CONTROLLING TRANSBOUNDARY POLLUTION: THE CASE OF CHESAPEAKE BAY RESTORATION

GEORGE WILLIAM VAN CLEVE*

INTRODUCTION

This Article discusses the darkening prospects for Chesapeake Bay restoration, an important example of the difficult issues transboundary pollution raises for environmental law. I argue that only action by Congress to strengthen the Clean Water Act's ability to control such pollution can protect the Bay and similar resources and lead to their effective restoration.

* Dean's Visiting Scholar, Georgetown University Law Center. J.D., Harvard Law School; Ph.D., University of Virginia. The writer is the author of three books, the most recent of which is *Making a New American Constitution.* This essay is presented to honor the work of Richard B. Stewart, who has made seminal contributions to American legal scholarship and was an inspiring leader for U.S. Department of Justice attorneys as Assistant Attorney General for the Environmental & Natural Resources Division, 1989–1991. I am deeply grateful for his example, advice, and support at DOJ. I thank the *New York University Environmental Law Journal* for its assistance.

I. THE CHESAPEAKE BAY AND THE "WICKED PROBLEM" OF TRANSBOUNDARY POLLUTION

The Chesapeake Bay is the largest and most biologically diverse estuary in the United States.[1] Oliver Houck described the Bay's exceptional natural resources this way:

> Over 200 miles long and fed by 100,000 streams and tributaries as far away as the Adirondack and Appalachian Mountains, the Chesapeake is iconic for its flocks of ducks and geese that once shadowed the sun; its blue crabs, the "beautiful swimmers" that made Maryland a dining destination; and its oysters, whose reefs at the time Captain John Smith navigated them were so thick and numerous that wooden ships had to take precaution to avoid tearing themselves apart.[2]

The Bay provides habitat for more than 3,600 species of plants and animals.[3] At least 140 species of birds regularly visit it, including one million wintering waterfowl.[4] The value of the Bay watershed's ecosystem services has been estimated at some $107 billion per year (2013 dollars).[5] But today, the Bay's habitats are sharply diminished in size from historic levels and degraded in quality, and its waters are severely polluted.

During the 2016–18 assessment period, only 38 percent of the Bay and its tidal waters met water quality standards.[6] That percentage has been roughly the same for the past twenty-five years.[7] The Chesapeake Bay Foundation's "State of the Bay" report for 2018 gave the Bay environment an overall score of 33, or "D+," on a scale where 70 or above represents "A"-status restoration.[8] The U.S. Environmental Protection Agency (EPA) reports that using long-term

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[1] *See* Complaint at 2, Chesapeake Bay Found. v. EPA, No. 1:20-cv-02529 (D.D.C. filed Sept. 10, 2020).

[2] Oliver A. Houck, *The Clean Water Act Returns (Again): Part I, TMDLs and the Chesapeake Bay*, 41 ENV'T L. REP. 10208, 10213 (2011) (citations omitted).

[3] Am. Farm Bureau Fed'n v. EPA, 984 F. Supp. 2d 289, 299 (M.D. Pa. 2013), *aff'd*, 792 F.3d 281 (3d Cir. 2015).

[4] EVA LIPIEC, CONG. RSCH. SERV., R45278, CHESAPEAKE BAY RESTORATION: BACKGROUND AND ISSUES FOR CONGRESS 2 (2018).

[5] Spencer Phillips & Beth McGee, *Ecosystem Service Benefits of a Cleaner Chesapeake Bay*, 44 COASTAL MGMT. 241, 252 (2016).

[6] *See Water Quality Standards Attainment and Monitoring*, CHESAPEAKE PROGRESS, https://www.chesapeakeprogress.com/?/clean-water/water-quality (last visited Mar. 27, 2021).

[7] *Id.*

[8] CHESAPEAKE BAY FOUND., STATE OF THE BAY 2018, at 2–3 (2018).

averages, 345 million pounds of nitrogen enter the Bay each year, together with 23 million pounds of phosphorus and 5 million tons of sediment.[9] 82 percent of the Bay is partially or fully impaired by toxic contaminants.[10] The Bay has a serious dissolved oxygen problem, resulting in a sizable "dead zone" that recurs each year and can result in large-scale fish kills and other environmental harms.[11] Although important cleanup progress has been made over the years, as the data above demonstrate, results have been limited despite decades of effort and at least $8 billion in federal and state funding.[12]

Nonpoint source pollution historically has been and continues to be the major source of impaired water quality in the Chesapeake Bay.[13] According to 2015 estimates made for the Chesapeake Bay Program, "agriculture contributes 42 percent of the nitrogen, 55

[9] *See State of the Chesapeake: Pollution*, CHESAPEAKE BAY PROGRAM, https://www.chesapeakebay.net/state/pollution (last visited Mar. 27, 2021).

[10] *Id.*

[11] *See Real-Time Estimates of Hypoxic Water Volume*, VA. INST. OF MARINE SCI., https://www.vims.edu/research/topics/dead_zones/forecasts/cbay/hypoxic-volume/index.php (last visited Mar. 27, 2021); *Dead Zones*, VA. INST. OF MARINE SCI., https://www.vims.edu/research/topics/dead_zones/index.php (last visited Feb. 28, 2021).

