March 24th, 2025

SB0722 / HB1155

Department of the Environment – Definition of Ecological Restoration

Hearing date March 26th, 2025

Position – UNFAVORABLE

Dear Members of the Education, Energy, and the Environment committee, and the Environment and Transportation committee,

Thank you for this opportunity to testify on the Definition of Ecological Restoration bills. After watching the previous bill hearings and having read MDE's letter, I'm asking you to vote unfavorable on both bills.

What are their objectives? What are these bills even trying to say? Where are the definitions of anything? How does MDE define "Ecological restoration" because this bill hasn't.

There has either been a gross oversight in the bill's vague language, or this bill is a deliberate attempt to weaken requirements of Maryland's interpretation of the Clean Water Act to allow projects such as stream "restorations" that have not produced evidence they have improved the biological integrity in our streams and wetlands, despite the stream restoration, lobbyists, and associated nonprofits unsupported claims they will, to continue.

Why weren't all members of the HB869 study group invited to review and edit the final report and why weren't they informed of this bill much less be included in the discussions on its content? Was this also a deliberate attempt to push this bill through without scrutiny?

Where is the fiscal note? If this bill passes it certainly will have an impact. This seems like a huge giveaway of our money and natural resources to the stream restoration industry and its associated non-profits and lobbyists. Why else was there cheering at the hearing when no one was there to speak in opposition to question what the intent of this bill really is. Why would people cheer for even more failed projects that accelerate the impacts of global warming and species die off if this bill wasn't a giveaway to them?

Although "ecological restoration" sounds like a good thing when I read the bills, I find myself wondering what is the reason behind this? Why is there a need to define ecological restoration? And what does this definition even mean? After many years of pointing out to MDE and lawmakers that the TMDL system and the effort to restore the Chesapeake Bay has failed us, now MDE wants to weaken definitions and regulations to make the expectations and requirements match the dismal results – not the other way around. The TMDL system has failed all of us, our streams and rivers, our forests and wildlife, our water quality and the environment, the Chesapeake Bay, and our wallets. This is asking for more money for more failed projects that don't produce results.

This is all about allowing continued waste, fraud and abuse of millions to billions of taxpayers' dollars.

Stream restorations are a huge waste of tax dollars, it is fraud to say they are restorative, and they are an abuse of our natural resources. This practice should be banned, and the MDE should be overhauled from top to bottom if they think this is acceptable.

The definition of "ecological restoration" proposed in SB722 /HB1155 is not consistent with the definition MDE put forth in the

Recommendation of its Ecological Restoration Permitting Study Report (submitted to the Governor and General Assembly on August 6, 2024). And per MDE, “the term “ecological restoration” does not appear in existing regulations based on a cursory review by MDE and there is the potential for a significant fiscal impact and increased operational impact if **MDE needs to conduct a large-scale review and overhaul of regulations."**

https://mgaleg.maryland.gov/cmte_testimony/2025/eee/1lnus_x2Oeoilkl ujKmW4L8LP1Gg5tall.pdf

Currently our state has spent hundreds of millions to billions of dollars on watershed projects that have failed to restore the Chesapeake Bay, if this bill is passed as written, and these projects fall under the new definition of ecological restoration, they will never be required to provide proof of success in the future. Has anyone asked DOGE about the proposed change to the definition and the diversion from the language in the Clean Water Act in terms of why the Federal government is supplying huge sums of money for the Chesapeake Bay clean up when Maryland has reduced the requirements for success? Has anyone shown them this bill? Will they be okay with throwing more good money after bad?

1)Line 3 of the bill states “ A DEGRADED, DAMAGED, OR DESTROYED ECOSYSTEM THROUGH”.

What is the definition of degraded, damaged and destroyed? What methods will be used to determine these conditions and who will make these determinations? Let it be known that stream restorations destroy healthy, functioning ecosystems so it seems like they should be banned immediately to prevent having to re-restore them.

Lines 4 & 5 are the oversight in the language I mentioned and state –

“IMPROVEMENTS TO PHYSICAL, CHEMICAL, OR BIOLOGICAL

5 CHARACTERISTICS OR PROCESSES”.

The objective of the Clean Water Act (Section 101(a)(1)) is “to restore and maintain the chemical, physical, AND biological integrity of the nation’s waters”. Biological integrity is not a choice.

(Section 101(a)(2)) is commonly known as the swimmable and fishable goal. It requires chemical and physical integrity to achieve biological integrity to ensure our waters are swimmable and fishable. It aims for “water quality that provides for the protection and propagation of fish, shellfish, and wildlife, and provides for recreation in and on the water”.

This requires the emphasis to be on biological integrity as the ultimate goal of all projects.

The definition of “ecological” is “relating to or concerned with the relation of living organisms to one another and to their physical surroundings”.

