

MARYLAND DEPARTMENT OF NATURAL RESOURCES



Introduction to Living Shorelines Jefferson Patterson Park June 10, 2009





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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.)





MARYLAND DEPARTMENT OF NATURAL RESOURCES Protecting Shorelines the "Hard" Way



Rip-rap or Revetment

Wooden Bulkhead





MARYLAND DEPARTMENT OF NATURAL RESOURCES Living Shorelines Protection Act of 2008

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



MARYLAND DEPARTMENT OF NATURAL RESOURCES Protecting Shorelines the "Green" Way

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.).



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MARYLAND DEPARTMENT OF NATURAL RESOURCES Living Shorelines: Non-structural Examples

Marsh planting



Marsh with Biolog





MARYLAND DEPARTMENT OF NATURAL RESOURCES Living Shorelines: Hybrid Examples





Marsh with sill



Marsh with breakwater





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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





MARYLAND DEPARTMENT OF NATURAL RESOURCES "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.





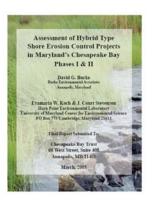
MARYLAND DEPARTMENT OF NATURAL RESOURCES Limitations



Not effective in all situations.



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



• Limited detailed science/literature.



MARYLAND DEPARTMENT OF NATURAL RESOURCES Keys to Success



- Good design
- Knowledgeable contractor
- Awareness
 - LS are not "zero maintenance"

Property owners' involvement



MARYLAND DEPARTMENT OF NATURAL RESOURCES Take Home Message





St. John's College, Annapolis

Healthy marsh grasses

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Strong erosion protection







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