

July 18, 2024

To: Maryland Department of the Environment

Water and Science Administration

ATTN : Mr. Stewart Comstock

Subject: NPDES MS4 permit for MDOT SHA, NPDES Permit Number: MD0068276,
MDE Permit Number:24-DP-3313

Dear Mr. Comstock,

Thank you for this opportunity to comment on the renewal of the MDOT SHA Large MS4 permit.

Stream restoration is a practice that is intrinsically destructive and has not proved to be effective at restoring the Chesapeake Bay despite decades of insisting this practice would, and despite our state having paid millions to billions of dollars to a handful of private contractors to financially benefit richly from all of our state resources.

Maryland's natural, native stream corridors and stream ecosystems are invaluable, irreplaceable...and finite. These ecosystems are complex, bio-diverse, and uniquely individual, they are threatened habitats and beginning to vanish with our permission and perhaps, unintentional blessing. Maryland's remaining fragments of forest and forested stream corridors provide tremendous benefits to the surrounding communities and the environment in multitudinous ways. 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.

A City of Toronto study titled "[Every Tree Counts](#)" compared the environmental performance of a 6" diameter tree to a 30" diameter tree. The larger, mature tree was able to intercept 10 times as much air pollution, store up to 90 times more carbon, and possess a leaf area as much as 100 times the size.

Please see the article in the link below for more ways in which mature trees offer advantages over newly planted trees. We are in a climate emergency. Mature trees are some of our best tools for combatting the impacts of climate change, species die off, and global warming and all we need to do is preserve and protect them.

<https://www.deeproot.com/blog/blog-entries/why-investing-in-mature-tree-growth-is-beneficial-for-cities-a-financial-and-environmental-case/>

Also, please watch this short video in the link below which shows the significance of one mature tree vs massive reforestation efforts.

<https://www.youtube.com/watch?v=0D0zp7Q4YnE>

Additionally, please review the image of the air pollution over Howard County and Central Maryland. See link below.

In recent years, Howard County and the SHA have used stream restorations to convert “impervious” surface acres to “pervious” surface acres through stream restorations and in stream outfall stabilization projects at a much higher percentage to generate obligatory credits, than other MS4 permit holders, 72% for Howard County and a whopping 85% for the SHA. According to the background information provided, the SHA converted approximately 5000 acres of riparian forest in the last permit period alone. Howard County has experienced excessive tree loss due to development and subsequent stream restoration and mitigation projects. We can’t afford to lose any more trees in our state, and we can’t plant our way out of the loss.

<https://www.nasa.gov/press-release/nasa-shares-first-images-from-us-pollution-monitoring-instrument/>

Maryland’s forested riparian zones, wildlife corridors, and natural streams are invaluable, and not all streams have floodplains.

Maryland streams are under stress and have been placed under enormous pressure as they receive more polluted stormwater runoff and silt and sediment from our actions.

Many Maryland streams begin as cold and cool springs and are the headwaters for crucial sources of our clean drinking water. Although many streams have been degraded from the negative impacts of deforestation, development, and the hardening and paving of surfaces which along with climate change has increased average levels of precipitation in a single event, and polluted stormwater runoff that is discharged into them, they still flourish, they thrive and they support a wide range of life from the macroinvertebrates, fish, mussels, and crayfish in the stream, to species such as snakes, turtles, amphibians, reptiles, salamanders and newts that all rely on these unique ecosystems for their species existence. Even raccoons, bats, foxes, and birds including some species of Owls hunt for aquatic species in our streams.

These biological communities are created over untold amounts of time existing as a community with climate resilient DNA created from the microbes in the soil and leaf litter to the sloped stream banks, and stream bed to the riparian and aquatic flora and fauna to the leaves in the treetops. Leaves that have been feeding the stream and creating soil for eons.

