

GLOSSARY – Shoreline Management Model Version 5.1

MODEL RECOMMENDATIONS:

Non-Structural Living Shoreline

Remove existing shoreline structure if present; grade bank if necessary and install a non-structural living shoreline which may include riparian buffer planting along the bank, and/or marsh plants, coir logs, or oyster reefs along the shoreline. Best choice for low energy environments.

Plant Marsh with Sill

In moderate energy environments a sill may be required to establish a living shoreline. Remove any existing shoreline structure if present and grade the bank if possible. Stabilize bank with riparian vegetation and plant a marsh with a sill. If the bank cannot be graded, repair existing shoreline structure with a minimal footprint and consider incorporating a marsh with a sill or some other shoreline enhancement (e.g. oyster reef).

Groin Field with Beach Nourishment

Maintain existing wide beach between groins. Remove unnecessary structures at the backshore (e.g. bulkheads) and stabilize the bank with grading and riparian buffer plants. Repair/replace existing groins, add beach nourishment and plant beach vegetation.

Maintain Beach OR Offshore Breakwaters with Beach Nourishment

If shoreline exceeds 200 feet in length, remove existing shoreline structure, add beach nourishment sand, consider offshore breakwaters or another type of wave attenuation device with beach nourishment; consider adding plantings to the nourished areas. When the shoreline length is less than 200 feet an offshore breakwater may not be practical. In this case, remove failed shoreline structures and repair or construct a revetment as far landward as possible. Consider shoreline enhancement such as creation of vegetated wetlands and/or riparian buffer and/or sandy beach/dune above and immediately channelward of the structure.

Revetment

Remove existing failing or failed shoreline structure, if present. Construct new revetment as far landward as possible; grade the bank and plant vegetation buffers where possible. If grading is not possible, construct or repair existing revetment in the same alignment. A bulkhead should be considered only if previously present and the site is limited by navigation. Consider shoreline enhancement such as creation of vegetated wetlands and/or riparian buffer and/or sandy beach/dune above and immediately channelward of the structure. In high energy settings where shoreline extends more than 200 feet see option for **Offshore Breakwater with Beach Nourishment**.

Revetment / Bulkhead Toe Revetment

If grading is possible, remove the failed bulkhead and replace with a revetment landward of the current bulkhead. When grading not possible, (re)construct bulkhead in the same alignment and/or add a toe revetment. Consider a shoreline enhancement project such as creation of vegetated wetlands and/or riparian buffer and/or sandy beach/dune above and immediately channelward of the structure.

Special Considerations

Ecological Conflicts

Management options for this shoreline may be limited by the presence of Submerged Aquatic Vegetation (SAV) or Mangroves (Florida and Gulf coast shorelines). For Virginia shorelines, seek advice from the [Virginia Marine Resources Commission](#) Habitat Management Division. If you live in another state, seek advice from your local marine regulatory agency.

Highly Modified Area

Management options for this shoreline may be limited due to the presence of highly developed upland (e.g. commercial wharfs) or infrastructure directly adjacent to the shoreline (e.g. road) and will depend on the need for and limitations posed by navigation access and erosion control. Seek expert advice on the design of your project.

Land Use Management

Shorelines with tall banks greater than 30 feet limit possible solutions to address bank erosion. Forces other than tidal erosion, such as over-land runoff, upland development, and vegetation management are likely also having effect on bank conditions. Assessment of all factors and modifications to address causes for bank erosion are recommended. This may include changes to vegetation management, implementation of projects to address storm water, relocating buildings, utilities, and other infrastructure. All new construction should be located 100 feet or more from the top of bank. Actions may also include requesting zoning variances for relief from setback and other land use requirements or restrictions that may increase erosion risk. Seek expert advice to inform management options.

No Action Needed

No specific management actions are suitable for shoreline protection, e.g. boat ramps, undeveloped marsh, and barrier islands.

Special Geomorphic Feature

Maintain the natural condition of this shoreline to allow for unimpeded sediment movement and the corresponding response of wetlands, beach and/or dune. If primary structures are present and threatened, seek expert advice on the design of your project.