



**Florida Department of Environmental Protection**  
**Florida Coastal Office**

# **Living Shorelines from A to D in the Florida Panhandle**

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**Living Shorelines Summit  
April 2016**



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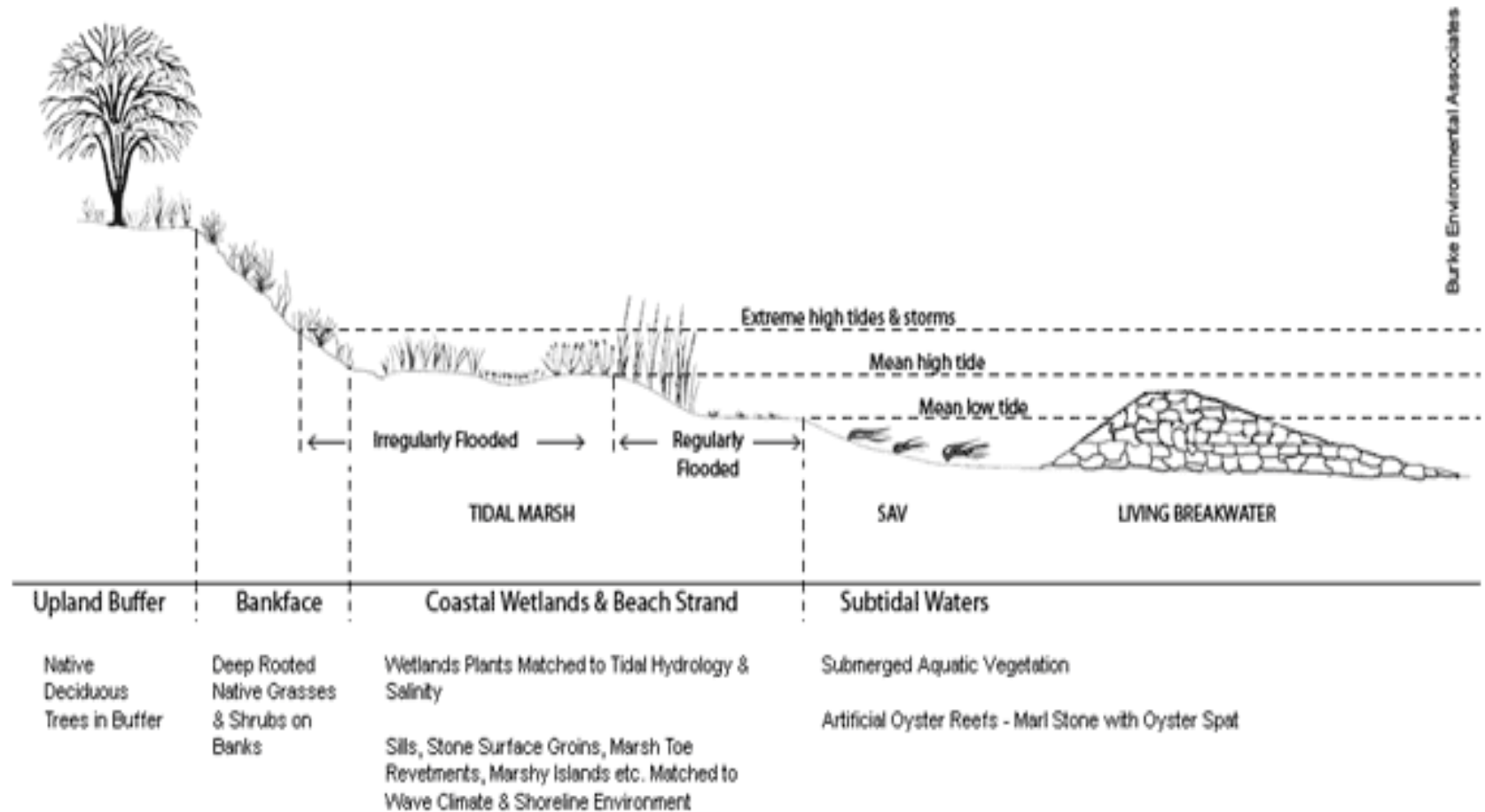
# Do nothing



US Fish & Wildlife Service, M. Ray-Culp

# NOAA Definitions

## Coastal Shoreline Continuum & Typical “Living Shorelines” Treatments



<http://www.habitat.noaa.gov/restoration/techniques/implementation.html>



# A - D





# Perdido to Panama City





# Goal

To establish 'Living Shorelines' as the primary means for protecting eroding shorelines in the coastal areas of Northwest Florida **where needed and appropriate** and where do-nothing is not an option, thereby steering coastal protection towards softer, more natural alternatives, and away from hardening.