The project in my neighborhood replaced valuable food sources and habitat from oaks, hickories, maple, beech, tulip poplar and many other middle and lower canopy and ground species with what closely resembles a monoculture of just a few primary species in their respective places. Willows along the streambanks and sycamores surrounded by various sedges, rushes, grasses and invasive

species that will be chin high by the end of the summer, in the engineered “floodplain”. When these grasses dry out during drought years, they create ripe conditions for suburban and urban wildfires.

Oak trees are host species for well over 2000 other species. What if the willows or sycamores experience a fatal disease in the future? What if that happens in 50 years? The reforestation will have to start all over again. This was so inappropriate and unnecessary.

If it weren't for citizen action, I'm afraid the reforestation success rate in the SHA project in my neighborhood could have remained at 36% or less. I'm concerned it could happen again. I'm told the SHA allows contractors to “dispose” of the mature tree logs however they wish for any SHA project, this could include at a lumber yard. No one is keeping track.

Stumps are expensive and difficult to transport, some landfills won't accept them, so in some projects, contractors receive permission so they can be left behind. I've seen these eye sores used in the construction design – typically upside down or just left in place, reminders of what was lost. They can also be buried. Something a contractor in the construction industry would usually never do. Nor would they be allowed to drive in a stream.

Maryland has thousands of miles of a few types of streams and not all streams have or had a floodplain or a dam. It is disingenuous to suggest that they all do or even that they did at some point in time. Floodplains that existed on maps from 100 years ago may no longer be what we would consider to be a floodplain today, 100 years later. One only need look at the topography, the lay of the land and the age and the species of the trees in a stream valley to determine if the area is a true floodplain in today's times or not.

The homeowner's association in my community paid for a climate vulnerability study to determine the risk of our community flooding. The study determined the sloped stream banks in Columbia's forested stream valleys were keeping the streams in the channel between the stream banks and safe from flooding people's property and Columbia's assets.

They determined our stream banks are keeping us safe from flooding. Unless you live in my neighborhood which experienced a stream “restoration” that encourages the stream to intentionally flood its banks, encroaching on residential property during average storm events. Many in our neighborhood wonder aloud “what if we get a hurricane?”...

I asked several representatives of various agencies if they could provide me with a model stream restoration project. I found it very interesting they all pointed to Stony Run in Baltimore. Please see the article in the link below regarding the flooding in the failed Stony Run stream restoration.

<https://www.baltimorebrew.com/2023/12/23/restoration-of-baltimores-stony-run-is-failing-again-residents-and-scientists-say/>

Maryland's forested stream corridors are also threatened by heavily engineered stream restoration practices. Maryland's forested stream corridors and native streams are in jeopardy of being restored for obligatory pollution and mitigation credits. So called “stream restoration” using natural channel design, connecting streams to engineered floodplains or stormwater reconveyance projects are common ways to generate MS4 credits. A second driver of stream restorations in Maryland is the need for mitigation credits which are sold to developers and others to offset permanent environmental harm elsewhere. In both cases, credit generation is now big business for stream restoration contractors and associated professions including some non-profits who receive funding for consultation and other associated activities.

As MDE knows, typical stream restorations involve heavy construction machinery in our most sensitive habitats further contributing to the overall carbon footprint of a stream restoration, negative impacts on resident's health, and tree mortality rates.

This heavy machinery uses diesel fuel subjecting neighborhoods, parks, citizens and wildlife's lungs and the stream water and aquatic species, to the noise and diesel fuel fine particulate matter for months on end, while removing the natural filters of the toxins – the mature trees. This heavy machinery brings endless dump truck loads of imported rock to line and armor the created stream channel and new stream banks. The dump trucks haul out loads of rich topsoil. The excavators further degrade and compact the remaining soil conditions and stream beds and impact the watershed hydrology as they drive in the streams to fill them in with imported substrates – prone to washing away downstream during large rainfall events, and to excavate away the stream banks and relocate stream channels altering the streams natural and desired meander. Step pools create a series of dams and impoundments to collect sediment in the pools in the stream, but without maintenance they fill back in, over time, and they limit or even prohibit fish passage permanently eliminating certain aquatic species ability to exist in those reaches and tributaries.

