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Protecting nature. Preserving life.™



COASTAL RESTORATION *at work*

COASTAL ALABAMA RESTORATION

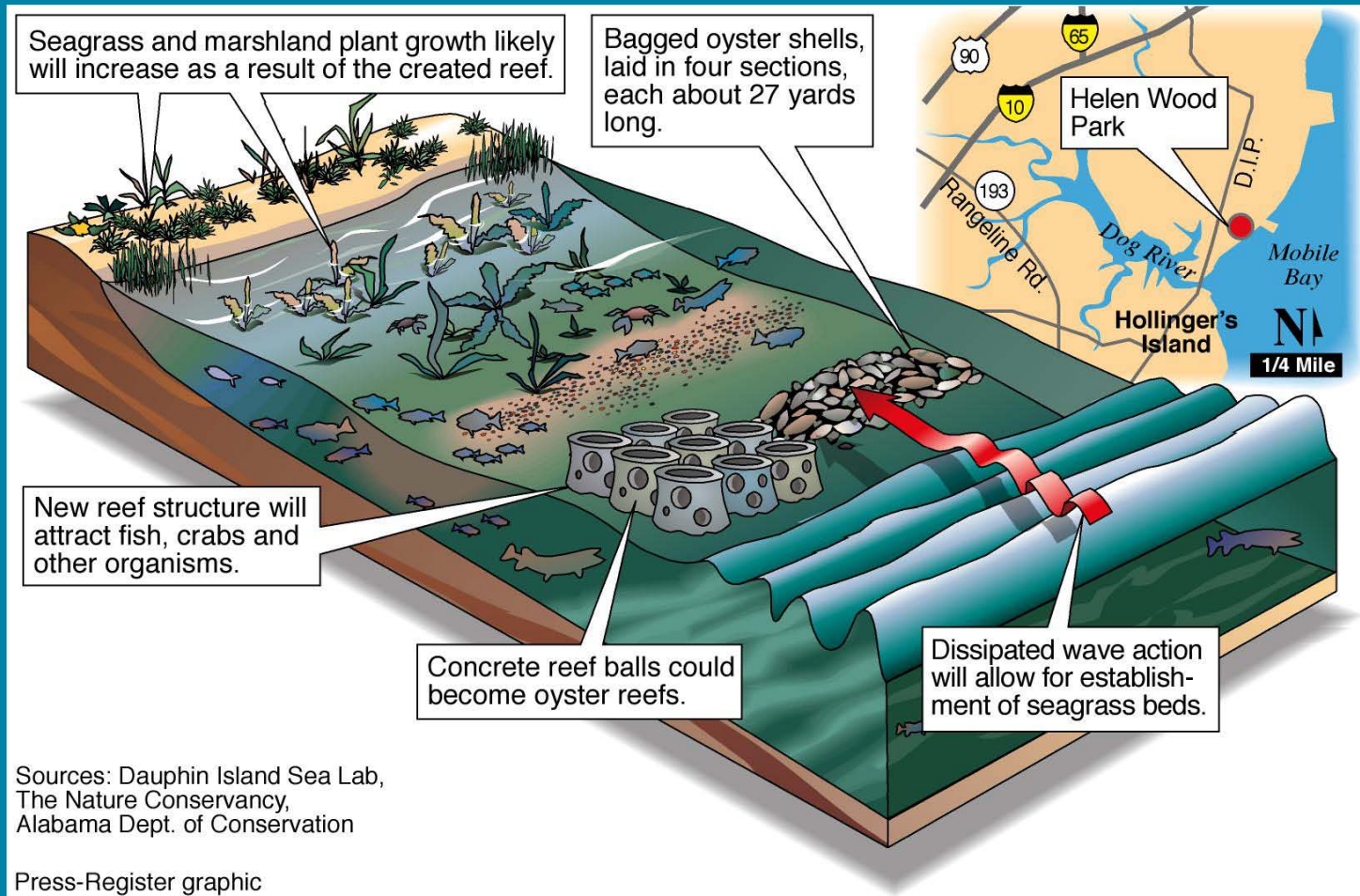
CREATING JOBS TO PROTECT SHORELINES, RESTORE OYSTER REEFS
AND ENHANCE FISHERIES PRODUCTION

MOBILE COUNTY, AL ❖ 2009 - 2011

THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

COASTAL RESTORATION AT WORK ❖ CREATING JOBS FOR AMERICA ❖ RESTORING HABITAT FOR FISH AND WILDLIFE

Living Shoreline Restoration



Graphic Credit: Mobile Press Register

Goals for TNC Breakwater Project

Area Prior to Restoration

- Sparse biotic community
- Eroding shoreline

One Year after Restoration

- Oyster bar foundation
- Shoreline stabilized
- Seagrass colonization?
- Some small fish and invertebrates

Several Years after Restoration

- Large oyster reef
- Expanded emergent marsh
- Expanded seagrass?
- Small and Large fish and invertebrates

- Reef Construction,
- Shoreline Stabilization,
- Marsh Re-growth,
- Faunal Utilization, and
- Seagrass Colonization.

