

February 7th, 2020

Raymond Bahr
Maryland Department of the Environment
Water and Science Administration
1800 Washington Boulevard, Baltimore, Maryland, 21230
raymond.bahr@maryland.gov

Re: Comments on MS4 Accounting Guidance Document

Dear Mr. Bahr,

On behalf of the thirty-one undersigned organizations, thank you for the opportunity to comment on the draft “Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated, Guidance for National Pollutant Discharge Elimination System Stormwater Permits” (Guidance). First, we want to thank Maryland Department of the Environment (MDE) for seeking input before drafting the document, and we appreciate the ongoing in-person and in-depth discussions with MDE over the past two years, particularly the participation of a number of environmental representatives alongside county MS4 managers and MDE staff for seven meetings in 2018-2019. Additionally, we thank you for taking the time to speak with two of us, Ben Alexandro and Eliza Cava, on January 27th to answer questions about the document. We also want to thank and acknowledge MDE for several of the elements incorporated into the new guidance document. However, there are other elements of the document of which we have significant questions or concerns.

We greatly appreciate the opportunity to comment at this phase and hope MDE is able to incorporate our suggestions before the next draft is released for full official public comment, alongside the draft MS4 permit template, as MDE indicated would happen in our January 27th phone call.

Thank you for incorporating the following elements into the Guidance Document

Many of these elements represent the best ideas of our multi-stakeholder working group, and we appreciate MDE including them:

- Incorporating new and expanded green infrastructure (GI) credit options, including a mechanism to incentivize their use.
- Incorporating and giving the highest amount of credits for riparian forest buffer creation above and beyond the Phase 6 baseline.
- New and innovative BMPs (like floating wetlands, smart ponds, and urban soil amendments) and the invitation for municipalities to submit additional ideas.
- Adjusting the extra credit available for additional stormwater retention to 3” from 2.7” to account for the increasingly large storms due to climate change.
- Increasing credit levels for converting stormwater ponds to wooded wetlands--one of the best options available for treating both water quantity and quality in a natural, green infrastructure way.

While we applaud the above elements, fundamentally the appropriateness of this document is tied to the strength of the next MS4 permit in the following ways:

In the Introduction to the new draft Guidance, MDE set forth the operating premise for three generations of Phase I MS4 permits:

“The goals of Maryland’s National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permits are to control stormwater pollution, improve water quality, and work toward meeting water quality standards. The permits require MS4s to implement restoration activities in order to meet stormwater wasteload allocations (SW-WLA) included in Environmental Protection Agency (EPA) approved total maximum daily loads (TMDLs).”

The Guidance goes on to explain that “restoration activities” are achieved through the restoration of impervious surfaces by stormwater BMP implementation. “The impervious acre credit is the MS4 permit’s surrogate parameter for level of implementation required to show progress in total nitrogen (TN), total phosphorus (TP) and total suspended sediment (TSS) load reductions toward meeting Chesapeake Bay and local TMDLs.”¹

Unfortunately, Counties are not making very much progress toward reaching the stormwater pollutant load reductions needed for Bay and local TMDL attainment. Audubon Naturalist Society prepared an analysis of Maryland Phase I MS4 permittees, examined the achievement levels for ISR acreage and pollutant load reductions, and concluded that the premised linkage between them is not established. Of the eleven Phase I MS4 permittees, eight² met their Impervious Acre Restoration (IAR) goals, and **none met the expected levels of pollutant load reductions from stormwater**. Many used nutrient trading or a ‘trading in time’ mechanism to reach compliance without completing sufficient on the ground projects in time.³

Given this overall framework, the Guidance is critical to ensuring that on-the-ground actions required under the MS4 permit actually translate into water quality improvements for both local streams and the Chesapeake Bay.

Recommendation: The updated credits in the new Guidance *must* be accompanied by an ambitious restoration requirement in the next MS4 permit. Otherwise, jurisdictions will do far, far less work than they have in past permit terms, and the pace of restoration progress will slow unacceptably. It is important that MDE sends signals to these jurisdictions, now that there will be rigorous permit requirements, so these jurisdictions will set aside sufficient funds in the upcoming budget cycles.

Carve outs and ceilings needed

In our early letters⁴ and several meetings with MDE and stakeholders we advocated for carve outs of minimum amounts of practices coming from green infrastructure, meaning some percentage of the overall permit requirement needing to be green infrastructure (we advocated for a minimum of 40%). We also urged MDE to have a maximum ceiling on the amount of a permit’s reduction that

¹ Guidance, p. 1

² Anne Arundel County received authorization to trade with its waste water treatment plant. Montgomery County received a consent decree. Prince George’s County is still in negotiations, as per our January 27th call with MDE.

