



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure



February 3, 2021

Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477
Via eComment: <http://www.ahs.dep.pa.gov/eComment>
e-mail: RegComments@pa.gov

RE: Chesapeake Bay Foundation Comments to the proposed Rulemaking for Dam Safety and Waterway Management; Amending 25 Pa. Code Chapter 105 (#7-556).

To Whom It May Concern,

On behalf of the Chesapeake Bay Foundation (CBF) and its more than 300,000 members and e-subscribers, please accept these comments pertaining to the proposed amendments to 25 Pa. Code Chapter 105 regulations. This proposed rulemaking was noticed in Pa. Bulletin on Saturday, December 5, 2020 (50 Pa. B. 6863). These regulations propose to amend 25 Pa. Code Chapter 105 to make administrative corrections, improvements and other substantive changes to the dam safety and waterway management program.

CBF is a 501(c)(3) non-profit organization, founded in 1967. The organization's mission—carried out from offices in Maryland, Virginia, Pennsylvania (PA) and the District of Columbia—is to restore and protect the ecological health of the Chesapeake Bay, the nation's largest and one of its most vital estuaries. As such, and on behalf of our members, we are interested in matters that will impact the health of the Chesapeake Bay, the waters that feed into it, and the health of those who live and work within the Bay watershed.

CBF hopes that the proposed amendments, overall, will strengthen water quality protection in Pennsylvania and will help prioritize areas of need and practices that will not only protect and restore the waters of the Commonwealth, but help meet the goals of PA's Phase 3 Chesapeake Bay Watershed Implementation Plan (WIP3)¹. We commend the numerous and thoughtful amendments and offer the following comments:

I. Definitions (Section 105.1)

¹ Pennsylvania Department of Environmental Protection. 2019. Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan.

We commend the Department of Environmental Protection's (DEP) numerous updates to the definitions. Of particular note and significance is the addition of aquatic resource functions and impacts. As it pertains to *aquatic resource impacts* (direct, indirect, and secondary), we suggest DEP add "**hydrologically directly connected areas**" to the definition. Numerous studies describe the importance of such areas to aquatic resources like wetland and stream systems and the ecosystem services they provide. By explicitly including qualitative and quantitative assessment of the hydrologically directly connected areas, it allows for a more complete picture of the potential impacts of a proposed project such that impacts can be avoided, minimized, and mitigated. This is particularly important as part of a cumulative impacts analysis and other restoration considerations.

II. Waiver of Permit Requirements (Section 105.12)

The proposed amendments include additional waivers. These waivers, generally, include projects that are either beneficial to the environment or have minimal impacts. CBF commends some of these waivers, such as streambank fencing conservation practices associated with crop production (proposed Section 105.12(17)) but offer some recommendations.

Streambank fencing conservation practice associated with crop production (Section 105.12(17)):

As described in the WIP3, DEP stated that it was going to consider, when amending regulations, such as Chapter 105, that "projects reducing or even eliminating existing discharges or having an overall positive environmental benefit will be considered for prioritization and an incentivized process to ensure [Best Management Practices] BMPs are installed in an efficient, cost-effective manner as soon as possible."² This waiver will help relieve any permitting costs and burdens to those trying to install the conservation practices that will benefit both the agricultural land as well as the wetland, watercourse or stream that it is along. However, it is recommended that DEP consider expanding this waiver to not just include conservation practices associated with crop production, but also streambank fencing conservation practices associated with livestock and poultry operations that would improve water quality.

Construction, operation and maintenance of a walking path with an elevated boardwalk (Section 105.12(19)):

Elevated boardwalks in wetlands allow for passive educational and recreational opportunities that otherwise may not be possible by the public. However, the siting, design features, and materials used should not be considered as devoid of impacts. To that end, we recommend that DEP include guidance on the siting, designing, and constructing such boardwalks in various

² Pennsylvania Department of Environmental Protection. 2019. Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan. Section IX. Phase 3 WIP Priority Initiative State Programmatic and Narrative Commitments: D. Incentives or Methods to Accelerate Practice Implementation, 7. Review and Consideration of DEP Permitting Process Modifications (page 94).

settings to minimize any potential impacts. Although numerous examples exist, a comprehensive guidance manual by the Rhode Island Department of Environmental Management is an excellent yet accessible example of statewide document on this subject.³

Emergency water withdrawal for agricultural and fire protection (Section 105.12(20)):