The definition of “biological” is “relating to biology or living organisms.”.

Simply stated you CAN’T have “ecological” improvement without improvement to “biological” characteristics or processes. You must have improvement to living organisms to have ecological improvement.

By stating “OR”, which is a suggestion of choice,

instead of “AND” which is used to connect words of the same part of speech, clauses, or sentences, that are to be taken jointly,

projects defined as “ecological restoration” have a choice to not include improvements to biological integrity as an outcome of a stated goal and

the reason for performing a restoration to begin with, and there is no necessity to ever have to try to achieve this result ever again.

This doesn't align with the Clean Water Act and it doesn't align with the U.S. Army Corps of Engineers, which can make permitting decisions quite difficult.

By changing "OR BIOLOGICAL" to "AND BIOLOGICAL" this bill would better align with mitigation bank rule 332.8 which requires compensatory mitigation bank projects to compensate for lost function which it defines as "the physical, chemical, and biological processes that occur in ecosystems." Chemical is not enough, physical is not enough, biological is for the living resources.

The language doesn't align with Chapter 465 in HB869 legislation details which directs MDE to '… develop legislative and regulatory recommendations based on the results of the comprehensive study, analysis, and evaluation required under subsection (a) of this section, including**: (1) the definition of ecological restoration that incorporates measurable scientific aims, including: (i) the reduction of nitrogen, sediment, and phosphorus pollution;**

***** and (ii) the improvement of benthic environment as compared with conditions existing at the site of the project during site selection;'"*****

https://mgaleg.maryland.gov/mgawebsite/Legislation/Details/HB0869?ys=2022RS#:~:text=Requiring%20the%20Department%20of%20the,June%201%2C%202024%3B%20etc.

This bill lacks an explanation that would establish how improvement to physical, chemical, and biological integrity is to be determined. Would it be defined using the Maryland Biological Stream Survey (MBSS) protocols for BIBI and/or FIBI2?

By weakening the laws to match the current expectations on results of environmental projects instead of demanding change and success on every project, and by our state just accepting that we are paying contractors hundreds of millions of dollars(1)(2) on projects that knowingly cause everlasting environmental harm such as stream restorations(3), which could be redefined as “ecological restorations”, and without requiring proof of measurable and quantifiable biological improvements and success on every project through testing and monitoring- not modeling. And by continuing to fund stream restorations in the future as “ecological restorations” full well knowing the harm they can cause instead of improving the bay, you could be putting the federal funding for the entire bay program and MDE at risk.

(1)https://news.maryland.gov/mde/2025/03/05/maryland-department-of-environment-announces-47-million-in-clean-water-commerce-funding-for-chesapeake-bay-health-economy-and-recreation/#:~:text=Grants%20award%20pay%2Dfor%2Dsuccess,best%20practices%20and%20other%20techniques

(2) https://www.chesapeakeprogress.com/funding

In January of 2025, the Office of Management and Budget (OMB) published its ninth Chesapeake Bay Restoration Spending Crosscut (dated October 2024), which reports that state and federal partners budgeted approximately $2 billion for watershed restoration in fiscal 2024. Due to constraints around time and resources, in any year, budgeted values do not equal awarded values or spent values, and the estimates this crosscut provides may differ from the funding that ultimately supports environmental restoration

This is in addition to the 20 million dollars Maryland legislators committed to spend on 5 projects under the Whole Watershed Act. These 5 projects were supposed to be different from the rest because unlike the hundreds of other stream restorations that have been performed, these projects are supposed to be based on “science”. If they are redefined as ecological restoration, they may no longer be held to that higher standard, making the Whole Watershed Act pointless.

The bill could be interpreted as written to imply since we have learned many expensive and popular restoration methods won’t achieve biological improvement, instead of not performing them, we’ll weaken their expectations and the laws to allow them to continue.

During this time of DOGE this could be a very risky move with a bad outcome for the entire rest of the Chesapeake Bay program and federal funding for projects that do improve the health of the Bay such as planting underwater grasses, oyster reefs, reducing poultry farm and agriculture runoff, upgrading wastewater treatment plants, and planting riparian buffers instead of bulldozing them

There is either a gross oversight in the vague language or this is a deliberate attempt to weaken environmental protections, requirements, and outcomes on projects that are funded mainly or even entirely with federal and state taxpayers’ dollars. I ask you what Lee Zeldin will say if he finds out we weakened the requirements for the bay’s outcomes but still want hundreds of millions of dollars for projects that we know typically do more harm than good.

If passed as written these bills could potentially place the financial integrity of the Chesapeake Bay Program at risk.

