

Living Shorelines Options: Types of Projects

**Dave Wilson,
Eastern Shore RC&D Council, Inc.**

Project Selection Criteria

Energy Environment	<i>Low Energy</i>	<i>Medium Energy</i>		<i>High Energy</i>
Shoreline Location	Creek or cove	Minor river	Major tributary	Main stem Bay
Water depth (ft)	-1.0	-1.0 to -2.0	-2.0 to -4.0	-4.0 to -15.0
Fetch (miles)	0.5	1.0 to 1.5	2.0 or more	2.0 or more
Erosion rate (ft/yr)	2 or less	2 to 4	4 to 8	8 to 20
Erosion Control Treatment Options	<i>Non-structural Projects</i>	<i>Hybrid Projects</i>		<i>Structural Projects</i>
	Beach replenishment	Marsh fringe w/ groins		Bulkheads
	Fringe marsh creation	Marsh fringe w/ sills		Revetments
	Marshy islands	Marsh fringe w/ breakwaters		Stone reinforcing
	Coir logs edging, groins	Beach replenishment w/ breakwaters		Groins & jetties
Cost per foot	\$50-100	\$150-300	\$350-500	\$500-1,200

Considerations Regarding Design

● Homeowner goals

- Shoreline protection (erosion), aesthetics, cost, recreation (beach, kayaking, etc.)

● Landscape considerations

- Site assessment, physical constraints (pool/building, steep bluffs, access, etc.)

● Plant selection and optimizing success

- Selection of appropriate species, long term maintenance

● Implementation of design

- Constructability: access, tides, etc.

Options for Living Shorelines

- Marsh creation
- Edging
- Biolog
- Rock groins with marsh plantings
- Rock sill with marsh plantings
- Breakwater