CBF has some concerns and questions regarding the waiver related to temporary emergency water withdrawals related to crop production (proposed Section 105.12(20)). Although this waiver will eliminate the administrative, financial and timeliness burdens on landowners and farmers it raises some concerns. For example, why are agricultural and fire protection water use lumped together. They are not related and can have very different meanings and “uses” in times of an emergency. Who declares the “emergency”? The fire department, county, farmer, landowner? What constitutes an emergency? How do you define it differently for fire protections (example, wildfire mitigation) versus agricultural use (example, only during a drought watch)? Also, does this waiver apply to high quality (HQ) and/or exceptional value ((EV) streams? It is recommended that HQ/EV waterways should be excluded from use related to this waiver, at least when applicable to withdrawals related to agricultural use.

Overall, it is recommended that DEP separate the two waivers. Next, DEP should define who declares the emergency as well as what constitutes an emergency. Finally, what is the time frame of that emergency? It is recommended that DEP put a limit or definition around “temporary emergency” similarly to that of proposed Section 105.12(21) in which the “temporary nature” was given the deadline of “not to exceed one year.” Timelines are important during dry times in which water recharge may be slow and cumulative impacts can occur to other water users or the water quality in the area of the farmer using “temporary emergency water withdrawals” under this waiver.

Waiver exceptions (Section 105.12(c)):

Subsection (c) of 105.12 adds a list of circumstances in which a waiver would not apply. This list is comprehensive and important in the further protection of species, historical and cultural sites, and more. However, how does DEP ensure that these circumstances do not apply prior to a potentially waived project begins or is completed in order to prevent harm? There does not seem to be a process, even minimal, to register or notify DEP that a waiver project may begin and due diligence was conducted in order to ensure that the project does not fall within the delineated exceptions to the waivers (and therefore in need of a permit). For example, if an individual or entity wants to install an elevated boardwalk in wetlands for educational purposes under the waiver (section 105.12(19)) must a PNDI review be shown to DEP *prior* to starting the project to ensure there are no threatened or endangered species are in that wetland?

³ Rhode Island Department of Environmental Management. 2010. Wetland BMP Manual: Techniques for Avoidance and Minimization. [online] Available at: <http://www.dem.ri.gov/programs/benviron/water/permits/fresh/pdfs/wetbmp.pdf> [Accessed 31 January 2021].

Finally, as mentioned above, HQ/EV as well as impaired waters should be taken into consideration when allowing for waivers. Similarly to general permit exclusions in other DEP programs (such as NPDES permits), projects on or near HQ/EV waters and impaired waters are often excluded from getting general permit and must apply for an individual permit. This same consideration should be applied to Chapter 105 permit waivers. We recommend adding that HQ/EV waters, as well as waters that are impaired (with or without a TMDL), be excluded from a waiver.

III. Regulated activities – information and fees (Section 105.13(d))

DEP made some administrative changes to the permitting application and review process that are practical and more efficient. For example, in Section 105.13(d) the revision allows a single application for projects and related projects that traverse multiple counties. This is comprehensive and practical and allows DEP to review projects, and their related parts, wholly, especially when applying the alternatives, impacts and cumulative impacts analysis associated with a permit application. However, this may make it more difficult for the public, who may be impacted by a large or lineal project (such as pipelines) to have an opportunity to see and comment on a project that may not actually impact their community until months or years after the permit was approved due to the size and scope of the project. It is recommended that when an application is submitted that involves more than one county that notice be posted in all the counties in multiple venues to allow for ample opportunity for the public to express support or opposition. The Pennsylvania Bulletin is generally quite elusive to the public and therefore other venues, such as local newspapers, government buildings, etc. should be utilized to allow for transparency early in the permitting process.

IV. Information Needed Within an Application (Section 105.15(e)(1))

There are many substantive amendments proposed in Section 105.15(e)(1) with regards to what materials, information and more need to be included within a permit or registration application. Many of these amendments were long overdue and commended. In order to ensure these improvements to the application process are effective, it is recommended that DEP have a thorough permit review guidance and record of decision documents associated with the permit review process. We offer the following comments on some of the proposed amendments within this section.

