

New Guidance for Local Wetlands Boards

The Tidal Wetlands Act was passed “...*to preserve and prevent the despoliation and destruction of wetlands while accommodating necessary economic development in a manner consistent with wetlands preservation.*” (Code of Virginia § 28.2-1301). The importance of natural shoreline habitats was re-affirmed with the passage of the Living Shorelines Act in 2011. Together these laws codify a preference for the use of natural features for erosion protection along Virginia’s shorelines.

The administration of the Wetlands Act by Local Wetlands Boards requires a process of public interest review. Tidal wetlands are a public trust resource held in common by all Virginians whether or not they live on the water. Local Boards have an obligation to protect wetlands under the Wetlands Act and promote their use for erosion protection under the Living Shorelines Act. Boards operate under the adoption of the model ordinance within the Tidal Wetlands Act. As such, issuance of a tidal wetlands permit should capture both the local and State interests in the decision. From an administrative perspective, the locally issued permit often serves as the only State permit for shoreline activities.

This issue of *Rivers and Coasts* recommends new procedures for Local Wetlands Boards in their review of tidal shoreline permit applications. Conforming to these procedures ensures Board decisions are consistent with the new policy established by the Living Shoreline Act.

These recent amendments to the Code of Virginia identify living shorelines as the Commonwealth’s preference for tidal shoreline erosion control. The legislation directs the Virginia Marine Resources Commission (VMRC), the Virginia Institute of Marine Science (VIMS), the Department of Conservation and Recreation (DCR) and local governments to develop guidance and/or revise comprehensive plans to consider more ecologically based approaches to erosion control. VMRC and VIMS are actively engaged in the evolution of this guidance. This change reflects a desire on the part of the state, coastal managers and regulators to implement an integrated coastal management approach. The Center for Coastal Resources Management (CCRM) at VIMS has developed a website, the Comprehensive Resource Management Portal (CCRMP), where localities and Board members can find guidance termed “Shoreline Best Management Practices (BMPs)” (<http://ccrm.vims.edu/ccrmp/index.html>).



A living shoreline

For a better understanding, we begin with a hypothetical scenario: (continued on page 2)

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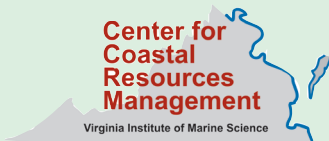
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Virginia Marsh has submitted an application to her Local Wetlands Board to construct a 200 foot linear revetment along her shoreline. The project impacts 200 square feet of non-vegetated tidal wetlands. Virginia's property is located in a sheltered cove which rarely experiences high waves. Some minor wave action, possibly from boat wake activity, has contributed to erosion at the base of the 10 foot tree lined bank. Neighbors on either side both have well developed fringe marshes, and their shorelines are relatively stable. Neither adjacent property has an erosion control structure. Figure 1 is a high resolution image of the site showing Virginia's property in the red box, and the location of fringe marshes delineated in white. The Local Wetlands Board must now determine whether to issue a permit for the revetment construction. What steps should they take in their review?



Figure 1. Virginia Marsh's property shown in red.

Local Wetland Board Permit Review Process

- Consult the Comprehensive Coastal Resource Management Portal for guidance;
 - Use the Shoreline Management Model if available for your locality OR
 - The Decision Tree if the Model is unavailable
- Review the recommended Shoreline Best Management Practices
- Request additional justification if the applicant does not propose to use the recommended Shoreline BMP
- The justification must be consistent with a small set of special circumstances (see page 5)

More about “Shoreline Best Management” Practices

1) In 2011 the General Assembly passed legislation that states it is “...*the policy of the Commonwealth to support living shorelines as the preferred alternative for stabilizing tidal shorelines*”. Local governments, inclusive of commissions and boards, should be initiating policy and protocols internally that are consistent with the State’s policy and regulate activities along tidal shoreline in a compliant manner.

2) While there are no laws that prohibit the construction of traditional structures such as revetments, the new policy was enacted because legislators recognize that traditional erosion control practices have cumulative and secondary adverse impacts to the environment. *Coastal ecosystems are a public trust resource, and local boards, as stewards of the environment, have an obligation to protect these coastal environs.*

3) CCRM has researched conditions under which alternative treatment options, also referred to as living shoreline approaches, will offer equivalent erosion control protection. In these settings, *the use of structures such as bulkheads or revetments should be viewed as excessive armoring, and the cost to the environment outweighs the benefit to the property owner.* A suite of preferred approaches are presented in Table 1. At any given site, one or two treatment options may be appropriate and recommended. This is typical where some modification of the bank is necessary (e.g. forest management) to improve growing conditions for planting marshes in the intertidal zone (e.g. plant marsh with sill).

Table 1. Shoreline Best Management Practices

Shoreline BMP Treatment Option	Description
Area of Special Concern	Examples include marinas, dredged canals
Land Use Management	Modify upland uses; relocate or modify infrastructure
Forest Management	Enhance forest condition by pruning and removing dead matter
Enhance/Maintain Riparian Buffer	Preserve existing vegetation within 100 feet of bank
Enhance Riparian/Marsh Buffer	Preserve and enhance vegetation stabilization potential between the mid-tide level to within 100 feet of the bank.
Grade Bank	Reduce slope steepness for wave run-up and improved growing conditions
Enhance/Maintain Marsh	Preserve and enhance low and high tide marsh vegetation for wave attenuation
Widen Marsh	Increase marsh width to improve wave attenuation
Widen Marsh/Enhance Buffer	Blended riparian and/or tidal marsh vegetation that includes planting to increase width and modifications to the riparian area
Plant Marsh with Sill	Existing or planted marsh supported by a low revetment placed offshore of the marsh
Enhance/Maintain Beach	Preserve existing beach
Beach Nourishment	Place sand on beach to increase beach width
Enhance Riparian/Marsh Buffer or Beach Nourishment	For shorelines where buffers and beaches exist enhance the buffer if needed. If buffer does not require enhancement then