³ Gilmore, Bruce. “Report on Stormwater Permitting and Policy in Maryland: Phase I MS4 permits and Financial Assurance Plans in 2019” Prepared for the Audubon Naturalist Society, October 2019.

⁴ Maryland Choose Clean Water Coalition letter to Lynn Buhl, Assistant Secretary, Maryland Department of the Environment, August 25, 2017, p. 5

can come from a single BMP such as street sweeping or stream restoration, particularly given the improper doubling of the per-linear-foot credit given to stream restoration that is not supported by science or the Bay Program Expert panel.⁵ We urge MDE to consider this approach to ensure that counties undertake projects that create co-benefits and create a more resilient future.

While we applaud efforts to incentivize local investment in the projects and practices that produce greater co-benefits,⁶ we are concerned that the overall structure of this document does not contain minimums or maximums for certain projects, practices, activities, or categories thereof. For instance, we strongly urge MDE to limit the number of equivalent acres that a permittee can claim credit for based on credits obtained from a nutrient trading program. Conversely, we strongly urge MDE to insert a minimum amount of work that a permittee must satisfy for the projects that MDE recognizes as producing co-benefits (i.e. GI projects).

With the increase of stream restoration credit and the mileage street sweeping calculation, it is very possible that the increased green infrastructure incentive will be dwarfed by these other BMPs entirely. A worst-case scenario might be the urban area that chooses to meet the entirety of its MS4 permit via street sweeping and/or stream restoration. Without stormwater volume reductions, how can we reasonably believe the restoration project will succeed long-term when the conditions which created the stream erosion and disconnection from its floodplain persist? We urge MDE to consider limiting the amount of street sweeping and/or stream restoration that can be utilized to fulfill the restoration requirements on an MS4 jurisdiction, in order to foster activities that truly reduce stormwater volumes and improve local environmental conditions.

Recommendation: The Guidance and/or the next MS4 permit should set a minimum percentage requirement for GI practices (40%) and a maximum percentage allowable requirement for street sweeping and stream restoration.

Additional comments on the draft revised Guidance

Below are our additional thoughts on the draft revised Guidance, with reference to page numbers and specific suggested new language where applicable.

Street sweeping (pp. 10-12)

We are discouraged to learn that equivalent impervious area factor for street sweeping has been changed from one of measured or estimated tonnage removed to one of “lane miles swept”. The practice of street sweeping also does little or nothing to actually reduce impervious cover except if part of pervious cover maintenance that should be required of the particular BMP. While certainly beneficial for sediment trash abatement, street sweeping will not reduce nitrogen pollution and never help our urban regions reduce local flooding or provide other stormwater benefits. This practice must be undertaken frequently to amount to much “credit” in the MS4 permit, while providing other community benefits, it requires substantial resources dedicated to it – resources that are not then available to practices that reduce impervious cover and improve stormwater management. This is moving in the wrong direction. **As recommended above, MDE should place a cap on the amount of credits that can be generated via street sweeping.**

⁵ Tom Schueler et. al. “Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects” P.14 http://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2013/10/stream-restoration-short-version.pdf

⁶ Guidance, p. 24

Non-Riparian Land Cover Conversion BMPs (pp. 13-14)

On pages 13-14, under the heading “Non-Riparian Land Cover Conversion BMPs”, MDE describes the conditions and credit afforded for **Street Trees** and **Urban Tree Canopy**, suggesting both practices offer the equivalent of 0.003 acres for treatment credits. Under the table on page 14, there is a subscript note that states, “Street trees do not receive a load reduction credit toward the TMDL because it is not a CBP approved credit.”

Question: How does this comport with the table on page 3 that lists TN, TP, and TSS load reductions associated with both street trees and urban tree canopy?

Riparian Land Cover Conversion BMPs (pp. 14-15)

As discussed in the stakeholder working group, enhancing credit for riparian buffer creation was popular among both NGO representatives and county MS4 managers:

Riparian buffers provide nutrient uptake for upstream areas that flow through the buffer areas, as discussed in “Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects” published September 8, 2014. Specifically, this is discussed as Protocol 2, Credit for Instream and Riparian Nutrient Processing during base flow, which relates to the nutrient treatment in the anaerobic root zone of riparian trees.

