

The Last 40 Years of Chesapeake Bay Restoration: The Definition of Insanity¹

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Introduction

For more than half a century the Chesapeake Bay and many of its tributaries have suffered from poor water quality which has harmed natural resources and people who use the Bay as a source of income and recreation. In the mid-1970s, Maryland Senator Mac Mathias, disturbed by declining crab, oyster and fish harvest, undertook a five-day boat trip to survey Maryland's portion of the Chesapeake Bay.² That trip led to a Congressionally mandated study of the Bay which established that the causes for the Bay's woes were too much nitrogen, phosphorous, and sediment.³ This study spawned the Chesapeake Bay Program, an arm of EPA, which Congress appointed to ensure restoration of the Chesapeake.⁴ Between 1983 and 2000, EPA and the Bay Jurisdictions (DC, Delaware, Maryland, New York, Pennsylvania, West Virginia, and Virginia) signed three Chesapeake Bay Agreements pledging to reduce the discharge of these pollutants so that the Bay could be removed from the Clean Water Act (CWA) list of impaired waters. All failed.

Compelled by an Executive Order and litigation, in 2010 EPA issued the Chesapeake Bay Total Maximum Daily Load (Bay TMDL) to reduce pollution discharges to manageable levels and thereby restore Bay water quality.⁵ It set 2025 as the deadline for implementation of programs that will attain sufficient pollution reduction. Upheld by the courts and hailed by legal scholars, it too has failed.⁶ In May 2023, the Bay Program revealed that the deadline will not be met and will likely not be met if new approaches to curbing pollution from agriculture and municipal stormwater runoff are not taken.⁷ This view was echoed by the EPA Inspector General who urged EPA to assume its role as leader of Bay restoration.⁸

¹ Albert Einstein is to have said "insanity is doing the same thing over and over and expecting different results."

² M. Fincham, *The Voyages of "Mac" Mathias*, Chesapeake Quarterly, June 2015.
<https://www.chesapeakequarterly.net/V14N2/main3/>

³ 132 Cong. Rec. S 17410, Thursday, Nov. 6, 1986, p. 4.

⁴ 33 U.S.C. § 1267(b).

⁵ Chesapeake Bay Total Maximum Daily Load for Nitrogen, Phosphorus and Sediment, December 29, 2010. <https://www.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-tmdl-document>

⁶ American Farm Bureau Fed., et al., v. EPA, 792 F.3d 281 (3rd Cir. 2015), cert. den., 2016 U.S. LEXIS 1074 (U.S., Feb. 29, 2016); O. Houck, *The Clean Water Act Returns (Again): Part I, TMDLs and the Chesapeake Bay*, 41 ELR 10208 (March 2011).

⁷ *Achieving Water Quality Goals in the Chesapeake Bay: A Comprehensive Evaluation of System Response*, Scientific and Technical Advisory Committee, Chesapeake Bay Program, May 2023, (CESR). <https://www.chesapeake.org/stac/wp-content/uploads/2023/05/CESR-Final-update.pdf>.

⁸ *The EPA Should Update Its Strategy, Goals, Deadlines, and Accountability Framework to Better Lead Chesapeake Bay Restoration Efforts*, Inspector General, USEPA, July 18, 2023. Remarkably, EPA Region III largely rejected the Inspector General's recommendations.

This work-in-progress paper argues that despite recognizing in 1983 what pollutants ailed the Bay and how they could be reduced, EPA and the Bay watershed jurisdictions have failed to use available CWA tools to ensure Bay restoration. The paper reviews the history of the Bay TMDL, implementation progress, why the Bay Jurisdictions will miss the 2025 deadline, and how existing CWA authorities and other legal mechanisms, if fully utilized, can achieve Bay restoration.

I. The Chesapeake Bay

The land area that contributes water to the Bay covers 64,000 square miles from Cooperstown, New York to Virginia Beach, Virginia.⁹ Delaware, Maryland, New York, Pennsylvania, Virginia, Washington, D.C., and West Virginia each contribute to the Bay watershed. The quality of the water in the Bay and its tributaries degraded as the population in the region grew. The primary culprits are nitrogen, phosphorous, and sediment pollution.¹⁰

Nitrogen and phosphorus are nutrients essential for the growth of plant life, both aquatic and terrestrial. In over abundance, however, these pollutants lead to the excessive growth of algae that die and decay – a process that blocks sunlight and sucks life sustaining oxygen from the water. As water quality in the Bay and its tributaries degraded, the areal extent of underwater grasses essential to the sustainability of crab and fish populations declined.¹¹ In addition, poor water quality contributed to a dramatic loss of oysters and other aquatic life critical to healthy Bay. Poor water quality and the consequential loss of crabs, fish, and oysters directly harmed and continues to harm commercial and recreational fishing.¹²

II. The Chesapeake Bay Agreements

Maryland, Virginia, Pennsylvania, the District of Columbia, and EPA signed the first Chesapeake Bay Agreement in 1983 by.¹³ The Agreement outlined a cooperative, voluntary approach to improve management of the Bay’s resources. It also created an Executive Council to assess and oversee implementation of coordinated plans, to improve water quality and the living resources of the Bay, and to establish an implementation committee to coordinate and evaluate management plans. The Executive Council later created other committees including a Principals Staff Committee and a Scientific & Technical Advisory Committee.

In 1987, the three states, the District of Columbia, the Chesapeake Bay Commission, and EPA signed a new Bay Agreement.¹⁴ This agreement amended the 1983 Agreement to include quantitative goals and commitments, including a 40% nutrient reduction goal.

⁹ <https://www.chesapeakebay.net/discover/watershed>

¹⁰ <https://www.chesapeakebay.net/issues/threats-to-the-bay/dead-zone>

¹¹ *Chesapeake Bay: A Framework for Action*, EPA, Sept. 1983 (“*A Framework for Action*”).

https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/Chesapeake_Bay_A_Framework_for_Action.pdf

¹² In November 2023, Maryland Department of Natural Resources imposed new limits on striped bass fishery.