Marsh Creation



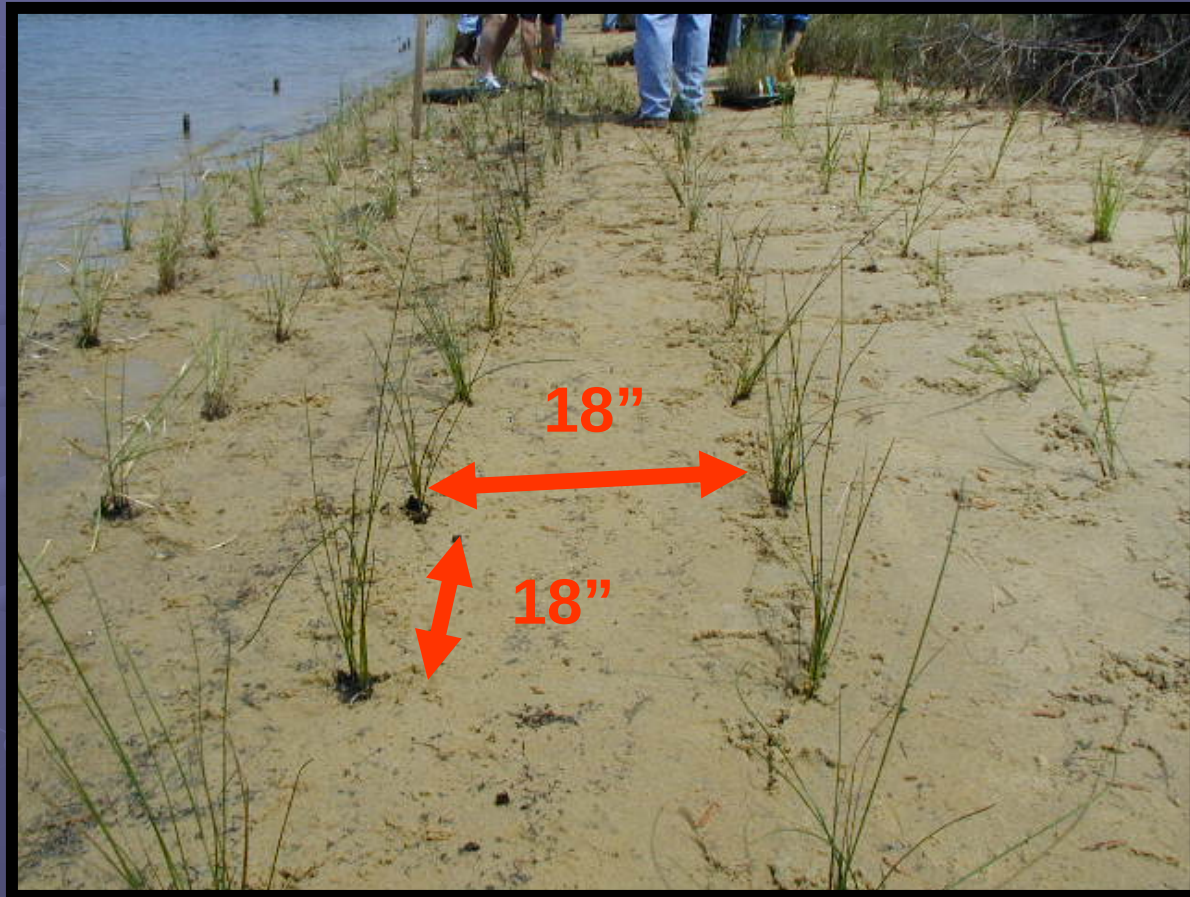
NOAA Restoration Center

Courtesy: Angler Environmental, Inc.

