

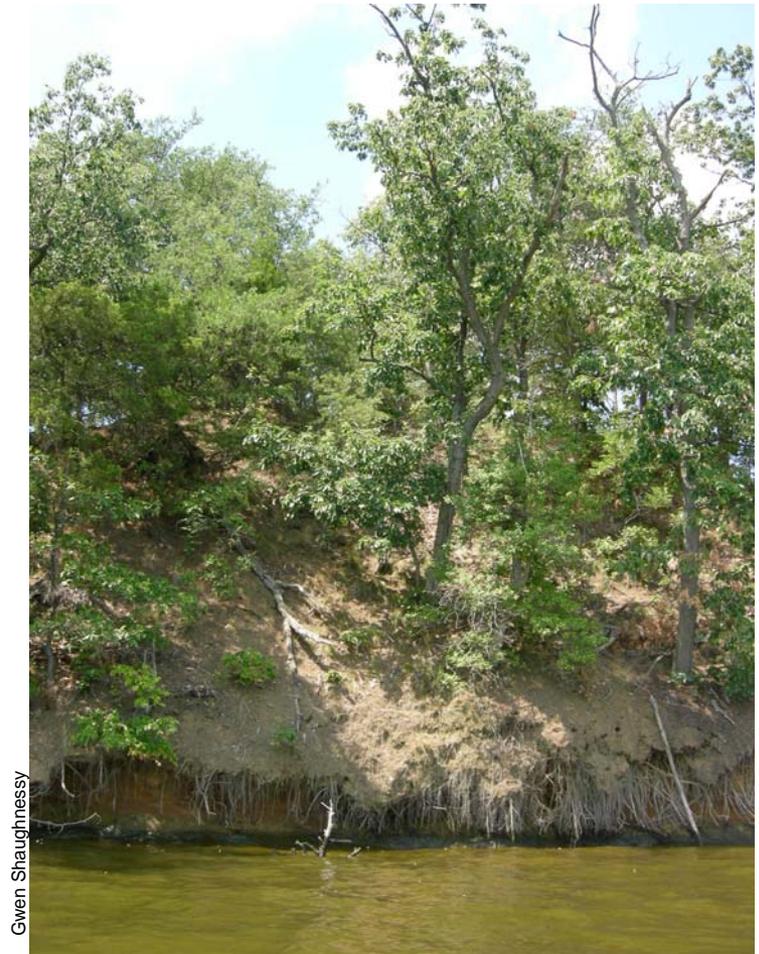
Introduction to Living Shorelines

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Maryland Department of Natural Resources

Erosion: A natural process

- MD's shoreline- approx. 7,532 miles (Maryland Geological Survey).
- Shorelines continually 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.



Gwen Shaughnessy

Protecting shorelines the “hard” way



MD DNR

Rip-rap or Revetment

Wooden Bulkhead



MD DNR

Protecting shorelines the “green” way: Living Shorelines

- A popular approach to erosion control.
- Uses strategically placed plants, stone and sand to deflect wave action, conserve soil and simultaneously provide critical shoreline habitat.



Living Shorelines: Nonstructural Projects

Marsh planting



Bhaskaran Subramanian

Marsh with Biolog



Chesapeake Bay Foundation

Living Shorelines: Hybrid Projects

Marsh with groin



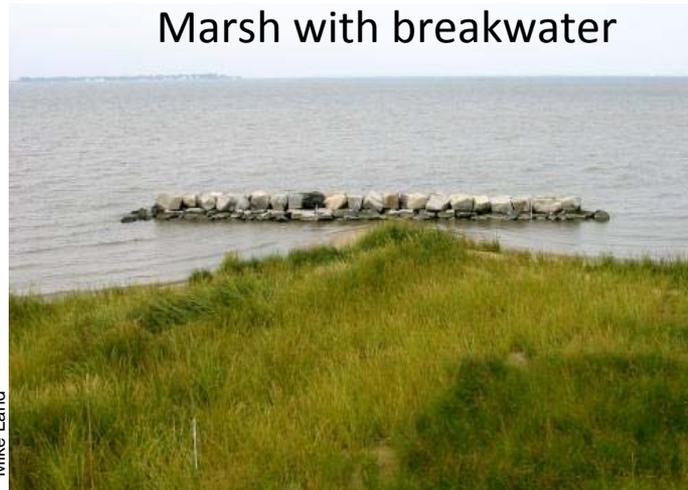
VIMS, CCRM

Marsh with sill



Bhaskaran Subramanian

Marsh with breakwater



Mike Land

“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

“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.

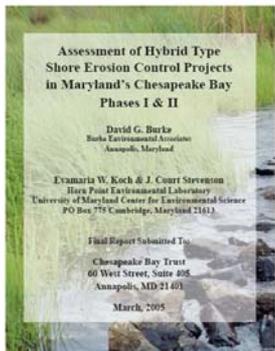
Drawbacks of Living Shorelines



- Not effective in all situations.



- Lack of knowledgeable marine contractors.



- Lack of detailed science/literature.

Keys to Success



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



Healthy marsh
grasses

=

Strong erosion
protection