¹³ [1983_CB_Agreement2.pdf \(d18lev1ok5leia.cloudfront.net\)](https://d18lev1ok5leia.cloudfront.net/1983_CB_Agreement2.pdf)

¹⁴ <https://www.chesapeakebay.net/what/publications/chesapeake-bay-agreement-1987>

The 1987 Agreement was amended in 1992 reaffirming the 1987 nutrient reduction goal.¹⁵ The signatories committed to achieving this goal by 2000. In response, D.C., Maryland, Pennsylvania, and Virginia developed Tributary Strategies. These state strategies served as voluntary TMDLs; however, the signatories did not attain the nutrient goal.

On June 28, 2000, the Chesapeake Bay Commission signed the interstate agreement Chesapeake 2000 (“the 2000 Agreement”) with the United States, Maryland, Pennsylvania, Virginia, and the District of Columbia.¹⁶ The 2000 Agreement incorporated and reaffirmed the commitments made in 1983, 1987, and 1992 by the signatories and outlined specific targets in five areas: the protection and restoration of the Bay’s (1) living resources, (2) vital habitat, and (3) water quality; as well as (4) a commitment by the signatories to implement sound land use strategies, and (5) increased stewardship and community engagement.

In concert with the 2000 Agreement, Congress passed the Estuaries and Clean Water Act of 2000 (106 P.L 457).¹⁷ This Act included the Chesapeake Bay Restoration Act of 2000.¹⁸ Congress added section 117(g) which provides that the EPA Administrator “shall ensure that management plans are developed and implementation is begun by signatories of the Chesapeake Bay Agreement to achieve and maintain”, among other things, the nutrient and water quality requirements necessary to restore the Bay.

III. The Bay TMDL

Spurred by prior legal actions¹⁹ and failure to remove the Bay from the impaired waters list,²⁰ on December 29, 2010, EPA issued the Bay TMDL.²¹ The document required each of the seven Bay jurisdictions to reduce their respective discharges of nitrogen, phosphorus, and sediment according to assigned allocations for point sources and nonpoint sources in 92 Bay watershed segments.²²

¹⁵ <https://www.chesapeakebay.net/who/bay-program-history>

¹⁶ https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/cbp_12081.pdf

¹⁷ Congress recognized that the Chesapeake Bay is a “national treasure and resource of worldwide significance.” Chesapeake Bay Restoration Act of 2000, Nov. 7, 2000, P.L. 106-457, Title II, § 202, 114 Stat. 1967.

¹⁸ 33 U.S.C. § 1267, Chesapeake Bay, Section 117.

¹⁹ In 1999, EPA signed a judicial consent decree agreeing to write a TMDL for Virginia’s portion of the Bay if Virginia did not do so by 2010. *American Canoe v. EPA*, Civ. Action No. 98-979-A, E.D. Va., June 11, 1999. In 2010, EPA entered into a settlement agreement with the Chesapeake Bay Foundation (CBF) and signatories of the three Chesapeake Bay Agreements where EPA agreed, among other things, to issue a Bay TMDL by December 31, 2010. *Fowler v. EPA*, 1:09-CV-00005 (CKK).

²⁰ See Chesapeake 2000 Agreement.

https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/cbp_12081.pdf

²¹ Bay TMDL, *supra*, fn 5.

²² *Id.* Appendices R and Q.

Each jurisdiction was required to write WIPs in three phases over a seven-year period explaining the actions each would take to meet their respective pollution allocations. To monitor progress, the jurisdictions were to meet interim milestones set forth in each WIP phase. Further, in 2018 EPA was to undertake a “midpoint assessment” of each jurisdiction’s progress.²³ The states were to complete the work identified in their final Phase III WIPs by 2025.

EPA also agreed to ensure that jurisdictions wrote adequate WIPs supported by sufficient funding and implemented on time.²⁴ EPA would monitor interim milestone compliance. If a jurisdiction failed to meet its obligations, EPA intended take “additional federal actions” to ensure implementation. This included limiting grant funds or adjusting a jurisdiction’s final WIP if it was behind at the midpoint assessment.²⁵ Ostensibly, those actions would lead to TMDL compliance. The Bay jurisdictions, for the most part,²⁶ accepted EPA’s role as the TMDL cop.

While advocates and governments hailed the Bay TMDL as the program that would lead to Bay restoration, not all pollution sources accepted the plan. Days after EPA published the document a conglomeration of agricultural and development non-point sources challenged its legality.²⁷ Recognizing that the Bay TMDL represented the best chance for improving Bay water quality and that losing the TMDL would mean stricter pollution limits on point sources, numerous citizens groups and municipal wastewater organizations intervened on behalf of EPA. Both the District Court and the Third Circuit upheld the TMDL. The Supreme Court denied certiorari.²⁸

II. TMDL Progress

A. The Agriculture Sector is Significantly “Off Target”

Save West Virginia, all Bay jurisdictions are failing to meet their TMDL obligations. While significant pollution reductions from wastewater treatment plants (point sources) have

²³ By 2017, the midpoint, the Bay Jurisdictions were to have practices in place to achieve 60% of their respective pollution reductions. <https://www.epa.gov/chesapeake-bay-tmdl/chesapeake-bay-tmdl-midpoint-assessment>

²⁴ Bay TMDL Section 7.2 (Accountability Framework) (EPA “commit[s] to take appropriate federal actions if the jurisdictions fail to develop sufficient WIPs, effectively implement their WIPs, or fulfill their 2-year milestones.”), supra, fn 5. The President directed EPA to “build a new accountability framework that guides” Bay restoration. See also, Chesapeake Bay Agreements, Goals & Outcomes (2014 and 2020), <https://d18lev1ok5leia.cloudfront.net/chesapeakebay/Chesapeake-Bay-Watershed-Agreement-Amended.pdf>, 33 U.S.C. § 1267(g).