2) Line 6 says – RETURNING NATURAL OR HISTORICAL FUNCTIONS OR SERVICES;

What does this even mean? What are natural and historical functions or services? Stream restorations disrupt functioning natural streams and forests – not the other way around – that's greenwashing in a bill! And, as determined by who? The stream restoration industry? How far back, has who, decided we need to go, and why? And what will be done to return everything else to the same period in time? Will they remove the houses and streets, will they plant mature forests? This is a ridiculous notion.

This is impossible to define or describe (unless you're talking about removing a manmade structure like a dam), or for projects to mimic, and should be removed as an objective from the industry's language, and as an excuse in general to perform environmentally harmful projects.

The stream restoration industry and its associated non-profits have pushed the narrative that we must take our streams and forests back to pre-colonial times under the false notion that all streams had floodplains, and stream banks didn't erode, and streams didn't have sediment in them back then apparently. So, someone has decided for all of us that we must bulldoze all the good away that we have now and start over. We should forget all of the current benefits and the eco-services that are provided by a mature flourishing environment, even if the forest and stream is full of wildlife and aquatic species, to somehow take it back to 300 years ago, but not eliminate all of the development, grading, and paving of roadways and other surfaces that have been dumping runoff into these streams and watershed for centuries.

How does it make any sense to say that it's even possible or an achievable goal? That is as nonsensical as it sounds.

There is a twenty-foot-long core soil sample in Shenandoah National Park, the soil from 20 feet down is 30,000 years old. Some of the tall, eroded streambanks we see in pictures used by applicants to justify

stream restoration projects could have happened hundreds to thousands of years ago or even in one large event like a hurricane or a flood. Our planet is in a constant state of erosion. Ancient cities are buried under sediment, and erosion exposes fossils of dinosaurs from millions of years ago.

Stream restorations allow the destruction of all of our natural resources for tremendous profits from credits for pollution without ever curing it or even proof of success. Instead of weakening our definitions, laws and regulations, during this time of federal rollbacks, we should be strengthening them.

Photo credit, Sharon Boies. New sediment accumulation in a “restored” stream in Columbia. Maryland spent 2.2 million dollars on this stream “restoration”. Stream restorations produce profit from pollution for credits, without ever curing it. This should never be considered an “ecological restoration”. This hasn’t been returned to its historical function.

Photo credit, Sharon Boies. Clearcut mature riparian forest in a Columbia “stream restoration”. This should never be considered “restoration”, or “ecological restoration” and these projects should never be funded with state and federal tax dollars without required proof and evidence of physical, chemical, AND BIOLOGICAL uplift. This did not increase bird habitat it reduced it.

Instead of bulldozing forests and riparian zones and wetlands, we should be putting much stronger protection in place for them, and focus our funding on the projects that can prove with evidence - true biological improvement.

3) Line 8 - PROTECTING OR IMPROVING RESILIENCY.

For a bill that’s about definition, again, this is way too vague, this is just a random statement, and this item should be removed. This shouldn’t be listed as a line item without a statement to support what it means.

Some projects that could be redefined in the future as “ecological restorations” such as stream restorations, can actually reduce climate resilience. Stream restorations can cause sideways and downstream, and even upstream flooding in neighborhoods, parks, and other places that haven’t experience flooding prior to the “restoration”. When tall

invasive grasses dry out in the blazing hot sun by the end of the summer, they create conditions ripe for wildfires – in neighborhoods. And they bulldoze mature riparian forests, some of our best tools for combatting climate change.

Another concern I have relates to the permitting process. Our state and federal agencies are grossly underfunded and understaffed. They already have difficulty keeping up with compliance and enforcement as it is and may be facing more cuts to funding and staff. Maryland should never expedite or streamline the permitting process when it comes to our environment and especially without enough staff and funding for proper oversight and compliance on all projects including all completed projects as well.

Photo credit Sharon Boies.

This is our small neighborhood creek after a stream “restoration”, and after less than 2 inches of rain.

Photo credit Sharon Boies

This is our “restored” neighborhood creek after less than 3 inches of rain. This stream never left its banks before the “restoration”. Now my neighbors are concerned about flooding for the first time and wonder “what if we get a hurricane?”

Mature forests **-Sequester carbon, produce oxygen, filter greenhouse gases, provide shade and counter heat island effects, they capture up to 50 percent of the precipitation that falls in a watershed, and they absorb nutrients and stormwater runoff. They capture and retain silt and sediment, and they replenish and purify the groundwater. Mature forests and trees provide critical food and habitat for insects, bats, birds and mammals. They provide opportunities for forest bathing, bird watching and other healthy recreational activities and a necessary human to nature connection. Mature trees reduce noise and light pollution, they provide a buffer from wind and the elements. These ecosystems improve our quality of life.**

I don’t want my tax dollars spent this way, and I know when other voters find out about these projects as stream restorations make their way into

neighborhoods, they don't either. Stream restorations contribute to climate change, global warming, and species die off. Calling them "ecological restorations" won't change this.

