

Seitz Comments SB417 & HB602_02-13-23.pdf

Uploaded by: Allison Colden

Position: FAV

February 13, 2023

Dear Maryland Legislators,

I am writing to provide information relevant to Maryland Senate Bill 417 and House Bill 602. I am a Virginia resident, a Professor at William & Mary's Virginia Institute of Marine Science, and I have been working on effects of living shorelines on natural resources for over two decades. I therefore believe that I can provide a knowledgeable opinion on the benefits that living shorelines can provide for both the benthic, bottom-dwelling food resources (e.g., clams and worms living in seafloor sediments) in Chesapeake Bay, as well as the fish and crabs (e.g., croaker, blue crab) feeding in these coastal systems. I hope this will help Maryland legislators understand the ecological and economic reasons that underlie the value of living shorelines for the Chesapeake Bay ecosystem, and aid legislators in reaching an informed decision on Senate Bill 417 and House Bill 602.

First, my students and I have tracked the effects of living shoreline construction on bottom-dwelling animal communities in Chesapeake Bay. Coastal erosion and sea level rise have led to increased interest and demand for living shorelines, which incorporate plants, natural materials and ecologically beneficial artificial structures to stabilize and reduce erosion of marsh land, rather than traditional shoreline armoring, such as bulkheads. One of our studies evaluated the ecosystem services provided by living shoreline projects. In a study funded by the National Oceanic and Atmospheric Administration, Center for Sponsored Coastal and Ocean Research, our results indicated that when living shorelines replaced a bulkhead, the resulting benthic community closely resembled that in adjacent natural marshes with no bulkhead after only two years, by increasing the density and biomass of clams. Bivalves, such as clams, are a reliable indicator of a healthy ecosystem, and are useful for assessing the benefits of living shorelines. Similarly, the density and biomass of polychaete worms increased in the third year after construction of the living shoreline. Benthic species such as clams and worms are key food items for the blue crab and fish such as spot and croaker in Chesapeake Bay, such that living shorelines can enhance the production of fishery species, in contrast to bulkheads which reduce food availability for fishery species. Overall, these results highlight the benefit to benthic communities by preventing erosion using living shorelines instead of traditional shoreline hardening techniques. Moreover, declines of benthic prey species due to hardened shorelines will have ramifications for animals higher in the food web. More information can be found in the peer-reviewed scientific publication, Davenport et al. 2018, here: <https://rdcu.be/c5xXk>.

Second, in two studies, my colleagues and I demonstrated negative impacts of shoreline hardening on fish and crabs in Chesapeake Bay. In one study, we compiled databases from fish net surveys for a comprehensive review using 587 sites in 39 subestuaries in Chesapeake Bay (meta-analysis; peer-reviewed publication Kornis et al. 2017: <https://link.springer.com/article/10.1007/s12237-017-0213-6>), and found that shoreline hardening degraded estuarine fauna both directly adjacent to the hardened shoreline and, at a larger scale, as cumulative hardened shoreline increased in each subestuary. In another study, funded by the Chesapeake Bay Trust, we examine threshold effects of hardened shorelines on critical forage species (e.g., croaker, silverside, blue crab) in Chesapeake Bay by examining patterns in fish and crab abundances in comparison to shoreline development in Chesapeake Bay tributaries. We determined that there were threshold declines in seven key species when shorelines were developed, and

these declines occurred at levels between 10% and 30% of tributary shoreline hardening. Furthermore, juvenile blue crab abundance declined with shoreline development, whereby for every 10% increase in shoreline hardening, there was a 4% decrease in crab abundance. For example, if a tributary without shoreline hardening supported 100 million blue crabs, that same tributary would lose production of 4 million blue crabs for every 10% increase in shoreline hardening. This indicates that economically and ecologically valuable natural resources may be strongly degraded by shoreline development due to a loss of food availability. In addition, developing legislation on a threshold for shoreline hardening may be appropriate, especially for tributaries in highly developed subestuaries. These results have been presented to the Chesapeake Bay Fisheries Goal Implementation Team and at a national conference.

In summary, multiple studies provide convincing evidence of the adverse impacts of shoreline development and positive effects of living shorelines on living resources. **Benthic organisms and the economically and ecologically important fish and crabs that feed on them can all benefit from reductions in shoreline hardening and increased use of living shorelines.**

Please do not hesitate to contact me if you would like further information at 804-684-7698 or seitz@vims.edu. I hope this information will assist you as you prepare your decision on Maryland Senate Bill 417 and House Bill 602.

Sincerely,



Rochelle D. Seitz, Ph.D.