²⁵ Bay TMDL, supra, fn 6, Section 7. The CWA or a supporting regulation authorizes each “federal action” or “backstop.”

²⁶ Initially, Virginia objected to EPA’s use of CWA laws to compel states to meet their Bay TMDL obligations. The Commonwealth has since recognized the validity of such actions. See CBF v. EPA, Civ. No. 1:20-cv-2529 (DDC 2020) July 10, 2023, Settlement Agreement. [Chesapeake Bay draft Settlement Agreement compare Nov 21 vs Dec 19 \(00388688\).DOCX \(epa.gov\)](https://www.epa.gov/press-releases/chesapeake-bay-draft-settlement-agreement-compare-nov-21-vs-dec-19-00388688.docx)

²⁷ Am. Farm Bureau Fed’n v. EPA, supra, fn 6.

²⁸ Id.

been achieved, reductions from other sectors are lagging. Based on 2018 implementation of their Phase II WIPs, the Bay Jurisdictions were 70% behind their Bay TMDL goals for nitrogen reduction (53 million pounds per year). Pennsylvania's share of that shortfall was 70% to which agricultural sources within the state contributed 80% (29.6 million pounds of 37 million pounds/year).²⁹ Unfortunately, the bulk of the actions necessary to meet Pennsylvania's nitrogen goals are to be undertaken on farms.³⁰

In 2022, CBF assessed progress in Maryland, Pennsylvania, and Virginia. It found that Pennsylvania and Virginia were "off track" for meeting their agricultural nitrogen and phosphorus goals.³¹ Maryland was "in danger of being off track" for its agricultural nitrogen goal and was "off track" for its agricultural phosphorus goal.³²

The significant lack of progress in Pennsylvania has been continuous and past efforts to accelerate progress have failed. EPA has found Pennsylvania to be "off track" on numerous occasions over the last 12 years and subject the state to increased EPA "oversight." When that oversight failed to spur action in 2015, EPA withheld grant funding for water projects in the Commonwealth. That caused the Wolf administration to develop a "reboot" strategy that was designed to increase agricultural best management practice (BMP), e.g., stream fencing and riparian buffer, installation.³³ The strategy required the inspection of the 33,000 farms in Pennsylvania's portion of the Bay watershed.³⁴ Based on Pennsylvania's Department of Environmental Protection (DEP) representations concerning the projected effectiveness of its strategy, EPA released the grant funds in 2016. However, according to DEP, the strategy failed to accelerate progress due to the lack of funding and farm inspectors.³⁵ Despite this failure, EPA took no backstop actions against the state.

Pennsylvania's flagging progress in agricultural BMP installation is not unique. Based on 2021 progress reports, the Bay jurisdictions plan to remove over 37 million pounds of nitrogen between now and 2025. Based upon their Phase III WIPs, the states are relying on agricultural BMPs to achieve roughly 94% of the remaining nitrogen reductions (34.8 M

²⁹ Chesapeake Bay Watershed Model Phase 5.8.0 output from 2018 Implementation and Phase II WIP.

³⁰ "Pennsylvania is a state of nonpoint source 'opportunities.'" Pennsylvania Phase 3 Chesapeake Bay Watershed Implementation Plan, Final Amended July 2022, pg. 6, same at pg. 8. https://files.dep.state.pa.us/Water/ChesapeakeBayOffice/WIPIII/FinalPlan/FINAL_AMENDED_PA_PHASE_3_WIP.pdf

³¹ <https://www.cbf.org/how-we-save-the-bay/chesapeake-clean-water-blueprint/state-of-the-blueprint/pennsylvanias-2022-blueprint-for-clean-water.html>; <https://www.cbf.org/how-we-save-the-bay/chesapeake-clean-water-blueprint/state-of-the-blueprint/virginias-2022-blueprint-for-clean-water.html>

³² <https://www.cbf.org/how-we-save-the-bay/chesapeake-clean-water-blueprint/state-of-the-blueprint/marylands-2022-blueprint-for-clean-water.html>

³³ The reboot strategy is no longer on DEP's website. A 2016 article provides details of the plan that focused on six elements including the installation of agricultural BMPs. <http://www.paenvironmentdigest.com/newsletter/default.asp?NewsletterArticleID=34611>

³⁴ https://www.agriculture.pa.gov/Plants_Land_Water/StateConservationCommission/Pages/Chesapeake-Bay.aspx#:~:text=Pennsylvania%20comprises%2035%20percent%20of,freshwater%20flow%20to%20the%20bay.

³⁵ <http://www.paenvironmentdigest.com/newsletter/default.asp?NewsletterArticleID=36829> (reprint of Bay Journal article).

pounds). Virginia and Pennsylvania both expect to meet 90% of their remaining pollution reductions from agriculture.³⁶

That level of progress in two years is unlikely. The Chesapeake Bay Program's monitoring and tracking arm, Chesapeake Progress, states that the outlook for meeting the 2025 TMDL goal is "off course" because the BMPs necessary to meet the 2021 targets for nitrogen and phosphorus are not in place. This disorientation is most pronounced in Pennsylvania.

During the twelve years from 2009-2021, the Commonwealth reduced its nitrogen load by 9 million pounds, yet currently it needs to reduce nitrogen by 31 million pounds by 2025.³⁷ At current levels of implementation and investment, this is an impossible task.