It's stunning and confusing to residents as they watch their healthy, mature forests leave stacked on the backs of heavy log trucks on tiny neighborhood roads with weight limits and with infrastructure and soil conditions underneath that may not be able to handle this weight. The carbon footprints of these projects are incalculable and in today's climate, this cumulative impact must be taken into consideration, before projects are approved.

Studies are finding that designed stream "restoration" projects lack effectiveness in biological improvement (uplift) for aquatic organisms, even over time. Also, the engineered changes are unlikely to deliver even the hoped-for stream flow management over time because the problem of upland run-off volumes and rates remains unchanged or has worsened. That is why these engineered systems have a life expectancy and many require unanticipated repair so soon after completion which can cost more to repair than the original project such as the project at Lower Booze Creek. <https://www.montgomerycountymd.gov/water/restoration/booze-creek.html>

<https://www.youtube.com/watch?v=NvTvPnG6Qs8> - Please watch this short video of a typical stream restoration

How does bulldozing trees and pervious soil, and excavating pervious stream banks and stream channels count as converting "impervious" surface to "pervious" surface?

This is nonsensical. And it begs the question, why not just have the SHA pay the MDE to preserve these areas in perpetuity – WITHOUT the accompanying environmental harm and destruction? As citizens, I assure you the overwhelming majority of tax paying citizens assume and want the MDE to protect our environment.

These heavily engineered approaches that can remove 100 year old forests in just a few months' time are not without serious and very oftentimes long lasting or even permanent, well known, negative consequences.

After over 700 to 900 restorations in our state, for billions of dollars and after 30 years of performing them, the Chesapeake Bay and our streams and rivers should be sparkling clean, wildlife and aquatic species should be found in abundance and planted forests should be thriving, but that isn't the results we've seen.

From the "Master Stream Restoration Crediting Guide Final Draft 8-18-2021" Link below.

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

Please see Page 73 and Table 19. ** However, I strongly, disagree with calling them "Unintended" Environmental Impacts" when they are well known, expected, typical, and there is no credit revocation for their occurrence**

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3.5.2 Unintended Environmental Impacts

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).

Subsequent groups established new environmental conditions for stream restoration projects to minimize unintended environmental consequences and maintain their intended functions over time.

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 needed.

“ 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 streams will experience all of them.

This is entirely unacceptable for an agency that is supposed to be protecting our health and the environment to recognize this and not take immediate action to stop this practice.

Also, I have read about the impacts of Saltwater Intrusion interacting with certain nutrients. I have major concerns that no one is paying attention to rising sea levels, and projects that intentionally change ground and surface water hydrology, and Salt Water Intrusion (SWI) on the Eastern Shore and in Southern Maryland. Saltwater intrusion is here, it's real, it's happening and MDE in my opinion should not be permitting these projects any longer. (SWI) is contaminating freshwater aquifers, and it is rising up in farm fields and forests. Many stream restoration projects include construction in fragile wetlands which are especially susceptible to saltwater intrusion.

(SWI) causes harm to existing, and newly planted trees and vegetation, and also wetland areas.

A quick Google search provided numerous articles, here are just a few-

https://soils.ifas.ufl.edu/media/soilsifasufledu/sws-main-site/pdf/technical-papers/Savoy_Melissa_6_Month_Embargo.pdf

Featured snippet from the web

Saltwater intrusion can disrupt many wetland functions. The increase in salinity levels can hinder natural processes in wetlands such as denitrification and water quality management. Ecosystem and habitat destruction from saltwater intrusion is also a major concern.

The intruding seawater decreases the freshwater storage in the aquifers. Without treatment, this groundwater does not conform to drinking-water or agricultural water-quality standards.