SB417_PGCEX-FAV.pdf

Uploaded by: Angela Alsobrooks

Position: FAV



THE PRINCE GEORGE'S COUNTY GOVERNMENT

OFFICE OF THE COUNTY EXECUTIVE

BILL: Senate Bill 417 – Environment – State Wetlands – Shoreline Restoration

SPONSOR: Gile, Jackson, Elfreth

HEARING DATE: February 15, 2023

COMMITTEE: Education, Energy, and the Environment

CONTACT: Intergovernmental Affairs Office, 301-780-8411

POSITION: SUPPORT

The Office of the Prince George's County Executive **SUPPORTS Senate Bill 417 - Environment – State Wetlands – Shoreline Restoration**, which makes several changes to standards and requirements related to shoreline restoration projects and projects on a person's property to protect the shoreline against erosion. The bill changes the standard by which a person is eligible for a waiver from the requirements to use nonstructural shoreline stabilization methods for shoreline erosion projects. The bill also establishes the Coastal Resilience and Living Shoreline Restoration Account within the existing Tidal Wetlands Compensation Fund to provide grants for the replacement of structural shoreline stabilization measures with nonstructural shoreline stabilization measures, as specified.

Prince George's County under the Clean Water Act and corresponding stormwater National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit has an obligation to control stormwater pollutant discharges by implementing Best Management Practices (BMP) and programs, show a reduction of pollutants pursuant to EPA approved TMDLs, and improve water quality. This bill supports the County's environmental restoration and TMDLs efforts as well as abates property loss and aligns with our NPDES MS4 permit restoration.

For the reasons stated above, the Office of the Prince George's County Executive **SUPPORTS Senate Bill 417** and asks for a **FAVORABLE** report.

SB0417-EEE_MACo_SUP.pdf

Uploaded by: Dominic Butchko

Position: FAV



Senate Bill 417

Environment – State Wetlands – Shoreline Restoration

MACo Position: **SUPPORT**

To: Education, Energy, and the Environment
Committee

Date: February 15, 2023

From: Dominic J. Butchko

The Maryland Association of Counties (MACo) **SUPPORTS** SB 417. This bill would provide additional resources for counties that are looking to advance shoreline restoration projects.

Maryland has one of the largest coastlines within the United States. The Chesapeake Bay and Atlantic Ocean shape the cultural and economic landscape of the state. Mitigating against erosion and sea level rise is both a fact of life and a critical function of state and local government.

SB 417 provides counties as well as other coastal landholders with additional resources to undergo shoreline restoration projects. Ironically for a state with such a vast coastline, there has been a historic lack of investment in shoreline restoration. This program represents the first step in sharpening a powerful tool to combat erosion and sea level rise.

SB 417 provides necessary additional resources in the fight to preserve Maryland's iconic coastline. Accordingly, MACo requests a **FAVORABLE** report on SB 417.

SB 417 CBF FAV.pdf

Uploaded by: Matt Stegman

Position: FAV



CHESAPEAKE BAY FOUNDATION

Environmental Protection and Restoration
Environmental Education

Senate Bill 417

Environment – State Wetlands – Shoreline Restoration

Date: February 15, 2023

Position: Favorable

To: Education, Energy, and the Environment Committee

From: Matt Stegman

Maryland Staff Attorney

Chesapeake Bay Foundation (CBF) **SUPPORTS** SB 417. This bill clarifies existing state law preferencing living shorelines as a means of erosion control by specifying that improvements must be designed to increase the resiliency of the land and habitat connection between the land and the water, consist of nonstructural elements intended to improve the quality of the natural environment, and incorporate living elements like aquatic vegetation, grasses, or oysters. The bill further directs the Maryland Department of the Environment (MDE), in partnership with the Department of Natural Resources (DNR), to map and identify priority shoreline restoration zones where conditions exist that degrade the resilience of the land and the habitat connectivity between the land and water. Finally, the bill establishes a special Coastal Resilience and Living Shoreline Restoration Account within the existing Tidal Wetlands Compensation Fund to provide grants for the replacement of structural shoreline stabilization measures with nonstructural shoreline stabilization measures.

The National Oceanic and Atmospheric Administration (NOAA) defines living shoreline as “a broad term that encompasses a range of shoreline stabilization techniques along estuarine coasts, bays, sheltered coastlines, and tributaries. A living shoreline has a footprint that is made up mostly of native material. It incorporates vegetation or other living, natural “soft” elements alone or in combination with some type of harder shoreline structure (e.g. oyster reefs or rock sills) for added stability. Living shorelines maintain continuity of the natural land–water interface and reduce erosion while providing habitat value and enhancing coastal resilience.”¹ This is in contrast to structural or armored shoreline stabilizations, which include bulkheads, rip rap, stone or wood walls.

Living Shorelines Better Protect Land from Sea Level Rise and Severe Weather:

Throughout Maryland, armored shorelines such as rip rap and bulkheads remain a primary approach to protect properties from erosion. The table below shows the prevalence of armored shorelines, particularly in urban and suburban areas²:

¹ National Oceanic and Atmospheric Administration (NOAA), *Guidance for Considering the Use of Living Shorelines*. 2015. Available at https://www.habitatblueprint.noaa.gov/wp-content/uploads/2018/01/NOAA-Guidance-for-Considering-the-Use-of-Living-Shorelines_2015.pdf. Accessed Feb. 13, 2023.

