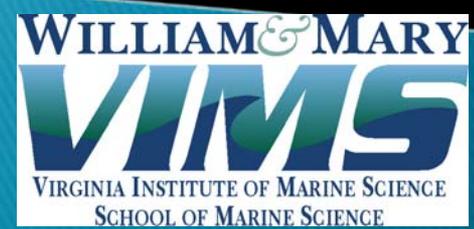


Senate Joint Resolution 35:
A Study of Tidal Shoreline Management in Virginia
And
Living Shorelines 2010 website



Pam Mason
December 8, 2010



Senate Joint Resolution Rationale

- Shorelines erode over time due to manmade and natural processes
- Traditional protection methods have replaced shoreline vegetation, reducing ecosystem services
- Most of the shoreline is privately owned, so it is critical to provide education to landowners on the benefits of living shorelines
- The development of tidal shoreline resources in the Commonwealth may be regulated or directed by numerous federal, state, and local agencies



Charges in the Resolution

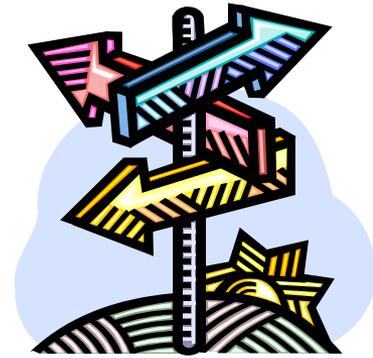
- ▶ Review tidal shoreline management in the Commonwealth and similarly situated states;
 - ▶ Identify potential changes to the regulatory structure of tidal shoreline management to reduce the cost and time required to issue a permit;
 - ▶ Identify regulatory innovations that would increase adoption of living shorelines among shoreline landowners; and
 - ▶ Make specific recommendations to achieve the sustained protection of tidal shoreline resources.
- 

Review tidal shoreline management in the Commonwealth and similarly situated states

- ▶ Overview of management process in Virginia
- ▶ Simple survey of Virginia Tidewater localities
- ▶ Looked at Massachusetts, Maryland and North Carolina



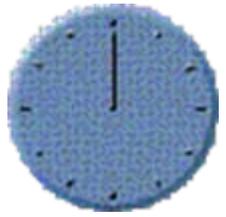
Shoreline Management Review



- ▶ Local governments have differing processes for permit review
- ▶ Virginia management structure appears to allow for coordinated review process
- ▶ Other states face similar challenges. Offer models that may be useful in Virginia



Identify Cost and Time Savings



- ▶ Coordinated/ uniform permit review
- ▶ Unified guidance
 - Decision trees – predictability
- ▶ General Permit for living shorelines
(Corp RP19 as possible model)
- ▶ Assess regulatory roadblocks: formal study



Recommendations for living shorelines

- ▶ State Policy preference for use of living shorelines (vegetated/ natural approach)
 - Executive Order, Regulation?
- ▶ General permit
 - Identify criteria: elevation, planting densities, slope, structural dimensions
- ▶ Assess financial incentives



Recommendations for Sustainable shorelines

- ▶ Comprehensive shoreline management incorporating planning for wetlands retreat
 - ▶ Education
 - Decision-makers
 - Shoreline owners
 - ▶ Financial Tools
 - Cost share for wetland creation, urban riparian buffers
 - Trading? Carbon sequestration credits
- 

What's Next?



- ▶ Report submittal to General Assembly for 2011 Session
 - Will be posted on the Virginia Legislative Information System website
 - <http://leg2.state.va.us/dls/h&sdocs.nsf/Published%20by%20Year?OpenForm>
- ▶ Possible follow up/ follow on
 - Additional legislation to direct action
 - Collaborative Development of Unified Guidance
 - Development of General Permit
 - Guidance or Permit may require additional legislative or regulatory action



Living shorelines website 2010

- ▶ Preserving our coasts one shoreline at a time

LS Website Development

- ▶ Funding from VCZMP for:
 - 3 targeted user group meetings
 - January 2010 – 3 User Groups:
 - Business and Industry – Shoreline Marine Contractors
 - NGOs and Shoreline Property Owners
 - Regulatory – Coastal Managers
 - website revision
 - revised site architecture
 - better navigational flow
 - improved links
 - new information
 - more graphics/photos

Specific Modifications

- ▶ **Better guidance for property owners** on the main page – FAQ section with questions that drop to anchored answers or links to more information within the site.
- ▶ **A decision tree** helps property owners and managers determine the environmentally preferred approach.
- ▶ **An extensive design and build criteria** for nonstructural and structural shoreline treatment options. **Nonstructural:** vegetation management, planted marsh, fiber logs, bank grading, beach nourishment and dune restoration. **Structural/Hybrid:** marsh toe revetment with natural marsh, marsh sill with planted marsh, offshore breakwater system, oyster reef. Includes information on suitable sites, guidelines for consideration, and photographic examples.
- ▶ **A permits section** related to living shorelines

New Demonstration Area Maps

Google interactive map with target living shoreline demonstration areas and table of contact information

Center for Coastal Resources Management

Home About Us Permits Wetlands UIC Data & Maps Resources Research Publications Education

Living Shorelines

- Why Living Shorelines
- Design & Build Criteria
- Permits for LS
- LS Plants & Vendors
- Learn about LS
- Demonstration Sites
- Photo Gallery
- Glossary of Terms
- FAQs
- Resources & Contacts

Living Shorelines Demonstration Sites

These grant-funded living shoreline projects include public outreach and education as part of their mission. Some of the sites can be self-guided, others require making arrangements for a visit. Specific project and contact information is provided in the table below.