Site Locations

Site Locations

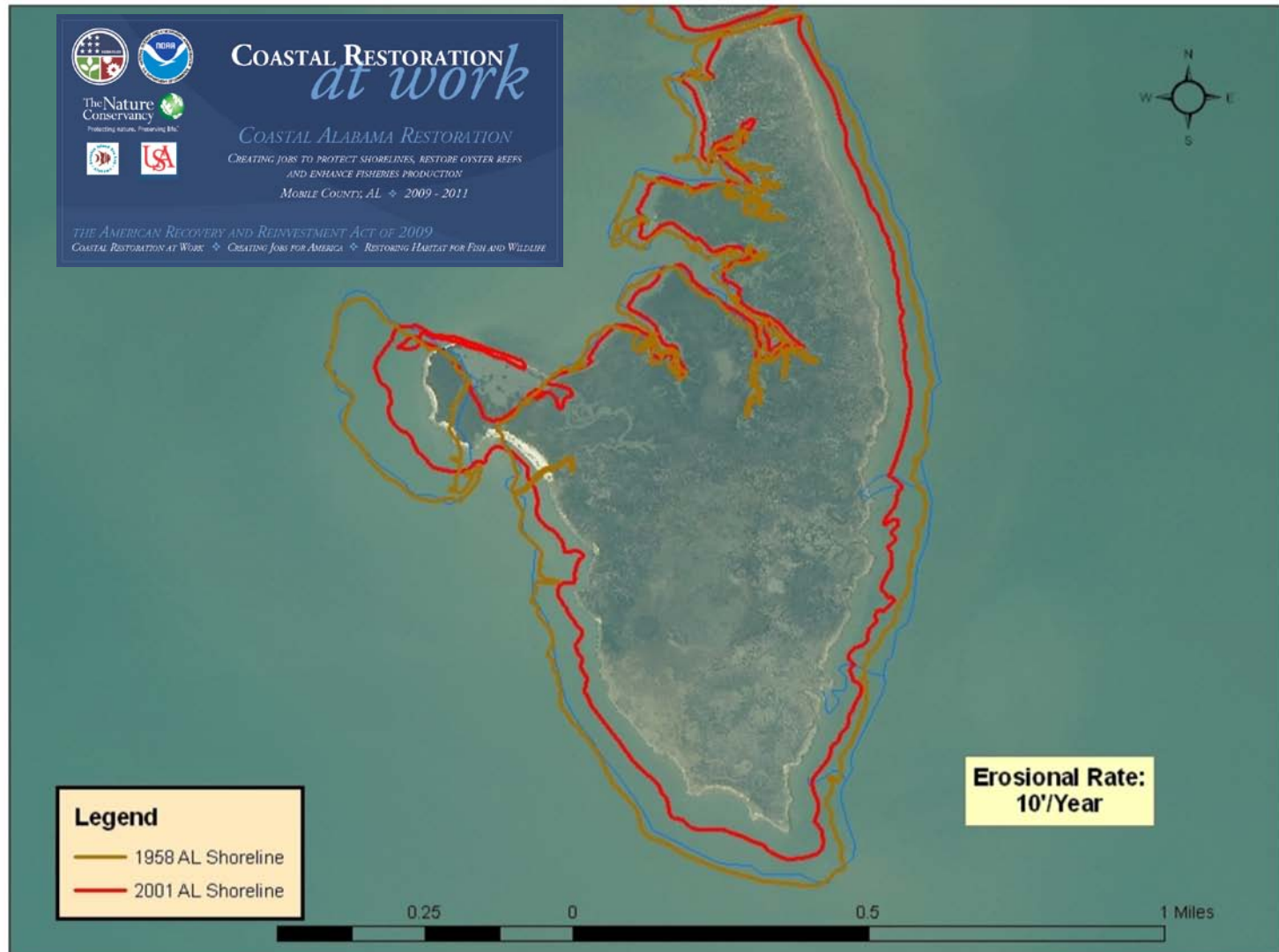
Site 1: Bay Front Park
to Heron Point
Bridge, Mobile
Bay; Mobile
County, AL
(30.344917N,
-88.123355W)

Site 2: Coffee Island,
Portersville Bay;
Mobile County, AL
(30.338954N,
-88.253860W)





Why did the shoreline need strengthening? Coffee Island Historical Erosion Aerial Photography (slide courtesy of Carl Ferraro)



Project Update - Bagged Oyster Shell



- Wayne Eldridge with J&W Marine Enterprises, Inc.
- Full Time Crew of about 8 -10 people
- Magical Oyster Bagging Machine
- Creating approximately 140,000 bags of oyster shell.