Sand Placement



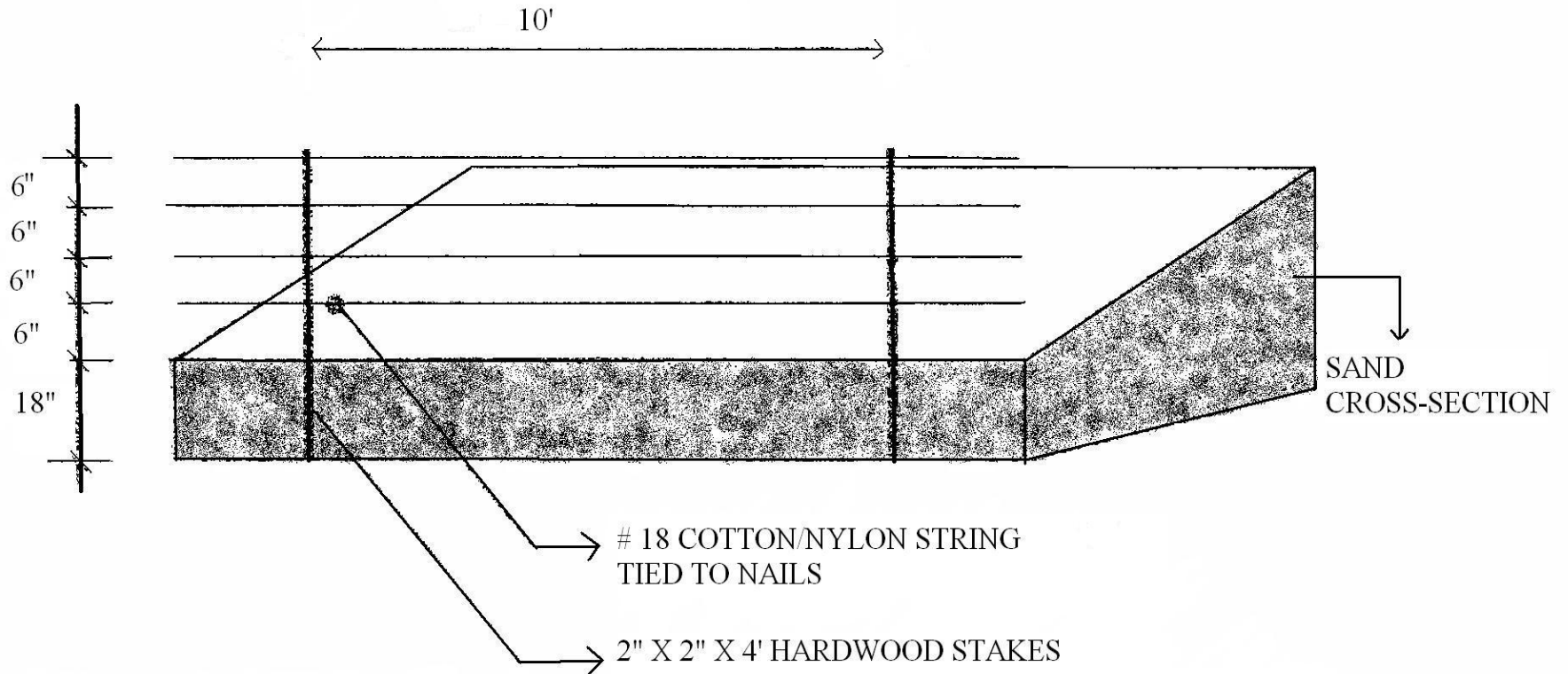
Marsh Creation



VIMS Center for Coastal Resources Management

Courtesy: Angler Environmental, Inc.