Alternatives analysis (Section 105.15(e)(1)(viii)):

CBF appreciates the new language and requirements necessary for the alternatives analysis. Gathering as much detail as possible is the only way DEP can truly understand whether the project will, in fact, avoid or minimize adverse environmental impacts. However, there seem to be many areas that could use further detail as opposed to the proposed ambiguous and subjective language used throughout this subsection. For example, in subsection (B) relating to impacts to wetlands, the project has to demonstrate “with ***reliable and convincing evidence*** that the requirements . . . will be met.” See, Section 105.15(e)(1)(viii)(B). Further, in subpart (C) the

language used is “*reliable and representative demonstration*” with regards to alternatives that may impact aquatic resources. This ambiguous terminology, and at times, legal terms, do not provide for transparency or clarity. These terms will make it difficult for the applicant to know what exactly should be submitted. This language is equally complicated for the permit reviewers to analyze the applications consistently throughout the state. It is recommended that these terms either be defined or revised to provide for more objective and transparent language.

Additionally, this section seems ripe to include additional analysis when it comes to nutrients and sediments. Requiring information of the applicant to show if there are alternatives to the project which will allow for reductions in nutrients and sediments would be an improvement, especially to those projects within the Chesapeake Bay watershed. Often times, regulations only allow for not increasing pollutants (remain status quo), but this section allows for the proactive review of looking for alternatives that allow for reductions. CBF hopes DEP will consider adding a subsection to the alternatives analysis to prioritize projects that reduce nutrients and sediments, especially, if it is proposed within the Chesapeake Bay watershed.

Impacts Analysis (Section 105.15(e)(1)(x)):

The extra detail proposed for the impact analysis is a vast improvement to the regulations. This analysis, along with the antidegradation section addition will not only protect health and property, but also other water users, aquatic life, stream flow and water quality. One suggestion CBF has to offer is to Section 105.15(e)(1)(x)(E), Other Impacts. This section lists the necessary impact analysis needed for certain areas including, recreational, wildlife sanctuaries, “*prime farmland*” and others. CBF recommends that this not be limited to just “prime farmland” and that the language be revised to include all agricultural lands for the purposes of analyzing other impacts.

Finally, we recommend that DEP add that hydrologically directly connected areas for the site in question be included in any impact analysis. Numerous studies describe the importance of such areas to aquatic resources like wetland and stream systems and the ecosystem services they provide. By explicitly including qualitative and quantitative assessment of the hydrologically directly connected areas this allows for a more complete picture of the potential impacts of a proposed project and impacts can be avoided, minimized, and mitigated. This is particularly important as part of cumulative impacts analysis and restoration considerations.

Antidegradation (Section 105.15(e)(1)(xii)):

Again, CBF is pleased to see a section dedicated to an antidegradation review as part of the permitting requirements. The WIP3 explicitly stated that “reasonable assurance is provided by robust non-NPDES permitting programs that require controls that reduce nitrogen, phosphorus, and sediment pollutant loads, and require compliance with Pennsylvania Water Quality Standards and antidegradation requirements, and include permit review, oversight, and inspection.”⁴ By ensuring that Chapter 105 permits have antidegradation requirements met may help in the reduction of the nutrients and sediment during these types of activities.

⁴ Pennsylvania Department of Environmental Protection. 2019. Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan. Section VI. Pennsylvania Reasonable Assurance for it Phase 3 WIP (page 30).

Cumulative impact analysis (Section 105.15(e)(1)(xiii)):

A cumulative impact analysis is another important tool in submitting and reviewing water-related permits in order to ensure a project will not cause or contribute to an impairment of a stream. This section used in conjunction with the antidegradation review could be valuable in ensuring no additional nutrients or sediments make its way into our local waters. However, the proposed section under 105.15(e)(1)(xiii) seems to fall short in order to be fully protective of the water quality. Again, there is vague language as it does not state exactly what needs to be conducted other than “provide a project-wide cumulative impact analysis ***using available resources...***” This section should outline explicitly what needs to be included for the cumulative impact analysis and what are the resources that must be utilized in that analysis.

At a minimum, the cumulative impact analysis should include a qualitative and quantitative assessment of the aquatic and terrestrial changes in the physical, chemical, and biological conditions of a proposed project, including the hydrologically directly connected areas. Emphasis should be on whether projects have the potential to result in waters of the Commonwealth to not attain one or more protected uses and thus become “impaired”.

Further, it appears as though this section limits the scope of the cumulative impact review to only the project area and to only wetland resources. The scope also seems limited to only a review of other Chapter 105 permits in the area. Does the cumulative impact analysis include other water bodies that are connected to the potential wetland or is it limited to just those classified as wetlands? Does this include a thorough permit review of water withdrawals and water discharges within a certain HUC or watershed where the project may take place? In order to ensure a stream, wetland or other water body does not truly get negatively impacted, a thorough review of other water uses, land uses, permits, approvals and more should be conducted as part of the wholistic cumulative impact analysis.