Project Update - Reef Balls



- Reef Innovations, Inc.
- Larry Beggs – President
- Robbie Duke – Superintendent
- Harry Rolfe - Superintendent
- Crew of 6 people
- Creating 3,168 Reef Balls.

Project Update - ReefBLKs



- Coastal Environments, Inc.
- Mitch Tinsley – Project Manager
- Crew of about 8 people.
- Creating 492 units to cover 750 linear meters of breakwater.



Alabama Port Treatment Layouts

Alabama Port

Treatment	Material
1	Control
2	Shell Bags
3	ReefBLKs
4	Reef Balls
5	Reef Balls
6	Shell Bags
7	ReefBLKs
8	Control

- Treatments are labeled from North to South
- Each Treatment is 125m (~137 yd) in length

Slide Credit: Jared McKee - DISL



Coffee Island Treatment Layouts

Coffee Island

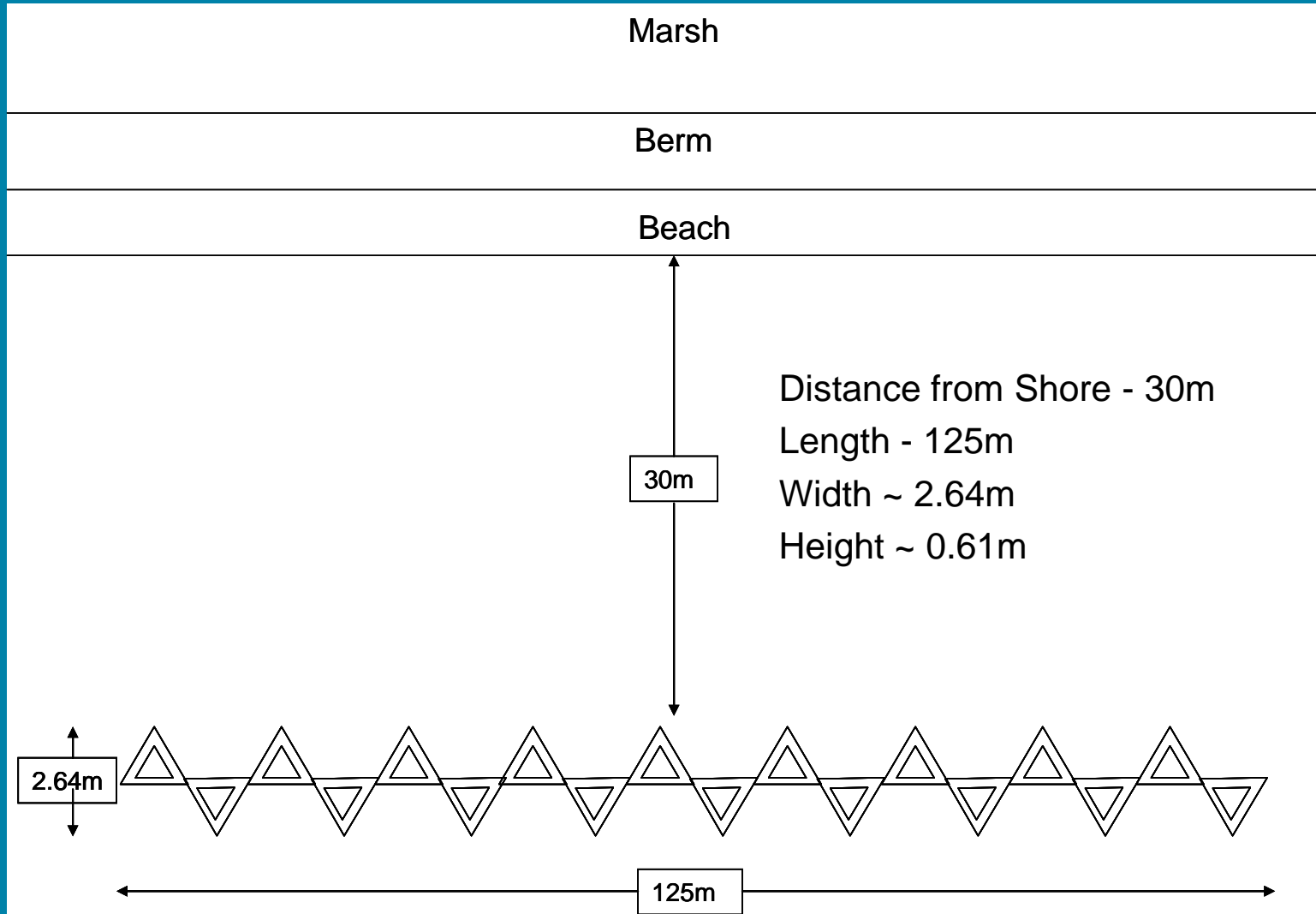
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Slide Credit: Jared McKee - DISL

