



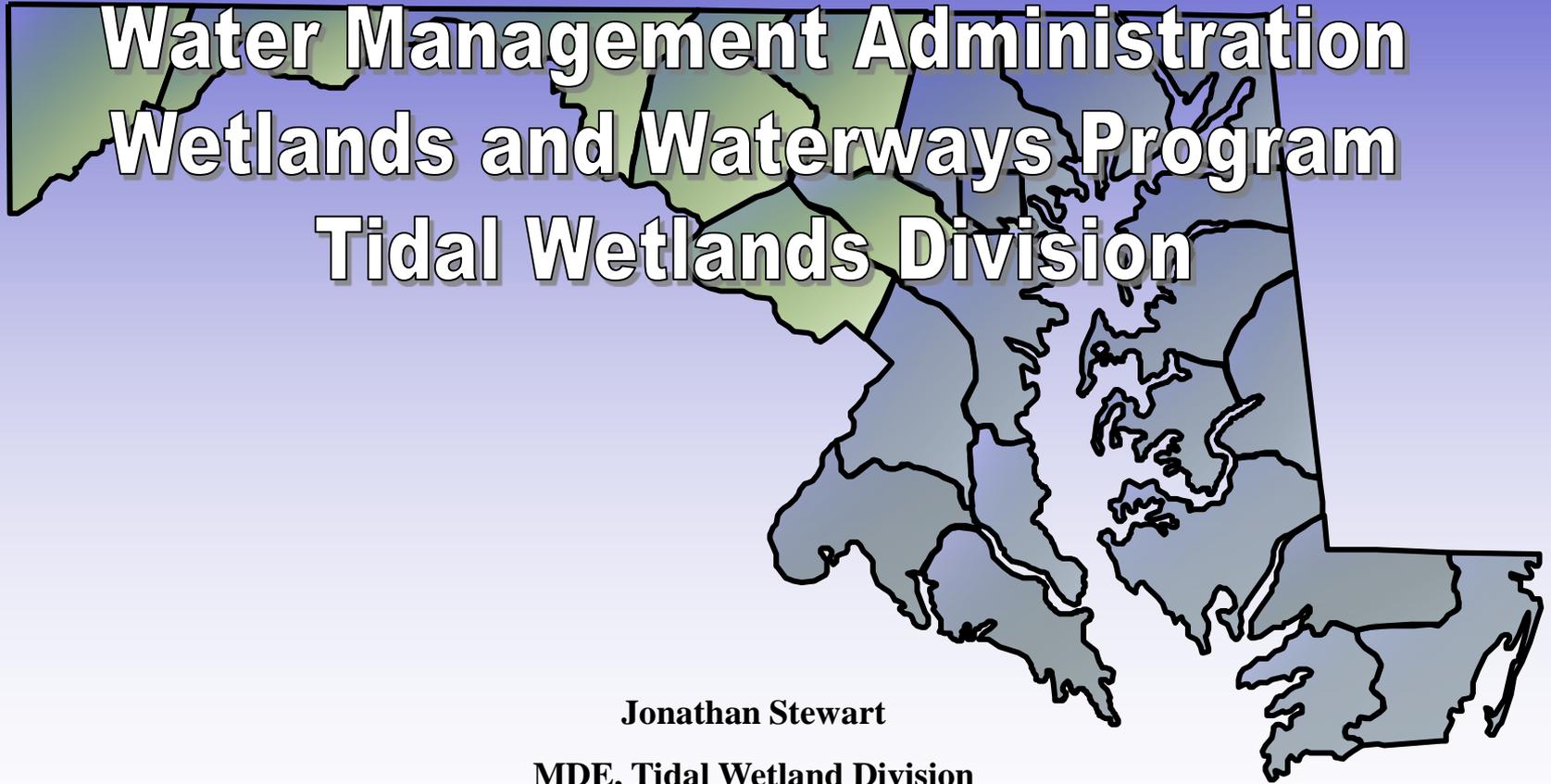
# Maryland Department of the Environment

