Shoreline Protection Products: Cost Estimates

The current trend in constructing shoreline erosion protection structures in the Northern Gulf of Mexico is to build seawalls or use shoreline revetments of stone or concrete.

Seawalls and bulkheads certainly are viable options for shoreline protection, although some problems are associated with bulkheads, such as reduction in habitat through loss of the land and water interface, reflection of waves to areas that are not protected and scouring of land underneath seawalls.

Homeowners and marine contractors need to understand that other erosion control options are available that might be more economical, aesthetically pleasing and environmentally sound.

Seawalls might be the best choice in areas with medium to high erosion rates, but in areas with lower rates of erosion, planting vegetation, installation of offshore breakwaters or a combination of vegetative plantings with erosion control blankets and offshore breakwaters might provide protection of shoreline while maintaining natural coastal processes.

If shoreline erosion is occurring on property, some type of shoreline protection might be needed. The following steps should be taken to determine the proper erosion control alternative along with meeting the state and federal requirements to allow construction in coastal, public waters:

- Conduct site assessment to determine the amount of shoreline to be protected, feasibility and type of structures that can be installed.
- Project design and cost estimate.
- Apply and receive permit.
- Hire contractor and construct project.

The cost table on page 2 of this document provides cost estimates of shoreline erosion products and a sample list of available products. There are other options available, and the costs are only estimates.

To inquire about shoreline protection products, contact a marine contractor or other erosion control specialist.

REFERENCES

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Table 1. Cost Estimates for Shoreline Protection Products

Type of Erosion Control	Item	Cost range ($/unit)	Cost Installed ($/unit)	Comments
Vegetative Cover				
Wetland Plants	Smooth Cordgrass *Spartina alterniflora*	1.00-2.00/ft	2.50-4.50/ft	Based on 1-foot plant spacing
	Saltmeadow Cordgrass *Spartina patens*	0.60 -1.60/ft	1.30-3.50/ft	You will need to plant multiple rows for shoreline protection.
Dune Plants	Sea Oats *Uniola paniculata*	0.60 -1.60/ft	1.30-3.50/ft	
	Panic Grass *Panicum amarum*	0.60 -1.60/ft	1.30-3.50/ft	
Maintenance: Remove debris, prune trees, fertilize based on soil test and keep people out of the area as much as possible.				
Soft, non-structural stabilization				
Erosion control blankets	Straw blanket	0.29/yd^2		
	Coconut straw blend	0.52/yd^2		
	Coconut fiber	0.65/yd^2		
	Non-woven geotextiles	0.70-1.35/yd^2		
Maintenance: Straw and coconut fabrics are biodegradable and are used to aid with growth of new vegetation.				Geotextiles have very long life spans if they are buried. They are UV sensitive.
Shoreline Revetment	Riprap	18-35/yd^3	120-180/ft	Based on a 2:1 slope.
Maintenance: Typically very little, may need to add new rock over time.				
Offshore Breakwater	Oyster shell		45-55/yd^3	
	Oyster shell bag	5/bag		
	Oyster shell bag/spat	30/bag		
	Wave attenuation device		180-250/ft	
	Rock breakwater		125-200/ft	Based on a 2:1 slope.
	Wooden sills		65-100/ft	
Maintenance: Addition of oyster shell or rock over time. Wooden sills should be routinely inspected to determine overall condition.				
Hybrid Structures: Cost of shoreline or marsh planting + price of particular breakwater installed.				
Bulkheads	Vinyl	125-200/ft		Based on 4- to 8-foot height
	Vinyl with toe protection	210-285/ft		
	Wooden	115-180/ft		Includes labor and materials (earthwork and backfill)
	Wooden with toe protection	200-265/ft		
Maintenance: Scour typically happens to bulkheads so toe protection may be needed based on the site. Additional fill and vegetation may need to be installed over time.				

This table is a partial list of costs associated with shoreline protection products based on the Manufacturer's Suggested Retail Price and cost estimates from marine contractors. This list is to be used for the Northern Gulf of Mexico. Prices are subject to change. Some costs are based on assumptions, such as size, height or percent slope of erosion control structures. The following businesses and people provided information to develop this table: Carthage Mills, Spencer Rogers, Dauphin Island Construction, Bayside Seafood, Inc., Auburn University Shellfish Lab, Dune Doctors, Dales Marine, Sea Horse General Contractors, Coastal Restoration, Inc., and Artificial Reefs, Inc.