[12] The Government Accountability Office reported $3.7 billion in direct funding and $1.9 billion in indirect funding from FY 1995 to FY 2004. *See* U.S. GOV'T ACCOUNTABILITY OFF., GAO-08-1033T, CHESAPEAKE BAY PROGRAM: RECENT ACTIONS ARE POSITIVE STEPS TOWARD MORE EFFECTIVELY GUIDING THE RESTORATION EFFORT 3 (2008). From FY 2014 to FY 2018, federal agencies spent more than $2 billion in grants and direct program funding on Chesapeake Bay Restoration. *See* LIPIEC, *supra* note 4, at 17–21; OFF. OF MGMT. & BUDGET, CHESAPEAKE BAY SPENDING CROSSCUT: REPORT TO CONGRESS 4 (2019). From FY 2016 to FY 2019, Bay jurisdictions also reported spending several billion dollars. *See* OFF. OF MGMT. & BUDGET, CHESAPEAKE BAY SPENDING CROSSCUT: REPORT TO CONGRESS 15–33 (2018); OFF. OF MGMT. & BUDGET, CHESAPEAKE BAY SPENDING CROSSCUT: REPORT TO CONGRESS 15–34 (2019); OFF. OF MGMT. & BUDGET, CHESAPEAKE BAY SPENDING CROSSCUT: REPORT TO CONGRESS 16–37 (2020).

[13] Sarah Brull, *An Evaluation of Nonpoint Source Pollution Regulation in the Chesapeake Bay*, 13 U. BALT. J. ENV'T. L. 221, 222 (2006). For an overview of nonpoint source pollution see *Polluted Runoff: Nonpoint Source (NPS) Pollution*, EPA, https://www.epa.gov/nps/basic-information-about-nonpoint-source-nps-pollution (last visited Apr. 5, 2021) (Nonpoint source "pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification. NPS pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters and ground waters.").

percent of the phosphorous and 60 percent of the sediment entering the Bay."[14] As of 2015, about 20 percent of the loads from each of these three pollutants comes from stormwater runoff.[15] Air pollution contributes about one-third of the total nitrogen load to the Bay waterways.[16] A primary goal of Chesapeake Bay restoration is to reduce these pollution loads from both point and nonpoint sources to levels provided for by a Clean Water Act (CWA or "the Act") pollution budget mechanism called a Total Maximum Daily Load (TMDL) created for the Bay and discussed in detail below.

Chesapeake Bay pollution is a "poster child" for the "wicked problem" of transboundary pollution, since the pollution entering the Bay comes from sources in seven basin jurisdictions—six states and the District of Columbia.[17] Three of them—Pennsylvania, Maryland, and Virginia—together contribute about 90 percent of the total.[18] Control of transboundary pollution poses a difficult challenge, because "upstream" states that are sources of pollution often gain the benefits of the economic activity that causes the pollution but do not bear its burdens. These negative externalities are instead borne primarily by "downstream" states. The resulting sharp conflicts of state interests can create a classic collective action problem. Environmental law needs, but sometimes lacks, effective mechanisms to cure such problems.[19] Chesapeake Bay pollution is a prime example of a collective action problem that stakeholders have historically been unwilling or unable to confront, and it is one that now directly threatens the success of Bay restoration.

[14] *See Agriculture*, CHESAPEAKE BAY PROGRAM, https://www.chesapeakebay.net/issues/agriculture (last visited Mar. 27, 2021).

[15] *See Stormwater Runoff*, CHESAPEAKE BAY PROGRAM, https://www.chesapeakebay.net/issues/stormwater_runoff (last visited Mar. 12, 2021).

[16] *See Air Pollution*, CHESAPEAKE BAY PROGRAM, https://www.chesapeakebay.net/issues/air_pollution (last visited Mar. 27, 2021).

[17] Rena Steinzor & Shana Jones, *Collaborating to Nowhere: The Imperative of Government Accountability for Restoring the Chesapeake Bay*, 4 GEO. WASH. J. ENERGY & ENV'T L. 51, 53 (2013).

[18] CHESAPEAKE BAY FOUND., 2020 CHESAPEAKE BAY: STATE OF THE BLUEPRINT 2 (2020).

[19] *See, e.g.*, Richard L. Revesz, *Federalism and Interstate Environmental Externalities*, 144 U. PA. L. REV. 2341 (1996); Robert L. Glicksman & Jessica A. Wentz, *Debunking Revisionist Understandings of Environmental Cooperative Federalism: Collective Action Responses to Air Pollution*, *in* THE LAW AND POLICY OF ENVIRONMENTAL FEDERALISM 3, 22–23 (Kalyani Robbins ed., 2015).