# Focus Points

- Shoreline length
- Fetch
- Orientation
- Sediment quality
- Sediment transport
- Salinity
- Existing vegetation
- Presence of SAV
- Invasive species
- Scarping
- Shoreline history
- Presence of oysters
- Sunlight/tree shade (roots)
- Shoreline access
- Adjacent property
- Stormwater outfalls
- Upland erosion influences
- Hidden structures
- Marine/terrestrial wildlife
- Slope of intertidal/upland





# Techniques

## **Vegetation**

- PLANTING DEPTH
- Timing (season/tide)
- Condition of plants
- Zonation
- Grade
- Spacing
- Follow up

## **Oyster Reefs**

- CONSOLIDATION
- Size (length/width/ht)
- Shape/orientation
- Distance from MHWL
- Grade
- Spacing
- Follow up





# Planting Techniques



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# Vegetation Only (A)

2008



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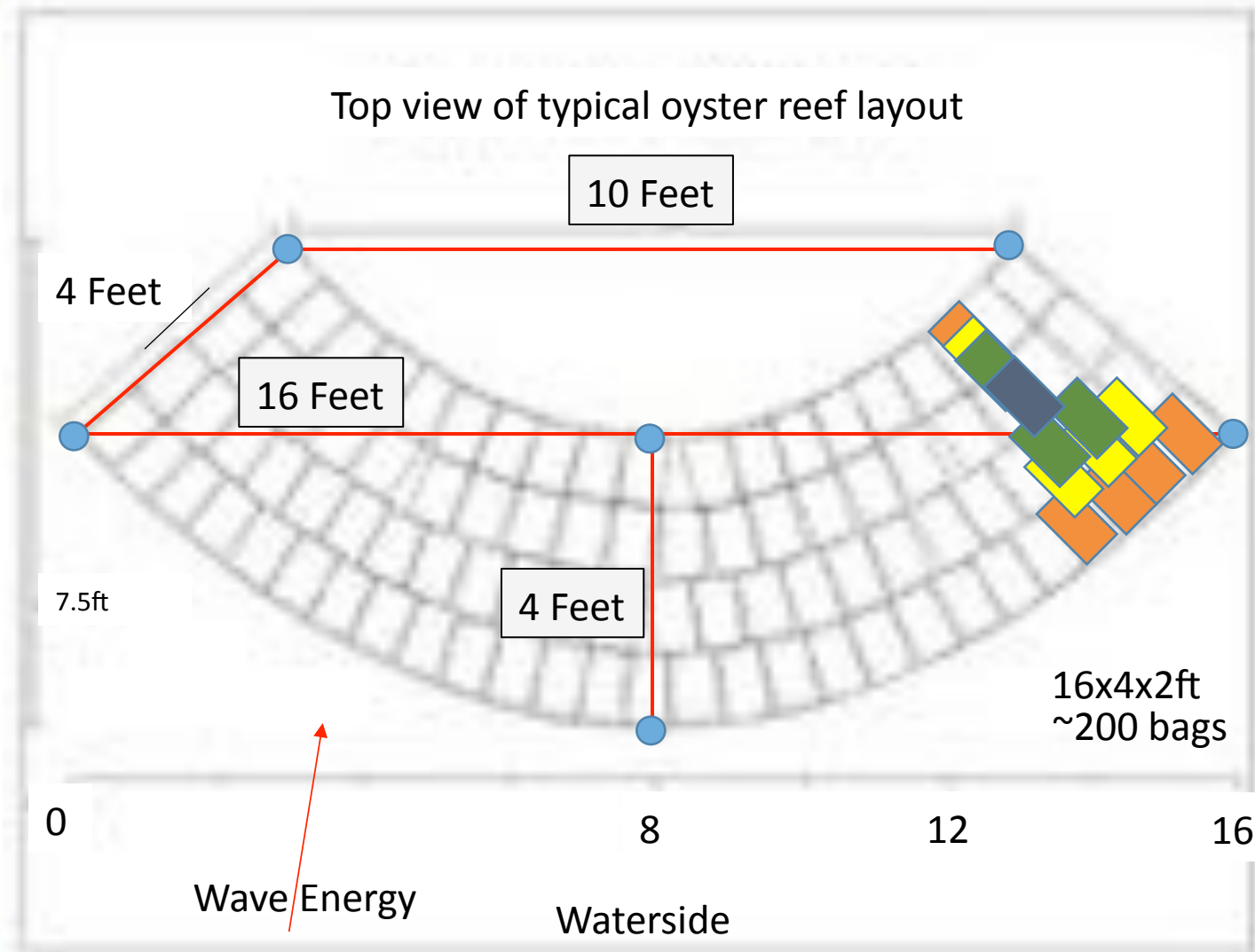
# Vegetation + Coir Fiber (B)