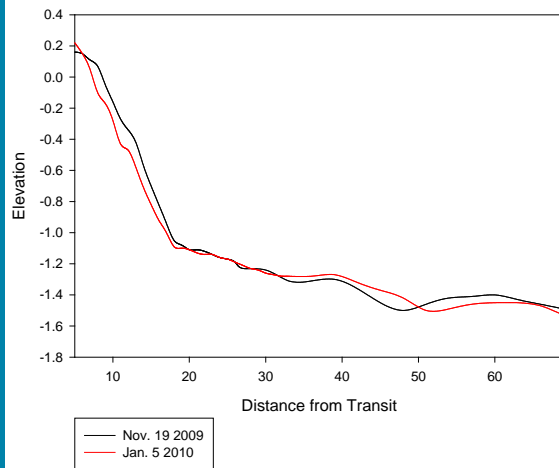


ReefBLK Layout

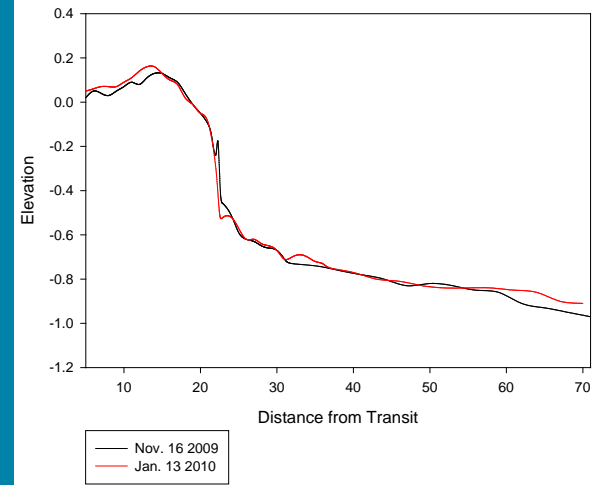


ReefBLK Site Bathymetries

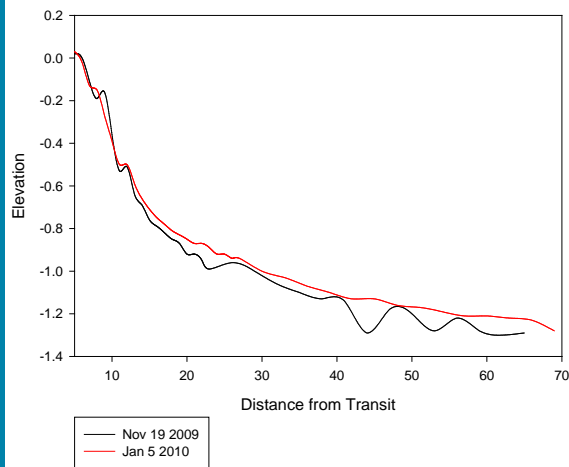
Alabama Port 3



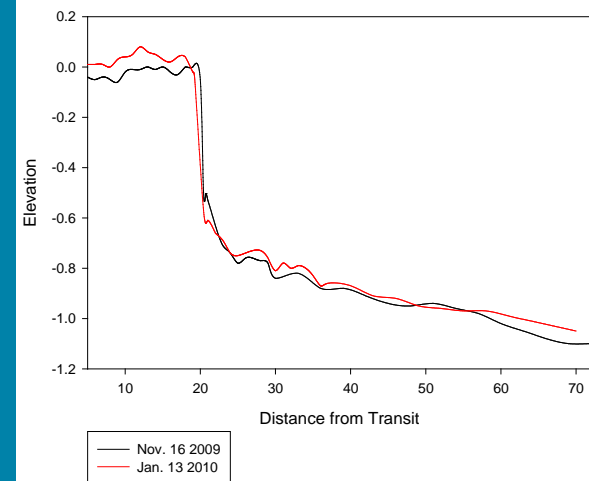