The benefits and burdens of Chesapeake Bay restoration are not shared equally by the major basin jurisdictions. The Susquehanna River in Pennsylvania alone delivered almost half of the nitrogen pollution loads to the Bay as of 2013, only slightly less than the combined total from Maryland and Virginia.[20] But unlike Maryland and Virginia, Pennsylvania has no Bay waterside real estate, and does not receive significant economic benefit from it.[21] Differing Bay jurisdiction incentives to support restoration have led to sharply differing past levels of cleanup funding. Maryland and Virginia together spent nearly four times as much on Bay restoration in 2010 as Pennsylvania, for example.[22]

As of mid-2020, differing levels of support for restoration in the Bay's main jurisdictions have continued. Pennsylvania's limited interest in supporting Chesapeake Bay restoration has now led it essentially to abandon its commitment to the measures needed to control its proportionate share of Chesapeake Bay pollution under the Bay TMDL. Pennsylvania submitted its final Phase III Watershed Implementation Plan (WIP) to EPA in 2019, which not only explicitly failed to meet Pennsylvania's TMDL pollution reduction obligations, but by its own calculations fell more than $300 million/year short of the funding needed to carry out the pollution reduction plans it did offer.[23] Pennsylvania's recalcitrance will be a major factor in preventing successful Bay restoration. New York also submitted a Phase III WIP that failed to meet its TMDL obligations.[24]

EPA effectively approved Pennsylvania's and New York's 2019 WIP proposals even though they clearly would not meet the states' obligations under the Bay TMDL, and EPA's leaders then announced that they did not regard the TMDL as creating legally enforceable requirements.[25] In response, in September 2020, states

[20] Steinzor & Jones, *supra* note 17, at 54 (noting that the Susquehanna River contributes 44% of nitrogen pollution loads to the Bay, while Maryland and Virginia contribute 47%, combined).

[21] *Id*.

[22] *Id*.

[23] CHESAPEAKE BAY FOUND., *supra* note 18, at 16–21.

[24] Complaint, *supra* note 1, at 3.

[25] *See* Press Statement, Chesapeake Bay Found., CBF Statement on EPA Enforcement of the Bay Clean Water Blueprint (Jan. 3, 2020), https://www.cbf.org/news-media/newsroom/2020/federal/cbf-statement-on-epa.html.

and non-profit organizations filed lawsuits against EPA over its failure to enforce the TMDL (discussed below).[26]

The question that these developments raise is whether adequate tools are available under the CWA to compel Pennsylvania and other recalcitrant jurisdictions to meet their Bay cleanup obligations. As I will show in the following discussion of the CWA and an analysis of its application to Chesapeake Bay restoration, the CWA falls short in key respects in controlling transboundary pollution in the Bay. It does not provide the federal government, states, or citizens with sufficient authority to enforce Bay jurisdictions' obligations under the Act's TMDL program. Equally importantly, it relies almost exclusively on federal government enforcement of such obligations, which has led and will continue to lead to long-term enforcement failures under that program.

The Chesapeake Bay is not alone in its troubles—both the Gulf of Mexico and the Florida Everglades, for example, face similar problems of major long-term contamination and failed cleanup efforts.[27] But as discussed further below, the federal-state effort to clean up the Chesapeake Bay has been both ambitious and heavily funded, so the fate of restoration efforts there should be of particular concern. Despite the best efforts over nearly four decades of federal authorities, thousands of concerned citizens and nonprofit organizations, and several states' leaders, it now appears that the Chesapeake Bay will not be restored by 2025; nor by then will there be put in place pollution management practices and conditions sufficient to achieve adequate water quality.

Due to flaws in the Clean Water Act's system for controlling transboundary pollution, only Congress has the power to prevent that failure.

II. THE CLEAN WATER ACT, TRANSBOUNDARY POLLUTION, AND THE ROLE OF TMDL AUTHORITY

The Clean Water Act creates what is often referred to as a "cooperative federalism" scheme for controlling water pollution.[28] As to point sources of pollution—such as effluent from a factory pipe—the Act creates a federal government role sometimes described as

[26] *See* Complaint, *supra* note 1; *infra* note 73.

[27] *See generally* Oliver A. Houck, *Cooperative Federalism, Nutrients, and the Clean Water Act: Three Cases Revisited*, 44 ENV'T L. REP. 10426 (2014).

[28] *Id.* at 10426.

making it the "senior partner" of the states, by giving federal regulators the authority to approve or modify decisions made by the states concerning their regulation.[29] As to nonpoint sources of pollution—such as agricultural runoff—however, the federal government lacks direct regulatory authority; the Act leaves their regulation up to the states.[30] Nonpoint source regulation by the states is often regarded as a failure, with such sources primarily responsible for a substantial share of the pollution that still impairs many rivers, lakes, and estuaries.[31] The federal government's theoretical power to cut off funding for state nonpoint source programs if it concludes that they do not meet the Act's requirements is regarded as ineffective.[32]

At the same time, the Clean Water Act has also limited the legal remedies available to downstream states to combat upstream transboundary pollution. One important consequence of the Act's adoption has been that the federal common law of nuisance, which might have enabled a downstream state to seek to abate an upstream state's water pollution, has been displaced, as has the nuisance law of the downstream state.[33] Affected downstream states may, however, still bring nuisance suits under the law of the source state.[34] And downstream states may object in state permit proceedings or petition EPA requesting denial of a permit to an upstream state source that adversely affects their water quality.[35] However, in the case of a massive water resource such as the Chesapeake Bay, these remaining remedies would be both inordinately time-consuming and prohibitively expensive to use in downstream state efforts to abate widespread upstream transboundary pollution.