[https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecs2.304](https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecs2.3041)

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<https://pubs.usgs.gov/fs/FS-020-96/> USGS/ Chesapeake Bay Program

To summarize, we are fooling ourselves if we think we can tear streambeds up, remove large numbers of mature trees in the process, and then recreate a new drainage system that functions like a natural stream. We must stop converting our natural resources into stormwater management facilities but calling them “restored” streams and expect them to be healthy.

Extensive tree loss has a domino effect and leads to loss of wildlife and biodiversity. Entire populations of species of flora and fauna are removed and never repopulated. These projects don't just remove the number of large trees that they count on project plans, these projects strip the area clean of all vegetation. Some species of trees will never approach “specimen tree” size because their species simply don't grow to be that size, this doesn't mean they are not trees. Hundreds of these small species of trees, plants and shrubs are removed and never counted as a loss. Invasive species quickly move into the new conditions.

There are numerous studies that conclude stream “restoration” projects like these lack effectiveness in biological improvement (uplift) for aquatic organisms, even over time. Restorations and iron flocculate blow outs in Piedmont streams can deoxygenate the stream water suffocating the aquatic species and interrupting the decomposition process of the leaves in the stream which are critical for sustaining macroinvertebrates. Iron flocculate blow outs are a geo-bio-chemical process that can repeat in a stream over and over again. Restoration projects typically remove large woody debris and logs that has fallen in the stream naturally and over time, but in recognizing the ecological and hydrological benefits of wood in the stream, contractors are paid to remove the old wood, only to turn around in some projects and be paid to add wood back in! Contractors are paid to remove trees while being paid to plant trees. Stream construction projects increase turbidity, alter the Ph levels and warm the water temperature, all factors critical to sustaining life. Restorations rely on the remaining flora and fauna in the unrestored areas to re-populate the area

with the species that were lost but with no food sources such as seeds, nuts or acorns, and leaves in the stream for the macroinvertebrates, and cut down habitat, there can be little to come back to. Many ecosystems and streams will remain biologically impaired for an undetermined amount of time and possibly forever.

In summary,

- **Replanting trees is not just as good as preserving trees.** Rising stream water temperature—destructive of all kinds of native stream life—is exacerbated by the razing of trees as a step in the heavy engineering approach to stream restorations. The resulting impacts on stream life and physical/chemical processes are long-lasting if not permanent.

Stream restorations such as this, were designed decades ago before we were concerned about climate change, they aren't designed to handle increased amounts of precipitation in piedmont streams and in neighborhoods and confined developed spaces, this was not their intended purpose. Projects have been known to increase the chances of downstream and sideways flooding which is why it is so important to properly notify property owners who own property or residents who live near a proposed project and downstream and allow them the opportunity for meaningful engagement and comments and participation in the approval process.

I am adamantly opposed to allowing solicitation of stream restoration projects. Selection for these projects should never be determined by just who will allow it for credits and profit. Or allow a large desirable wooded stream corridor with multiple property owners adjacent to the project to only require one sign off if the project location has one owner such as the county or a homeowners association.

Maryland streams should never be for sale, and to the lowest bidder for credits, at that.

The SHA stream restoration in my community did not have an Army Corps of Engineers or MDE public comment period or public hearing. Our community stood the most to lose but was not given the opportunity to comment. We had no say in the decision-making process on the destruction of the heart of our neighborhood. Our community open space forest and stream provided habitat for four species of turtles, breeding pairs of forest interior dwelling species of birds, migratory birds, a ringing chorus of insects, a parliament of owls, and endangered species of bats.

The project wiped out untold millions, of 17 year cicadas as they were preparing to emerge.

This area was like a wildlife sanctuary and very special to all who lived here. Our woodland wetland forest was shady and cool and moist.

To see in print on a document there was an exclusion and the sentence “ Based on environmental analyses, no significant environmental impacts would occur” only adds insult to injury.