4) Boards and staff should conduct an on-site project assessment using the Decision Trees available here: <http://ccrm.vims.edu/ccrmp/index.html> under the heading, “**Regional Shoreline Management Guidance - all Tidewater Localities**”. Decision Trees were originally developed to be used for an on-site assessment. If on-site assessment is not possible, information about conditions at a site can be gathered in a number of ways:

- o Requested from the applicant
- o Researched from online data sources such as the county’s Shoreline Inventory, if available: http://ccrm.vims.edu/gis_data_maps/shoreline_inventories/index.html
- o Researched from online data sources such as the Shoreline Managers’ Assessment Mapper: http://139.70.26.131:8008/ShorelineAssessmentMapper_SL/ShorelineAssessmentMapperTestPage.html

5) CCRM has completed more specific geo-spatial analysis known as the Shoreline Management Model (SMM). SMM uses the rules developed from the Decision Trees along with site specific knowledge of shoreline conditions to generate preferred shoreline management approaches termed “Shoreline Best Management Practices (BMPs).” Where they exist, Wetlands Boards should be utilizing this information in their decision-making. For localities where the model has yet to be completed, the Decision Trees are always available.

Table 2. Progress Toward Completion of Locality Specific Guidance for Shoreline BMPs

Completed Localities	Localities Scheduled for 2014 Release
Alexandria	Gloucester
Charles City	James City
Fairfax	Newport News
Hampton	Norfolk
Mathews	Northumberland
Northampton	
Poquoson	
Prince William	
Suffolk	
Virginia Beach	
Westmoreland	
York	

Special Circumstances

The SMM is based on a robust and accurate set of data. The rules or protocols that govern both the model and the Decision Trees are based on years of study and research. The model has been tested on-site and through laboratory generated examples. Therefore, there are few circumstances or conditions that may limit the use or practicality of the recommended approach resulting from either the model or the Decision Trees. These special circumstances are not common.

With few exceptions, Local Wetlands Boards should defer to the recommended practice in their application reviews. The following is a list of circumstances that, if present, would qualify as a site limitation. Applicants should be required to present evidence that these special conditions exist.

Special Circumstances

- 1) Presence of primary structure(s) close to the bank edge (e.g house, septic system, driveway)
- 2) Presence of rare, threatened or endangered species that would be impacted (e.g Northeast Tiger Beetle)
- 3) Nearshore bathymetry exceeds depths suitable for marsh planting (e.g. >2m)
- 4) Nearshore has submerged aquatic vegetation (SAV) which would be impacted
- 5) The site is a designated Area of Concern (AOC) as delineated by the SMM (e.g. marinas, man-made canals)



Bank grading would not be possible at this site because the house is located too close to the bank edge.



The complex infrastructure associated with marinas places them in the category "Area of Concern" where they require special consideration.

The Bottom Line

If the application is for a project other than the recommended approach, verification and review of the justification and site limitations should be required. Localities are advised to establish a formal process for the review of special circumstances and incorporate their use in permit decision-making. Wetlands Boards should require robust project details to verify these limitations.

Applying What We Have Learned

Virginia Marsh's application has been reviewed. The Local Wetlands Board consulted the information on the CCRMP for the locality. The recommended actions are shown in Figure 2. As indicated by the light green and tan dashed lines inside the red box, the approach calls for the riparian buffer and marsh (if present) to be enhanced and/or maintained. The Decision Tree shown in Figure 3 comes to the same conclusion. Both tools recommend forest management on the upland side and possible marsh planting with fiber logs at the shoreline. Trimming vegetation to increase sunlight may encourage the growth of marsh vegetation similar to the adjacent sites. In this case the recommendation includes multiple actions (refer to Table 1). Overall, these actions will likely cost the property owner significantly less than the revetment construction and no permit will be necessary by the Board. The property owner may require permission through the local Chesapeake Bay Preservation Act program if tree removal is necessary to reduce shading. The request to construct the revetment should be denied.



Figure 2. Recommended Shoreline Best Management Practices along Virginia Marsh's property as reported in the CCRMP

Legislative Perspective

Actions Mandated by the 2011 Living Shorelines Bill:

1. Implement a Living Shorelines General Permit regulation
2. Develop integrated guidance for the management of tidal shorelines
3. Develop comprehensive coastal resource management guidance for local governments to foster the sustainability of shoreline resources

The general permit and integrated guidance are to be undertaken by VMRC, the comprehensive guidance is the responsibility of VIMS.

Progress on the general permit had been hampered by questions about the authorization of the multi-jurisdictional permit process necessary to implement the 2011 legislation. Efforts to develop the permit were placed on hold while seeking a solution to the problem. New legislation this year (2014) clarifies the mandate to develop the general permit. The legislation specifically adds living shorelines to the list of activities listed in the law that are authorized if otherwise permitted by law.

As of this time, efforts on the development of the integrated guidance have been limited to initial conversations only.

VIMS has proceeded on the development of the comprehensive guidance including the elements described in this report along with educational training and technical advisory activities.

Virginia Constitution, Article XI

“Further, it shall be the Commonwealth’s policy to protect its atmosphere, lands, and waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth.”

