Lopez, PhD. Lake & Coast Magazine, May 2011

# BUDMAT PROGRAM UPDATE



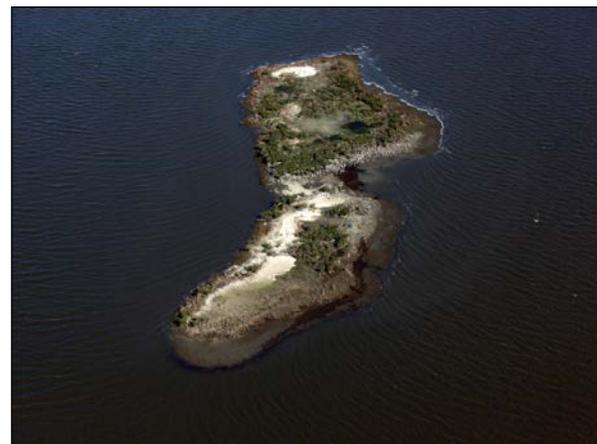
- Plaquemines Parish signed an agreement with USACE-MVN in spring 2013
- Focuses on areas along West Bay and Tiger Pass
- Agreement executed August 6<sup>th</sup>
- Work currently ongoing

# BIRD HABITAT ISLAND RESTORATION PARTNERSHIP



- Plaquemines Parish Government
- Barataria – Terrebonne National Estuary Program
- Shell
- Apache Minerals
- Coastal Impact Assistance Program
- American Bird Conservancy
- National Audubon Society

