



# Virginia Wetlands Report



Volume 23, Issue 1

A Biannual Publication Focused on Virginia Wetland Issues and Training

Spring 2008

## On the Road with CCRM

This year, rather than having our usual spring workshop at VIMS, the Center for Coastal Resources Management will be hitting the road with a series of regional workshops for local government staff. The workshops will provide an introduction to the practical application of integrated shoreline management. Topics will include discussion of ecosystem services, determination of erosion risk and indicators, determination of preferred shoreline treatments and their impacts, as well as basic training in jurisdiction determination, tidal wetland delineation, pre-application strategies, and permit processing and evaluation.

The half-day workshops will focus on Wetlands Board and Chesapeake Bay Board staff, and will be coordinated through the Planning District Commissions. It is our hope that these smaller regional gatherings will allow for more discussion and interaction, and will assist local staff in accomplishing this portion of their jobs.

The first “on-the-road” workshop will be at the Middle Peninsula Planning District Commission in Saluda on April

28, 2008. Morning coffee, lunch, and handout materials will be provided. A second workshop is being planned for a portion of the Hampton Roads Planning District Commission. Watch for upcoming announcements of a staff workshop near you!

*“Smaller regional gatherings will allow for more discussion and interaction.”*

The VIMS wetlands workshop will return to the VIMS campus in fall 2008. The next issue of the Virginia Wetlands Report will address the topic for that workshop.



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## Shoreline Management Approaches

4 groups in order of preference:

1. No action
2. Non-structural techniques
3. Combined non-structural and structural techniques
4. Structural techniques

Non-structural techniques include:

- Planting marsh vegetation
- Planting riparian vegetation
- Selective pruning of riparian vegetation
- Stabilization with bank grading and vegetative plantings

Combination techniques include:

- Structures placed channelward of an existing or created marsh (marsh toes and sills)
- Structures placed channelward to protect an existing, or enhanced sand flat or beach (sills and breakwaters)
- Structures placed perpendicular to the shoreline to hold an existing or enhanced sand flat or beach (groins)

Structural techniques include:

- Onshore revetments
- Bulkheads

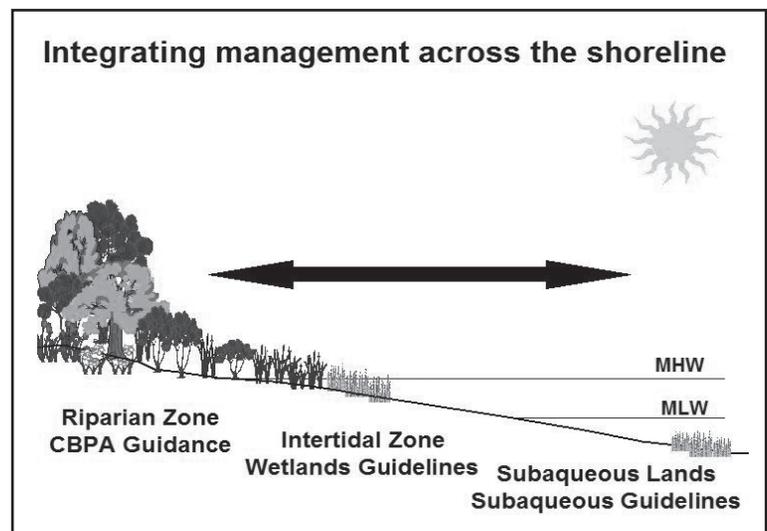
## Revising the Wetland Guidelines

The Center for Coastal Resources Management, Wetlands Program, has undertaken an initiative to provide integrated scientific guidance regarding Virginia's shoreline systems. Part of this effort is the development of proposed revisions to the Wetland Guidelines. Originally adopted by the Marine Resources Commission in 1974, the Guidelines were formally amended to include non-vegetated wetlands in 1982. The Wetlands Mitigation-Compensation Policy first adopted in 1989 was added to the Guidelines when they were reprinted in 1993, the most recent change to the Guidelines. These later amendments were critical changes to the Guidelines that focused on the addition of new information and policy while the original content of the Guidelines remained largely unchanged.

The scientific understanding of the role of tidal wetlands and the connection between wetlands and riparian lands and subaqueous lands has continued to evolve and improve. This understanding requires resource management decisions that are based upon a systems-based perspective rather than an individual resource. The Guidelines should reflect the current understanding of tidal wetlands to promote informed decision-making regarding this important resource. The approach taken with the Guidelines project is one that reflects the concept of integrated coastal management to provide for better-informed decision-making.

Currently, many shoreline management practices permitted through the existing regulatory framework within intertidal, riparian, and shallow water areas are having potentially significant negative impacts on water quality and aquatic resources. The proposed changes to the Guidelines reflect current science and are ecosystem-based.

As such, the guidance is not constrained by jurisdictional boundaries. Finally, the guidance identifies management choices that promote environmental and economic sustainability. The next step in the process will be coordination with the Virginia Marine Resources Commission to incorporate changes to the Wetland Guidelines.