We were told this was a “free” project but I learned that our HOA spent 50,000.00 dollars in the first year alone, mitigating the negative impacts from the project for additional tree removal from the trees that were dying on the edges of the easement in the new micro climate conditions, for water quality testing, and for mosquito trapping and analysis, and for new tree plantings, on our dime.



Larry Hogan
Governor
Doyt K. Rutherford
Lt. Governor
Peter K. Rahn
Secretary
Gregory Slater
Administrator

MEMORANDUM

TO: DIRECTOR SONAL RAM
FROM: DIVISION CHIEF DONNA BUSCEMI
SUBJECT: FULL DELIVERY STREAM RESTORATION (TMDL)-TRIBS, LITTLE PATUXENT PROGRAMMATIC CATEGORICAL EXCLUSION
DATE: JULY 2, 2019
RESPONSE REQUESTED BY : N/A

PURPOSE OF MEMORANDUM

To inform you that a Programmatic Categorical Exclusion (PCE) has been approved for the subject project.

SUMMARY

In compliance with the 2017 Programmatic Agreement for the Processing of Certain Categorical Exclusion Actions between the Maryland Department of Transportation State Highway Administration (MDOT SHA) and the Federal Highway Administration (FHWA), the subject project has been classified as a PCE. Based on environmental analyses, no significant environmental impacts would occur.

ANALYSIS

Please see the attached PCE form and correspondence for further details.

ATTACHMENTS

- PCE form and all applicable correspondence and mapping.

cc: Mr. Steve Archer, Team Leader, Cultural Resources Section, OPPE-EPLD, MDOT SHA
Mr. Ryan Cole, Project Manager, OED - Water Programs Division, MDOT SHA
Mr. Olu Okunola, Director, Office of Real Estate, MDOT SHA
Mr. Sean Punte, Assistant Project Manager, OED-Water Programs Division, MDOT SHA
Ms. Jennifer Rohrer, Consultant Envir. Manager, OPPE - Envir. Planning Division, MDOT SHA
Mr. Guy Talerico, Chief, Federal Aid Programming Section, MDOT SHA
Mr. Kevin Wilsey, Deputy Director, Office of Environmental Design, MDOT SHA

This is inexcusable, and there is no plausible reason for this to ever be allowed by the MDE again.

Stream restorations state they improve the water quality of our streams and the Chesapeake Bay but without empirical evidence to support their argument through baseline testing of water quality and bio-indicators, and true stream bank erosion rates measured with bank pins and not just visual checks, for any length of time before a restoration occurs, who can say if any of this is true?

Could the SHA provide the MDE and the public with all of the testing and monitoring data and analyses on all of the projects that they have funded for hundreds of millions of dollars for each project they have funded for credits? Where can we find those documents?

We want to know if Maryland residents getting a return on their investments?

The health of the bay has shown little improvement, a C+, and that grade isn't even based entirely on environmental factors as it should be.

Have we seen the promised results, are all or any of these projects achieving their stated goals?

We hear of needed “lag” time. But if a stream hasn’t recovered in 5 years, and a stream restoration has a 10 year life expectancy at best, shouldn’t this be considered a failure? What if it hasn’t recovered in 10 years? Shouldn’t the stream be fully recovered by the end of the project’s life expectancy if anyone is going to claim these projects are successful or provide benefits? Or before any credits are generated?

Generally speaking, if a stream hasn’t recovered and been repopulated in the first couple of years, it’s not coming back, and we need to stop being fooled about this and listen to science.

In fact, stream restorations only attempt to mitigate a side effect of polluted unmitigated stormwater runoff. Pollutants, silt and sediment are carried to the stream by the polluted stormwater runoff. Stream restorations perform destructive work in the middle of a natural process hoping if they continue to perform the same techniques that they will somehow produce a better result in the end, but without ever trying to fix what’s causing them concern. Stream restorations don’t prevent, and do not cure, reduce, or stop pollution. The stream “restoration” will begin to be filled back in with silt and sediment each and every time it rains. These projects allow contractors to make tremendous profit from pollution without stopping it, all for MS4 pollution credits.