A recent Bay Journal article succinctly summed up the problem: "To meet Bay restoration goals, Delaware, Maryland, New York, Pennsylvania, and Virginia each count on achieving most of their future nutrient reductions by slashing runoff from agriculture. At the pace of the last decade, the region would not reach those goals for another half century."³⁸

This dismal progress has not been for the lack of trying. There are numerous watershed groups that have spent considerable effort offering grant funding and technical assistance for BMP installation to farmers. Further, some farmers have wanted to take advantage of federal grant programs like the Conservation Stewardship Program (CSP) and the Environmental Quality Incentive Program (EQUIP) that would help pay for such BMPs, but during 2010-2020, 70 to 80% of the applications went unfunded.³⁹ That does not mean, however, that every farm in the watershed has applied for federal funding but been denied. In 2020, only 8.5% of Pennsylvania farms applied for some form of federal funding.⁴⁰ Even if the same percentage of farms applied for federal funding for BMPs over the next 10 years, the gap necessary to meet WIP goals would not be closed.

EPA has recognized that Pennsylvania could improve reductions in nutrient and sediment loading by using its existing regulatory programs to require implementation of BMPs or, among other things, increase the number of operations that required to implement BMPs or obtain

³⁶ <https://www.cbf.org/how-we-save-the-bay/chesapeake-clean-water-blueprint/state-of-the-blueprint/virginias-2022-blueprint-for-clean-water.html>; <https://www.cbf.org/how-we-save-the-bay/chesapeake-clean-water-blueprint/state-of-the-blueprint/pennsylvanias-2022-blueprint-for-clean-water.html>

³⁷ <https://www.chesapeakeprogress.com/clean-water/watershed-implementation-plans>

³⁸ K. Blankenship, *Chesapeake Bay cleanup faces difficult trade-offs with agriculture*, Bay Journal, May 1, 2023, (emphasis added). Thus, it would have taken 100 years to restore the Bay.

³⁹ See, <https://www.iatp.org/documents/closed-out-how-us-farmers-are-denied-access-conservation-programs>

⁴⁰ https://www.agriculture.pa.gov/Plants_Land_Water/StateConservationCommission/Pages/Chesapeake-Bay.aspx#:~:text=The%20Susquehanna%20River%20is%20the,the%20health%20of%20its%20waters. Five hundred and thirty-four (534) Pennsylvania farms applied for CSP and 2259 applied for EQUIP. The statistics in Maryland and Virginia are no better. In 2020, 1,910 Virginia and 856 Maryland farms, respectively, applied for either CSP or EQUIP funding. Thus, a lack of funding is not the critical impediment. There simply are not enough applicants. <https://www.chesapeakebay.net/news/blog/helping-farmers-help-our-waterways#:~:text=Agriculture%20is%20vital%20to%20the,us%20with%20food%20and%20fiber>

permits. However, EPA acknowledged that Pennsylvania’s implementation of these BMPs will continue to rely on *voluntary implementation* through *non-regulatory programs* such as grants and technical assistance as available.⁴¹ Thus, despite recognizing that Pennsylvania is significantly behind in pollution reduction from agriculture, EPA is unlikely to direct Pennsylvania to use its existing regulatory programs on farms.⁴² Unfortunately, agricultural water pollution continues to grow in Pennsylvania.

Every two years states must identify waters within their jurisdiction that fail to meet water quality standards, i.e., are impaired, and the cause of the impairment if known.⁴³ In 2022, DEP updated its integrated waters report from 2020.⁴⁴ Many of the impairments are due to agriculture either from manure runoff or stream bank erosion. Some impairments have been specifically identified as due to livestock in the stream.

As a follow up to its integrated report, DEP issued a 2022 State Water Plan Update. There, DEP acknowledged that one-third of the state’s waters are impaired (approximately 28,000 stream miles).⁴⁵ DEP noted “[a]griculture is the leading source of impairments for aquatic life and the second-leading cause of impairments for potable drinking water in the commonwealth.”⁴⁶

While the lack of consistent funding for agricultural BMPs has hindered performance, the flagging response by farmers is a significant impediment. As the CESR report notes, insufficient funding alone is not the problem. The Bay Jurisdictions and EPA must develop incentives based on the installation of BMPs that provide pollution reductions at a much faster rate.⁴⁷

B. Urban and Suburban Stormwater is “Off Track and Increasing”⁴⁸

⁴¹ Id. p. 2-3 (emphasis added).

⁴² There is no recorded instance of EPA designating a small animal feeding operation in the Bay watershed as needing a CWA discharge permit. 40 C.F.R. § 122.23(c).

⁴³ 33 U.S.C. 1313(d).

⁴⁴ <https://www.dep.pa.gov/Business/Water/CleanWater/WaterQuality/IntegratedWatersReport/Pages/2022-Integrated-Water-Quality-Report.aspx>

⁴⁵ Pennsylvania State Water Plan Update 2022, pg. 99.

<http://www.depgreenport.state.pa.us/elibrary/GetDocument?docId=4879857&DocName=PENNSYLVANIA%20STATE%20WATER%20PLAN%20UPDATE%202022.PDF%20%20%3cspan%20style%3D%22color:green%3b%22%3e%3c/span%3e%20%3cspan%20style%3D%22color:blue%3b%22%3e%28NEW%29%3c/span%3e>

⁴⁶ Id. pg. 99.

⁴⁷ CESR, *supra*, fn 3. See also, K. Stephenson, et al., *Confronting our Agricultural Nonpoint Source Control Policy Problem*, Journal of the American Water Resources Association, Vol. 58, No. 4, August 2022; Fleming, et al., Targeting for Nonpoint Source Pollution Reduction: A Synthesis of Lessons Learned, Remaining Challenges, and Emerging Opportunities, <https://www.sciencedirect.com/science/article/pii/S0301479722002225>

⁴⁸ “Nonpoint sources ... are the single largest remaining source of nutrients to the Bay. Of the controllable nutrient loads in 2021..., approximately three-quarters originate from agricultural and urban nonpoint sources.” “Urban nonpoint source loads are the fastest growing category of nutrient and sediment loads.” CESR report, *supra*, fn 7, at 1 and 11.