March 2016





# Oyster Reef Techniques







# Vegetation + Oyster Reef #1 (C)

January 2015





# Vegetation + Oyster Reef #2 (C)

May 2015





# Vegetation + Oyster Reef #3 (C)

April 2010  
February 2011  
June 2011  
December 2011  
September 2013



3 – 1000 foot shorelines  
~200 oyster reefs  
>20,000 plants  
>1 acre oyster, salt marsh,  
and fish habitat  
EPA Gulf Guardian  
Partnership Award 2013





# Oyster Reef (D)



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# Materials



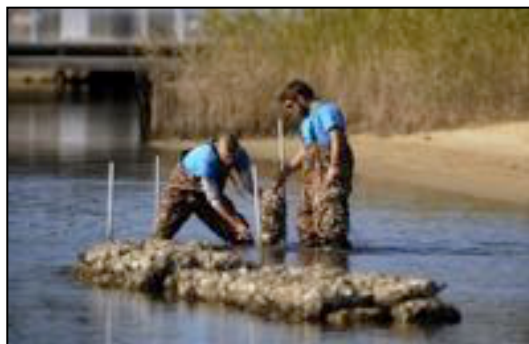
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# Oyster Offer Your Shell to Enhance Restoration



- Shell recycling
- Hard but natural
- Local resources
- Volunteer labor







# Volunteers and Partnerships

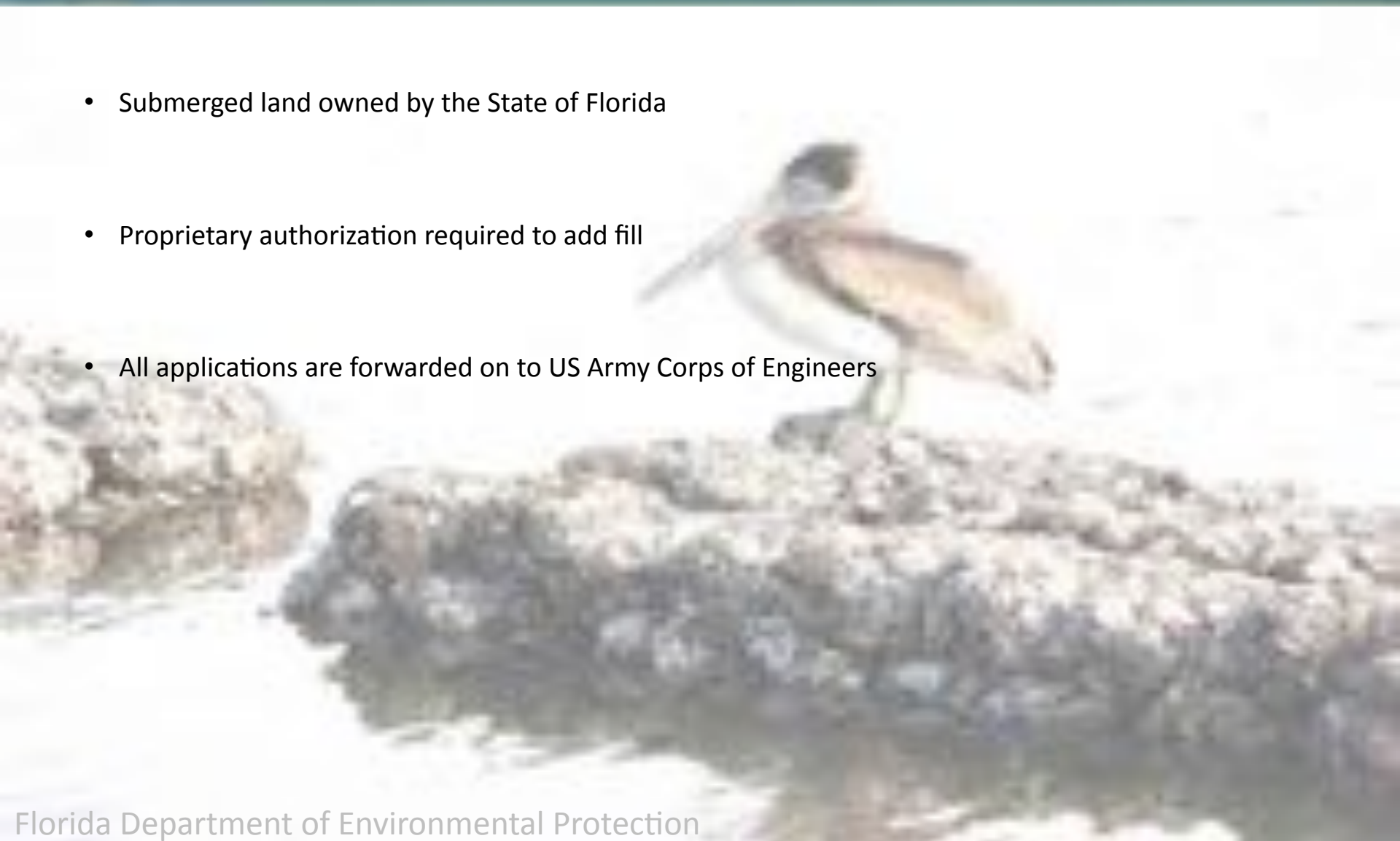


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# Rules and Regulations

- Submerged land owned by the State of Florida
- Proprietary authorization required to add fill
- All applications are forwarded on to US Army Corps of Engineers





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## Joint Works Application

Dredge/fill vs restoration/enhancement

US Army Corps of Engineers

Florida Department of Environmental Protection

## Environmental Resource Permitting

NWFL → Statewide ERP

Exemption

General Permit for private landowners