Coffee Island 4



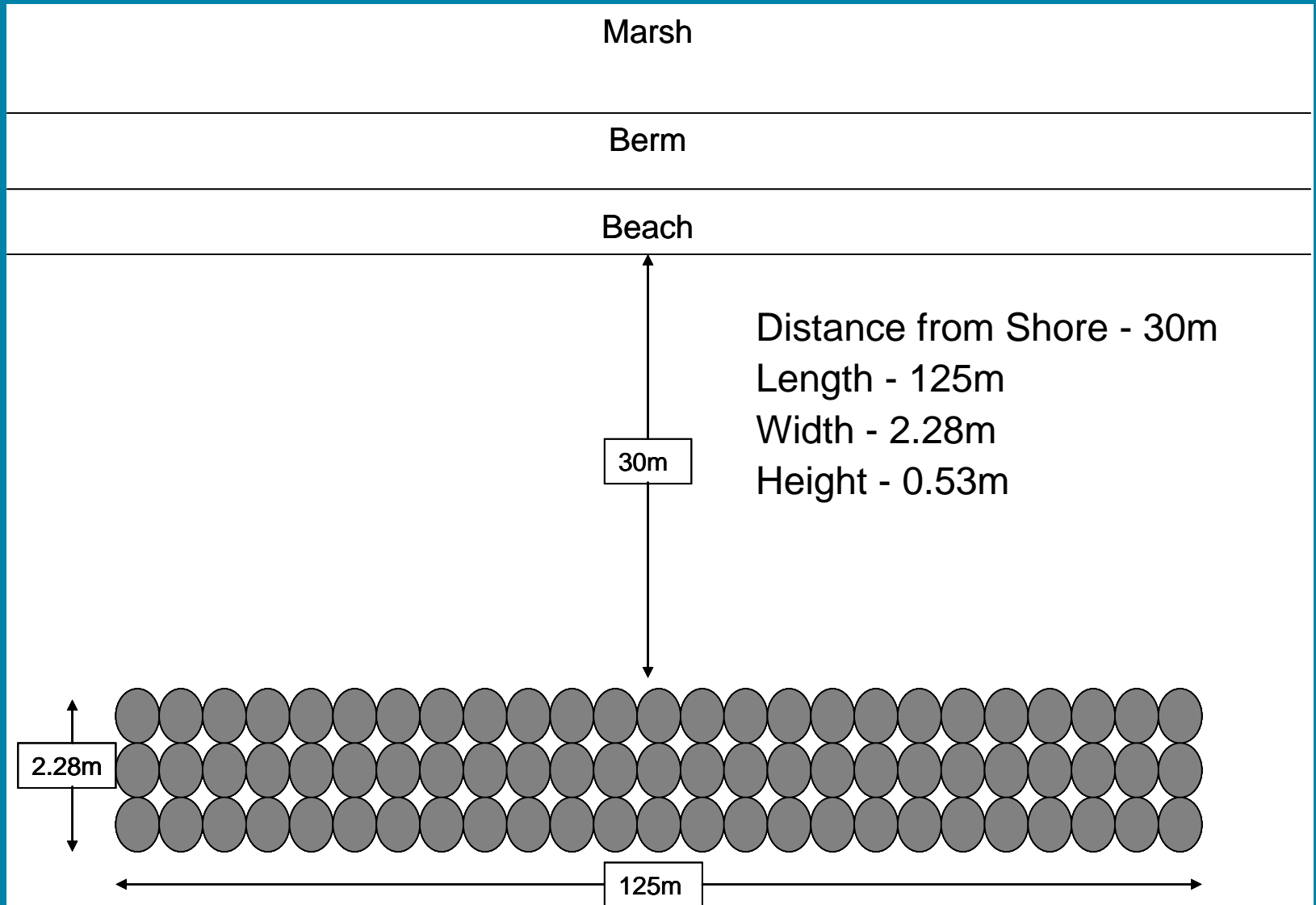
Alabama Port 7



Coffee Island 5

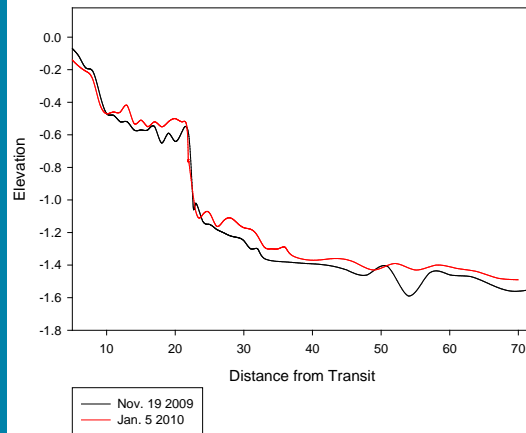


Reef Ball Layout

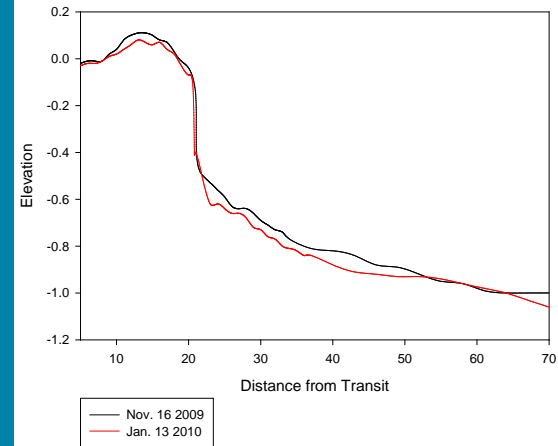


Reef Ball Site Bathymetries