Maryland, Virginia, and Pennsylvania are all “off track” meeting their respective obligations to reduce nitrogen and phosphorus from urban and suburban stormwater. Despite watershed wide efforts to reduce discharges from urban and suburban stormwater systems, nitrogen loading from these systems has *increased* by 2.3 million pounds between 2009 and 2021.⁴⁹ This increase is due, in large part, to stormwater general permits (construction and industrial) and MS4 permits that fail to incorporate numeric pollution limits or reflect the obvious increase in rainfall amount and events due to climate change.⁵⁰ An incomplete accounting of growth including new commercial, industrial and residential development and expanded point source dischargers including municipal sources exacerbate the problem.⁵¹

It is unclear how new pollution discharges have been allowed given that the CWA requires that new loads fit within existing point source and nonpoint source pollution allocations for impaired waters subject to a TMDL.⁵² The Bay TMDL does allow for new or increased loadings if there is a mechanism for quantifiable and accountable offsets.⁵³ However, an effort by citizens or government to ensure compliance with that requirement has not been identified.

New discharges have occurred where states allow pollution sources to purchase offsetting credits equivalent to or greater than the amount of pollution added from other sources that have generated pollution reductions beyond any discharge limitation they may face. It is unclear that these credit transfers from nonpoint sources (farms) fully offset the new point source loads and whether the BMPs they represent will continue throughout the life of the new point source.

Further, general permits for industrial sources allow for the discharge of polluted stormwater without numeric limits. These permits do little to monitor or quantify discharges of nutrients or sediment or protect environmental justice communities. For example, Maryland’s latest Industrial Stormwater General Permit 20 covers 1400 such sources in the state. Citizen groups legally challenged the permit due to these defects. In response, the agency remanded the permit for further public comment and evaluation.⁵⁴ An improved general permit is likely.

III. EPA’s Failure to Take Backstop Actions is the Primary Impediment to Bay TMDL Success

The Bay TMDL contains a “Reasonable Assurance and Accountability Framework.”⁵⁵ “Reasonable Assurance” refers to an EPA national policy that jurisdictions subject to TMDLs

⁴⁹ <https://www.chesapeakeprogress.com/clean-water/watershed-implementation-plans> Modeled Nitrogen Loads to the Chesapeake Bay (1985-2021), Loads by Source, Developed.

⁵⁰ See, NOAA, Mid-Atlantic Regional Integrated Sciences and Assessments, Climate Summaries, Part 4, Figures 5 and 6. <https://www.midatlanticrisa.org/climate-summaries/2019/03.html#figure5>

⁵¹ CBF State of the Blueprint Report 2022. Pressure to develop in wetlands may increase because of the Supreme Court decision significantly reducing federal Clean Water Act protection for such areas. *Sackett v. EPA*, 589 U.S. ____, (May 25, 2023).

⁵² 40 C.F.R. § 122.4(i).

⁵³ Bay TMDL, *supra*, fn 5, Section 10.1.1.

⁵⁴ <https://mde.maryland.gov/programs/permits/WaterManagementPermits/Documents/GDP%20Stormwater/20SW/20SW-Remand-PN-Corrected.pdf>

⁵⁵ Bay TMDL, *supra*, fn 5.

provide sufficient information in their implementation plans to establish that they will meet their TMDL pollution limits.⁵⁶ This is the lens through which EPA has evaluated the three phases of WIPs for each Bay jurisdiction.

The “Accountability Framework” is unique to the Bay TMDL. It provides that EPA will monitor TMDL progress and take one or more of eight “backstop actions” if a Bay jurisdiction fails to provide a facially sufficient WIP or meet its interim WIP goals on time.⁵⁷ The CWA, primarily sections 303 and 402, authorizes each of the actions.⁵⁸

While the CWA empowers EPA to undertake these backstop measures, over the last 12 years EPA has refused to assert those authorities despite the woeful performance of some states. For example, despite three attempts, Pennsylvania’s WIP III is facially deficient.⁵⁹ In 2020, CBF and its partners including DC, Delaware, Maryland, and Virginia sued EPA to require it to utilize its CWA backstop authorities to compel Pennsylvania to write an acceptable WIP.⁶⁰ The lawsuit asserted that EPA had agreed in the Bay TMDL to use its CWA backstop authorities against recalcitrant states and its failure to do so would delay Bay restoration.

The co-plaintiffs asked EPA to utilize those authorities against Pennsylvania as they feared that the Bay TMDL would unravel if EPA did not act. Undeterred, the agency clung to its assertion that each of those statutory authorities simply give EPA the discretion to act. None of them were mandatory duties thus, no settlement agreement could require EPA to act no matter how flagrantly a state had violated the TMDL requirements.⁶¹

While the parties entered into a settlement agreement where EPA agreed to consider using its backstop authority, the agreement reserves EPA’s discretion.⁶² For example, EPA has agreed to inspect Pennsylvania farms to determine if they cause harm to downstream water quality. However, even if EPA finds that a farm is contributing to a downstream impairment, EPA is not obligated to require that the farm obtain a point source permit or install a specific BMP.⁶³ That same discretionary language equally applies to point source permit violations; even if EPA finds an obvious CWA permit violation, it has no obligation to take an enforcement action against the polluter.⁶⁴ Moreover, EPA did not identify a specific number of inspections or

⁵⁶ Id., Section 7.1.

⁵⁷ Id., Section 7.2. Three of these actions are discussed below.

⁵⁸ 33 U.S.C. §§ 1313 and 1342.