Maryland Department of the Environment

Water Management Administration

Wetlands and Waterways Program

Tidal Wetlands Division



**Jonathan Stewart**

**MDE, Tidal Wetland Division**

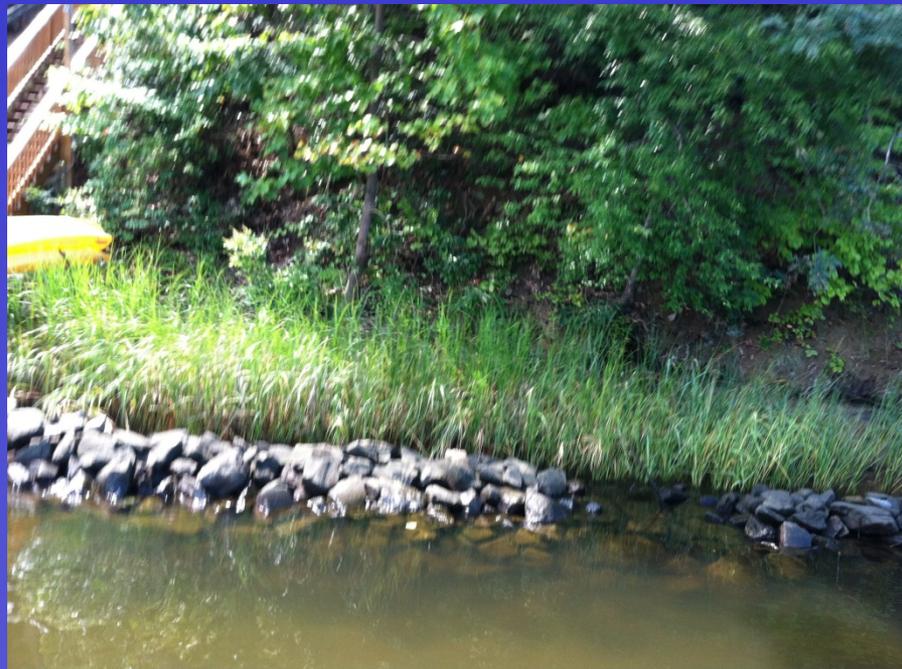
**Chief, Eastern Region**





# Maryland Department of the Environment

## Living Shorelines: Programmatic Tools and Policies



Moving Maryland from Structural to  
Nonstructural Shoreline Erosion Control  
Measures





# Maryland Department of the Environment

- Length of Tidal shoreline in Maryland
  - NOAA's official value: 3,190 miles. <sup>i</sup>
  - U.S. Army Corps of Engineers value: 4,360 miles. <sup>ii</sup>
  - Maryland Geological Survey's value: 7,719 miles. <sup>iii</sup>
- MDE tidal regulatory boundaries based on 1972 Tidal Wetland Maps

<sup>i</sup> measured by hand in 1939-40 with a recording instrument on the largest-scale charts and maps then available.

<sup>ii</sup> U.S. Army Corps of Engineers. 1990. Chesapeake Bay Shoreline Erosion Study.

<sup>iii</sup> Hennessee, L., Valentino, M.J., and Lesh, A.M., 2003, Updating shore erosion rates in Maryland: Baltimore, Md., Maryland Geological Survey, Coastal and Estuarine Geology File Report No. 03-05, 26 p.





# Maryland Department of the Environment

## Hardening the shoreline – Historical common practice

- Less than 10% of shoreline protection projects authorized in 2006 were for living shorelines.



Talbot County, San Domingo Creek near St. Michaels



Dorchester County – Location unknown



# Maryland Department of the Environment

## Living Shoreline Protection Act of 2008

- House Bill (H.B.) No. 973 took effect October 1, 2008
  - Improvements to protect a person's property against erosion shall consist of nonstructural shoreline stabilization measures that preserve the natural environment, such as marsh creation, except
    - In areas designated by MDE mapping as appropriate for structural shoreline stabilization measures; and
    - In areas where the person can demonstrate to MDE's satisfaction that such measures are not feasible, including areas of excessive erosion, areas subject to severe tides, and areas too narrow for effective use of nonstructural shoreline stabilization measures.
    - MDE will implement a waiver process to the nonstructural requirement