The increased density of tree root zones compared to herbaceous root zones increases bank stability and thereby reduces sediment loss and mobilization of legacy nutrients. Bank erosion can be a significant contributor of sediment and nutrient pollution to the Bay and local waterways.

Because riparian trees have the added nutrient removal mechanism of denitrification in their root zones and the reduction of legacy sediments and nutrients being mobilized due to bank stabilization, the group agreed that there is added “value” to riparian buffer plantings over upland plantings. Therefore, we recommend that MDE add a “Riparian Pervious to Forest” BMP with an Impervious Area Equivalent of 1.0 IA credit for 1 acre of planting. Guidance for the credit is similar to the existing “Urban Pervious to Forest” BMP with the addition that buffers shall be a minimum of 35 feet wide from edge of stream.⁷

MDE took the working group’s suggestion, and in fact, enhanced the credit further to 1.41 EIA per acre of land cover converted to 35-foot minimum riparian forest buffers (as compared to 0.42 EIA for upland forest planting). In our January 27th phone call, MDE described that calculation as based on the best available science. **We support this enhanced credit and hope that MS4 managers create and maintain extensive new riparian forest buffers and riparian conservation landscapes, additional to those under all other conservation programs.**

Given the difficulty of determining additionality in the Phase III WIP scenario, we support MDE’s decision not to include a riparian forest conservation credit parallel to the upland forest conservation credit (pp. 15-17).

⁷ Memo Re: Riparian Buffer Recommendations for Impervious Area Credit in the MDE Wasteload Allocation Manual. Submitted to Ray Bahr, MDE, by the MS4 Guidance Working Group Riparian Buffer Subcommittee. Version 2, submitted January 22, 2019. Available at <https://tinyurl.com/BuffersMemo>.

Forest conservation (pp. 15-17)

Given the discussions in the stakeholder working group in 2018-2019, we were not surprised to see the inclusion of forest conservation as a practice eligible for credit, and we appreciate the language on p. 16 indicating that *only* an MS4 forest conservation program that “results in less development on forest than the [Phase III] WIP forecast” as based on the Phase 6 Bay Model. Overall, we support as much forest conservation as possible, as long as each incentive program is additional to all others, and managers cannot double-count credits.

We had a number of questions regarding this credit’s implementation that were clarified in the January 27th phone call, which should result in language changes to the section (Guidance pp. 15-17 as follows):

- Add a sentence on p. 16 indicating clearly, in plain English, that the intent of the exclusions in Table 12 are to prevent double-counting beyond not only the Phase III WIP forecast but also any other forest or tree planting programs outside of the MS4, such as the Forest Conservation Act, the Critical Area Law, and others.
- Clarify that any such credit applies only to restoration/redevelopment, not for new development (which is covered by Forest Conservation Act requirements).
- The Guidance should also contain language stating that the areas such as those of an easement within 200 feet of waterways are excluded because MDE is already assuming these areas will be forested and are included as part of their baseline. Otherwise, we worry that the high priority many counties put on meeting their MS4 permits as compared to other obligations such as the WIP will result in riparian buffers being excluded for conservation and targeting in favor of upland areas. We need to prioritize riparian buffers as much as possible while still avoiding double counting.

Urban Soil Restoration Credit (pp. 17-18)

We support the inclusion of the new Urban Soil Restoration Credit (Guidance pp. 17-18), and its associated design criteria in Appendix G. However, the language in the Guidance is unclear as to when this practice would come into play. Following our January 27th phone conversation, we **recommend the following additional language in red text (p. 17):**

“Soil restoration techniques that are used in conjunction with another BMP **whose design criteria already specified soil ripping/restoration** do not receive **this** separate credit.”

Stream restoration (p. 20)

There is no Scientific Basis for Doubling Stream Restoration Credit

We are dismayed to see the Impervious Acre (IA) equivalency factor for stream restoration double. Certainly, all stream restoration projects are not created equally. In highly urbanized Baltimore, there are stream projects undertaken primarily because of the credit that can be gained via the MS4 instead of being based on whether stormwater volumes upstream are adequately controlled in a manner that will aid the success of downstream restoration. As reported in the Baltimore Sun on January 2nd,⁸ these projects are particularly likely to fail in the most distressed, urbanized locations--where they are commonly undertaken, given the other community amenities they can

⁸ Scott Dance, “As Maryland pours millions of dollars into ailing streams, research shows some projects don’t help clean the bay.” <https://www.baltimoresun.com/news/environment/bs-md-stream-restoration-20200102-hqwyaoa4m5bgfhtxybgdalarhby-story.html>. Baltimore Sun. January 2, 2020.