Typical Goose Fence

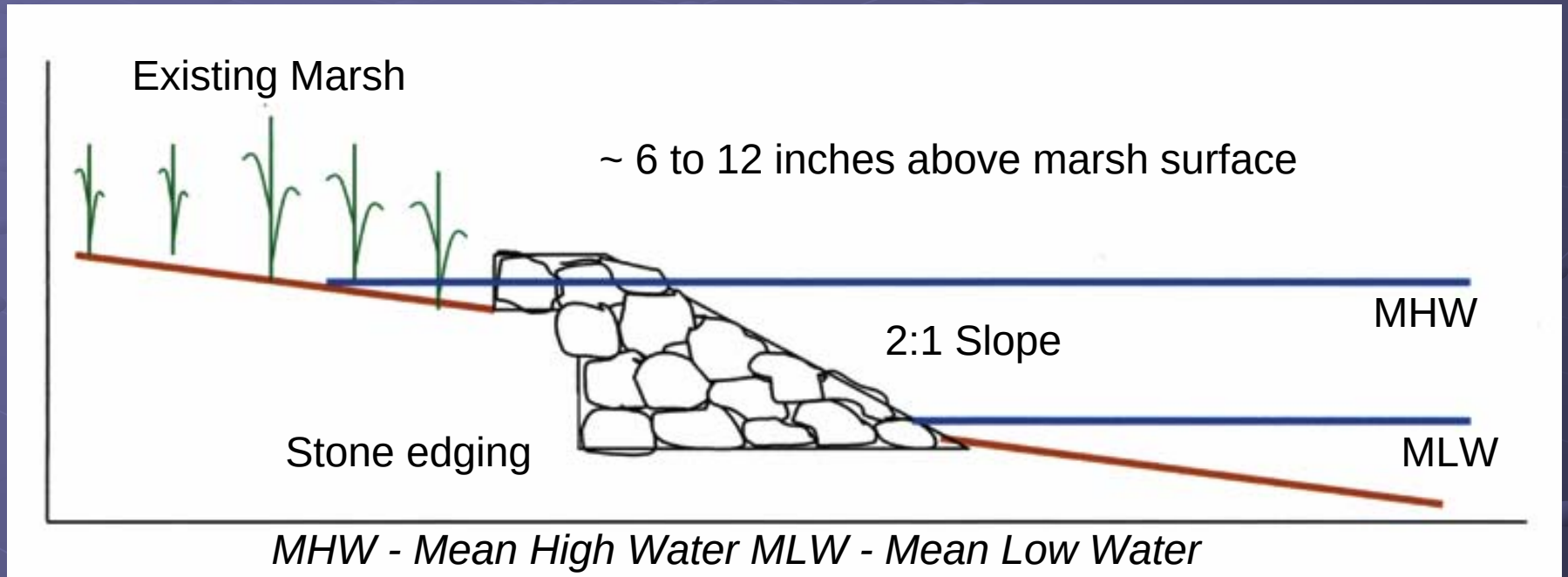


NOT TO SCALE

Goose Fence



Marsh Edging

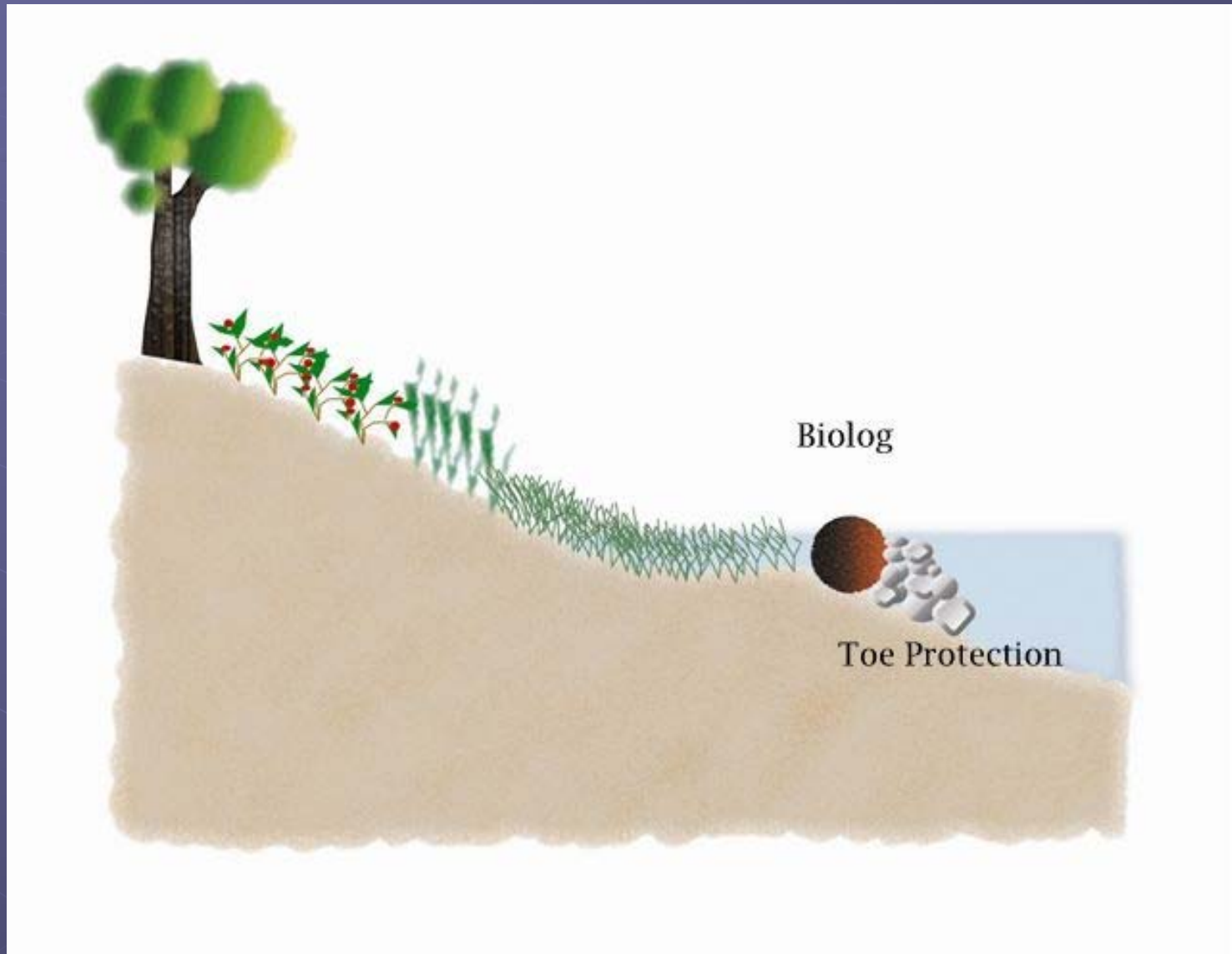


Profile of a typical marsh edge stabilization project used to prevent wetland edge loss.