# Maryland Department of the Environment

- Act changed preference to presumption that every site is capable of supporting a soft shoreline stabilization technique and that it is the responsibility of the applicant to prove that a different technique is necessary to protect the property from erosion.
- Act required MDE to adopt regulations that included a waiver process
- Act amended Environmental Article 16-201



# Maryland Department of the Environment



Anne Arundel County – Location unknown

- MDE may authorize an erosion control project if:
  - There is evidence of erosion that the applicant can document
  - There are no wetlands on site or they are not controlling shore erosion
  - Proposed project does not adversely affect adjacent property, navigation (applicant has not adequately offset impacts), and/or threatened or endangered species, oysters, or significant historical/archeological resources



# Maryland Department of the Environment

- Prior to February 4, 2013
  - Erosion control measures considered in order of preference
    - No action
    - Nonstructural shoreline stabilization
    - Structural measures to stabilize nonstructural stabilization
    - Revetments
    - Breakwaters
    - Groins
    - Bulkheads

COMAR 26.24.04.01 (prior to February 4, 2013)





# Maryland Department of the Environment

- Low % of authorizations due to order of preference
  - Change law & regulations that adopt a living shoreline method as the acceptable method
- Cost \$\$\$\$ - revetment vs. living shoreline
  - MDE solicited prices from DNR and several marine contractors – Price was comparable
  - DNR estimates typically a 20% price difference
    - Educate regulated community – agents/contractor/property owners
- Protection – hard shoreline vs. “soft” shoreline
  - Educate regulated community – move MHWL channelward, stone sill dissipates initial wave energy, vegetation and slope dissipates most of remainder



# Maryland Department of the Environment

- Regulations implemented February 4, 2013
  - No action
  - Relocation of structures
  - Nonstructural shore erosion control project
  - Structural shore erosion control project with MDE approved waiver



# Maryland Department of the Environment

- Waiver from living shoreline requirement
  - Not receiving waiver request prior to submission of Joint Application – required in COMAR 26.24.04.01-2 & -3
  - Waiver request is not a waiver – reviewer must approve
    - Reviewers continue to educate about process
    - Need for workshop
- Buffer Notice Form and proposed Buffer Management Plan not received with submission of Joint Application – required in COMAR 26.24.04.01-3
  - Flyers mailed with notice or receipt of application detailing process requirements
  - Critical Area Commission notifying applicant that buffer management plan not received





# Maryland Department of the Environment

- MDE waiver process should be completed prior to submitting Joint Federal/State Application (JPA)
- Use MDE form



**Living Shoreline Waiver Request**  
Maryland Department of the Environment  
Water Management Administration



### INSTRUCTIONS

Shore erosion control projects must consist of nonstructural shoreline stabilization measures that preserve the natural environment (i.e. Living Shoreline or marsh creation) unless:

- A waiver is obtained from the Maryland Department of the Environment (MDE); or
- The project shoreline has been mapped by MDE as an area appropriate for structural shoreline stabilization measures (i.e., eroding, groin, bulkhead, etc.). These maps are available on [MDE's website](http://MDE's website).

In addition to the areas already mapped by MDE, certain sites will not be suitable for nonstructural shoreline stabilization measures due to site-specific characteristics. For example, at sites with excessive erosion, severe high energy conditions, extreme water depths, or a narrow waterway, a living shoreline may not be feasible and a property owner may be eligible for a waiver from the requirement to construct a nonstructural shoreline stabilization measure.

To determine if your site meets these criteria and is eligible for a waiver:

1. Complete this Waiver Request Form.
2. Mail photographs of the project site along with the completed Waiver Request Form to:  
Maryland Department of the Environment  
Tidal Wetlands Division  
1800 Washington Blvd.  
Baltimore, MD 21286  
Attn: [Division of County Planner \(if known\)](mailto:Division of County Planner (if known))
3. Complete a [Pre-Application Meeting Request Form](#) and submit the form by email or by mail with the completed Waiver Request Form and project site photographs to the above address.
4. After receiving all of the required information, MDE will contact the property owner or primary contact, if one is designated, to arrange a site visit. After the site visit, MDE will notify the property owner or primary contact, if one is designated, whether the Living Shoreline Waiver Request was approved.