⁵⁹ Pennsylvania submitted a third “Amended Phase III WIP” in July 2022. EPA rejected that amendment in November 2022. <https://www.epa.gov/chesapeake-bay-tmdl/epa-evaluation-pennsylvanias-amended-phase-iii-wip>. Pennsylvania still does not have a valid Phase III WIP. Without one, Pennsylvania will never meet its Bay TMDL obligations. EPA continues with business as usual.

⁶⁰ Supra, fn 21.

⁶¹ EPA and DOJ took the same approach when CBF and several signatories of the pre-2014 Chesapeake Bay Agreements sued EPA in 2009. *Fowler v. EPA*, DDC.

⁶² [Chesapeake Bay draft Settlement Agreement compare Nov 21 vs Dec 19 \(00388688\).DOCX \(epa.gov\)](#)

⁶³ Id. ¶ 4. See, IV.1.b, *infra*.

⁶⁴ Id. ¶ 3.

actions it would take for any backstop action. Given the agency’s claimed resource limitations, violators may gamble that EPA will not inspect their farm and thereby diluting the ability of EPA’s inspection effort to spur broader compliance.

Based upon this history and mindset, it is obvious that EPA does not intend to broadly assert its backstop authorities against the states or polluters. It simply intends to scare the states and these pollution sectors into compliance on the off chance that they will be the target of EPA’s discretion.⁶⁵ Such random tactics will not ensure compliance with TMDL goals by 2025 or any future deadline.

In sum, EPA cannot be relied upon to exercise its seeming unlimited discretion under the CWA or the Bay TMDL to require state WIP III compliance. Thus, Bay restoration is unlikely.

IV. Proposals to Achieve Bay Restoration⁶⁶

Despite multiple Bay Agreements, statutes, plans, and the expenditure of millions of dollars the Bay is still impaired. A critical examination of why this is true has led the Bay Program to conclude that despite tremendous gains in reducing pollution from wastewater treatment plants, we have not and cannot adequately address pollution from farms and urban development without changes to “policies and programs”.⁶⁷ Reliance on voluntary actions by farmers to reduce pollution will not suffice regardless of the amount of money and technical assistance available. Moreover, polluted runoff from development is outpacing gains from land conservation and tree planting.⁶⁸

These findings would be revelatory if EPA had not said them before. Four decades ago, EPA issued *Chesapeake Bay: A Framework for Action*, a management report that recommended actions the Bay Jurisdictions should take to stem pollution to the Bay.⁶⁹ It similarly concludes that agriculture and urban stormwater are the primary causes of the Bay’s demise. Moreover, voluntary BMP programs will not work. The jurisdictions and EPA must craft and implement a basin-wide program addressing nonpoint source pollution.

Regrettably, the Bay partners did not heed this advice, and have relied on such measures for four decades. Continuing down the same path will not lead to Bay restoration.⁷⁰ The Bay Jurisdictions must implement new methods for reducing nonpoint source pollution.

⁶⁵ EPA states as much on its Bay TMDL website: “EPA is *prepared to use its discretion* to take federal actions, if it is appropriate to do so, to help the jurisdictions achieve their pollutant reduction targets. Federal actions can be taken at any time.” <https://www.epa.gov/chesapeake-bay-tmdl/epa-oversight-watershed-implementation-plans-wips-and-milestones-chesapeake-bay>. (emphasis added).

⁶⁶ The following proposals will be expanded in the full paper.

⁶⁷ CESR, *supra*, fn 7, Executive Summary p. v-vi.

⁶⁸ *Id.*

⁶⁹ *A Framework for Action*, *supra*, fn 11.

⁷⁰ One of the authors of the CESR report, Kurt Stephenson, recently remarked that “If we want a different outcome, we have to try different things. It’s not just money.” Choose Clean Water Coalition, TMDL Workgroup meeting, June 6, 2023.

A. Use the “Backstops”

The Bay TMDL identifies eight backstop actions. Three of them are considered here.

1. *Expand National Pollution Discharge Elimination System (NPDES) (point source) permit coverage to unregulated sources.*

The CWA grants EPA residual designation authority (RDA) to expand point source permit coverage to sources that are not currently required to have NPDES permits.⁷¹ One form of RDA applies to certain types of impervious coverage such as municipal, industrial, and institutional areas, as well as construction sites. The other form allows EPA to identify unpermitted animal feeding operations (AFOs) as concentrated animal feeding operations (CAFOs) that require an NPDES permit. Requiring NPDES permits with strict discharge limits would reduce the amount of pollution flowing to the Bay.

- a. Expand coverage of stormwater general permits.

Section 402 of the CWA requires that all point sources discharging pollutants have permits.⁷² Subsection (p)(1) grants exceptions to this requirement for sources made entirely of stormwater.⁷³ However, those exceptions do not apply to a discharge for which the Administrator or the State determines contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.⁷⁴

Thus, if a state or EPA determines that a stormwater discharge is violating water quality standards or is significantly contributing pollutants to surface waters, the source can be required to obtain a discharge permit with pollution discharge limits.⁷⁵ There are four additional categories of discharges that may be “residually designated:

- (A) The discharge is from a small MS4 required to be regulated;
- (B) The discharge is associated with a small construction activity;
- (C) Stormwater discharges that the permitting authority determines require controls based on wasteload allocations that are part of a TMDL; and
- (D) Stormwater discharges determined by the permitting agency to be causing or contributing to a violation of water quality standards or are a significant contributor of pollutants.⁷⁶

These statutory and regulatory provisions have been used on several occasions to require, for example, smaller municipal, industrial, or institutional facilities to control stormwater such

⁷¹ 33 U.S.C. § 1342(p).

⁷² 33 U.S.C. § 1342.

⁷³ See 40 C.F.R. § 122.26(a)(1).

⁷⁴ 33 U.S.C. § 1342(p)(2)(E).