Marsh Edging



Biolog Based Designs



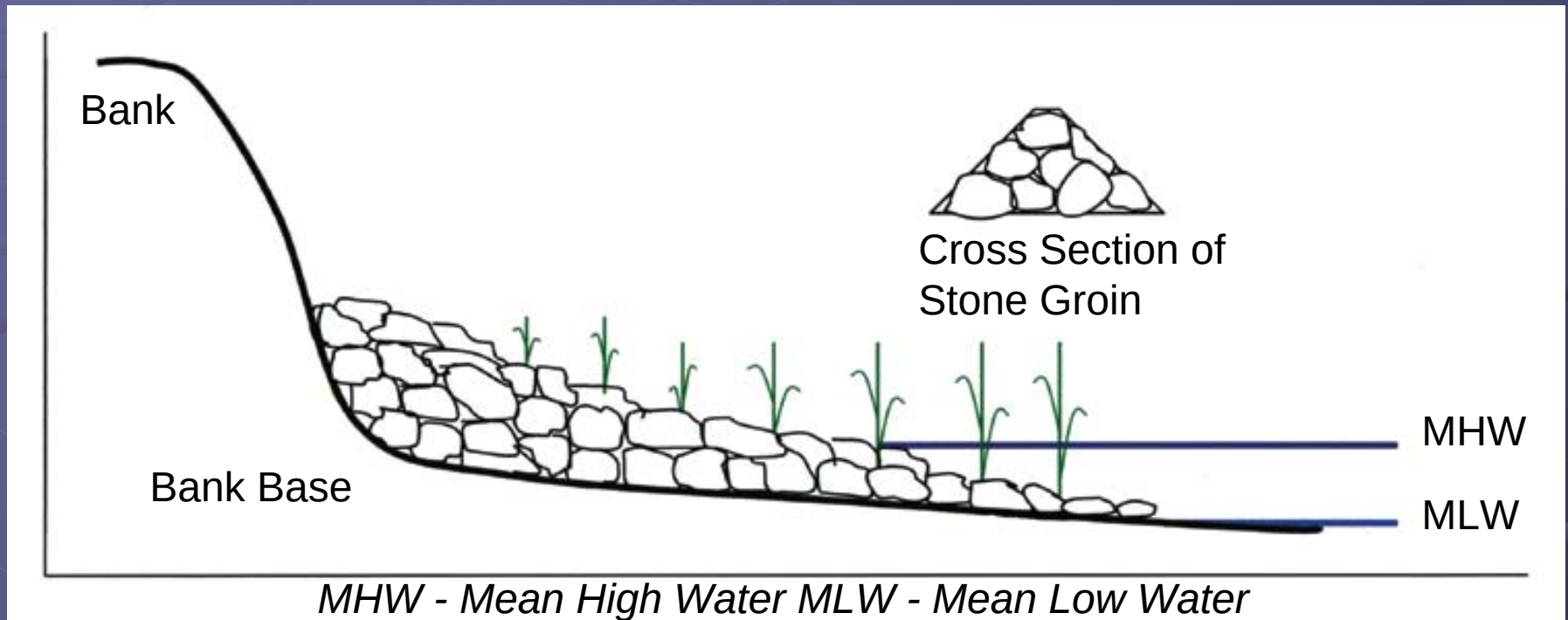
Biolog Based Designs



NOAA Restoration Center

Courtesy: Angler Environmental, Inc.

Cross-section of a Typical Groin



Profile of typical stone groin and cross section used to stabilize eroding banks.

Note: Plants are placed between groins on the sand fill.