Finally, the CWA contains a very important additional mechanism for pollution control. If state regulation of point and nonpoint

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[29] William L. Andreen, *Dynamic Federalism and the Clean Water Act: Completing the Task*, *in* THE LAW AND POLICY OF ENVIRONMENTAL FEDERALISM, *supra* note 19, at 28–29, 33–34.

[30] *Id.* at 35–36.

[31] *Id.* at 30–31.

[32] Brull, *supra* note 14, at 222.

[33] City of Milwaukee v. Illinois, 451 U.S. 304, 317 (1981). For background, *see generally* Thomas W. Merrill, *Golden Rules for Transboundary Pollution*, 46 DUKE L.J. 931, 946 (1997); Matthew L. Paeffgen, *A Ringmaster for the Circus: Using Interstate Compacts to Create a Comprehensive Program to Restore the Chesapeake Bay*, 37 ENV'T L. REP. 10888, 10890 (2007).

[34] Int'l Paper Co. v. Ouellette, 479 U.S. 481, 497 (1987).

[35] Arkansas v. Oklahoma, 503 U.S. 91, 102–04 (1992).

sources together does not restore particular bodies of water as needed to meet water quality standards, states (or, if they fail to act, the federal government) are required by the Act to establish TMDLs for such bodies of water.[36] A TMDL is designed to create a budget that specifies both the total amount of point source pollution and the total amount of nonpoint source pollution permitted in the particular body of water in order to meet and maintain water quality standards.[37]

On paper, the federal government has a range of tools, called backstop actions, available to induce states to comply with TMDL requirements. These include cutting or redirecting federal funding; imposing permitting requirements on certain nonpoint sources such as animal feeding operations; and setting numeric water quality standards for in-state streams and rivers.[38] Moreover, EPA can require a state to regulate its point sources more stringently, as needed to meet water quality standards, if the state fails to regulate pollution from nonpoint sources. That is done by creating contingent backstop allocations that require more stringent control by those point sources.[39] But for reasons discussed later, EPA's use of these backstop actions is often highly problematic politically and, in some cases, would also be deeply flawed environmental policy.

The next section discusses the history of Chesapeake Bay restoration efforts and related litigation. It explores how the Clean Water Act's transboundary pollution control limitations and the "collaborative governance" restoration process employed by EPA and the Bay stakeholders have resulted in limited Bay cleanup progress despite decades of effort and billions of dollars in expenditures.

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[36] Andreen, *supra* note 29, at 36–37.

[37] *Id.*

[38] *See, e.g.*, EPA, CHESAPEAKE BAY TMDL 8, 13 (2010); Settlement Agreement at 5–6, Fowler v. EPA, No. 09 -005, 2009 U.S. Dist. LEXIS 132084 (D.D.C. May 10, 2010), https://www.cbf.org/document-library/litigation/FINAL-EPA-Settlement-Agreement-May-10-20109181.pdf [hereinafter Fowler Settlement].

[39] Fowler Settlement, *supra* note 38, at 5–6, 15; Houck, *supra* note 2, at 10211–12.

III. CHESAPEAKE BAY RESTORATION: PAST AND FUTURE PROSPECTS UNDER CURRENT LAW

A. *The Failure of Restoration Through Collaborative Governance*

Chesapeake Bay restoration is an exceptionally large-scale and very complex problem because of the Bay's great size, its environmental diversity, urban and recreational development pressures on its habitats, and the large range of transboundary pollution sources affecting it.[40] Since the 1980s, the Bay states and the federal government have been engaged in various collaborative restoration efforts, together with dedicated work by many volunteers and nonprofit organizations. In 1983, the Chesapeake Bay Agreement established the Chesapeake Bay Executive Council, composed of Bay jurisdiction representatives.[41] In 1987, Congress formally recognized the need for Chesapeake Bay restoration, which was to be administered through the Chesapeake Bay Program (CBP) governed by the Executive Council.[42] The Bay Program's goals, governance structure, and its state and federal components have been modified by agreement several times since then, most recently in 2020.[43]

CBP restoration efforts over the past decades have all had one critically important feature in common: they were undertaken exclusively through decisions made by voluntary collaborative federal-state governance arrangements. From the outset, the CBP lacked any power to make pollution control decisions that bound any of the member jurisdictions. None of the various collaborative agreements described above authorize joint decisions that bind the Bay jurisdictions.[44] CBP's collaborative structure was its "greatest weakness," because CBP had no power to force any of the states to take actions beyond what any of them could individually be forced to take by EPA under its Clean Water Act authorities.[45]

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[40] LIPIEC, *supra* note 4, at 1, 9.

[41] *Id.* at 10.

[42] *Id*. at 10.

[43] *Id.* at 12–13. For a description of the governance structure, see generally CHESAPEAKE BAY PROGRAM, GOVERNANCE AND MANAGEMENT FRAMEWORK FOR THE CHESAPEAKE BAY PROGRAM PARTNERSHIP (2018); CHESAPEAKE BAY PROGRAM, CHESAPEAKE WATERSHED AGREEMENT 2014 (amended 2020), https://www.chesapeakebay.net/documents/FINAL_Ches_Bay_Watershed_Agreement.withsignatures-HIres.pdf.