² Summarized from the Chesapeake Bay Program Percent Hardened Shoreline in Maryland dataset: <https://data-chesbay.opendata.arcgis.com/datasets/percent-hardened-shoreline-in-maryland-1/>. Accessed February 13, 2023.

Maryland Office • Philip Merrill Environmental Center • 6 Herndon Avenue • Annapolis • Maryland • 21403

County	Hardened Shoreline (miles)	Total Shoreline Length (miles)	Percent Hardened
Anne Arundel	234.72	537.08	43.70%
Baltimore	97.07	257.76	37.66%
Calvert	49.71	288.43	17.23%
Cecil	<i>unknown</i>		
Charles	31.74	302.79	10.48%
City of Baltimore	47.29	63.14	74.90%
Dorchester	101.28	1650.01	6.14%
Harford	<i>unknown</i>		
Kent	36.20	359.43	10.07%
Queen Anne's	101.73	433.08	23.49%
Somerset	31.35	1284.26	2.44%
St. Mary's	108.78	485.06	22.43%
Talbot	195.41	756.99	25.81%
Wicomico	19.40	392.88	4.94%
Worcester	1.67	84.68	17.95%
TOTAL	1056.33	6895.58	15.32%

Scientific models predict sea levels in coastal areas like Annapolis will rise 1.5 feet by 2050 and 3 feet by 2100, which would overwhelm our current infrastructure. If we continue armoring our shorelines in the face of this reality, we'll displace floodwaters to communities that can't afford to build ever-higher sea walls.

While armored shoreline elements degrade over time and may cause negative downstream effects, living shorelines can protect land from erosion and become more stable over time as plants, roots, and oyster reefs grow. While adjustments to hard materials within the living shoreline might be needed, the actual living elements of a living shoreline - like oyster reefs and grasses - are expected to maintain elevation relative to predicted sea level rise through 2100.³ Additionally, some living shorelines projects have been shown to accrete sediment on the landward side. Living shorelines further protect land from erosion by dampening wave energy. By contrast, bulkheads amplify and reflect wave energy.⁴

Living shorelines can be a vital component to protect waterfront land from severe weather events, which are becoming ever-more common as a result of climate change.⁵ Studies suggest that living shorelines not only hold up better to severe weather than armored alternatives, they may produce a significant atmospheric carbon sequestration benefit.⁶

³ National Oceanic and Atmospheric Administration (NOAA), *Guidance for Considering the Use of Living Shorelines*.

⁴ *Id.*

⁵ *Id.* "On sheltered coasts along the North Carolina outer banks, marshes (with and without sills) outperformed bulkheads during Category 1 Hurricane Irene in 2011. Those marsh and sill designs accreted sediment, while 75 percent of regional bulkheads surveyed were damaged (Gittman et al. 2014)."

⁶ Davis JL, Currin CA, O'Brien C, Raffenburg C, Davis A (2015) *Living Shorelines: Coastal Resilience with a Blue Carbon Benefit*. PLoS ONE 10(11): e0142595. <https://doi.org/10.1371/journal.pone.0142595>

Living Shorelines Have Tremendous Ecological and Economic Benefits:

Living shorelines have a documented positive impact on the natural wildlife of the Chesapeake Bay, including economically important species of fish and crabs. Conversely, a proportional negative impact on these same species can be noticed in areas with increased hardened shoreline.⁷ Living shorelines provide vital habitat for benthic organisms (clams, worms, and other bottom-dwelling creatures) that in turn are key food sources for fish and crabs. Experts from the Virginia Institute of Marine Science and William & Mary University have determined that threshold declines in key bay species occur at levels of between 10 and 30% of shoreline hardening. Notably, there was a 4% decrease in crab abundance for every 10% of additional shoreline hardening. Additionally, healthy crab and fish populations have impacts up the food chain supporting healthy communities of birds, terrapins, and other vertebrates.

Funding Partnerships Have Helped Spur Development of Living Shorelines:

SB 417 creates a special Coastal Resilience and Living Shoreline Restoration Account within the existing Tidal Wetlands Compensation Fund to provide grants for the replacement of structural shoreline stabilization measures with nonstructural shoreline stabilization measures. It is CBF's hope that this account can be used, along with other sources of public and private funding, to expand the amount of living shoreline along Maryland waterways.

This model has a successful and recent precedent in the Living Shorelines Grant Program, which brought together MDE, the Chesapeake Bay Trust, and other stakeholders to provide financial assistance for living shoreline installations.⁸ This partnership leveraged MDE's subject matter expertise and regulatory capacity and the Trust's experience in grant administration to install thousands of feet of living shorelines. We strongly encourage a return to these types of innovative partnerships.

CBF urges the Committee's FAVORABLE report on SB 417.

For more information, please contact Matt Stegman, Maryland Staff Attorney, at mstegman@cbf.org.

⁷ See, eg, Dr. Rochelle Seitz' testimony on SB 413, documenting threshold effects on aquatic species populations.