General Permit for government landowners



# Environmental Resource Permitting Effective October, 2013

## **Florida Administrative Code 62-330.051 Exempt Activities**

(12)(e) Restoration of an eroding shoreline with native wetland vegetative enhancement plantings, provided:

1. Shoreline length  $< 500$  linear feet
2. Use native wetland plants
3. No planting  $> 10$  feet waterward of mean high water line (MHWL)
4. All invasive and exotic vegetation is removed
5. Turbidity curtain for temporary wave attenuation
6. No fill except to support planting, or “breakwater,” provided “:
  - a. Shoreward toe  $< 10$  feet waterward of MHWL, top height  $\leq$  MHWL
  - b. Predominantly of natural oyster shell (bagged) or other stable, non-degradable materials such as oyster reef, reef balls, unconsolidated boulders, clean concrete rubble, rip rap, rock sills, or triangular concrete forms
  - c. No SAV within 3 feet
  - d. Breaks  $\geq 3$  feet for tidal flow every 20 feet





# US Army Corps of Engineers



US Fish and Wildlife Service, P. Lang



# Questions

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**[www.facebook.com/NWFLAquaticPreserves](http://www.facebook.com/NWFLAquaticPreserves)**

**[www.dep.state.fl.us/northwest/Ecosys/section/restoration.htm](http://www.dep.state.fl.us/northwest/Ecosys/section/restoration.htm)**