[44] LIPIEC, *supra* note 4, at 12–13.

[45] Steinzor & Jones, *supra* note 18, at 57.

An insightful analysis of the history of Bay restoration by Rena Steinzor and Shana Jacobs concluded in 2013 that this collaborative structure was destined to fail because it did not solve the severe collective action problem facing Bay restoration.[46] They wrote:

> [T]he partnership's failures reveal the dysfunction that inevitably arises when an institution's design—in this case, a "collaborative partnership" with voluntary, non-binding goals—cannot cope with the jurisdictional, environmental, and stakeholder dynamics that necessitated action in the first place. One threshold reason for the CBP's shortcomings is…[that] the states vary widely in their commitments to Bay restoration . . . . One of the three most important players in the CBP—Pennsylvania—has far less incentive to participate affirmatively in a voluntary restoration effort than the two other key players, Maryland and Virginia.[47]

B. *Creation of the Chesapeake Bay TMDL*

By 2000, the Bay jurisdictions and EPA recognized that restoration efforts were not making adequate progress and entered into the Chesapeake Bay 2000 Agreement.[48] As that Agreement recognized might be necessary, during the next decade the EPA began to develop a Bay TMDL—with the Bay jurisdictions' participation—as a spur to the Bay jurisdictions' restoration efforts.[49] Ultimately, EPA created an ambitious Bay TMDL discussed below. An important catalyst for EPA's firmer actions was *Fowler v. EPA*, a citizen suit brought by the Chesapeake Bay Foundation (CBF) and other parties against EPA in 2009.[50] In that case, CBF contended that EPA had breached nondiscretionary duties under the CWA and the Chesapeake Bay Agreements.[51] The litigation was stayed before merits rulings occurred and then settled.[52]

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[46] *Id.* at 56–58.

[47] *Id.* at 53 (citations omitted).

[48] *See* Agreement of Commonwealth of Va. et al., Chesapeake 2000 (June 28, 2000), https://www.chesapeakebay.net/documents/cbp_12081.pdf.

[49] Steinzor & Jones, *supra* note 17, at 59–60; Houck, *supra* note 2, at 10214–15; Annabelle Klopman, *An Undercurrent of Discontent: The Chesapeake Bay Total Maximum Daily Load and Its Impact on Bay Industries*, 24 VILL. ENV'T L. J. 97, 103–04 (2013).

[50] Fowler v. EPA, No. 09-005, 2009 U.S. Dist. LEXIS 132084 (D.D.C. Sept. 29, 2009).

[51] *Id.* at *2.

[52] *Id*; *see generally* Fowler Settlement, *supra* note 38.

EPA ultimately agreed to settle the *Fowler* lawsuit by creating a TMDL for the Chesapeake Bay.[53] In the settlement agreement, EPA not only agreed to establish total permissible pollution loads for the Bay, but took the additional step of allocating those loads between the different Chesapeake Bay jurisdictions and various source categories.[54] EPA agreed that it would require the states to create plans that would provide "reasonable assurance" that they would meet TMDL requirements and take steps by 2025 needed to bring the Bay into compliance with key water quality standards.[55] EPA then actually created the Bay TMDL in 2010. When it did so, EPA reiterated its position that if states did not meet TMDL requirements, it reserved the right to take various backstop actions, described above, to obtain compliance.[56] EPA's decision to add compliance plans and timetables to the Chesapeake Bay TMDL was praised by several commentators as a way of making the TMDL program meet what they saw as its intended goals.[57]

C. *Litigation Over the Chesapeake Bay TMDL and Its Implications*

Over the past decade, the Chesapeake Bay TMDL has been the subject of two particularly significant lawsuits. The first challenged EPA's legal authority to create and implement it;[58] the second, pending as of late 2020, challenges EPA's recent failure to enforce the TMDL's requirements, particularly against Pennsylvania.[59] Unfortunately, although EPA's authority to create the Bay TMDL was sustained in the first case, and the pending litigation may be settled with an agreement requiring EPA to seek to enforce the Bay TMDL, under the limitations imposed by current law, such lawsuits are highly unlikely to lead to successful Bay restoration, as the following analysis shows.

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[53] Fowler Settlement, *supra* note 38, at 12.

[54] *Id.* at 12–13.

[55] *Id*. at 11–13.

[56] *Id.* at 5–6; EPA, CHESAPEAKE BAY TMDL, *supra* note 38, at 2.

[57] *See, e.g.*, Houck, *supra* note 2, at 59; Jamison E. Colburn, *Coercing Collaboration: The Chesapeake Bay Experience*, 40 WM. & MARY ENV'T L. & POL'Y REV. 677, 677–78 (2016).

[58] Am. Farm Bureau Fed'n v. EPA, 984 F. Supp. 2d 289, 294 (M.D. Pa. 2013), *aff'd*, 792 F.3d 281 (3d Cir. 2015).

[59] Chesapeake Bay Found. v. EPA, No. 1:20-cv-02529 (D.D.C. Sept. 10, 2020).