⁸ Kearney, Virginia. *MDE Partners with Chesapeake Bay Trust to Create "Living Shorelines"*. E-MDE, March 2009. <https://mde.maryland.gov/programs/ResearchCenter/eMDE/Pages/vol3no9/livingshorelines.aspx>. Accessed Feb. 13, 2023.

SB417 - Environmental Community Letter of Support.

Uploaded by: Matt Stegman

Position: FAV

February 15, 2023

SB 417 - Environment – State Wetlands – Shoreline Restoration
POSITION: SUPPORT

Chairman Feldman and Members of the Committee on Education, Energy, and the Environment,

The organizations and individuals listed below respectfully urge a favorable report on SB 417, which curbs the continued widespread use of armored shorelines and clarifies existing law by directing the installation of shorelines that increase the resilience of the land and natural habitat. The legislation also calls on MDE to identify priority restoration zones where adding living shorelines would prevent erosion and improve habitat connections between land and water. Additionally, the bill creates a fund to provide assistance in converting aging, degraded hardened shorelines into living shorelines.

Throughout Maryland, armored shorelines such as rip rap and bulkheads remain a primary approach to protect properties from erosion instead of living shorelines composed of sand, grasses, and other natural elements. Living shorelines provide more environmental benefits and flooding protection than armored alternatives. Constructing more living shorelines and expanding wetlands are our best ways to prepare Maryland's coastline as sea levels rise due to climate change.

Scientific models predict sea levels in coastal areas like Annapolis will rise 1.5 feet by 2050 and 3 feet by 2100, which would overwhelm our current infrastructure. If we continue armoring our shorelines in the face of this reality, we'll displace floodwaters to communities that can't afford to build ever-higher sea walls. Prioritizing living shorelines now will ensure more impactful solutions are in place as threats to Maryland's coastal communities continue to grow.

For these reasons, we request a Favorable report on SB 417.

Sincerely,

Audubon Mid-Atlantic
Blue Water Baltimore
Chesapeake Legal Alliance
Clean Water Action
Coastal Conservation Association Maryland
Environmental Justice Ministry Cedar Lane
Unitarian Universalist Church
Friends of St. Clements Bay
Maryland Coastal Bays Program
Maryland Conservation Council
Maryland Legislative Coalition Climate Justice
Wing

Maryland Ornithological Society
Maryland Pesticide Education Network
NAACP Maryland State Conference
The National Aquarium
National Wildlife Federation
The Nature Conservancy, Maryland/DC Chapter
Safe Skies Maryland
Sierra Club Maryland Chapter
Southern Maryland Audubon Society
St. Mary's River Watershed Association
Unitarian Universalist Legislative Ministry of
Maryland

Lani Hummel
Annapolis Roads, MD

Ronald Hartman
Elkton, MD

David Hutton,
St. Michaels, MD

Worrall R. Carter, III
Greensboro, MD

Dan Johannes
Bowie, MD

SB 417 Environment - State Wetlands - Shoreline Re

Uploaded by: Michelle Dietz

Position: FAV

Wednesday February 15, 2023

TO: Brian Feldman, Chair of Senate Education, Energy and the Environment Committee; and Committee Members
FROM: Michelle Dietz, The Nature Conservancy, Director of Government Relations; and Caitlin Kerr, The Nature Conservancy, Conservation & Climate Policy Analyst
POSITION: Support SB 417 Environment - State Wetlands - Shoreline Restoration

The Nature Conservancy (TNC) supports SB 417 offered by Senator Elfreth. TNC is a global conservation organization working to conserve the lands and waters on which all life depends. In Maryland, our work focuses on delivering science-based, on-the-ground solutions that secure clean water and healthy living environments for our communities, reducing greenhouse gas emissions and increasing resilience in the face of a changing climate. We are dedicated to a future where people and nature thrive together.

Sea levels in the Chesapeake Bay have risen about a foot in the last century—an alarming rate at more than twice the global average. With more than 7,000 miles of Atlantic and Chesapeake Bay shoreline, Maryland’s communities are already dealing with sea level rise. In addition to sea level rise, the most significant threats we are currently experiencing are due to erosion, changes in precipitation – including increased flash flood and storm surge frequency, increased temperatures, and saltwater intrusion. By 2050, models project that we could see an average of two feet of sea-level rise; twice the rise rate seen in the last century. But in the face of these impacts, nature can help. Along Maryland’s coasts, tidal wetlands act as the first line of defense against storms and rising seas. Wetlands are known to protect biodiversity, and their value in serving as a natural defense against coastal storms is increasingly being recognized.

SB 417 seeks to advance nature’s important role in building resiliency along Maryland’s coastlines. By ensuring that resilient coastlines are built in Maryland’s most at-risk areas, SB 417 will protect coastal infrastructure through utilizing nature-based shoreline restoration methods to improve resilience. Also known as living shorelines, natural features such as marsh grasses, submerged aquatic vegetation and native oysters will be prioritized to protect personal property from erosion while increasing coastal resiliency, maintaining land and water habitats’ connectivity, and improving coastal habitats’ overall quality.