Stream restorations do not mitigate tropical storms, new silt, sediment, phosphorous, nitrogen, grease, road oil, fecal matter and pet waste, sediment from watermain breaks, chloride (road salt) and other de-icing chemicals, rubber bits from tires, PFAS, pesticides, herbicides, PCBs, or antifreeze, trash, fine particulate matter, hot rain water coming off a street, or anything else that goes down the storm drains. They allow profit and credits for continued pollution for millions of dollars.

To summarize, we allow stream restorations for credit generation at the expense of our state, our natural resources, our environment and quality of life but some of these conversions of natural and native fragile ecosystems to stormwater management facilities is causing expensive, negative consequences and long term harm.

Our state needs a paradigm shift, that’s what the CESR report indicates.

The pollution in the bay comes from up north, and agriculture runoff, and poultry farms, and wastewater treatment plants. It comes from our dirty, polluted air, and polluted stormwater runoff. We’re not cracking down on the corporate polluters, and the citizens and wildlife are suffering the consequences from the results of ineffective practices that harm the environment and our wallets.

There are alternative approaches. Preserving mature trees and installing BMP’s in the upland watershed have demonstrated storm water control effectiveness and often cost less.

Fortunately, there are over 30 other alternatives to construction-heavy and stream channel-centric restoration methods available to help reduce stream flows and that generate credits within MDE’s Accounting Guidance to meet MS4 permit credit obligations. These alternative practices are far less destructive but are underutilized.

These “green” approaches address the run-off problem at its source, reducing drainage to subject streams from upland areas. Approaches include various bioretention techniques, tree plantings (as opposed to counterproductive vegetation removal), conversion to permeable pavement, street sweeping, also, wet and dry ponds. Additional techniques for reducing stormwater runoff include

converting lawns to bay scaping and native lawn vegetation, strategic use of rain gardens and rain barrels, green roofs and county run Green Streets programs.

By reducing gritty, polluted stormwater runoff before it reaches the streams, we are restoring the streams. These upland practices reduce stormwater run-off before it can enter streams and can ultimately eliminate the need for disruptive streambed alterations altogether. Scientific evidence is showing alternative approaches such as these are more effective than engineered approaches at restoring biological assets of streams.

One local project proved stream banks can begin to “self recover” in as little as 14 months if we capture the stormwater runoff before it reaches the stream. See study in the link below.

<https://www.cwp.org/the-self-recovery-of-stream-channel-stability-in-urban-watersheds/>

The renewed SHA permit should incentivize tree and ecosystem preservation by eliminating stream restorations and allowing for more upland, and out of stream channel practices that incorporate capturing and reducing runoff before it reaches the stream and maintenance of upland BMP’s.

The MDOT and SHA should have to update their policies and procedures to current times and science. They should be required to install and maintain, for TMDL credits, green streets techniques in all new road construction projects using examples noted in the handout in the link below. More consideration needs to be given on the design of new bridge projects as well.

<https://www.montgomerycountymd.gov/DEP/Resources/Files/clean-water/watershed/GreenStreetsHandout.pdf>

There are numerous studies and articles on the long term benefits of upland techniques. Here are just two, for your consideration that include techniques for retrofitting and new designs. I have many more to share with you, available upon request.

[https://www.bcsla.org/sites/default/files/resources/files/climate-change/downloads/Suburban%20Street%20Stormwater%20Retrofitting%](https://www.bcsla.org/sites/default/files/resources/files/climate-change/downloads/Suburban%20Street%20Stormwater%20Retrofitting%20Study.pdf)

<https://www.nyc.gov/assets/dep/downloads/pdf/climate-resiliency/nyc-cloudburst-study.pdf>

The SHA needs to start thinking outside of the box, and out of our forested stream corridors, and irreplaceable habitats, and in to the future. They need to do some research and development on durable pervious pavement alternatives, and grant programs to switch sections of parking lots to bio-retentions and aisles for compact cars with pavers instead of asphalt.