Please be advised that for ALL shore erosion control projects, a property owner must obtain a State tidal wetlands authorization and all other applicable Federal, State, or local authorizations before beginning construction. A completed Living Shoreline Waiver Request Form is not authorization of your proposed project or authorization to begin work.

To obtain a State tidal wetlands authorization to construct a shore erosion control project, a property owner must complete the following documents and submit them to MDE:

- A [Joint Federal/State Application for the Alteration of any Tidal Wetland in Maryland](#);
- A [Proposed Critical Area Buffer Management Plan](#);
- A [Critical Area Buffer Notification Form](#); and
- If applicable, a [Living Shoreline Waiver](#) approved by MDE.

### LIVING SHORELINE WAIVER WORKSHEET

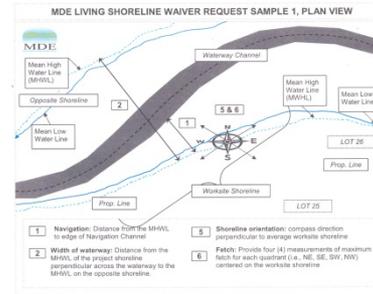
Project Site Address: _____			
City, State, Zip: _____			
1	Navigation	Distance from the Mean High Water Line to the center line of the closest mapped or unmapped channel	
2	Width of Waterway	Distance from the Mean High Water Line of the project Shoreline perpendicular across the waterway to the Mean High Water Line on the opposite shoreline	
3	Depth at Toe of Bank	Depth of the water measured from the elevation of the Mean Low Water Line to the bottom of the shoreline bank.	
4	Depth of Waterway	Depth of the water relative to Mean Low Water at 20 feet and 40 feet channelwidth of the Mean High Water Line	At 20 ft: _____ At 40 ft: _____
5	Fetch	Unobstructed distance over open water, within each compass quadrant from the project site (i.e., NE, SE, SW, NW)	NE: _____ SE: _____ SW: _____ NW: _____
6	Shoreline Orientation	A. Compass direction perpendicular to the project shoreline. Direction can be given as N, S, E, etc. or as a compass heading (i.e., 45°, 225°, etc.). B. Is bank grading or tree trimming required to provide at least six hours of daily sunlight?	
7	Bottom Material	A. Indicate the firmness of the bottom material in the project area. B. Indicate the type of bottom material in the project area.	Hard <input type="checkbox"/> Soft <input type="checkbox"/> Muck <input type="checkbox"/> Sand <input type="checkbox"/> Yard <input type="checkbox"/> Clay <input type="checkbox"/>
8	Sensitive Species	Will the project construction adversely impact fish, plant, underwater vegetation, marsh, shellfish, wildlife habitat, or the area within 100 feet landward of the project shoreline? - If yes, provide explanation and attach to this form.	
9	Site Access	A. Can the project be constructed from the water side of the project site? B. Does site access require any grading or vegetation trimming?	
10	Mapped Shoreline	Is the project site mapped by MDE as an area appropriate for structural shoreline stabilization measures? If unknown, leave this section blank.	

I certify that the information on this form is true and accurate to the best of my knowledge and belief.

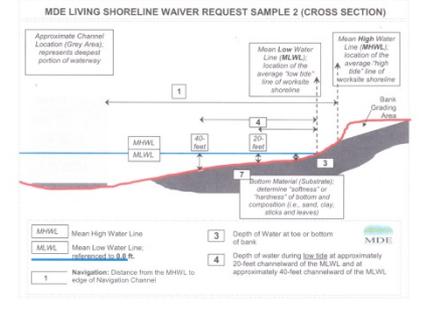
Property Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Property Owner Name (print): \_\_\_\_\_

- 2 -



- 3 -



- 4 -

COMAR 26.24.04.01-2





# Maryland Department of the Environment

## NOTICE TO SHORE EROSION CONTROL APPLICANTS

### CRITICAL AREA BUFFER NOTIFICATION FORM

#### Submittal Requirements

**WHEN submitting a shore erosion control application to the Maryland Department of the Environment (MDE), the owner or their representative shall submit the following:**

- The proposed Buffer Management Plan
- This Critical Area Buffer Notification Form

**Examples of Buffer Management Plans** can be obtained by contacting the local government or the Critical Area Commission. This information is also available on the Commission's website. See contact information at the bottom of this form.

#### Notice

- 1) MDE may determine the application is incomplete if the Buffer Management Plan or this form is not included in the application.
- 2) In addition to a Federal or State authorization, a local government approval is required before you begin your project.
- 3) Before beginning any work, including site preparation and stockpiling of materials, the owner or their representative must obtain:
  - An authorization from MDE to construct and install a shore erosion control measure;
  - Approval of the Buffer Management Plan from the local jurisdiction; **AND**
  - Any other required local permits.
- 4) Buffer disturbance without a locally approved Buffer Management Plan or buffer disturbance that is not consistent with a locally approved Buffer Management Plan is a violation of State and local laws.

#### Certification

I have read and understand the requirements described in this Notification Form. I will abide by these requirements and the conditions of any State authorization or local approval. I will not begin work without all proper authorizations. Upon reasonable notice, I authorize the right to enter for periodic on-site evaluation by official representatives of the local Critical Area permitting authority.

SIGNATURE OF PROPERTY OWNER OR REPRESENTATIVE:

\_\_\_\_\_

PRINTED NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

ADDRESS OF SHORE EROSION CONTROL PROJECT: \_\_\_\_\_

Critical Area Commission for the Chesapeake and Atlantic Coastal Bays · 1804 West Street, Suite 100 · Annapolis, MD 21401 · (410) 260-3460 · See [www.dnr.state.md.us/criticalarea/](http://www.dnr.state.md.us/criticalarea/) for a list of local Critical Area permitting authorities.

Rev. 2/1/13





# Maryland Department of the Environment

- Critical Area
  - Living shoreline designs frequently impact the critical area
  - Prior to February 4, 2013 - MDE, Critical Area Commission, and/or local county critical area reviewers would coordinate when feasible
  - After February 4, 2013 - applicant required to submit Critical Area Buffer Notification Form and a proposed buffer management plan on all proposed shoreline stabilization methods



# Maryland Department of the Environment

- Benefits
  - Early Coordination
  - Opens dialog between applicant, local jurisdiction, and MDE
  - Eliminates confusion regarding planting or restoration requirements
  - Entire design reviewed prior to issuance of State and federal authorizations
    - Grading appropriate
    - Plantings appropriate
    - Access to site, material storage area, etc.



# Maryland Department of the Environment

- Current design parameters

- Sill height -  $\leq +1$  above Mean High Water
- Window openings – 10% of the linear feet of sill, minimum 1 opening every 100',  $\geq 5'$  wide, window bottom  $\leq$  to Mean Low Water
  - Why?
    - Sills must be designed to facilitate ingress/egress of estuarine fauna during regular tidal cycles – MDSPGP, NMFS' (National Marine Fisheries Service), DNR
    - Low marsh must receive adequate flushing
- $\geq 50\%$  low marsh plantings
  - Why?
    - Filling of open water (estuarine fauna habitat) – mimic closely (although vegetated same habitat characteristics)
    - MDE's coordination with NMFS's Habitat Conservation Division (HCD) to insure that Living Shorelines minimize impact to productive inter-tidal and shallow water estuarine habitats
- 10:1 slope or less
  - Why?
    - Stable planting area, wave dissipation





# Maryland Department of the Environment



From this



To this



# Maryland Department of the Environment

## MDE Home Page

<http://mde.maryland.gov/Pages/Home.aspx>

## MDE Living Shoreline Information

<http://mde.maryland.gov/programs/Water/WetlandsandWaterways/Pages/TidalRegsLivingShoreline.aspx>

## MDE Joint Application

[http://mde.maryland.gov/programs/Water/WetlandsandWaterways/PermitsandApplications/Pages/Programs/WaterPrograms/Wetlands\\_Waterways/permits\\_applications/tidal\\_permits.aspx](http://mde.maryland.gov/programs/Water/WetlandsandWaterways/PermitsandApplications/Pages/Programs/WaterPrograms/Wetlands_Waterways/permits_applications/tidal_permits.aspx)





# Maryland Department of the Environment



Expansive Salt Marsh - Worcester County, Coastal Bays