We can't continue to fund stream restorations and other "ecological" restoration projects that are supposed to provide improvement to biological integrity with funding to recover the health of the bay, without requiring proof and evidence they have done so.

The whole purpose of the Clean Water Act is to make our nation's waters more swimmable AND fishable. Not swimmable OR fishable. It's not a choice. Maryland, of all places, should never have weaker definitions and laws than what the Clean Water Act states if our goal is to truly improve the health of our waters and the Chesapeake Bay and not just keep throwing good money after bad, down the storm drains.

Unless of course the industries that richly profit from these projects don't want to actually restore the bay? They just want our tax dollars and natural resources for themselves. They have already shown time and time again they do not care about stealing trees, wildlife, and clean water sources from future generations.

Because of the reasons provided above and my concerns over the future health of Maryland's wildlife, aquatic species, and our environment, and the need to spend our money more wisely and not recklessly on the restoration of the Chesapeake Bay, I am asking you to please vote unfavorable on bills SB0722 and HB1155.

Thank you for your consideration.

Sharon Boies

Columbia, MD

Protect Our Streams

Photo Credit Sharon Boies. Water quality in a “restored” stream in Columbia. This stream was like an aquarium before the stream “restoration” took place.

Photo credit Sharon Boies

This is a repair in a 4-year-old stream “restoration” project that cost our state 2.2 million dollars. This should never be defined as an ecological restoration project, and we should stop funding these projects without proof of success before DOGE finds out how much our state spends on stream restorations with no proof, they have improved the health of the Chesapeake Bay.

(3)From the “Master Stream Restoration Crediting Guide Final Draft 8-18-2021” – See Page 73

https://cast-content.chesapeakebay.net/documents/UnifiedStreamRestorationGuide.pdf

Please see Page 73, and Table 19 below for a list of known negative impacts associated with stream restorations.

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3.5.2 Unintended Environmental Impacts - (* I strongly, disagree with the impacts being considered “Unintended” Environmental Impacts, at this point, when they are well known impacts, can be expected, are actually considered to be typical results, there has not been enough or possibly any adaptive management in the process to eliminate the impacts, and leave citizens wondering why there is no credit reduction or credit revocation for their occurrence? ** When there is no reduction in

credit value, or revocation of credits for projects that don't meet their stated goals, or projects that fail, there is no accountability, or incentive to do a less harmful project.)

All stream restoration design approaches (i.e., NCD, RSC, LSR and their variants) have the potential to cause unintended impacts that degrade the quality of streams and/or floodplains. These impacts have been observed in restored stream channels, floodplains and downstream ecosystems, and are documented in recent research studies in the mid-Atlantic region and elsewhere (Table 19).

Table 19. Review of Potential Unintended Impacts Associated w/ Stream and Floodplain Restoration Projects

Impact 1 Project Stream Channel -

Depleted DO - Associated with stagnant surface waters and high dissolved organic carbon. Often observed as seasonal.

Iron Flocculation - Observed in both restored and unrestored streams. Associated with high dissolved organic carbon, anoxic conditions and the use/presence of ironstone.

Warmer Stream Temps - Associated with loss of tree canopy in the riparian corridor. Stream and floodplain connection to groundwater in the hyporheic aquifer can mitigate increased temperatures.

More Acidic Water - Associated with disturbance of channel and floodplain soils during construction.

More Stream Primary Production - Associated with loss of canopy cover in the riparian corridor.

Benthic IBI Decline - Associated with construction disturbance, with recovery to pre-project levels in some cases.

Construction Turbidity - Sediment erosion during construction, especially when storm flows overwhelm instream ESC practices

Floodplain/Valley Bottom/Downstream Ecosystems -Project Tree Removal-

Riparian/floodplain forest losses are common due to clearing for design and construction access.

Post-Project Tree Loss - Field and lab studies show that long-term soil inundation results in mortality and morphological changes in tree species.

Invasive Plant Species - Construction disturbance and frequent inundation of the floodplain can serve as vectors for invasive species along restored and unrestored streams.

Change in Wetland Type or Function - Changes in vascular plant communities as a result of floodplain inundation are expected and may be desirable or undesirable depending on the habitat outcome.

Downstream Benthic Decline - Associated with changes in habitat conditions, and construction disturbance. Changes may be temporary.

Blockage of Fish Passage -Incision, large drops or structure failures can impede passage. More study is needed. (*I disagree that more study is needed, and step pools are literally dams in the stream)

"Impacts are defined in relation to the stressors measured in a comparable unrestored urban

stream/floodplain system"

That is a list of 13 KNOWN negative environmental impacts, some, or even most, streams will experience all of them.