## Designing Living Shorelines – a Course for Contractors

As populations along shorelines grow, shoreline stabilization activity also grows. Currently, shoreline stabilization permits in Virginia result in impacts to approximately 10 acres of tidal wetlands annually, which impedes achievement of the 2010 Chesapeake Bay restoration goals. The advancing understanding of science, ecology and ecosystem interactions has resulted in the development of shoreline project designs that mimic nature, called “living shorelines”. These types of designs have less impact on natural ecosystem function than traditional bulkhead and riprap revetment structures. In “living shoreline” type designs, the shoreline is re-shaped with natural materials to reduce erosion. Examples of living shoreline components are: beach nourishment, gapped sill systems, bank grading, and marsh planting.

Many property owners have expressed interest in the “living shoreline” approach, but many projects are too complex and labor intensive to install and maintain without professional help. Although scientific understanding has advanced, and living shoreline projects, when they are appropriate, are recognized as generally environmentally preferable to traditional structures, very few marine contractors are actually experienced in the design and construction of living shoreline projects.

Providing the designers and contractors with guidance on when and why “living shorelines” are preferable and the principles behind designing them is necessary for contractors to begin constructing them. The systems must be properly built to mimic a natural ecosystem or they are not beneficial to the Chesapeake Bay ecosystem. VIMS, with funding from the Chesapeake Bay Restoration Fund, is working to develop the curriculum for a course that would educate shoreline project designers and contractors about the use of “living shoreline” designs. The course stresses the reasoning behind the recommended design criteria and the interactions between upland riparian zones, wetlands and the aquatic system – three areas that are functionally integrated and tend to be impacted by shoreline projects.

The main objectives of the course are for participants to be able to: 1) Determine which types of shoreline projects are suitable for different shoreline types (e.g., sandy vs. marshy shorelines and low- vs. high-energy shorelines); 2) Explain how a living shoreline project can enhance ecosystem function in the Chesapeake Bay, and to contrast this with the impacts from more traditional shoreline projects; 3) Determine the design criteria necessary to construct a successful living shoreline project.

This course curriculum materials will be available on our website in Summer 2008. We hope to have the opportunity to offer the course to interested contractors in the near future.



# Tidal Wetlands News & Events

*The Virginia Wetlands Report is a biannual publication of the Wetlands Program at the Virginia Institute of Marine Science of the College of William and Mary. To subscribe to this newsletter, please contact:*

**Virginia Wetlands Report/CCRM**  
P.O. Box 1346  
Gloucester Pt., VA 23062  
(804) 684-7380  
dawnf@vims.edu

CCRM Director: Dr. Carl Hershner  
Wetlands Advisory Group Director: David O'Brien

Produced by: VIMS Publication Center and  
CCRM Communications Committee

This report was funded, in part, by the Virginia Institute of Marine Science and by the Virginia Coastal Program of the Department of Environmental Quality through Grant #NA07NOS4190178 - Task #8 of the National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resources Management, under the Coastal Zone Management Act, as amended. The views expressed herein are those of the authors and do not necessarily reflect the views of NOAA or any of its subagencies or DEQ.

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**Basic Soil Science Course**, March 24-25, 2008, Richmond, VA. Intensive 2-day short course presented by Virginia Tech's Lee Daniels. Sponsored by the Virginia Association of Wetland Professionals. Find out more at <http://www.vawp.org/seminars.html>.

**Environment Virginia 2008**, April 1-3, 2008, Lexington, VA. Commonwealth: Accelerating Solutions in a Rapidly Changing Virginia. Find out more at: <http://environmentva.org>.

**VIMS Marine Science Day**, May 17, 2008, Gloucester Point, VA. The event will take place on the main VIMS campus in Gloucester Point, rain or shine. Parking and admission are free. Visitors will be able to examine high-tech science equipment, tour a laboratory, observe aquatic animals in the York River, and discover the importance of wetlands in VIMS' Teaching Marsh. For more information, see <http://www.vims.edu/events>.

**Society of Wetland Scientists 2008 Conference**, May 26 - 30, 2008. Wardman Park Hotel, Washington DC. The Mid-Atlantic Chapter of the Society of Wetland Scientists will be hosting this annual meeting. The theme is "Capitalizing on Wetlands" to highlight the need to integrate wetland science and management with economics, public policy and education in a national election year. For more information [http://www.sws.org/2008\\_meeting/](http://www.sws.org/2008_meeting/).

**Wetlands and Chesapeake Bay Preservation Act Forum**. This on-line discussion forum is structured to allow Wetlands and Chesapeake Bay Preservation Act board members and staff from across coastal Virginia to exchange questions, ideas, or general comments regarding Tidal Wetlands and Chesapeake Bay Preservation Act issues. For more information [http://ccrm.vims.edu/permits\\_web/wetlands\\_forum/index.html](http://ccrm.vims.edu/permits_web/wetlands_forum/index.html).

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