⁷⁵ 40 C.F.R. § 122.26(a)(1)(v). Any person may petition to require a NPDES permit for a discharge composed entirely of stormwater which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. *Id.* at (f)(2).

⁷⁶ 40 CFR § 122.26(a)(9)(i).

that it does not contribute to violations of water quality standards.⁷⁷ Thus, citizens can petition EPA asking it to exercise this authority in the Bay watershed.⁷⁸ Prior successful petitions can provide a roadmap for citizen advocacy.⁷⁹ If EPA fails to respond to a citizen's petition or denies it, suit can be filed challenging EPA's decision as arbitrary and capricious.⁸⁰

b. Designate AFOs as CAFOs requiring NPDES permits.

Section 402(p) allows EPA and/or a state to identify small farms discharging pollutant laden stormwater that causes or contributes to a water quality impairment and to require that they obtain a discharge permit.⁸¹ Federal regulations allow the Regional Administrator, the state, or both to designate small livestock farms (AFOs) as requiring a CAFO permit.⁸² Such a permit would require BMPs that stop or reduce discharges to local waters and would be enforceable by the state, EPA, or citizens.⁸³

To make such a designation, EPA or the state must first determine that the farm is a "significant contributor of pollution to waters of the United States." That is, the Regional Administrator or the state must find that one or more pollutants in the AFO's discharge contributes to an impairment in a downstream water impaired for that pollution.⁸⁴ In making this determination the government agency must consider the several factors including the size of the AFO and the amount of waste reaching surface water.⁸⁵

Further, before such a designation can be made, the state or EPA must have conducted an on-site inspection of the farm and determined that it could be regulated under the CAFO program.⁸⁶ No AFO with numbers of animals below those for medium CAFO designation may be designated unless the pollutants are discharged through a manmade ditch or other similar

⁷⁷ Charles, Mystic, and Neponset Rivers, MA, <https://cbf.app.box.com/file/802373347817> ; <https://www.epa.gov/system/files/documents/2022-09/epa-r1-rda-determination-charles-mystic-neponset-2022-combine-signed.pdf> Each of these designations were made as the result of petitions to EPA from the Conservation Law Foundation. In 2015, NRDC, Bluewater Baltimore, and others petitioned EPA Region III to exercise such authority in the Back River, Maryland watershed. In 2016, CBF joined members of the Choose Clean Water Coalition in support of the petition. EPA denied the petition and NRDC filed suit in 2017. The federal court determined that EPA had acted arbitrarily and capriciously in its denial of the petition. <https://cbf.app.box.com/file/640483056138> . The court remanded the decision to the agency.

⁷⁸ 40 CFR §122.26(a)(9)(i)(D) and (f)(5).

⁷⁹ See, Back River, Maryland, RDA Petition and lawsuit *Bluewater Baltimore v. EPA*, Civ. No. GLR-17-1253.

⁸⁰ 5 U.S.C. § 706(2)(A).

⁸¹ 33 U.S.C. § 1342(p).

⁸² 40 C.F.R. § 122.23(c)(1)(i).

⁸³ 40 C.F.R. § 122.42(e)(1).

⁸⁴ *Id.* § 122.23(c)(1)(i).

⁸⁵ *Id.* § 122.23(c)(2).

⁸⁶ *Id.* (c)(3).

device; or pollutants are discharged directly into water that passes through the facility or otherwise comes into direct contact with confined animals.⁸⁷

Designating AFOs as CAFOs would require NPDES permitting over smaller farms which, in Pennsylvania, are the bulk of the pollution problem. Citizens and downstream states could petition EPA to take such action with respect to specific farms that are harming water quality. A state's Integrated Waters Report identifying agriculture as the source of an impairment could support such a petition. If EPA inappropriately rejected the petition, citizens could take legal action.

2. Expand EPA point source permit review.

EPA has oversight and veto authority over pollution discharge permit terms and the issuance of permits in each Bay Jurisdiction.⁸⁸ Currently, EPA only exercises this authority over "significant" pollution dischargers. Significance is dependent upon the size of the discharge and varies from state to state. Unfortunately, many point sources in the Bay region are not significant. Moreover, EPA has also decided to waive permit review for some sources.⁸⁹ Thus, the permits for these sources are not likely to have strict limits on nutrients and suspended solids.

Citizens could petition EPA to expand its oversight authority to cover "non-significant" dischargers and revoke its waiver over other permits. If granted, EPA's oversight of draft permits would expand and allow it to object or reject inadequate permits that do not meet the requirements of the Bay TMDL. This could apply to the issuance of state general NPDES permits. Citizens could also object to general permit issuance to certain sources and request that the permitting authority issue an individual permit with numeric pollution limits. Individual permits are subject to source specific limits, monitoring, and enforcement.

3. Develop finer scale waste load allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources.

The Bay TMDL is broken down into 92 river basin segments each with its own WLA and LA pollutant allocations.⁹⁰ However, the LAs are for generic nonpoint pollution sources such as "agriculture," "onsite," and "urban." Thus, source specific BMPs are not focused on pollution sources within a subwatershed, for example, crop fields v. parking lots. Also, there are several types of agricultural nonpoint source discharges such as cropland, poultry houses, and livestock production. If EPA amends LAs to identify a specific discharge, BMPs could be more targeted.

Moreover, there are several subbasin allocations for the Potomac and James Rivers, for example, but there is only one set of allocations for the entire Susquehanna River basin, no subbasins.⁹¹ Thus, the load limits for point sources on the Juniata River or any other of the numerous creeks that feed the Susquehanna along its over 400-mile length are not set based upon

⁸⁷ Id.

⁸⁸ 33 U.S.C. § 1342(d).

⁸⁹ Id. at (e).

⁹⁰ See fn 22.