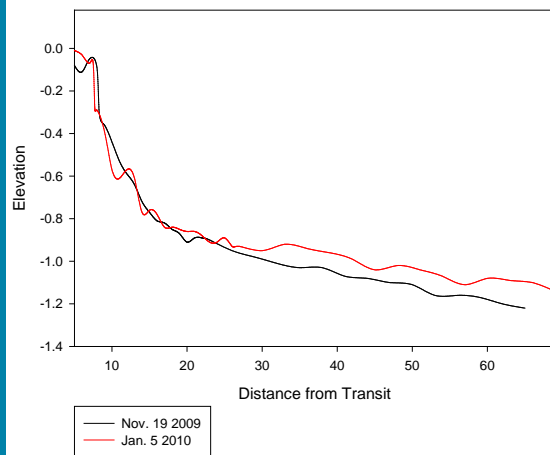
Alabama Port 4



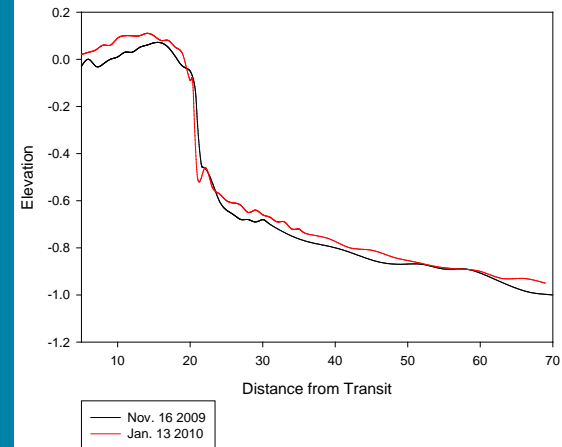
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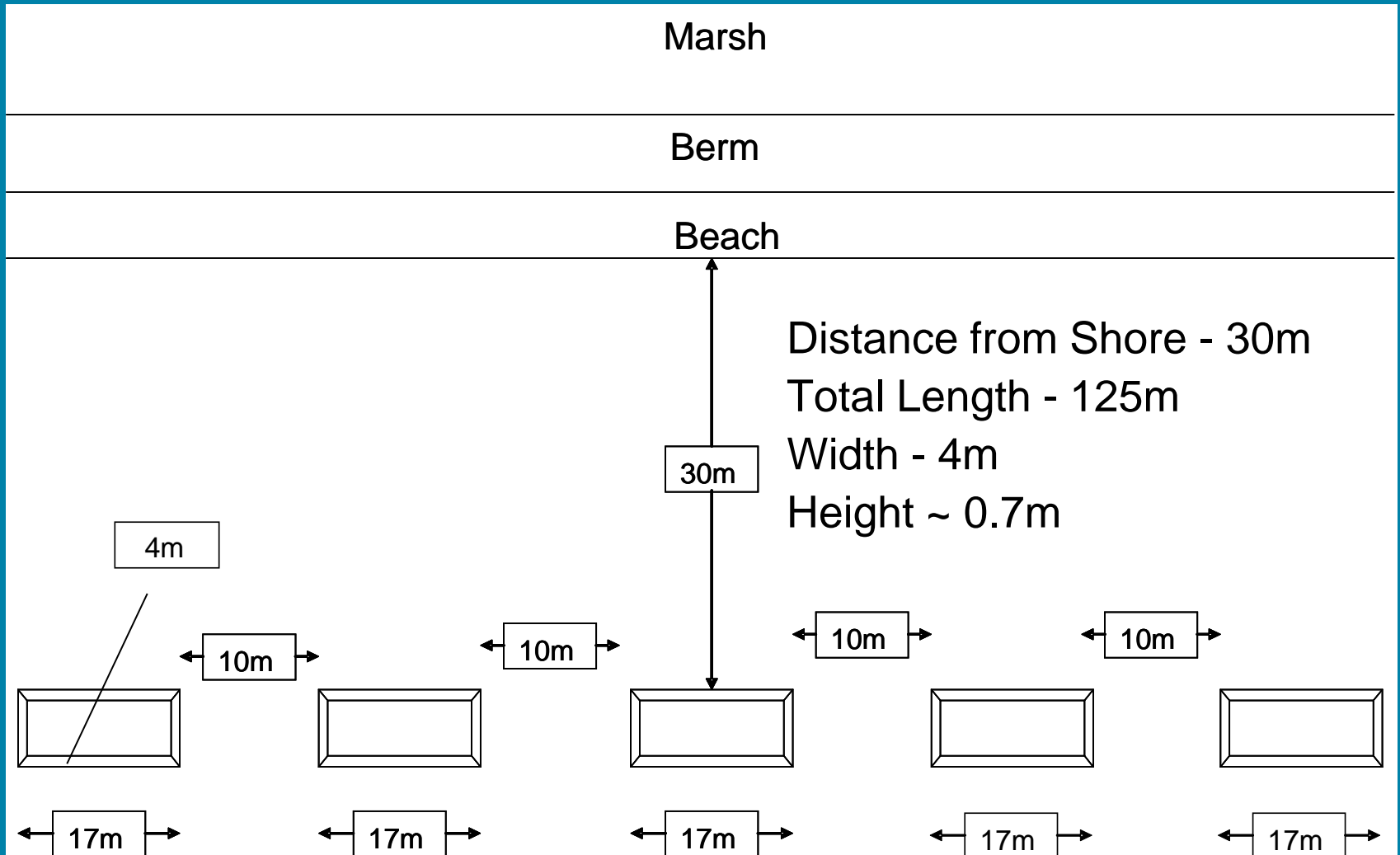
Alabama Port 5