V. Environmental Assessment (Section 105.15)

Section 105.15 of the proposed regulation includes additional language to help strengthen the environmental assessment requirements, specifically for the restoration of aquatic resources. CBF commends the review of historic and modern land uses, the impacts analysis and other relevant factors as outlined in subsections 105.15(a)(4)(vi), (vii) and (ix).

In order to create greater clarity regarding the baseline level of acceptable information to be submitted as part of a project plan, in 105.15(a)(4)(ii—ix), we recommend providing further details of the project plan elements:

- Hydrologic Unit Code 12 (HUC12) and State Water Plan watershed of the project site;
- Water uses protected (25 Pa. Code § 93.9);

- Summary of previous stream and watershed assessments in the project area and HUC12, including but not limited to Pennsylvania Water Quality Network (WQN) sites and governmental, academic, and volunteer studies;
- Known invasive aquatic and terrestrial species in the project area and HUC12;
- Land use, both current and projected/zoned, of areas adjacent to the project area;
- Map of and qualitative and quantitative assessment of hydrologically directly connected areas; and
- Lake and stream status in state's most recent Integrated Water Quality Monitoring and Assessment Report, including summary of any approved Total Maximum Daily Loads for the area.

VI. Compensatory Mitigation (Section 105.20a.)

Compensatory mitigation for the unavailable impacts of projects covered under Chapter 105 are intended to help maintain and even restore lost ecological functions and advance policies such as “no net loss” of wetlands.

Past efforts to replicate and restore the lost functions of wetlands have shown generally disappointing results (versus success in achieving compliance). Over time, however, practitioners and regulators have evolved their assessment, siting, and other design techniques which are believed to have led to generally better results in replicating lost functions. Nonetheless, in a meta-analysis of 621 wetland restoration sites across the globe, researchers concluded that long-term recovery of biological structure and biogeochemical functioning remained on average 26 percent and 23 percent, respectively, lower in restored or created wetlands than in reference wetlands.⁵

Similarly, research regarding typical “stream restoration” techniques has found mixed results regarding functionality. One often-cited factor for this lack of success has been the propensity of consultants and regulators to rely on Rosgen classification system and the associated methods of natural channel design.⁶ Recently, Hilderbrand (2020)⁷ suggested that such restoration in urban settings of Maryland generally underperformed in key ecological improvement areas such as enhanced instream nutrient attenuation and improved biological abundance and diversity. In fact, the review of 40 projects across Maryland concluded that the abundance and diversity of stream benthic macroinvertebrates and fish populations did not notably improve post-restoration. Projects did, however, tend to reduce nutrients and sediments due to streambank stabilization techniques. Unfortunately, the author concluded that there were no clear reasons why some projects met expectations while others did not.

⁵ Moreno-Mateos D, Power ME, Comín FA, Yockteng R (2012) Structural and Functional Loss in Restored Wetland Ecosystems. *PLoS Biol* 10(1): e1001247. <https://doi.org/10.1371/journal.pbio.1001247>

⁶ Simon, A., M. Doyle, M. Kondolf, F.D. Shields Jr., B. Rhoads, and M. McPhillips, 2007. Critical Evaluation of How the Rosgen Classification and Associated “Natural Channel Design” Methods Fail to Integrate and Quantify Fluvial Processes and Channel Response. *Journal of the American Water Resources Association (JAWRA)* 43(5):1117-1131. DOI: 10.1111/j.1752-1688.2007.00091.x

⁷ Hilderbrand, R., 2020. *Determining Realistic Ecological Expectations in Urban Stream Restorations*. University of Maryland Center for Environmental Science. Final Report to the Chesapeake Bay Trust. Award #15823

Given the uncertainty of successfully replicating and restoring lost functions through wetland and stream restoration techniques and the need for further research to guide regulators and practitioners, it is incumbent upon DEP to include additional margins of safety to account for this uncertainty for both. One example is the state of West Virginia uses 2:1 ratio for palustrine emergent and 3:1 ratio for scrub-shrub and forested wetlands.⁸ As it pertains to stream restoration, we recommend a ratio of no less than 2:1; however, instead of the standard linear feet of stream restoration, we recommend an area approach (e.g., square foot). Because much of the physical, biological, and chemical functions provided by streams are in the streambed and interstitial zones,⁹ which is greatly influenced by the hydrologically directly connected area,¹⁰ this type of an approach offers the potential to help ensure such functions more fully considered when stream restoration is required.