The Bay TMDL was challenged in court by the American Farm Bureau and others as exceeding EPA's authority.[60] Plaintiffs argued that by including in the TMDL "source allocations, target dates, and the requirement of reasonable assurances from the Chesapeake Bay states, EPA overstepped its statutory authority and interfered with state and local land-use decisions."[61] Twenty-one states—all outside of the Chesapeake Bay basin and most in the Mississippi River basin or Florida area watersheds—filed an amicus brief supporting the Farm Bureau.[62] These states were concerned that EPA's action might lead it to create TMDLs designed to restore other areas, such as the Mississippi River Basin and the Gulf of Mexico, which would adversely affect them.[63] CBF and other public interest organizations, as well as a national association representing wastewater treatment facilities around the country, intervened on EPA's side.[64] Ultimately, a Pennsylvania district court held in favor of EPA's ability to create the Chesapeake Bay TMDL, and the Third Circuit affirmed that decision.[65] Both courts based their decisions primarily on *Chevron* principles.[66] In essence, the Third Circuit deferred to EPA's interpretation of the Act's TMDL provisions.

The Third Circuit's *Chevron* analysis included an examination of the federalism implications of the TMDL.[67] The court based its willingness to permit EPA's TMDL interpretation in part on a series of factors that, in its view, lessened the extent to which the Bay states were being compelled to follow EPA's TMDL requirements, as opposed to being induced to do so.[68] These factors included the conclusion that the TMDL's requirements were informational and

[60] *See generally Am. Farm Bureau Fed'n*, 984 F. Supp. 2d. 289.

[61] K.A. McConnell, *Limits of* American Farm Bureau Federation v. EPA *and the Clean Water Act's TMDL Provision in the Mississippi River Basin*, 44 ECOLOGY L. Q. 469, 483 (2017).

[62] *Id.*

[63] *Id.* at 483, 486–89.

[64] *Am. Farm Bureau Fed'n*, 984 F. Supp. 2d at 295.

[65] *Id.* at 289.

[66] *Id.* at 309–10; Am. Farm Bureau Fed'n v. EPA, 792 F.3d 281, 294–95 (3d Cir. 2015). *See generally* Chevron v. Nat. Res. Def. Council, 467 U.S. 837 (1984).

[67] *Am. Farm Bureau Fed'n*, 792 F.3d at 301–04.

[68] McConnell, *supra* note 61, at 484–85. The distinction between compulsion and inducement is made to avoid constitutional concerns about whether Congress has power to compel a state to make particular governmental decisions. *See, e.g.*, *Am. Farm Bureau Fed'n*, 792 F.3d at 304 (citing South Dakota v. Dole, 483 U.S. 203, 211 (1987)).

not "binding" on the Bay jurisdictions, at least in the sense that they did not mandate specific state or District of Columbia pollution control decisions or actions.[69] The court concluded that EPA's actions in creating and implementing the TMDL did not amount to impermissible compulsion of the jurisdictions to which it applied since jurisdictions could make their own decisions about how to comply with the TMDL or, alternatively, could decide not to comply and lose federal CWA funding and NPDES permitting authority as a result.[70] The court also concluded that the TMDL did not "prescribe land use rules that excessively intrude on traditional state authority."[71]

As discussed above, the second lawsuit—litigation against EPA by CBF and others filed in September 2020—arose from EPA's failure to respond to Pennsylvania's and New York's noncompliance with the Bay TMDL.[72] CBF alleges that EPA has breached a nondiscretionary duty under the CWA and has violated the Administrative Procedure Act by failing to require Pennsylvania and other states to implement the Chesapeake Bay TMDL.[73] Assume for argument's sake that CBF either prevails in the courts or that during the Biden Administration EPA accepts CBF's position and agrees in a binding consent decree to take extensive backstop actions intended to result in Pennsylvania's and New York's compliance. Even under these assumptions—and ignoring for present purposes the likelihood of consequent resistance litigation by Pennsylvania, New York, or other parties supporting them—in reality, the problem of effective Bay TMDL enforcement by EPA would

69 *Am. Farm Bureau Fed'n*, 792 F.3d at 303.

70 *Id.* at 303–04.

71 *Id.* at 304. One commentator concluded that the Third Circuit sought to minimize the appearance of compulsion, which if recognized by the court might have caused EPA's TMDL authority to be invalidated on several different possible grounds. Colburn, *supra* note 57, at 709–11, 735–36. The Third Circuit's approach to avoiding that conflict led another commentator to argue that other courts might not be willing to accept EPA's interpretation of its TMDL authority if EPA sought to use it in other major restoration programs. *See* McConnell, *supra* note 61, at 486–89.

72 Complaint, *supra* note 1, at 4–5.

73 *Id.* at 2. CBF's action has been consolidated with Case No. 1:20-cv-2530 (CJN), filed by several states and the District of Columbia. EPA filed a motion to dismiss for lack of jurisdiction and failure to state a claim in the consolidated actions on November 20, 2020. *See* Defendants' Memorandum in Support of Motion to Dismiss for Lack of Jurisdiction and Failure to State a Claim, Chesapeake Bay Found. v. EPA, No. 1:20-cv-02529 (D.D.C. Nov. 20, 2020).

remain unsolved. Instead, as will be shown below, a bitter political battle both in the Executive Branch and Congress would then occur seeking to prevent EPA from ever exercising its backstop authorities to compel recalcitrant jurisdictions such as Pennsylvania to act if, as is likely, they still refused to meet TMDL requirements.