At TNC, we have seen how nature can protect shorelines across the Chesapeake Bay. In a 2018 study with the Maryland Department of Natural Resources and George Mason University, TNC looked to quantify how natural coastal features can reduce the impact of waves resulting from storm surges. The study collected data from tidal sensors on a Deal Island marsh; we found that the first few feet of tidal marsh reduced wave height by up to 90 percent. This striking statistic shows how vital nature is in providing protection to coastlines. By reducing wave strength, marshes in the Chesapeake Bay can protect coastlines from erosion and more frequent flooding. Investing in living shorelines such as marshes, seagrasses, and oyster reefs can allow Maryland’s coastal communities and habitats to better adapt to climate change impacts and build resilience.

As climate change exacerbates storms, flooding and erosion, hundreds of millions of those peoples’ lives and livelihoods will be at an even greater risk. Across Maryland, coastal flooding currently threatens 81,000 people and, with predicted rise, an additional 38,000 will be in jeopardy by 2050. Sea level rise puts people, property, infrastructure, and critical natural resources at risk with staggering costs. Nature makes communities more resilient to climate change; healthy living shorelines with marshes, sand dunes, and oyster reefs absorb storm surges and blunt winds, which greatly reduce risk to people and infrastructure. By prioritizing nature, we can build a more resilient and adaptable Maryland coastline.

The Nature Conservancy commends Senator Elfreth for introducing this bill, which will strengthen our coastlines by prioritizing nature and build a more resilient Maryland.

Therefore, we urge a favorable report on SB 417.

Elfreth_FAV_SB417.pdf

Uploaded by: Sarah Elfreth

Position: FAV

SENATOR SARAH ELFRETH
Legislative District 30
Anne Arundel County



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Sarah.Elfreth@senate.state.md.us

Budget and Taxation Committee

Subcommittees

Capital Budget

Pensions

Chair, Public Safety,
Transportation, and Environment

Joint Committee on the Chesapeake and
Atlantic Coastal Bays Critical Area

Chair, Joint Subcommittee on
Program Open Space/Agricultural
Land Preservation

THE SENATE OF MARYLAND
ANNAPOLIS, MARYLAND 21401

February 15, 2023

**Testimony in Favor of SB0417
Environment – State Wetlands – Shoreline Restoration**

Chairman Feldman, Vice-Chair Kagan, & members of the Education, Energy, and the Environment Committee,

I respectfully request a favorable report of Senate Bill 417 to further ensure that Living Shorelines are more effectively utilized and lessen the number of waivers issued by MDE to allow structural (or hardened) shoreline stabilization measures. Without intervention like this legislation, recent studies suggest that we are at risk of losing 70 percent of wetlands within the century¹.

Nonstructural shoreline stabilization measures – such as Living Shorelines or marsh creation – provide proven, practical solutions to both Marylanders and our environment by: buffering floods, purifying water, reducing erosion, storing carbon, and creating wildlife habitats. Additionally evidence shows that during major storms, a living, natural shoreline performs better than a hardened shoreline² (NOAA). Living Shorelines are also an important component to our State’s valuable wetlands which also provide significant protections to the Chesapeake Bay and our watershed.

With these benefits in mind, in 2008 the legislature passed the Living Shoreline Protection Act of 2008 ([CH304](#)) to make make Living Shorelines the preferred method to reduce erosion except for in areas designated by MDE as appropriate for structural shoreline stabilization measures and in areas where individuals can demonstrate the such nonstructural measures are not feasible.

Additionally as Chair of the Chesapeake Bay Commission over the past year, the need to do more to preserve and restore our State’s wetlands has become all too clear. The Chesapeake Bay Program Partnership just developed a comprehensive assessment of our collective efforts to restore tidal and non-tidal wetlands in the

¹ https://dnr.maryland.gov/ccs/Documents/coastalland_conserv_md.pdf

² <https://www.fisheries.noaa.gov/insight/understanding-living-shorelines#what-are-the-main-benefits-of-living-shorelines?>

watershed and they found that, despite protections in State and Federal law, the Bay watershed is losing wetland acreage faster than current restoration efforts can restore them due to loopholes, failed mitigation, and climate change. Without intervention, as much as 161,000 acres of tidal marsh will be lost in the Bay watershed by 2100³.

While it is unclear as to how many waivers have been issued to prevent Living Shorelines from being used – we can say without a doubt that structural, or armored, shoreline stabilization measures continue to be used throughout the State and this legislation would further ensure that Living Shorelines are the primarily used shoreline stabilization method.

With the loss of wetlands and the number of waivers issued by MDE in mind – we have introduced this legislation to reinforce our Living Shoreline laws here in Maryland.

