

# shoreline erosion

## WHAT ARE MY OPTIONS?

### CAROLINE COUNTY

Selecting the appropriate shoreline management option is critical not only to controlling erosion but also to restoring and maintaining near-shore habitat, like beaches and wetlands. The key to selecting a suitable option is to understand the characteristics and history of the particular stretch of shoreline. Important shoreline characteristics to consider are: How has the shoreline changed over time and how fast has it changed? How deep is the adjacent water? How long is the fetch – the distance that wind blows over water before reaching land?

This poster highlights some of the issues to consider when selecting a shoreline management project. If a measurable erosion problem is not present, the best course of action may be "no action". To get more detailed information, technical assistance, or to analyze shoreline characteristics using interactive mapping tools, go to:

<http://shorelines.dnr.state.md.us>

high erosion  
best option

**STRUCTURAL EROSION CONTROL** employs traditional methods of shoreline stabilization, usually barrier-type structures, that "harden" the shoreline.



**Site Characteristics**  
 Location: Main stem of bay  
 Water depth: 4-15 feet  
 Fetch: More than 2 miles  
 Erosion rate: More than 8 feet per year

- Examples**
- Bulkheads
  - Revetments
  - Stone reinforcements
  - Groins and jetties

**HYBRID EROSION CONTROL** integrates traditional stone armoring and bioengineering to provide more protection than non-structural options. Hybrid options also provide habitat and water quality benefits.



**Site Characteristics**  
 Location: Minor rivers to major tributaries  
 Water depth: 1-4 feet  
 Fetch: 1-2 miles  
 Erosion rate: 2-8 feet per year

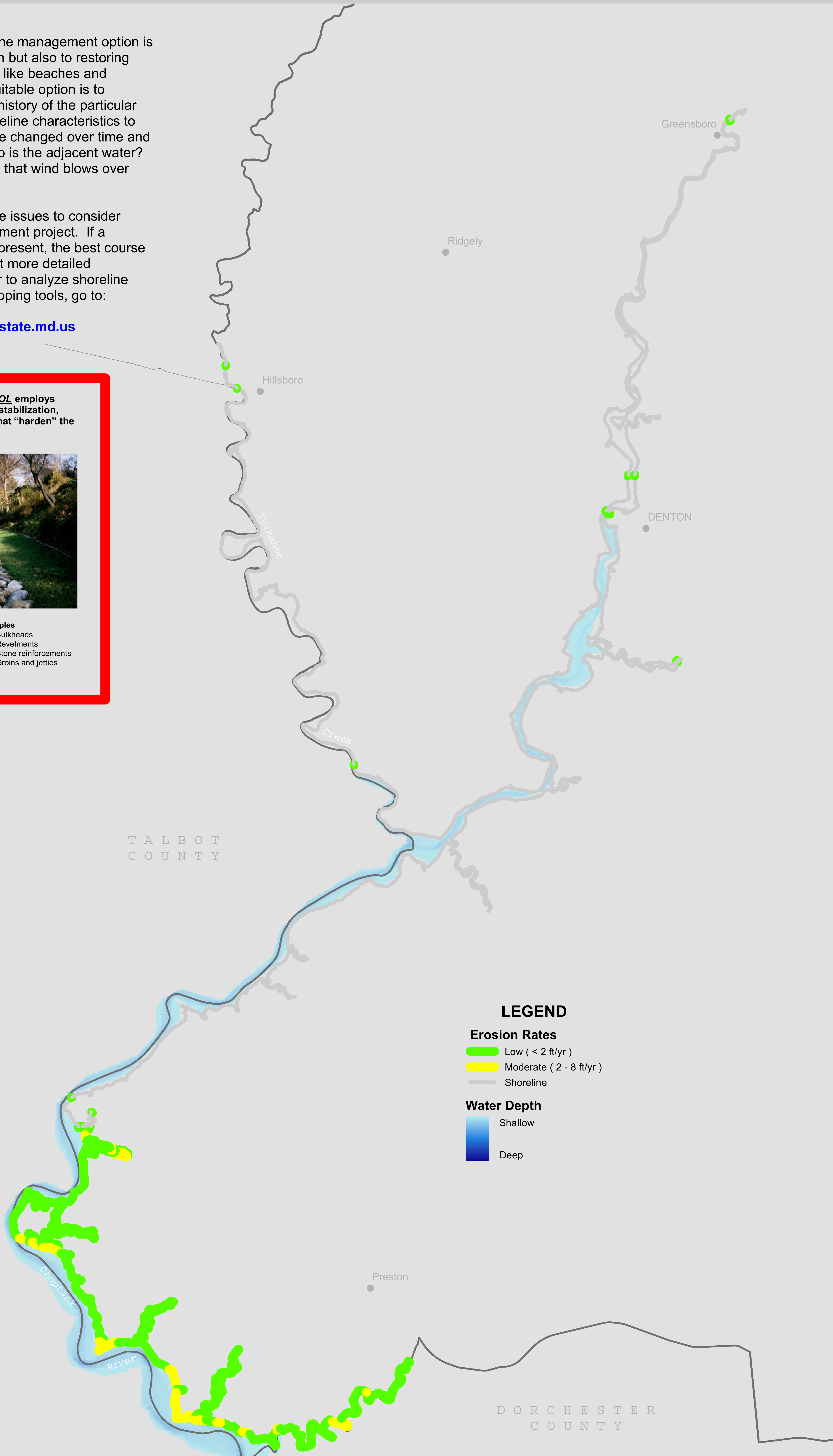
- Examples**
- Marsh creation with stone groins
  - Marsh creation with segmented sills
  - Marsh creation with breakwaters
  - Beach replenishment with breakwaters

**NON-STRUCTURAL EROSION CONTROL** utilizes bioengineering to create protective vegetative buffers that provide near-shore habitat for aquatic species and waterfowl.



**Site Characteristics**  
 Location: Creeks and coves  
 Water depth: Less than 1 foot  
 Fetch: 0.5 miles  
 Erosion rate: Less than 2 feet per year

- Examples**
- Marsh creation
  - Beach replenishment
  - Marsh creation with Biologs



#### LEGEND

##### Erosion Rates

- Low (< 2 ft/yr)
- Moderate (2 - 8 ft/yr)
- Shoreline

##### Water Depth

- Shallow
- Deep

moderate erosion  
best option

low erosion  
best option