As noted above, EPA has a range of tools available to seek compliance by a recalcitrant state with its Bay TMDL obligations. EPA's limited ability to create and enforce "backstop allocations" aptly illustrates the political and policy shortcomings of these tools. When states are failing to meet TMDL nonpoint source requirements, EPA is able to create "backstop allocations" for point sources in those states, requiring those sources to make more stringent pollution reductions than they would need to make if they were located in a compliant state. But it is highly unlikely either that EPA will ever actually attempt to create such backstop allocations on a scale large enough to counteract pollution from nonpoint sources throughout a state—or a major part of one—or that, even if it did, it would be able to successfully enforce them. And doing so would be poor environmental policy in any event.

EPA is unlikely to try to enforce large-scale point source backstop allocations to implement TMDL requirements because of the enormous political outcry that would result if it attempted to do so. The "customers" of both municipal and industrial point source dischargers would be outraged by efforts to force them to pay significantly increased costs for the services of those facilities because someone else had failed to meet their Clean Water Act obligations. They would be likely to sue. Far more importantly, they would be exceptionally likely to seek to block EPA's actions politically, and they would have a reasonable chance of succeeding for the following reasons.

Municipal wastewater treatment facilities would argue that many of their customers could not afford to pay the increased charges stemming from backstop allocations caused by the resulting need to upgrade facilities and their operation and maintenance, and that it would be very unfair to make them do so in any event. Industrial wastewater dischargers would argue that if they instead were required to upgrade facilities and their operation and maintenance, their products would cost more to produce and become non-competitive, and jobs would be lost. No state politician could afford to ignore such concerns of major facility operators and their customers, so state officials would seek to block EPA's actions. Such efforts

could occur in the Executive Branch, for example, through lobbying the White House or the Office of Management and Budget. In Congress, EPA's enforcement actions could be blocked through appropriations legislation barring the use of funding to implement them, including backstop allocations. This has already been attempted during a recent round in the dispute over Chesapeake Bay restoration.[74]

At the same time, just as they did during the American Farm Bureau TMDL litigation discussed above, representatives of dischargers outside the Chesapeake Bay basin would rally to the side of the objecting Bay jurisdictions, fearing that sources in their states would eventually experience the same fate. It is not difficult to imagine, for example, that major cities and states in the Midwest would support efforts by Chesapeake Bay jurisdiction congressional representatives to block EPA's efforts to impose backstop allocations. After all, the Chesapeake Bay is not directly a Midwest resource, so citizens there have little to lose if it is not restored. All in all, the odds seem reasonably high that EPA's effort to impose backstop allocations would be blocked either in the Executive Branch or on Capitol Hill, particularly if a politically influential state, such as Pennsylvania, was EPA's target.

Moreover, EPA's backstop allocation efforts would be badly mistaken environmental policy in any event. A core principle of environmental policy is that "polluters should pay."[75] More formally, the principle is that polluters and their customers should be forced to internalize pollution costs, and not be permitted to shift them to third parties. This is not merely a matter of fairness; it is a principle designed to minimize pollution and promote economic efficiency by

[74] During the 115th Congress, "the FY2019 House [of Representatives version of the] Interior, Environment, Financial Services, and General Government appropriations bill (H.R. 6147) was amended to include a provision that would prohibit EPA funding for actions against watershed states and DC in the event the jurisdiction did not meet TMDL goals." LIPIEC, *supra* note 4, at 16. However, that prohibition does not appear to have been adopted by the full Congress in the final FY 2019 appropriations legislation. *See* Consolidated Appropriations Act, 2019, Pub. L. No. 116-6, 133 Stat. 13. The Conference Report on the final FY2019 appropriations bill (H.J. Res. 31), states instead, "Chesapeake Bay—The Conferees encourage the Agency to maintain a cooperative relationship with relevant States to ensure best practices are used to promote the continued health and preservation of the Chesapeake Bay Watershed." H.R. Rep. No. 116-9, at 740 (2019).

[75] PHILIP E. GRAVES, ENVIRONMENTAL ECONOMICS: AN INTEGRATED APPROACH 8–11 (2013).

ensuring that any activity that cannot internalize its full costs is reduced or eliminated.[76] Of course, there are situations in which government has departed from the polluter pays principle to meet other social goals, often by providing general taxpayer subsidies for an activity, but that exception should not apply here because of its adverse economic and environmental effects.[77]

As applied to Chesapeake Bay restoration, the "polluter pays" principle means that subsidizing nonpoint pollution by limiting pollution control costs for sources such as agriculture—by instead ratcheting up control requirements for point sources—would be badly flawed environmental policy. It would require consumers of completely different services and products to subsidize noncompliant nonpoint sources. The result would be that consumers of the cross-subsidized goods and services, including large numbers of foreign as opposed to domestic consumers in the case of agricultural exports, will overconsume them, while the consumers of the goods and services forced to pay the subsidy will under-consume and underproduce them. Encouraging this form of environmental cross-subsidy in large sectors of the United States economy by employing backstop allocations to compensate for states' failures to control nonpoint source pollution would be exceptionally misguided environmental policy.[78]

The same basic political dynamics and environmental policy concerns that would arise in the case of EPA's large-scale use of backstop allocations to point sources would also exist in the case of other large-scale backstop actions that EPA might take, such as cutting off state funding or imposing new permitting requirements. EPA backstop authority is not generally a workable solution to the problem of a state's concerted unwillingness to force its nonpoint sources to control their pollution. And EPA is particularly unlikely to be able to use its backstop authorities to achieve the goals of the Chesapeake Bay TMDL, because in order to do so it would have to overcome the concerted resistance of the state of Pennsylvania.[79] Recent experience, including the results of the 2020 presidential election, suggests that Pennsylvania is likely to continue to be disproportionately politically influential.

