Shell Point Living Shoreline Case Study

Rick Harter
Coastal Restoration Specialist
The Site

• 2+ acres
• ~850 linear feet of “Critically Eroded” shoreline
• Multi-use County Park
  – Beach/swimming
  – Sailboards/sailboats
  – Volleyball, playground, picnic shelters, etc.
400+ mile fetch
The Project

Purpose: To enhance recreational opportunities to offset “loss of use” caused by the oil spill

- Deepwater Horizon NRDA Early Restoration funding, administered by FDEP
  - Beach renourishment (~5,000 yds³) to combat erosion
  - Park amenities (playground, etc.)
  - Added features to help stabilize newly added sand
    - Native plants
    - Oyster reef breakwater
The Design

- ~5,000 yds$^3$ sand placement (above the MHWL)
- 12,000+ native plants
- ~140 linear feet of bagged oyster shell for breakwater
- Permitting:
  - State: CCCL, General Permit and Letter of Consent
  - Federal: Nationwide Permit 13

MRD Associates designed the project, with support from Ecology and Environment, Inc.
The Plants

- Smooth Cordgrass (*Spartina alterniflora*)
- Sea Purselane (*Sesuvium portulacastrum*)
- Seashore Paspalum (*Paspalum vaginatum*)
- Seashore Dropseed (*Sporobolus virginicus*)
- Salt Meadow Cordgrass (*Spartina patens*)
- Muhly Grass (*Muhlenbergia capillaris*)
- Sand Cordgrass (*Spartina bakeri*)
- Beach Morning Glory (*Ipomoea imperati*)
- Blanket Flower (*Gaillardia pulchella*)
- Beach Sunflower (*Helianthus debilis*)
- Seashore Dropseed (*Sporobolus virginicus*)
- Seashore Paspalum (*Paspalum vaginatum*)
The Challenges

• Environmental Permitting restricted the ability to place sand below waterline
• Funding was intended for improving recreation, not necessarily for habitat restoration/creation
• Plantings required extensive contractor oversight to meet specifications
The Initial Results

• Everything completed in Spring 2018
• Favorable public reception and good media coverage
The Storm!

Hurricane Michael, Oct. 10, 2018

75mph winds at Shell Point

11.7ft reported storm surge
Post Hurricane Michael
The Post-storm Status

- Vegetation still intact, including cedar tree
- Oyster shell breakwaters unharmed
- Sand is being regraded on uplands

While discussing the surprising survival of the marsh plants resilience of the living shoreline:

“Yeh man! You should have seen it the day before the storm. They were thriving and the planting’s definitely helped the shore line.”

Cody Solberg, Wakulla County, Director of Parks and Facilities Management
The End

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Special thanks to: