SHORELINE MANAGEMENT IN THE CHESAPEAKE BAY – OPEN TO OTHER IDEAS FOR HARD SUBSTRATE

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Living Shorelines defined as “Shoreline Management”

- A continuum of shoreline management practices that is based on the amount of hard shore armor structure used.
Shoreline Management expert panel developed load reductions for prevented sediment, denitrification, sedimentation, redfield ratio, and default values.

- Sediment reduction credit tied to tidal erosion rate and can be quite high.
- Minority dissenting view for prevented sediment – coarse sand is good for SAV and habitat.
- Qualifying conditions to attain “credits”.
- Credits conservative based on science available.
- Credits limited to 5 years; need re-inspection.
- Panel report should update every 2 years – but has not been done yet.

Shoreline Management has TN, TP, and TSS load reduction credits in the Chesapeake Bay.
### Table 1. Summary of shoreline management pollutant load reduction for individual projects.

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Submitted Unit</th>
<th>Total Nitrogen (lbs per unit)</th>
<th>Total Phosphorus (lbs per unit)</th>
<th>Total Suspended Sediment (lbs per unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocol 1 - Prevented Sediment</td>
<td>Linear Feet</td>
<td>Project-Specific*</td>
<td>Project-Specific*</td>
<td>Project-Specific*</td>
</tr>
<tr>
<td>Protocol 2 – Denitrification</td>
<td>Acres of re-vegetation</td>
<td>85</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Protocol 3 - Sedimentation</td>
<td>Acres of re-vegetation</td>
<td>NA</td>
<td>5.289</td>
<td>6,959</td>
</tr>
<tr>
<td>Protocol 4 – Marsh Redfield Ratio</td>
<td>Acres of re-vegetation</td>
<td>6.83</td>
<td>0.3</td>
<td>NA</td>
</tr>
<tr>
<td>Non-conforming/Existing Practices *</td>
<td>Linear Feet</td>
<td>MD = 0.04756</td>
<td>MD = 0.03362</td>
<td>MD = 164</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VA = 0.01218</td>
<td>VA = 0.00861</td>
<td>VA = 42</td>
</tr>
</tbody>
</table>
Oysters in Shoreline Practices – slim to none in Maryland

- MD DNR reports 3 practices with oysters
- Maryland is “oyster poor”
- Perception or real obstacles to get a permit for living shorelines with oysters
- Oyster laden “reef balls” are an emerging idea/technology
Conservationists expand oyster habitat with 'reef balls' built by students

A broad partnership led by the Maryland and Virginia chapters of the Coastal Conservation Association, a group of recreational anglers, dumped nearly 150 of them overboard just off the shores of Tilghman Island. They were laid alongside 72 reef balls that were dropped last year.

The project united the anglers with environmentalists, business sponsors and students for a common objective: cleaning the Chesapeake for the sake of its ecology and for its economic power.
Oysters growing on concrete balls

Figure 0 Bay Balls with embedded shell at oyster hatchery. Photo: Sea Search of Virginia.
Placing Oyster “Reef Balls” on the Shoreline
Pooled Monitoring Initiative – Science to answer key restoration questions

- Pool resources to answer restoration questions
- Increase power, objectiveness, and ability to know what works
- Bring science back to those that can use it
- Restoration Research award program
  - Pooling resources to research “big” questions
  - Supported 25 projects at $4.1M since FY 15
  - [https://cbtrust.org/grants/restoration-research/](https://cbtrust.org/grants/restoration-research/)
Where the Money Comes From:

Maryland’s Treasure the Chesapeake license plate

Maryland ASK4ME
Protect the Chesapeake

Federal, state and corporate partnerships

Individual and private donations

Chesapeake Bay Fund Tax Check-off

Where the Money Goes:

Education
Ensuring that students are environmentally literate through K-12 curriculum development, field experiences, and green school development.

Restoration
Advancing the science and implementation of restoration best management practices that reduce pollution and improve habitat.

Community Outreach
Engaging citizens and communities to improve the health of local waterways through community clean-ups, tree plantings, and other stewardship practices and projects.

CBTRUST
Chesapeake Bay Trust
Chesapeake Bay Trust is helping meet the Bay’s restoration goals through awards that fund citizen engagement and restoration efforts.

Visit cbtrust.org for more information.

We look forward to learning together at this conference.