provide. Without requiring a more holistic approach to stream restoration, we will likely continue to see project failures from flash storm events, especially when upstream areas are targeted for growth or are not experiencing actual reductions in impervious cover. In some areas, stream restoration projects are not only understudied and prone to failure, but are also deeply controversial with neighbors and, when poorly or quickly done, can result in an unacceptable loss of tree canopy.⁹

MDE claimed that the doubling of stream restoration credit was based on the Bay Program's expert panel. However, after talking to members of the expert panel and reviewing reports, we have determined that this is not the case. Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects assert that **"At its January 25, 2012 research workshop, the Panel concluded that there was no scientific support to justify the use of a single rate for all stream restoration projects"**¹⁰. According to our conversations with members of the expert panel attest that this statement still holds true, and there is no scientific basis for doubling credit for all stream restoration projects. According to the Expert Panel, **no efficiencies on stream restorations have changed**. While the way sediment has been delivered in the Bay model has changed in terms of how and when credits are applied for the practitioner, there has not been a real change in the credit the Bay Program is giving. MDE must ensure that credits and numbers are scientifically based. Standard restoration and stabilizations in urban areas may have fewer benefits than the original lower credits from the previous guidance document. The design and location of the stream restoration practice can have a huge impact on the watershed benefits they provide. **Therefore, it is wholly improper to give a blanket doubling of credit for stream restoration** unless they can be measurably proven to provide twice as much water quality benefits.

We support stream restoration as one tool out of many, but MDE can and should place limits upon it. We are concerned that given the doubling of the credit, MS4 jurisdictions will dramatically increase investments in stream restorations as a way to meet their MS4 permit requirements with a lower cost on an impervious acre equivalency basis than most forms of green infrastructure. As the articles cited above and the expert panel indicate, there is not enough evidence to justify such an increased use of the tool without significant upstream BMPs as well. **As recommended above, MDE must correct the credit amount for stream restoration and, in the interest of caution, MDE should place a cap on the amount of credits that can be generated via stream restoration.**

Climate change & climate resilience (p. 25)

We appreciate that on p. 25 of the Guidance, MDE will now give extra volumetric credit for storing up to a 3" storm, above the previous limit of 2.7" (beyond the 1" requirement for redevelopment, and beyond the 2.7" current requirement for new development under state law). **We recommend that MDE add clarifying language to this section indicating that the reason for adjusting the upper limit is to account for the reality of bigger storms due to climate change and that providing more storage enhances resilience to flooding.** We urge MDE to include more

⁹ Antonio Olivo, "Polluted, damaged streams in Chesapeake region at center of debate over cleanup." *The Washington Post*. https://www.washingtonpost.com/local/virginia-news/polluted-damaged-streams-in-chesapeake-region-at-center-of-debate-over-cleanup/2020/01/25/d882053c-33f8-11ea-91fd-82d4e04a3fac_story.html January 25, 2020.

¹⁰ Tom Schueler et. al. "Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects" P.14 http://chesapeakestormwater.net/wp-content/uploads/dlm_uploads/2013/10/stream-restoration-short-version.pdf

language relating to climate change and the need to build more resilient BMPs that can handle stronger storms throughout the document.

Incentivizing green infrastructure (pp. 25-28; Appendix A)

While we support MDE's intent to encourage the use of green infrastructure practices when implementing the restoration mandate, it is critical that the proposed bonus 1.35x credit only be provided for BMPs that truly meet the definition of green infrastructure. Specifically, the bonus should only be provided for practices that mimic natural processes to both reduce pollutant loadings and reduce runoff volumes, while also providing the co-benefits of green infrastructure to surrounding communities. In this context, **we are concerned by the inclusion of dry wells in MDE's list** of accepted green infrastructure practices (Table 19). Dry wells do not appear on the U.S. EPA's list of green infrastructure BMPs.¹¹ In fact, the EPA explicitly "does not consider dry wells a green infrastructure practice."¹² This is because, while they reduce stormwater flow rate and volume, they do not provide any treatment or pollution reduction benefits.¹³ Because dry wells do not remove pollutants from stormwater before infiltrating it into soils, their use creates a risk of groundwater contamination.¹⁴ **Dry wells should not be included in Table 19's list of green infrastructure practices eligible for bonus credits.**