Site Name	Location	Contact Person	Phone	Email	Website
Public Demonstration Areas					
Creation of the VIMS Teaching Marsh					

- Public Demonstration Areas
- Creation of the VIMS Teaching Marsh

New Frequently Asked Questions

Question links at the top of the page jump the user to answers and links to more information.

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Living Shorelines - Frequently Asked Questions

- [Do I have an erosion problem?](#)
- [What kind of living shoreline project is most suitable for my property?](#)
- [Do I need permits for a living shoreline project?](#)
- [What if my property is currently defended by a revetment or bulkhead?](#)
- [What plants are suitable for living shorelines and where can I buy them?](#)
- [How do I plant tidal marsh grasses along my shoreline?](#)
- [How do living shorelines perform during a nor'easter or hurricane?](#)
- [How much does a living shoreline project cost?](#)
- [Are there advantages or on-the-ground examples of various kinds of living shoreline treatments?](#)

Do I have an erosion problem?
Erosion is a natural process occurring along most Chesapeake Bay shorelines. Bare soil areas without vegetation, numerous fallen trees, collapsing banks, and gradual shoreline retreat are all signs of erosion. Not all erosion is a problem that needs to be corrected. If the erosion rate is very slow and the risk is low if the erosion continues, then consider leaving the shoreline in a natural condition. If the erosion cannot be tolerated and needs to be reduced, then first consider if a living shoreline method may be effective.

What kind of living shoreline project is most suitable for my property?
The best project type depends on the location and the type of erosion. Look for existing natural buffers, such as bank vegetation, tidal marsh, and sand beaches. These features indicate suitable growing conditions for plantings. They can be enhanced to improve erosion protection. Click here for an [erosion analysis](#) to help you decide what stabilization method is most suitable for your situation.

Do I need permits for a living shoreline project?
Yes, most shoreline projects require at least one permit. Any shoreline alteration has the potential to impact the environment or adjacent property owners. The permit process is required by laws designed to balance the need for shoreline management with environmental protection. Click here for more information about the [living shorelines permit process](#).

What if my property is currently defended by a revetment or bulkhead?
Even if your property is already protected from erosion, you can enhance the existing vegetation buffers near the shoreline and do not move frequently close to the water. You can also capture saltwater and redirect stormwater runoff away from the shoreline. Failed bulkheads on quiet tidal creeks can be replaced with bank grading and restored vegetation buffers. A decision tree on how to [evaluate currently defended shorelines](#) is being developed.

What plants are suitable for living shorelines and where can I buy them?
There are many native plants adapted to the harsh conditions along Chesapeake Bay shorelines. Waterfront landscape designs should include plants that can tolerate high winds, salt water flooding and soil in the air. Look here for suitable [native plants for upland, wetland and beach](#) areas of living shoreline projects. There are several [native plant nurseries](#) that provide these plants or you can ask your local nursery to find them for you.

How do I plant tidal marsh grasses along my shoreline?
The first thing to consider is the presence or absence of tidal marsh grass in the vicinity. If the shoreline has no existing marsh grasses, then the growing conditions may not be suitable. The

Living Shorelines 2010

Old Photo Gallery

New Photo Gallery

The screenshot shows the 'Old Photo Gallery' website. The header includes the 'Center for Coastal Resources Management' logo and a search bar. A navigation menu lists: Home, About Us, Permits, Wetlands, GIS Data & Maps, Resources, News, Publications, Education. A left sidebar contains a 'Living Shorelines' menu with options: Definition, Design Options, Projects, Documents, Agencies, and Photo Gallery. The main content area features a title 'Living Shorelines: Photo Gallery' and a paragraph: 'Click on the thumbnail photo for a larger version. Photos can be downloaded and used in publications completely **cost and royalty free**. Please acknowledge as: Photos from Center for Coastal Resources Management from www.edu/virginia.edu/ccrm/education/gallery.html, Virginia Institute of Marine Sciences.' Below this is a section titled 'Bank and Buffer Vegetation' with a 4x3 grid of 12 thumbnail photos. The thumbnails are labeled: 'Coastal Flat With Marsh', 'Dense Shrub', 'Forest Slope', 'Forest Edge', 'Forest Mid-slope', 'Low Mid-slope', 'Grass Cuff', 'Gravel/Vegetation Cuff', 'Natural Park Ornamental', 'Seedlings on RR slope', 'Native PLs Ornamental', and 'Unconcrete Sloped Latch'.

Expanded before & after sections

The screenshot shows the 'New Photo Gallery' website. The header includes the 'Center for Coastal Resources Management' logo and a search bar. A navigation menu lists: Home, About Us, Permits, Wetlands, GIS Data & Maps, Resources, News, Publications, Education. A left sidebar contains a 'Living Shorelines' menu with options: Why Living Shorelines, Design Based Latch, Permits for Latch, Latch Materials & Selection, Learn about Latch, Demonstration Sites, Photo Gallery, History of Latch, and Agencies & Contacts. The main content area features a title 'Living Shorelines: Photo Gallery' and a section titled 'Before and After Living Shoreline Demonstration Area Plantings'. This section contains a 4x2 grid of 8 thumbnail photos, each with a caption: 'Hammage Before Planting', 'Hammage After Growing Season', 'Hull Springs Farm Before Planting', 'Hull Springs Farm After Planting', 'VIMS Teaching Marsh Before Planting', and 'VIMS Teaching Marsh After Growing Season'. Below this is a section titled 'Before and After Side by Side' with two thumbnail photos.



Contact Info

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Living Shorelines website

<http://ccrm.vims.edu/livingshorelines/index.html>