The SHA needs an alternative to chloride which is bad for most everything. They could consider installing remotely operated solar powered heating strips in all new road projects. Each strip could produce TMDL credits on an annual basis.

There is so much to be done that could be of benefit instead of harmful.

The Chesapeake Bay Program is working on their report “ Beyond 2025”. The Cheapeake Bay Program must re-evaluate EIA credit values to incentivize upland practices over destructive in stream channel projects that fail to address the pollution. MDE could consider waiting to issue the permit renewal until after the final draft has been prepared and released.

As was mentioned in the stream bills and in sub-committee meetings at the last legislative session, MDE must review and revise the outdated TMDL accounting guidance document, unless the Bay program isn't going to keep this questionable credit and debit system.

The accounting guidance document should be updated with input from a scientific advisory panel comprised of experts with no financial reliance on the stream restoration industry. The document should be revised to reflect adjusted credit values and to create additional TMDL's for, but not limited to, PFAS, PCBS, Water temperature, street vacuums instead of street sweepers, maintenance of upland BMP's, and chloride.

By eliminating stream restorations out of the renewed permit, my hope would be that MS4 practices in Maryland will become more aligned and consistent with what the current science suggests we must do to improve the health of our streams and to reduce the unintended consequences as a result of currently used processes.

The new Large MS4 permit should incentivize stream restoration approaches that preserve trees, and capture stormwater runoff where its occurring and discourage approaches that result in ever more tree loss and without requiring proof or evidence of improvements to water quality or biological uplift. Maryland also should incorporate an accounting process for public review on the extent to which Maryland stream resources, including upland forests, have been conserved, or lost. There are not enough stream resources in the state of Maryland for the current "trial and error" approach to stream restorations driven by the MS4 program. Once we've lost them, they are gone forever. Maryland should take a precautionary approach by incentivizing less destructive methods.

Week after week there are articles in the news about our forests, sources of clean drinking water, the loss of bio-diversity and pollinators, air pollution, and the impacts of climate change and global warming. The other side of my community feels 20 degrees cooler than my neighborhood because they still have their trees. I want to know who thought this was a good idea for my neighborhood, or anyone else's neighborhood. We as citizens who do not stand to financially gain from these projects haven't been shown any good reasons to continue this. I have dozens of studies that refute the efficacy of these projects I can share upon request.

There is no one agency that is responsible for ensuring the overall success of these projects because success isn't required. There is very little to no accountability. MDE and the USACE remain grossly underfunded and understaffed, especially in the compliance and enforcement divisions and it seems it is reckless to continue to issue permits for projects that there aren't enough staff on hand to ensure success and compliance on each and every project.

You have not proved these projects to be effective or a wise use of public funding.

During this time of global warming and record heat, as a citizen, it is shocking to me to find myself repeatedly asking for the Maryland Department of the Environment(MDE), to practice adaptive management, stop ignoring what the most recent science and observations have shown, listen to what the climate scientists are saying we must do to reduce the impacts of climate change, and for MDE to stand up for the citizens and protect our health and our environment, by protecting our mature forests and native streams. I worry what the end game is?

Is the goal to convert every stream for credits? Then what? Why wait any longer to make a change.

If stream restorations and in stream projects are eliminated from the SHA permit, our forested stream corridors and their inhabitants could stand a chance of surviving, they do not have to remain threatened by the current process.

Thank you for your immediate consideration.

Sharon Boies

Columbia, MD

Protect Our Streams



This is our “restored” stream in year 4. Our state spent over 2 million dollars on this project.



The invasive species will be 5' tall by the end of the summer. Note the sediment island in the "restored" stream.