⁹¹ Id.

impacts to the Bay but on local water quality. Nutrients like nitrogen and phosphorous oftentimes do not have a local impact but do affect the Bay. Thus, these sources are not adequately controlled. Establishing subbasins on the Susquehanna with identified WLAs and LAs over specific pollution sources would generate more focused BMP application and better permit terms for sources discharging to smaller subbasins.

Creating such finer-scale allocations would apply TMDL limits to smaller pollution sources and to smaller watersheds and thereby reduce the overall load from the Susquehanna River.

EPA said in the Bay TMDL that it could transfer nonpoint source pollution allocations to point sources. That is, if farms and municipalities are not meeting their pollution reduction allocations, EPA could assign those reductions to a point source subject to a numeric pollutant discharge limit. The point source would have to meet its limits or be subject to fines and injunctive relief via enforcement efforts by the permitting authority or citizens. EPA has refused to take such action, but citizens and jurisdictions could petition EPA to do so in specific areas and, if appropriate, challenge denial of the petition in court.

B. Comprehensively Address Agricultural Pollution.

Most Chesapeake Bay advocates, policy makers, and bureaucrats have accepted the notion that “farmers want to do the right things to improve water quality, but they don’t have the expertise or funds to do them.” Adherence to this narrative suggests that if we simply find more money and technical help the rate of BMP installation will increase. However, as explained above, increased funding and technical outreach have not spurred agricultural BMP installation of the type or at the rate necessary to restore the Bay.

In 1983, recognizing that agriculture and urban development are the largest sources of pollution to the Bay, EPA proposed that it and the Bay Jurisdictions “develop a detailed nonpoint source control implementation program ... as part of [a] proposed basin-wide water quality management plan” and that “USDA and the EPA, ..., should strengthen and coordinate their efforts to reduce agricultural nonpoint source pollution.”⁹² The plans EPA referred to were section 208 waste management plans.⁹³ However, the states are also required to develop and submit to EPA nonpoint source management programs under section 319.⁹⁴ For whatever reason, a comprehensive basin-wide plan to address nonpoint source pollution was never written. That must change and implementation of such a plan should be mandatory.

In writing that plan, the Bay Jurisdictions and EPA should follow the recommendations of the Bay Program technical staff. The CESR Executive Summary identified several aspects of agricultural pollution that the Bay TMDL and WIPs do not adequately address. Specifically, programs which rely on farmers to voluntarily install BMPs “do not provide sufficient incentives

⁹² *A Framework for Action*, Management Recommendations 7 and 8. *Supra*, fn 11.

⁹³ 33 U.S.C. § 1288, Areawide Waste Treatment Management.

⁹⁴ 33 U.S.C. § 1329.

for adoption of practices with the largest pollutant reduction potential.”⁹⁵ Moreover, a program that lets the farmer choose which BMP to install does not insure the most efficient BMP and best outcome for water quality. The report recommends “new financial incentive programs such as pay-for-performance or pay-for-success programs.” Moreover, there is a significant mass imbalance of imported nutrients to areas of highly concentrated animal agriculture. That is, agricultural sources often import nutrients in the form of feed into a concentrated area. However, the farm does not export the resultant nutrient laden manure from the area and end up impacting local waters. Farms must address that imbalance.⁹⁶ A new basin-wide nonpoint source plan could address these shortcomings.

C. Draft The Next Chesapeake Bay Agreement as an Interstate Compact.

EPA views the Bay Agreements as voluntary instruments that are not judicially enforceable. While the Bay Jurisdictions have all signed these agreements which carries such a limitation, the willingness of four jurisdictions to sue EPA for its failure to act against Pennsylvania for its recalcitrance indicates that they do not steadfastly adhere to that position. Nonetheless, EPA does, and its assertion of discretion impedes progress. Thus, a mechanism must be advanced that eliminates or reduces the use of such power. One such mechanism would be for the next Bay Agreement to be a judicially enforceable interstate compact.⁹⁷

Two such compacts in the Bay region; the Delaware River Basin Compact (DRBC) and the Susquehanna River Basin Compact (SRBC).⁹⁸ The DRBC confers specific regulatory powers upon the commission administering the compact including pollution control and enforcement.⁹⁹ The SRBC grants similar powers to the Susquehanna River Commission. While Congress ratified both compacts, not all compacts must be Congressionally approved.¹⁰⁰

Securing Congressional approval for a Bay Agreement Compact would be difficult, but if several Bay Jurisdictions could support it, they may be able to convince Congress that it is necessary for the health and security of their citizens. Moreover, the compact could transfer critical decision making to the existing Chesapeake Bay Commission. In this way, EPA would not be able to avoid tough decisions relative to nonpoint source pollution control by asserting its discretion.

Conclusion

Forty years ago, EPA wrote *A Framework for Action* identifying the two primary sources of pollution to the Chesapeake Bay – agriculture and urban runoff – and how to address them.

⁹⁵ CESR, *supra*, fn 7, Executive Summary at ii.

⁹⁶ *Id.* at v-viii. <https://www.chesapeake.org/stac/wp-content/uploads/2023/05/CESR-final.pdf>

⁹⁷ See *Cuyler v. Adams*, 449 US 433, 438-42 (1981).

⁹⁸ DRBC, <https://nj.gov/drbc/>; SRBC, <https://srbc.gov/>

⁹⁹ DRBC Article 5 and SRBC Article 5.

¹⁰⁰ See *Virginia v. Tennessee*, 148 US 503 (893) (holding only compacts that affect power delegated to federal government or alter political balance w/in the federal system will require the consent of Congress).

Numerous agreements and plans have sought to restore the estuary over that period, but none followed the advice given in 1983. All have failed to restore the Bay.

Continued reliance on governmental discretion and voluntary actions of citizens and corporations has not and will not suffice. Bay leaders must advance new, mandatory actions lest we lose our sanity and the Bay.