To support our efforts for more Living Shorelines this legislation will:

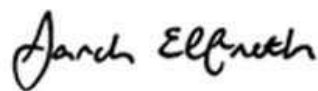
1. Reduce the number of waivers granted by MDE that authorize structural stabilization methods.
2. Ensure that Living Shorelines are designed in a manner that increases the resilience of the land it is protecting and the habitat connectivity between the land and water.
3. Better utilize mapping between MDE and DNR to more effectively designate priority restoration zones.
4. Create a dedicated funding account to better fund the creation of Living Shorelines.

To accomplish these goals this legislation will:

1. Utilize mapping done by MDE and DNR to drive where Living Shorelines should be deployed – this is flipped from how the current mapping is used to determine where structural stabilization methods are to be prioritized, which has led to less Living Shorelines being used. (Page 3 Lines 8-10 and Lines 14-17)
2. Clarify that waivers may only be used if a Living Shoreline is not feasible to protect structures from imminent risk of damage. (Page 3 lines 11-13)
3. Further clarify how erosion control projects need to be designed – to increase the resilience of the land and the habitat connectivity between the land and water. (Page 2 Line 17-20)
4. Clarify that Living Shorelines must improve the quality of the natural environment and incorporate the use of living features including submerged aquatic vegetation. (Page 2 Line 22 and 30-32)
5. Create a separate Coastal Resilience and Living Shoreline Restoration Account within the Tidal Wetlands Compensation Fund. (Page 3 Lines 29-32 and Page 4 Lines 1-10)

Once again I respectfully request a favorable report of Senate Bill 417.

Sincerely,



Sarah Elfreth

³ https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/2023.01.17-2023-Wetlands-Action-Plan_FINAL.pdf

ShoreRivers Testimony_SB417_FWA_AR.pdf

Uploaded by: Annie Richards

Position: FWA



**Testimony in Support with amendments of Senate Bill 417 –
Environment – State Wetlands – Shoreline Restoration**

February 14, 2023

Dear Chairman Feldman and Members of the Committee,

Thank you for the opportunity to submit testimony **in support with amendments of SB 417**, on behalf of ShoreRivers. ShoreRivers is a river protection group on Maryland’s Eastern Shore with more than 2,000 members. Our mission is to protect and restore our Eastern Shore waterways through science-based advocacy, restoration, and education.

At ShoreRivers, shoreline erosion is one of the most common reasons a community member reaches out for consultation from a Riverkeeper. Almost always, we recommend living shorelines as the most beneficial solution, both for the homeowner, and for the health of the waterway. However, the cost of implementation is incredibly high due to fuel prices, and also the labor required to walk a project through the permitting process. As a result, many homeowners seek waivers to implement armored shorelines or do nothing at all.

SB 0417 seeks to curb the widespread issuance of waivers to the existing living shorelines law, requires an assessment to identify where living shorelines can be installed, and creates a fund for grants to convert degraded hardened shorelines into living shorelines.

Armored shorelines provide no beneficial habitat for local fish populations. In fact, a recent NOAA study identifies that within a 1,000ft shoreline, of 30% or greater of that shoreline is armored, it will negatively impact fish reproduction— a detriment to the biodiversity of the Chesapeake and to our local fishing economies. Also, the lifespan of an armored shoreline is significantly less than a living shoreline. As impacts of climate change increase, rising tides will spill over bulkheads and riprap, causing them to degrade and collapse. On the low-lying Eastern Shore, an area of Maryland that will likely be impacted first and hardest by sea level rise, it is imperative that we implement the most resilient and dynamic shorelines to protect our communities.

ShoreRivers recommends an amendment to incentivize all residents to make the right choice, and implement living shorelines: Grant funding should be made available to any property within a priority restoration area, not just properties with armored shorelines. Residents who live within the identified priority areas (i.e. those who are unable to secure a waiver for an armored shoreline) will likely result in the resident taking no action at all due to costs. If the goal is to implement more living shorelines across the state, then more widespread incentives should be incorporated into this legislation.

Living shorelines provide important habitat to estuarian life found in the Chesapeake, as well as protection from flooding and runoff— these benefits far outweigh anything provided by armored alternatives. For these reasons we urge the committee **to adopt a favorable report, with amendments for SB 417.**

Sincerely,

Annie Richards, Chester Riverkeeper on behalf of ShoreRivers

ShoreRivers

Isabel Hardesty, Executive Director

Annie Richards, Chester Riverkeeper | Matt Pluta, Choptank Riverkeeper | Zack Kelleher Sassafras Riverkeeper

shorerivers.org | 443.385.0511 | info@shorerivers.org

Arundel Rivers Testimony FWA for SB0417.pdf

Uploaded by: Elle Bassett

Position: FWA



**Testimony encouraging a FAVORABLE WITH AMENDMENTS report on Senate Bill 417 –
Shoreline Restoration**

Education, Energy, and the Environment Committee
February 15, 2023

Dear Chair Feldman and Members of the Committee,

Thank you for the opportunity to submit testimony in **FAVORABLE WITH AMENDMENTS** of SB 417, on behalf of Arundel Rivers Federation. Arundel Rivers is a non-profit organization dedicated to the protection, preservation, and restoration of the South, West and Rhode Rivers with over 3,500 supporters. Our mission is to work with local communities to achieve clean, fishable, and swimmable waterways for present and future generations.