Additionally, when we asked MDE on January 27th for more detail on how the 1.35x bonus credit was calculated, you indicated that it was the difference in load reduction between a stormwater treatment practice and a runoff reduction practice, as shown in the runoff curves (Appendix A). The curves in Appendix A are divided into separate graphs for TN, TP, and TSS, and while they each clearly show additional reduction for runoff reduction practices as compared to stormwater treatment, it is still difficult to see where the 35% figure comes from. **MDE staff indicated a specific graph that helps explain this--we recommend including that graph, and a short explanation, explicitly in Appendix A.**

Nutrient trading and Wastewater Treatment Plants (WWTPs) (p. 31)

In our January 27th phone call, MDE clarified that no additional WWTP trades are anticipated in the next permit term and that any trades that took place under the permit modifications will have to be replaced with in-the-ground practices. We understand from conversations with your staff that the Department fully intends to include the 'generally understood' language in the next permit. We look forward to the ways in which the MS4 template will operationalize this intention.

Regarding the agricultural trading that is contemplated in the revised Guidance, please clarify the basis for the prohibition on sourcing credits obtained from the trading program from within jurisdictional boundaries of the MS4.¹⁵ We understand the important desire not to authorize double-counting of credits, but by insisting that credits come from outside of the boundary of the MS4 jurisdiction, MDE is pushing pollution reductions further from the communities and

¹¹ U.S. EPA, "What Is Green Infrastructure?", <https://www.epa.gov/green-infrastructure/what-green-infrastructure>.

¹² EPA, Green Infrastructure Opportunities and Barriers in the Greater Los Angeles Region, at 2-3 (Aug. 2013), available at https://www.epa.gov/sites/production/files/2015-10/documents/council_watershed_health_gi_report.pdf.

¹³ Id. at 3.

¹⁴ See U.S. EPA, Getting Up to Speed: Ground Water Contamination, at C-6, available at <https://www.epa.gov/sites/production/files/2015-08/documents/mgwc-gwc1.pdf>.

¹⁵ Guidance, p. 30-31

waterways that the MS4 jurisdiction is supposed to be protecting. On our phone call, MDE clarified that counties should already certify and take credit for private land agricultural practices taking place within their boundaries and that cross-county agricultural credit trades are only to be used in those cases when farmers in the neighboring county have not had their practice credited to their home jurisdiction. **We recommend that clarifying language on this point be added to the Guidance document alongside the language on p. 31, indicating that credits can only be generated once a jurisdiction's own IAR requirement is complete.**

Public comment on any Guidance revisions

We appreciate that this revised Guidance document will be issued alongside the permit template for full public comment later this year. However, we note that on page 31, the Guidance outlines the procedure for updating the document with Technical Memoranda and outreach to the counties if new Bay Program Expert Panel guidelines are issued. **We urge MDE to ensure, at a minimum, that not only the issuance of this guidance document but also any addenda or updates to it be done in conjunction with adequate public notice and comment opportunities.** As you are well aware, the substance of the effluent limits in the MS4 permit itself is substantially impacted by the contents of this document. As such, altering this document is akin to altering the terms of the permit and should not occur without compliance with all state and federal requirements.

Conclusion

Thank you again for the opportunity to participate in the working group and to discuss these issues with MDE. We submit this letter and suggestions now for MDE's consideration as it prepares for the release of the Guidance draft for full and formal public comment alongside the MS4 permit template. We will review any changes at that time and again offer our comments. If you have any questions about our comments or would like to discuss further, please contact Ben Alexandro at balalexandro@mdlcv.org or Eliza Cava at Eliza.Cava@anshome.org.

Thank you,

Alice Ferguson Foundation

Clean Water Action

Anacostia Watershed Society

Cleanwater Linganore Inc.

Audubon Naturalist Society

Earth Forum of Howard County

Baltimore Tree Trust

Friends of Frederick County

Beaverdam Creek Watershed Watch Group

Friends of Lower Beaverdam Creek

Blue Water Baltimore

Friends of Sligo Creek

Chesapeake Bay Foundation

Friends of the Nanticoke River

Chesapeake Legal Alliance

Maryland League of Conservation Voters

Mattawoman Watershed Society

Montgomery Countryside Alliance

Muddy Branch Alliance

Natural Resource Defense Council

Neighbors of the Northwest Branch of the
Anacostia River

Potomac Conservancy

Rock Creek Conservancy

Safe Healthy Playing Fields Inc

ShoreRivers

Sierra Club, Maryland Chapter

Southern Maryland Audubon Society

Sparks Glencoe Community Planning Council

St. Mary's River Watershed Association

Waterkeepers Chesapeake

Wicomico Environmental Trust