This is important not only for helping to ensure that the ecological functions of mitigation projects are achieving their goals, but also because Pennsylvania is relying on such projects to achieve nutrient and sediment reductions as part of its obligations for the Chesapeake Bay. Specifically, the WIP3 states that the Commonwealth had reductions of 6,000 of nitrogen, 1,600 of phosphorus, and 3,874,000 of sediment in 2017 from stream restoration/stabilization projects. Furthermore, the WIP3 projects 1,542 pounds of nitrogen, 548 pounds of phosphorus and 1,275,012 pounds of sediment can be reduced each year through potential forest buffers, stream restoration, wetland restoration, wetland enhancement and wetland creation via Chapter 105's wetland mitigation banking and compliance.¹¹

VII. Other Considerations

Integration with Pennsylvania's WIP3:

In several sections of the WIP3, the Commonwealth cites Chapter 105 as achieving nutrient and sediment reductions that advance the state's obligations for the Chesapeake Bay and that the currently proposed regulatory revisions may result in additional stream, wetland, or a floodplain restoration projects.

No other information regarding the Chapter 105 related reductions is provided in the WIP3. For greater reasonable assurance to the public, we recommend that DEP provide details such as the type of BMP, general location, and size of Chapter 105 induced projects that are being counted towards the WIP3 as part of the two-year milestone reports.

Completeness and Accuracy of Applications

⁸ Weaver, S., 2015. --*State Program Summaries*. [online] Aswm.org. Available at: <<https://www.aswm.org/wetland-programs/state-program-summaries>> [Accessed 1 February 2021].

⁹ Sciencedirect.com. 2021. *Interstitial Environment - an overview | ScienceDirect Topics*. [online] Available at: <<https://www.sciencedirect.com/topics/earth-and-planetary-sciences/interstitial-environment>> [Accessed 1 February 2021].

¹⁰ Nature.com. 2021. *Rivers and Streams: Life in Flowing Water | Learn Science at Scitable*. [online] Available at: <<https://www.nature.com/scitable/knowledge/library/rivers-and-streams-life-in-flowing-water-23587918/>> [Accessed 1 February 2021].

¹¹ Pennsylvania Department of Environmental Protection. 2019. Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan. Table 2.3, Additional Existing Program That Will Result in Reductions (page 49).

Chapter 105, like many DEP permitting programs, relies heavily on the technical completeness and accuracy of permit applications developed by applicants and their consultants. Even though professional certification programs like the Society of Wetland Scientists Professional Certification Program and several stream restoration training courses, it is generally recognized that the completeness and accuracy of applications can vary greatly. For instance, a 2014 report by Schmid & Company, Inc reported that the Army Corps of Engineers found that for one 4-acre site the applicant underreported in their application to DEP the acreage of regulated streams and wetlands by 700 percent.¹² Although this may be an anomaly, if even a small percentage of site assessments include such inaccuracies, cumulatively significant amounts of the Commonwealth's wetlands and streams are being lost over time.

To that end, we recommend that DEP in partnership with the Army Corps of Engineers institute an audit initiative where a minimum of 10 percent of sites applying for Chapter 105 permits will be visited prior to permit approval for completeness and accuracy. The results of the initiative will be made public on a biennial basis. Furthermore, DEP should institute a "three strikes and you're out" type rule where applicants who demonstrate consistent inability to submit complete/accurate applications are prohibited from doing so for a defined timeframe (e.g., 3 years) and not until professional certification and training of staff is acquired. After which, applicants would be placed on a probationary period (e.g., 1 year) where each application would be field verified by DEP and/or Army Corps staff. A list of those who are prohibited from submitting applications along with those on probation, should be kept up to date and made public on DEP's website. Although some of these concepts are within the Permit Review Process and Permit Decision Guarantee Policy (document no. 021-2100-001, November 2, 2012), it is underutilized and in need of updates, including those mentioned above. The ineffectiveness of the policy, as well as the pervasive issue of incomplete and inaccurate applications, is outlined in the June 2019 Performance Evaluation of the Chapter 105 Permitting Program conducted by the Legislative Budget and Finance Committee.¹³

Status of Prior Converted Cropland – Statement of Policy (Section 105.452):

CBF is pleased to see that Statement of Policy was updated. We commend the additional language of "variations in long-term climatic conditions" as events that can create or alter wetlands. Overall, the revisions in the policy clarifies and updates what lands are protected with linkage to the updated *National Food Security Act Manual*. However, when referring to the Manual, it is recommended that it should be changed from the "Fifth Edition . . ." to the "most current edition" so that the regulation does not need to be changed or is outdated if the Manual were to change in the future.

