

Shoreline Practices with Pros	
Practice	Pros
Clean Fill/ Dredge Material	<ul style="list-style-type: none"> • Encourages vegetation
Upland Vegetation - Trees, Shrubs, Grasses and Grass Roots	<ul style="list-style-type: none"> • Soil stabilization in upland zone • Stormwater runoff filtration
Wetland Vegetation - Marsh Grasses	<ul style="list-style-type: none"> • Improves finfish and shellfish habitat • Traps sediment • Improves water quality by filtering runoff
Natural Fiber Logs with Vegetation	<ul style="list-style-type: none"> • Low impact • Biodegradable • Traps and retains sediment • Promotes plant growth • Inexpensive and easy to install
Natural Fiber Matting with Vegetation	<ul style="list-style-type: none"> • Can be used for moderate slopes • Low cost
Living Breakwaters	<ul style="list-style-type: none"> • Wave attenuation • Improved water quality • Increased oyster habitat • Creates a calm area near shoreline that can be planted with vegetation for improved marsh habitat
Sediment-Filled Geotextile Tubes	<ul style="list-style-type: none"> • Effective erosion control • Beneficial use of dredged material
Native Oyster Reefs	<ul style="list-style-type: none"> • Wave attenuation • Improves water quality • Traps sediment • Habitat development
Small Concrete Oyster Balls	<ul style="list-style-type: none"> • Wave attenuation • Improves water quality • Shelter for vegetation • Habitat development
Sill with Planted Marsh	<ul style="list-style-type: none"> • Absorbs waves and creates a calm area behind the sill to promote habitat and vegetation growth • Traps sediment; maintains natural shoreline • Filters runoff to improve water quality • Provides nursery habitat for juvenile fish • Maintains land-water interface • Can promote oyster growth • Long lifespan
Marsh Toe Revetment (Existing Marsh)	<ul style="list-style-type: none"> • Stabilization of eroding marsh • Can promote oyster growth • Long lifespan
Breakwaters with Transitional Wetlands	<ul style="list-style-type: none"> • Traps sediment; maintains natural shoreline • Maintains land-water interface • Filters runoff to improve water quality • Provides nursery habitat for juvenile fish

STEPS TO SUCCESSFUL SHORELINE MANAGEMENT

- Understand your neighbors' shoreline plans.
- Request pre-application meeting with MDMR.
- Conduct a site assessment to determine the amount of shoreline to be protected, feasibility of the project, and type of shoreline stabilization practice to be implemented.
- Hire contractor/consultant to consult on the project.
- Obtain a project design and cost estimate.
- Apply for and receive permit(s) if necessary.

For more details on the permitting process see: <http://www.dmr.ms.gov/index.php/coastal-resources-management/wetland-permitting>

WHO TO CONTACT

Bureau of Wetlands Permitting
Mississippi Department of Marine Resources
1141 Bayview Avenue
Biloxi, MS 39530
Phone: (228) 523-4144
DMR Switchboard: (228) 374-5000
Website: <http://www.dmr.ms.gov>

U.S. Army Corps of Engineers
Mobile District
Regulatory Division
Mobile, AL 36602
Phone: (251) 690-2658
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LIVING SHORELINES OVERVIEW **DMR**

MISSISSIPPI DEPARTMENT OF MARINE RESOURCES



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ALLEN ENGINEERING AND SCIENCE

WHAT IS A LIVING SHORELINE?

A “living shoreline” describes a natural approach to shoreline stabilization that reduces erosion while restoring, preserving, or creating valuable habitat along the shore. Instead of drowning shoreline habitats and changing shoreline landscapes as seen with the use of hardened structures, living shorelines encourage the preservation and growth of shoreline habitats and improved water quality. By installing living shorelines where appropriate, property owners can make a significant cumulative impact on the restoration and preservation of Mississippi’s shorelines and habitat.



BENEFITS OF LIVING SHORELINES

- Increased fish/wildlife habitat
- Increased property value
- Erosion reduction
- Pollution reduction
- Aesthetically pleasing
- Improved water quality
- Cost savings for installation and maintenance

FACTORS TO CONSIDER WHEN SELECTING SHORELINE PRACTICES

- Type of Shoreline
- Rate of Erosion
- Slope
- Erosional Forces
- Wave Energy
- Water Depth
- Offshore Ground Surface
- Salinity
- Fetch
- Longshore Sediment Transport

SOFT OR LIVING SHORELINE PRACTICES AND HYBRIDS

- **Clean Fill/Dredge Material, Regrade, and Revegetate** can dissipate wave energy and provide surface to plant vegetation in the upland buffer and bankface zones.
- **Upland Vegetation: Trees, Shrubs, and Grass Roots** stabilize riparian zone (upland buffer) above high tide, stabilize soil, filter runoff, and provide habitat.
- **Wetland Vegetation: Marsh Grasses** dissipate wave energy, filter upland runoff, and improve habitat for fish and wildlife.
- **Natural Fiber Logs with Vegetation** are coconut fibers bound together with biodegradable netting and are used to stabilize the toe of a slope and minimize bank erosion.

- **Natural Fiber Matting with Vegetation** used in over-eroding coastal areas or on entire slopes to trap sediment and encourage growth of vegetation.
- **Sediment-Filled Geotextile Tubes** can be placed under water to stabilize the shoreline or along a beach to stabilize the upland area behind the beach.
- **Living Breakwaters** are constructed of rock, oyster shell, recycled concrete, or timber fencing and placed parallel to the shore in medium- to high-energy open-water environments.
- **Native Oyster Reefs** can be enhanced or created at living shoreline sites to serve as natural shoreline protective structures.
- **Small Concrete Oyster Balls** are hollow concrete structures strategically placed to dissipate wave energy and provide habitat by creating a hard surface for oysters to construct an oyster reef.
- **Sills with Planted Marsh** are low elevation stone structures used to trap sediment to promote marsh growth and habitat development behind the structure.
- **Marsh Toe Revetments with Vegetation** are revetments are composed of riprap installed parallel to the shoreline along an existing marsh.
- **Breakwaters with Transitional Wetlands** calm wave energy, creating a protective area for wetland habitat development and growth.