**Total funds and donations: \$3M**

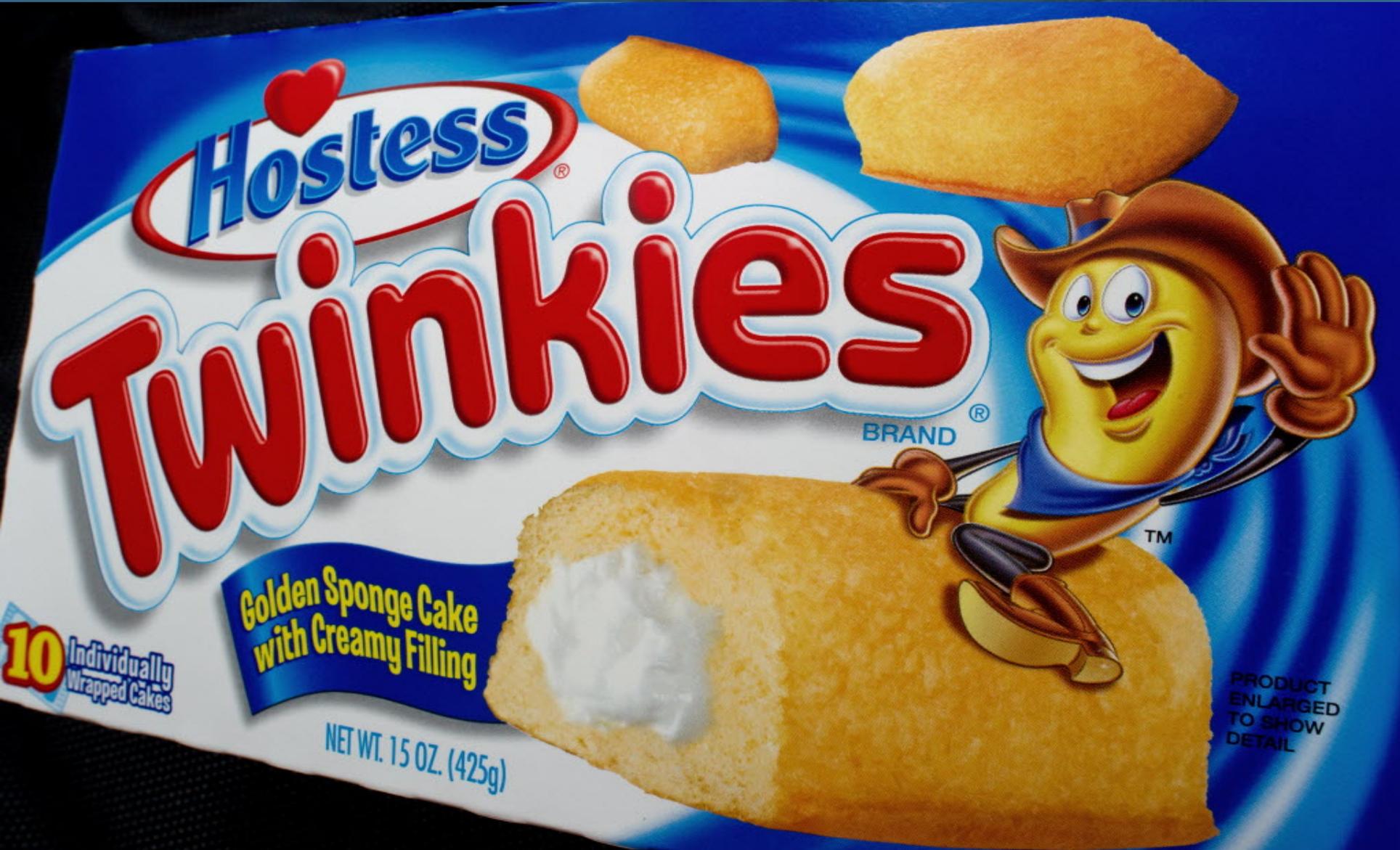


## Proposed Island:

- 18.90 Ac. at Containment Berm
- 10.4 Ac. at MHW
- 8.5 Ac. of Intertidal Zone
- 0.4 Ac. +4 Top of Island



