



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

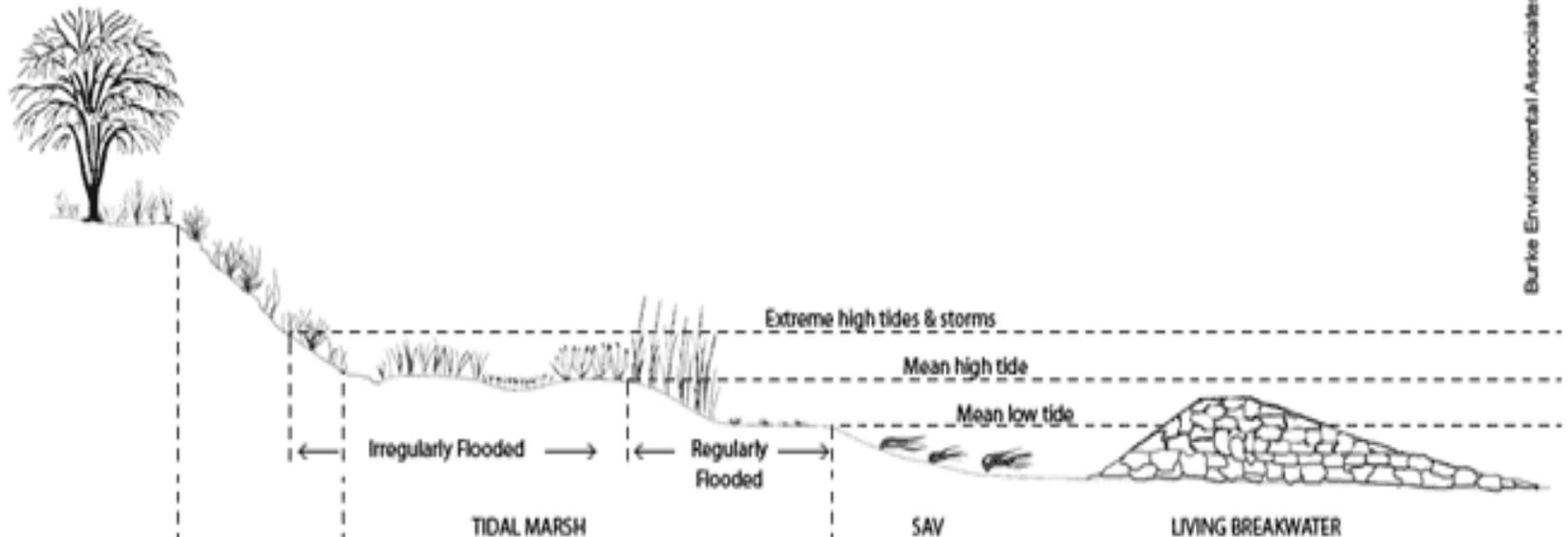


US Fish & Wildlife Service, M. Ray-Culp



NOAA Definitions

Coastal Shoreline Continuum & Typical “Living Shorelines” Treatments



Upland Buffer

Bankface

Coastal Wetlands & Beach Strand

Subtidal Waters

Native
Deciduous
Trees in Buffer

Deep Rooted
Native Grasses
& Shrubs on
Banks

Wetlands Plants Matched to Tidal Hydrology &
Salinity

Sills, Stone Surface Groins, Marsh Toe
Revetments, Marshy Islands etc. Matched to
Wave Climate & Shoreline Environment

Submerged Aquatic Vegetation

Artificial Oyster Reefs - Marl Stone with Oyster Spat

Burke Environmental Associates



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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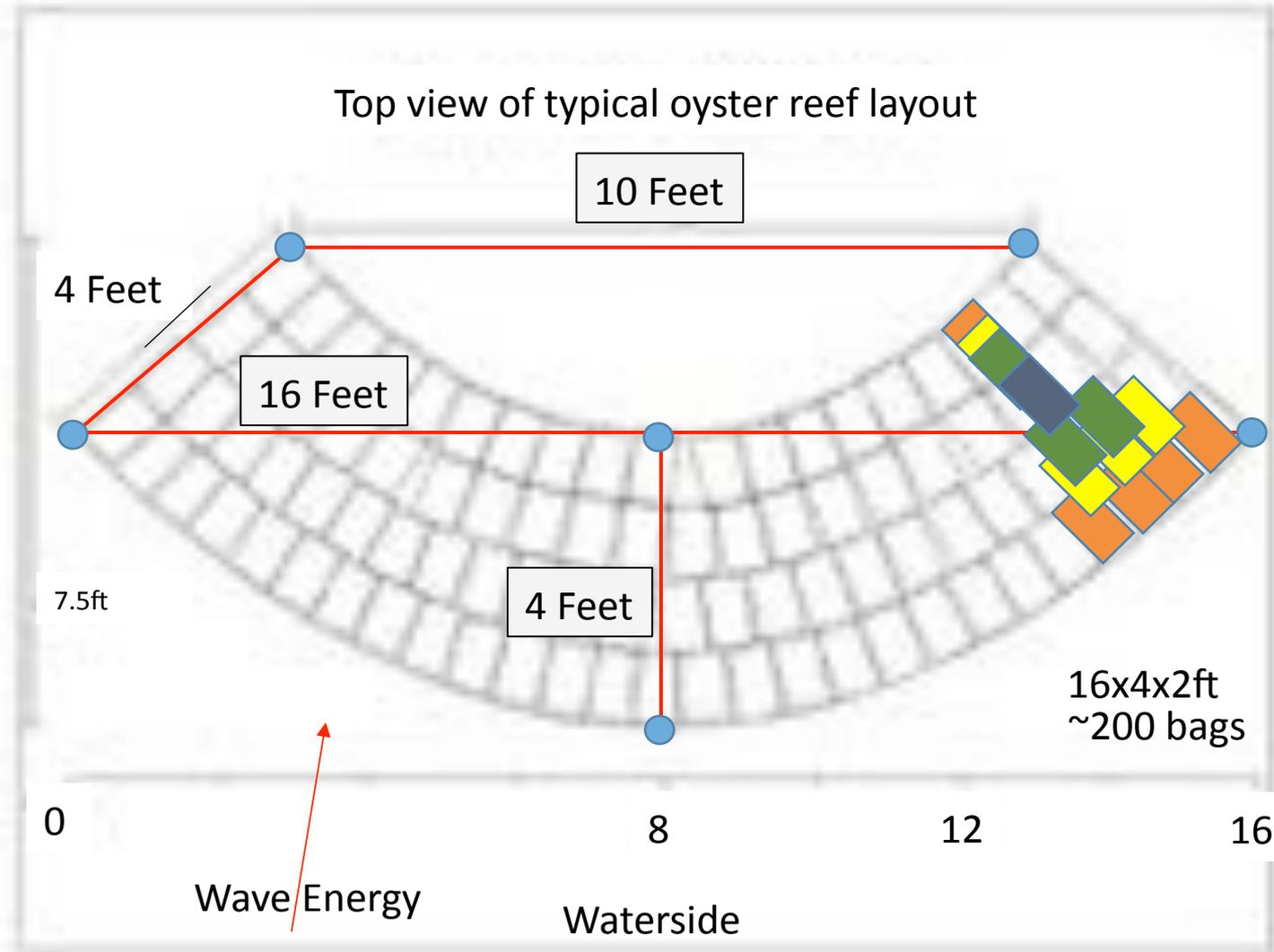
Vegetation + Coir Fiber (B)

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

www.dep.state.fl.us/northwest/Ecosys/section/restoration.htm

