



House Bill 655 (Delegate Stein) – Environment – State Wetlands – Shoreline Stabilization Measures Written Testimony

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Position: INFORMATIONAL

Submitted to: Environment and Transportation Committee

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The Chesapeake Bay Trust (the Trust) is honored to provide information on the value of living shorelines as an erosion control method to the Committee as it considers House Bill 655.

The Trust was established by the General Assembly in 1985 to increase stewardship through grant programs, special initiatives, and partnerships, focusing on on-the-ground watershed restoration, community engagement, environmental education, capacity-building, and science.

Living shorelines is one of the key watershed restoration practices the Trust funds. Living shorelines are defined as projects that use as many natural habitat elements (wetland vegetation, oyster reef, etc.) as possible to protect shorelines from erosion rather than hard shoreline armor (bulkheads, stone revetments, seawalls). Their purpose: to provide equal or better protection against erosion than armor while serving as better wildlife habitat for species like juvenile striped bass, blue crabs, birds, and more.

The Trust has funded living shoreline projects for decades, before the practice became common globally and close to the origin of the term “living shorelines,” which was coined here in Maryland on the Eastern Shore. To help promote the idea, the Trust administered a Living Shoreline Grant Program from 2005-2015 supported by pooled funds from the Trust (e.g., bay vehicle license plate funds), DNR, MDE, the National Oceanic and Atmospheric Association (NOAA), and several private funders. Over \$5 million was awarded to 114 living shoreline design and/or implementation projects that installed 50,589 linear feet of living shoreline and many high-profile, visible, signature projects the community still points to and learns from today (see photos). The Trust still funds and provides technical assistance on living shoreline projects through its other programs.

As these projects demonstrated to landowners and decision-makers alike the value and performance efficacy of living shorelines, Maryland, many other states, and other nations began to adopt



South River watershed, 2003



St. Johns College, Annapolis, 2006

policies and laws that encouraged living shorelines. Maryland passed the Living Shoreline Protection Act in 2008 to encourage living shorelines instead of shoreline armor where appropriate. Now, every coastal U.S. state on the Atlantic, Pacific, and Great Lakes has some form of living shoreline program or initiative (Table 1.)

We have learned a lot about the practice of living shorelines in the past 20 years, including its effectiveness at reducing/protecting against erosion and its habitat value. We know from multiple studies around the world that fish, crabs, shrimp, small species that live in the sediment (“infauna”), and plants are more abundant in natural shoreline habitats than at artificial, armored shorelines. We know from before and after studies that fish, crabs, shrimp and other species become more abundant after armored sites are replaced with living shorelines. While no shoreline type, including and perhaps especially armor, is 100% impenetrable in the face of, for example, hurricanes, we also know that living shorelines not only reduce erosion, but often lead to the opposite, sediment accretion.

Living shorelines may not be the right solution everywhere. The “higher energy” the site (the more open water in front of it, the higher the waves reaching the shoreline), the more stone needed in the design and the more expensive it will be. However, the Living Shoreline Grant Program supported installation of living shorelines in all energy regimes, from small creeks to open Bay sites, and at sites in which other shoreline uses were desired (boat slips, kayak launches, etc.)



About the Chesapeake Bay Trust

The Trust was created by the Maryland General Assembly in 1985 as a non-profit grant-making organization with a goal to increase stewardship and engagement in the restoration of the state’s local rivers, streams, parks, and other natural resources in diverse communities across the state, from the mountains of Western Maryland and the Youghiogheny watershed to the marshes of the Coastal Bays and everywhere in between. The goal was to create an entity that could complement state agency work with groups on the ground: schools, nonprofit organizations, faith-based and reach large institutions, homeowners associations, community and civic associations, and other types of groups.

The Trust invests in local communities and watersheds through grant programs and special initiatives and is known for its efficiency, putting on average 90 cents of every dollar into programs. The Trust has awarded over \$180 million through about 12,500 grants and projects in every county in Maryland since 1985. The Trust makes about 400 grants and other awards a year and have about 1,000 active grantees at any one time.

The Trust's grant making is supported through revenue from the Chesapeake Bay vehicle license plate; half of the Chesapeake and Endangered Species Fund checkoff on the state income tax form; two new donation options through Maryland's online boating, fishing, hunting license system, one that focuses on veterans' rehabilitation; partnerships with federal, state, local agencies, family foundations, and corporate foundations; and individual donors.

Thank you very much for the opportunity to present to the Committee. If you should have any questions regarding the Trust's testimony, please contact us at 410-974-2941 x105 (sdrescher@cbtrust.org) or x 100 (jdavis@cbtrust.org)

Table 1: U.S. Living Shoreline Programs/Initiatives

Alabama:

- <https://extension.msstate.edu/publications/living-shorelines-permitting-guide-for-alabama-homeowners>
<https://restorethegulf.gov/sites/default/files/Alabama%20Living%20Shorelines%20Program.pdf>

California:

- <https://scc.ca.gov/webmaster/ftp/pdf/restore-shoreline/sfbay-living-shorline-project-052412.pdf>
- <https://www.coastkeeper.org/restoration/living-shorelines/>
- <https://scwrp.databasin.org/pages/living-shorelines/>

Delaware:

- <https://www.inlandbays.org/projects-and-issues/all/living-shorelines/>
- <https://estuaries.org/the-importance-of-living-shorelines/>

Georgia:

- <https://gacoast.uga.edu/research/major-projects/living-shoreline/>
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Illinois

- <https://www.illinois.gov/news/press-release.25902.html>

Oregon:

- https://www.oregon.gov/lcd/Publications/guidebook_erosion_control_practices.pdf

Maine:

- <https://www.gulfofmaine.org/public/climate-network/living-shorelines/>

Massachusetts:

- <https://climateactiontool.org/content/restore-and-protect-natural-shorelines-use-living-shoreline-techniques>

Michigan

- <https://www.michigan.gov/-/media/Project/Websites/egle/Documents/Programs/WRD/Coastal-Management/Green-Infrastructure-presentation-Natural-Shorelines.pdf?rev=d4598248a7ae439d9edbc1de45929f33>

Mississippi

- <https://masgc.org/living-shorelines>

New England broadly:

- http://www.conservationgateway.org/ConservationPractices/Marine/crr/Documents/Final_StateofthePractice_7.2017.pdf

New Hampshire:

- <https://www.des.nh.gov/water/coastal-waters/living-shorelines>

New Jersey:

- <https://dep.nj.gov/njfw/fishing/marine/living-shorelines/>

New York:

- <https://bnwaterkeeper.org/living-shorelines/>

North Carolina

- <https://www.nccoast.org/living-shorelines/>
- <https://www.deq.virginia.gov/our-programs/water/clean-water-financing-and-assistance/virginia-clean-water-revolving-loan-fund-vcwrlf/living-shoreline>

Rhode Island:

- <http://www.crmc.ri.gov/habitatrestoration/roselarisapark.html>

South Carolina:

- <https://governor.sc.gov/sc-floodwater-commission-living-shoreline-task-force>

Virginia

- https://www.vims.edu/ccrm/outreach/living_shorelines/
- <https://mrc.virginia.gov/regulations/fr1300.shtm>
- <https://vaswcd.org/living-shorelines/>

Washington State

- <https://livingshorelines.be.uw.edu/#:~:text=LIVING%20SHORELINES%20PUGET%20SOUND&text=These%20habitats%20provided%20critical%20feeding,orcas%20of%20the%20Salish%20Sea>