¹² Schmid & Company, Inc., 2014. *The Effects of Converting Forest or Scrub Wetlands to Herbaceous Wetlands in Pennsylvania*. Media, PA: Delaware Riverkeeper Network.

¹³ Legislative Budget and Finance Committee, *Performance Evaluation of the Department of Environmental Protection Chapter 102 and Chapter 105 Permitting Program*. June 2019.
<http://lbfc.legis.state.pa.us/Resources/Documents/Reports/646.pdf>

Further, another recommendation to strengthen the policy would be to amend subsection (3) to read: “The Department will consider prior converted croplands to be abandoned, **and regulated as wetlands under the Commonwealth’s Wetland Protection Program**, when one of the following occurs under (i) - (iv).”

Environmental Justice:

Chapter 105 has a section solely dedicated to environmental, social and economic balancing (see Section 105.16), but yet the regulations as a whole seem to fall short of addressing environmental justice. For purposes of regulation, DEP has developed Environmental Justice Areas (EJ Areas). An EJ Area is defined as “any census tract where 20 percent or more individuals live at or below the federal poverty line, and/or 30 percent or more of the population identified as a non-white minority, based on data from the U.S. Census Bureau and the federal guidelines for poverty.”¹⁴ Although the alternatives analysis in Section 105.15 refers to Section 105.16 as part of the review it is recommended that the regulations be revised to utilize the definition of EJ Areas as part of the permit and waiver reviews throughout the regulations.

Another location in which DEP could help review applications in vulnerable communities is within the cumulative impact analysis. This analysis could “integrate a range of environmental hazard indicators with a range of social vulnerability factors into one or more combined indices. Such indices can be used to identify populations and places that are both subject to elevated environmental hazards that also lack the economic, political, and social resources to avoid, mitigate, or adapt to these impacts. . . . [This more thorough] cumulative impact analysis serves best as a screening tool to highlight places that require additional study, investments, and other precautionary actions.”¹⁵ Again, this is another opportunity for DEP to break from its status quo and be more proactive in terms of how permits get reviewed in communities that are often impacted the hardest with projects, such as pipelines.

Article I, Section 27:

Of significant importance, these proposed regulations, with the aforementioned revisions could essentially be in line with our state Constitution, specifically, Article I, Section 27 by ensuring that Pennsylvanians are receiving their fundamental right to pure water.¹⁶ **These types of regulations, which include antidegradation, alternative, cumulative impacts analysis,**

¹⁴ PA Environmental Justice Areas, Department of Environmental Protection, <https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/Pages/PA-Environmental-Justice-Areas.aspx>

¹⁵ Ganlin Huang and Jonathan K. London, *Mapping in and out of “messes”*: An adaptive, participatory, and transdisciplinary approach to assessing cumulative environmental justice impacts, 154 Landscape and Urban Planning, 2 (2016), available at <https://escholarship.org/uc/item/8nw6w7tm>.

¹⁶ The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people. Article I, Section 27 of the Pennsylvania Constitution. See also, *Pa. Env'tl. Def. Found. v. Cmwlth*, 161 A.3d 911 2017 Pa. LEXIS 1393 (Pa. 2017).

compensatory mitigation and more are exactly how the Commonwealth acts as a trustee in accordance with the Constitution. Keeping our citizen's interests in mind and acting with prudence and loyalty by proposing and approving regulations that conserve and maintain our waters for generations yet to come as required by the state Constitution.

In conclusion, CBF strongly supports the passage of this rulemaking with the aforementioned recommendations. We emphatically encourage DEP to consider ways to revise these regulations to prioritize reducing nutrients and sediments to further improve and protect local rivers and streams and the Chesapeake Bay. This can potentially be accomplished through any or all of the already useful tools within the proposed Chapter 105 regulations such as the cumulative impacts or alternatives analysis, environmental assessment and/or compensatory mitigation. Our health, well-being, and quality of life depend on it.

Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in cursive script that reads "Shannon Gority". The signature is written in black ink and is positioned below the word "Sincerely,".

Shannon Gority
Pennsylvania Executive Director
Chesapeake Bay Foundation