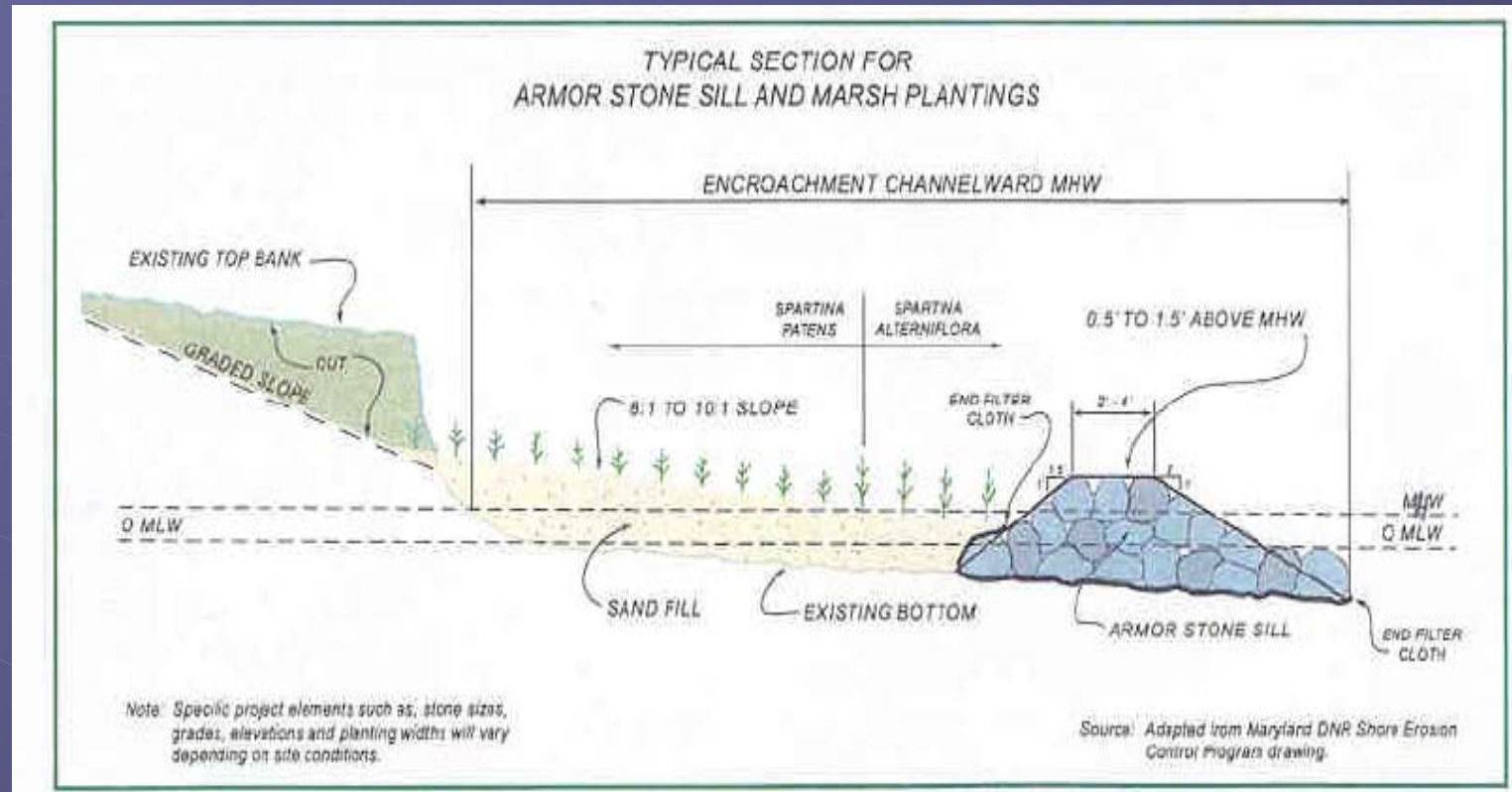
Groins



Groins with Marsh Plantings



Sill Design



S. alterniflora is planted from mid-tide to mean high water

S. patens is planted above mean high water

Sills with Marsh Plantings



Bhaskaran Subramanian - DNR

Sills with Windows



Sills with Marsh Plantings



Breakwaters



David H. Wilson

Coordinator

MD Eastern Shore RC&D

410-822-9300

esrcd@verizon.net