SB 417 will create a fund for property owners to convert deteriorating hardened shorelines that provide little to no habitat and are susceptible to rising tides to living shorelines that are more resilient to rising tides and provide much needed beneficial aquatic and terrestrial habitat along our tidal waters. The bill will also limit the issuance of waivers in critical shoreline habitat areas that will be identified by new maps. These are crucial next steps to build resilient, natural shorelines across Anne Arundel County.

We urge the Committee to adopt amendments to SB 417 that will also make it far easier for property owners to replace their hardened shoreline structures following a storm or high tide flood event. Oftentimes, the best opportunity to replace a shoreline structure is when an old structure has failed. However, the long permitting process, lack of funding for quick replacements and existing law and practices incentivizes replacing such structures with similar, “in-kind” hardened structures. This is exactly what happened across Anne Arundel County following a high tide flooding event in October of 2021. Many property owners reported severe damage to their shoreline structures to the County and State and sought immediate assistance to replace their structures and protect their property. Unfortunately, the processes and funding were not in place to offer these property owners with the option of replacing their failed structures with living shorelines in a cost-efficient and expeditious manner.

The following amendments would make it possible for property owners to access immediate assistance to instead replace their failed structures with living shorelines when the next storm or high tide comes through.

Existing bill language in black. Proposed new bill language in red.
On page 3 of the bill, insert after line 17:

(E) THE DEPARTMENT SHALL CREATE AN EXPEDITED DESIGN AND PERMITTING PROCESS FOR THE REPLACEMENT OF STRUCTURAL SHORELINE STABILIZATION MEASURES THAT HAVE FAILED WITHIN THE LAST 60 DAYS WITH NONSTRUCTURAL SHORELINE STABILIZATION MEASURES.

(F) THE DEPARTMENT SHALL PUBLISH ONLINE A SHORELINE PROPERTY OWNERS GUIDE OUTLINING THE PERMITTING PROCESS AND AVAILABLE RESOURCES FOR THE CONSTRUCTION OF NONSTRUCTURAL SHORELINE STABILIZATION MEASURES.

On page 4 of the bill, line 5, make the following changes:

(III) THE SEPARATE ACCOUNT SHALL BE USED ONLY TO:

- (1) PROVIDE GRANTS FOR THE REPLACEMENT OF STRUCTURAL SHORELINE STABILIZATION MEASURES WITH NONSTRUCTURAL SHORELINE STABILIZATION MEASURES, WITH PRIORITY GIVEN TO SHORELINE STABILIZATION REPLACEMENT PROJECTS LOCATED IN PRIORITY SHORELINE RESTORATION ZONES, AS IDENTIFIED IN ACCORDANCE WITH § 16–201(D) OF THIS SUBTITLE, OR
- (2) **PROVIDE FUNDING FOR THE REPLACEMENT OF STRUCTURAL SHORELINE STABILIZATION MEASURES THAT HAVE FAILED WITHIN THE LAST 60 DAYS WITH NONSTRUCTURAL SHORELINE STABILIZATION MEASURES.**

Arundel Rivers Federation encourages the replacement of hardened shorelines with resilient living shorelines when possible, and respectfully requests a **FAVORABLE REPORT WITH AMENDMENTS on SB 417.**

Sincerely,



Elle Bassett

South, West and Rhode Riverkeeper
Arundel Rivers Federation

MDE SB0417 LOI.docx.pdf

Uploaded by: Tyler Abbott

Position: INFO



February 15, 2023

The Honorable Brian J. Feldman
Senate Education, Energy, and the Environment Committee
Miller Senate Building, 2 West
Annapolis, Maryland 21401

Re: Senate Bill 417 – Environment – State Wetlands – Shoreline Restoration

Dear Chairman Feldman and Members of the Committee:

The Maryland Department of the Environment (MDE or Department) has reviewed Senate Bill 417 and would like to share some information. MDE met with the Chesapeake Bay Foundation and have committed to working on this issue over the interim.

MDE understands the intention of this legislation as we share similar concerns regarding issuance of waivers from living shoreline requirements. As such, MDE is currently studying this issue and making improvements to the waiver process. MDE has been evaluating the success of implementing the Living Shorelines Act in Maryland over the last several years by evaluating data compiled by staff, field studies of living shoreline success, creation of an interagency workgroup, and acquiring U.S. Environmental Protection Agency (EPA) grants to improve living shoreline suitability maps- Maryland Structural Stabilization Mapper (MSSM). MDE has made significant progress in refining its living shoreline waiver process based on the aforementioned actions, most notably through the continued development of the MSSM tool, and a coordinated interagency review process. MDE expects the result of these actions to be an observed downward trend in living shoreline waiver issuance.