# EXTINCTION



# BIRDS OF THE CAT ISLANDS











# HISTORIC LAND LOSS – CAT ISLAND WEST



1935 – 350 acres

1998 – 40 acres

2010 – 5.5 acres

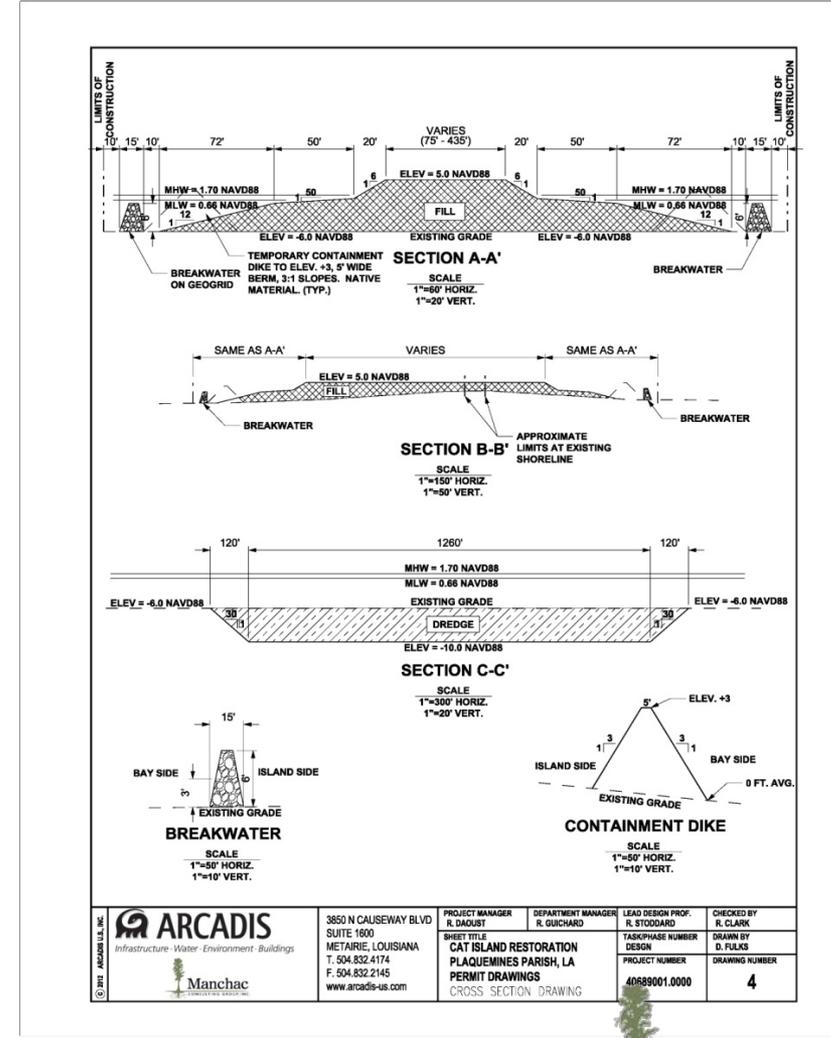
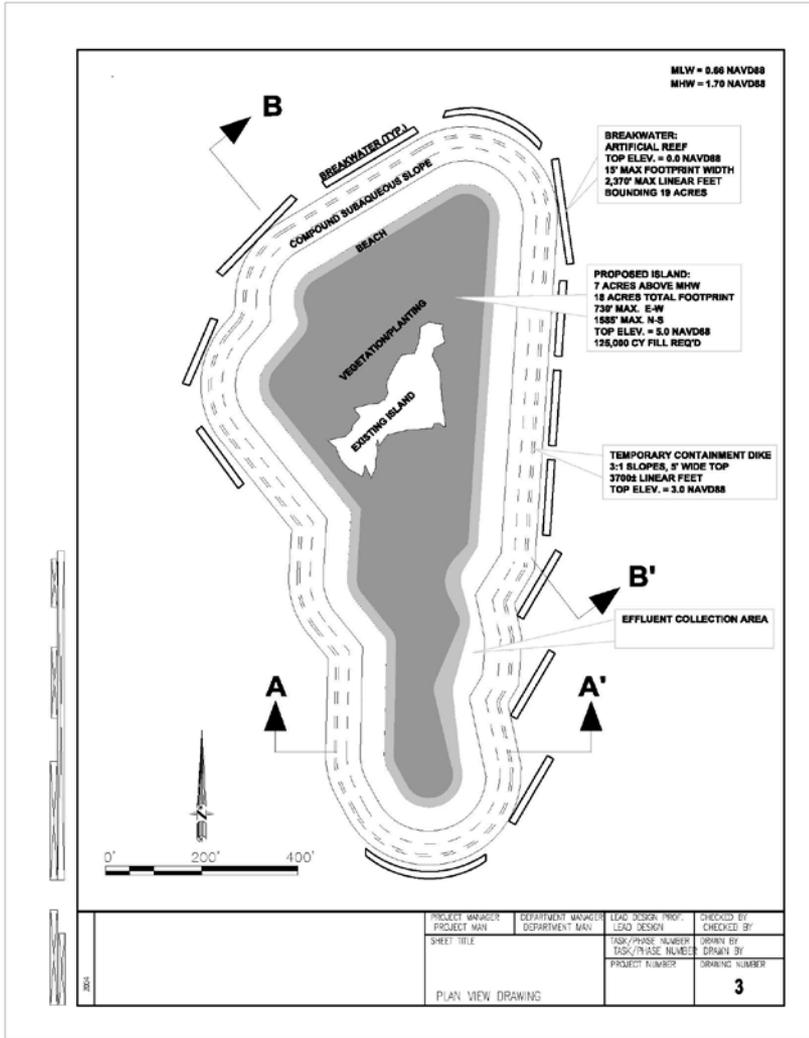
2014 – Open water

# PROJECT CHALLENGES



- Remote Locations
- Lack of Nearby Borrow Sources
- Lack of Shallow Water Platform Land Mass to Build On
- Subject to Extreme Storm Events from All Directions
- More Costly to Construct Relative to Other Projects (\$200K-\$250K/Acre)

# RESTORATION PLAN – CAT ISLAND WEST



# CONCEPTUAL RENDERING



*For illustration purposes only. Not actual design, or to scale.*





# QUESTIONS?