



Introduction to Living Shorelines  
Jefferson Patterson Park  
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## Erosion: A Natural Process

- MD's shoreline- approx. 7,532 miles (Maryland Geological Survey).
- Shorelines naturally eroded by the movement of water, waves, and wind.
- Human activities like high speed boating and hardened shorelines on adjacent properties can increase rates of erosion.
- Erosion becomes a problem when something is at risk for loss (property, critical habitat, etc.)



Gwen Shaughnessy

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## Protecting Shorelines the “Hard” Way



Rip-rap or Revetment

Wooden Bulkhead



## HB 973 - Water Management Administration

- Requires living shorelines, except where the person can demonstrate to MDE that such measure are not feasible
- MDE required to map areas appropriate for structural stabilization
- Establishes a waiver process

### What is a Living Shoreline?

A suite of stabilization and erosion control measures that preserve the natural shoreline and are designed to minimize shoreline erosion, maintain coastal processes, and provide aquatic habitat. Measures must include marsh plantings and may include the use of sills, sand containment structures, breakwaters or other natural components (e.g. bio-logs, oyster reefs, etc.).



Chris Spielmann

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## Living Shorelines: Non-structural Examples

Marsh planting



Kevin Smith

Marsh with Biolog



Chesapeake Bay Foundation

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## Living Shorelines: Hybrid Examples

Marsh with groin



VIMS, CCRM

Marsh with sill



Bhaskaran Subramanian

Marsh with breakwater



Mike Land

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## “Biological” Advantages of Living Shorelines



- Provide shallow water habitat that results in higher abundance and diversity of aquatic species both nearshore and offshore.
- Helps to maintain a link between aquatic and upland habitats, providing shoreline access for wildlife and recreation.
- Look natural rather than artificial

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## “Physical” Advantages of Living Shorelines



- Improve water quality by settling sediments and filtering pollution



- Absorb wave energy, storm surge and flood waters



- Maintain natural shoreline dynamics and sand movement.



- Often lower construction costs.

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## Limitations



- Not effective in all situations.



- Limited number of marine contractors with knowledge/expertise in living shorelines.



- Limited detailed science/literature.



- Good design
- Knowledgeable contractor
- Awareness
  - LS are not “zero maintenance”
- Property owners’ involvement

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## Take Home Message

Before



After



St. John's College, Annapolis

Healthy marsh  
grasses  
=  
Strong erosion  
protection

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