MDE would like to share comments on the bill as drafted and, should the bill move forward, suggestions for clarifications and amendments. These comments are itemized and summarized as follows: 1) Intended Outcomes and Key Terms Undefined; 2) Maintain Existing Waiver Process; 3) Grant Fund Establishment; and 4) Expand Grant Fund Use.

1. Intended Outcomes and Key Terms Undefined: The 2008 Living Shore Act recognized the use of nonstructural shoreline measures to protect against sea level rise and other effects of anthropogenic climate change. Nonetheless, SB 417 as written presents significant challenges for effective implementation of the Act due to a lack of clarity on the overall intent of the bill and its requirements. SB 417 would require that improvements made to protect a person's property against erosion are designed to increase the "resilience of the land" and to increase the "habitat connectivity of the land and water" and require that improvements made to protect against erosion consist of nonstructural practices that "improve the quality of the natural environment, such as marsh creation" (unless exempted), and "incorporate the use of living features, including marsh grasses, submerged aquatic vegetation, and native oysters." Shoreline erosion control measures employ a wide range of practices based upon the site conditions, energy environment, aquatic habitat, etc. As this language shifts the focus of shoreline protection to benefitting the land's resilience, it is not clear which types of practices should be favored when considering hard or soft options given their appropriate application in a specific environment that serves the purpose of increasing the resilience of the land or habitat

connectivity. Living shoreline designs vary and are constantly evolving as new techniques are developed, and the addition of overly specific design criteria in legislation would present many challenges for practitioners, and may lead to unsuccessful designs and liability concerns. The Department would recommend the addition of language clarifying the intended design criteria to avoid inconsistency in implementation by the Department and uncertainty for the regulated community.

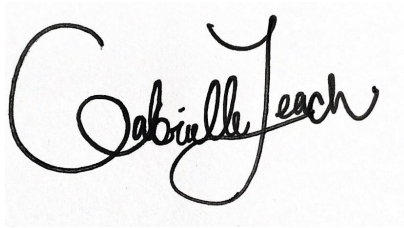
2. Maintain Existing Waiver Process: SB 417 would eliminate the statutory exceptions under § 16-201(c)(1) and restrict the Department's ability to issue nonstructural shoreline waivers codified in COMAR 26.24.04.01-2, limiting it to two narrow instances. By eliminating the waiver consideration process living shorelines may be mandated in less suitable locations. Damage to infrastructure (including transportation and utilities) and assets which cannot not be adequately protected could result in additional repair and replacement costs. The bill's requirement that an undefined "structure" be present on the property and also under an immediate threat of damage introduces a new consideration into the current process. For example, if a property is outside of the mapped area but does not have a structure at imminent risk, the Department may not issue a waiver, despite any opposing technical or scientific merits. Currently the ability to protect land from shoreline erosion is afforded to any riparian property owner- including unimproved waterfront properties. The process proposed in SB 417 to identify areas suitable for nonstructural practices is also inconsistent with the federal regulatory process which may lead to delays in permitting and unpredictability for the regulated community. The Department recommends maintaining existing flexibility in the waiver process and the multiple outcomes available in the current mapping tool.
3. Grant Fund Establishment: The Department's Wetlands and Waterways Protection Program (WWPP), which is responsible for the Tidal Wetlands Compensation Fund, does not administer grants, and does not have staffing capabilities to oversee the management of a separate Coastal Resilience and Living Shoreline Restoration Account ("Account") and an associated grant funding program. Other entities including Maryland DNR's Chesapeake & Coastal Service (MDNR) and the Chesapeake Bay Trust currently facilitate grant programs & provide other assistance to waterfront property owners at no cost. Further, the Maryland Coastal Atlas mapper and tool (which houses an existing framework that may potentially be utilized for shoreline prioritization) is managed by MDNR. A grant program that requires establishment of priority shoreline restoration zones and funds for replacement of structural shoreline stabilization measures with nonstructural shoreline stabilization measures may be more efficiently implemented via one of these existing grant-making organizations.
4. Expand Grant Fund Use: The Department supports the development of a grant program to provide much-needed resources for living shoreline installation in Maryland as we frequently hear from the regulated community that lack of funds impedes our shared living shoreline goals, and would fully support legislation to provide these resources without changes to the living shoreline criteria or the waiver process as SB 417 proposes. The Department encourages that any grant program created via this legislation funds living shorelines on all priority properties instead of only replacement of existing structures.

As stated previously, it is the Department's preference to work on this issue over the interim with all interested parties. Thank you for considering the Department's information regarding this legislation. We will continue to monitor SB 417 during the Committee's deliberations, and I am available to answer any questions you may have. Please feel free to contact me at 410-453-3235 or by e-mail at Gabrielle.Leach@maryland.gov.

The Honorable Brian J. Feldman

Page 3

Sincerely,

A handwritten signature in black ink that reads "Gabrielle Leach". The signature is written in a cursive, flowing style with a large initial 'G'.

Gabrielle Leach
Deputy Director
Legislative and Intergovernmental Affairs

cc: The Honorable Sarah Elfreth