Coffee Island 6

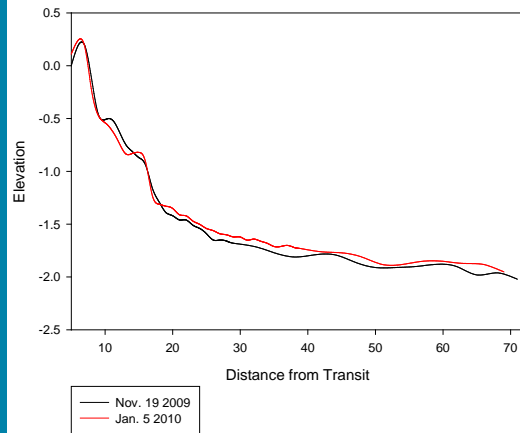


Bagged Oyster Shell Layout

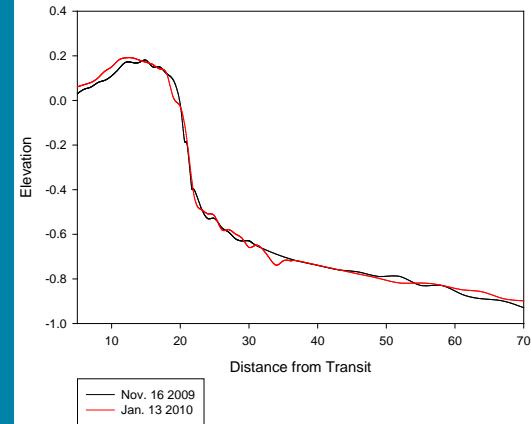


Bagged Shell Site Bathymetries

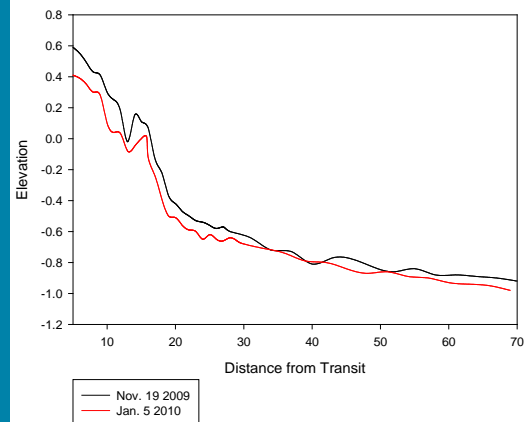
Alabama Port 2



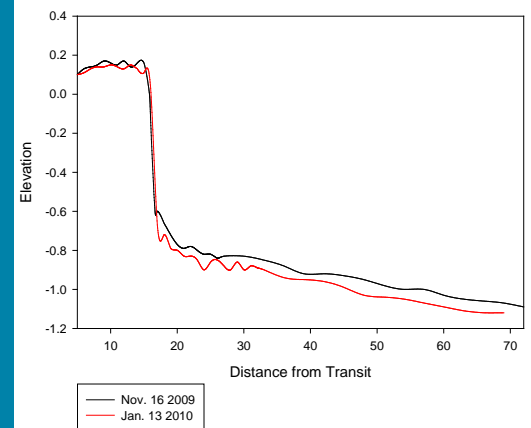
Coffee Island 3



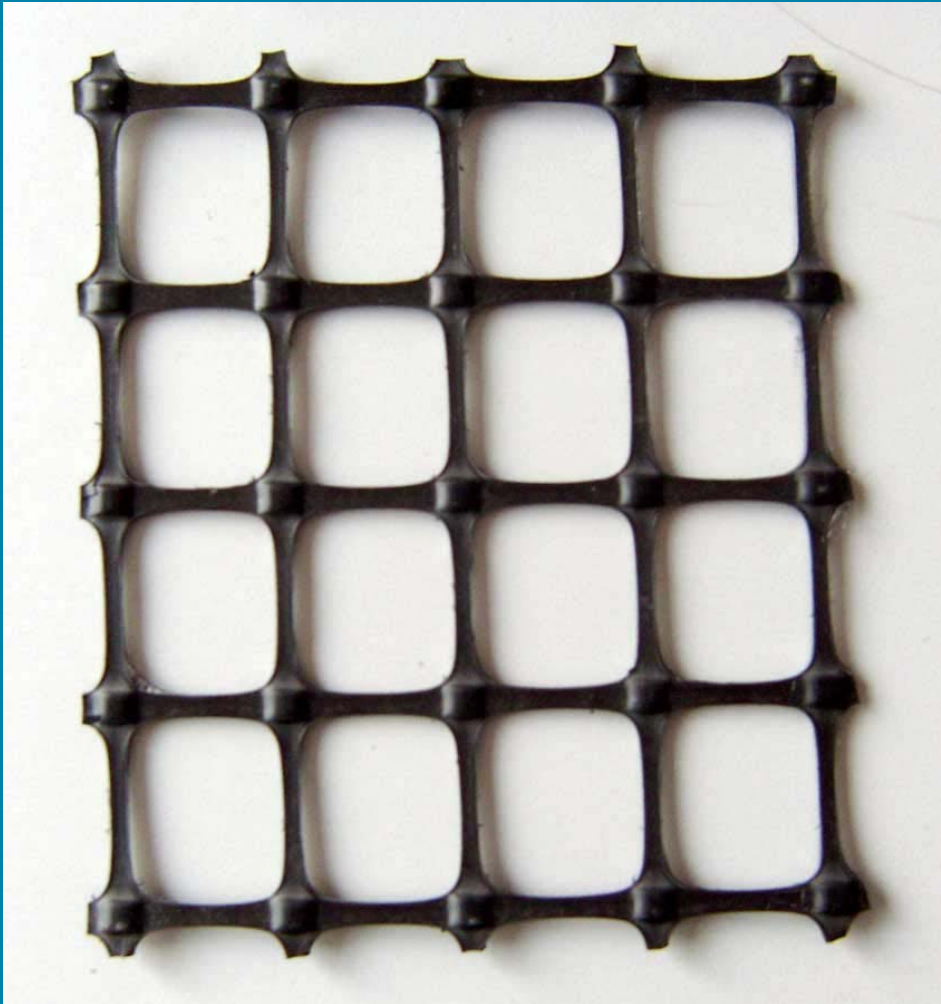
Alabama Port 6



Coffee Island 8



Geo-Grid



- Geo-Grid is being used to help prevent subsidence in the soft soils within the project area.
- Geo-Grid will be placed, staked, and weighted down just prior to deployment of various treatments

- 1. Oyster Abundance**
- 2. Seagrass Cover**
- 3. Finfish and Mobile Invertebrates**
- 4. Sediment Size and Organic Content**
- 5. Shoreline Stabilization**
- 6. Marsh Plant Density**

Major Goal: To better understand the link between coastal residents and coastal resources

- 1) What are the biggest threats to coastal fisheries and habitats?
- 2) Which habitats and resources are the most important to protect and restore?
- 3) Where does an oyster have its greatest economic value?

Socio-Economic Survey Details

Target Group: Coastal Alabama Residents (n=1000)
*Focus on Bayou la Batre, Alabama

Method: Random dial Telephone Survey

Project Leadership:

USA: Dr. Sean Powers
Dr. Steve Picou
Steven Scyphers (sscyphers@disl.org)

UNF: Dr. Jeffrey Will

Collaborators:

NOAA: Dr. Peter Edwards

TNC: Dr. Rob Brumbaugh

Questions?

Comments?



Thank you!

“As I ate the oysters with their strong taste of the sea and their faint metallic taste that the cold white wine washed away, leaving only the sea taste and the succulent texture, and as I drank their cold liquid from each shell and washed it down with the crisp taste of the wine, I lost the empty feeling and began to be happy and to make plans.”

Ernest Hemingway, *A Moveable Feast*