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[76] *Id.*
[77] *Id.*
[78] *Id.* at 4–12.
[79] *See* discussion accompanying notes 20–26.

It follows that for Chesapeake Bay restoration to succeed, EPA, downstream states, and citizens all need additional CWA authority from Congress. What kind of new authority should they receive?

IV. LEGISLATING AN ENFORCEABLE BAY RESTORATION PROGRAM

Earlier writers have proposed limited reforms to Chesapeake Bay restoration programs.[80] But their proposals would not solve the collective action problem at the heart of the failure of Bay restoration efforts. How can Congress craft legislation that will lead to successful restoration?

As a starting point, EPA has already established a Bay TMDL that delineates the cleanup obligations of the Basin states. And none of those jurisdictions have contended that these allocations are unfair, though they might do so if Congress acts to make them directly enforceable. But Congress has authority to bind the Basin jurisdictions to meet these TMDL obligations to protect the quality of interstate waters, and can adjust their obligations if justified.[81] What Congress then needs to decide is who will have the power to enforce compliance with those obligations, as well as how, and under what circumstances, compliance will be enforced.

In 2009, Senator Benjamin Cardin of Maryland proposed legislation that contained many of the elements necessary to establish Bay TMDL enforceability.[82] Unfortunately, that legislation was stripped of many provisions essential to achieve that goal in an attempt to gain the bipartisan political consensus necessary for it to pass in the Senate, before ultimately dying anyway in the midst of recession, divided opinion on various issues, and the need to address

[80] In their restoration study, Steinzor and Jacobs argued that the Chesapeake Bay program should be restructured to include an independent evaluator. Steinzor & Jacobs, *supra* note 17, at 61–67. However, their proposed evaluator would not have had authority to require recalcitrant jurisdictions to act. As another possible approach, Matthew Paeffgen proposed that an interstate compact should be created to govern the Bay restoration program. Paeffgen, *supra* note 33, at 10893–96. Paeffgen's approach helpfully recognizes that an enforceable overall system is an essential basis for successful restoration, but does not explain how to overcome the Bay's collective action problem.

[81] City of Milwaukee v. Illinois, 451 U.S. 304, 315–16, 318 (1981) (finding Congress has power to allocate interstate waters between states and Congress has preempted nuisance claims under federal common law for pollution of interstate waters by adoption of Clean Water Act remedy).

[82] Houck, *supra* note 2, at 10218–21.

other national priorities.[83] But as Senator Cardin's original legislation recognized, there is no way around the need for enforceability if Bay cleanup is to be achieved. The history of Bay restoration efforts discussed above shows that a renewed effort to pass legislation with real teeth is essential, despite the political controversy it will entail.

To cure the failures of Bay restoration to date, Congress should adopt legislation with the following elements, at a minimum:

1. The Bay TMDL should be made legally binding on all basin jurisdictions;
2. Pennsylvania and other Bay jurisdictions should be given a workable, binding compliance timetable to meet the TMDL's requirements;
3. The TMDL needs to be enforceable by the federal government, Bay jurisdictions, and by citizens, with substantial penalties imposed for noncompliance and attorneys' fees awarded to prevailing parties;
4. The Bay TMDL needs to be strengthened to contain sanctions that are more powerful and effective than EPA's existing backstop authorities, including (1) the availability of injunctive relief to compel both Bay jurisdiction compliance and compliance by sources or source classes in any jurisdiction that is in default of TMDL obligations—to the extent permitted by the Eleventh Amendment—and (2) the establishment of a contingent federal pollution tax on each of the Basin jurisdictions that can be placed in operation in defaulting jurisdictions and used to fund completion of their obligations;
5. Each of the Bay jurisdictions should be permitted to decide whether compliance will occur through greater controls on point or nonpoint sources, or both; and
6. Congress should provide an appropriate amount of additional federal funding to the jurisdictions to support their efforts to meet their TMDL compliance obligations, since the Chesapeake is ultimately a national resource.

Legislation that includes these elements will create powerful enforcement tools that can successfully overcome the Bay's

[83] *Id.*

collective action problem even in the face of continued resistance, making it highly likely—indeed, I would say, virtually certain—that Bay restoration will eventually succeed. Such legislation would also serve as an important precedent for solving other transboundary water pollution problems. If, on the other hand, Congress again declines to act or chooses to equivocate, the once remarkably beautiful and serene Chesapeake Bay will deteriorate as the region grows, until it is no longer much more than a massive, ugly, and dangerous natural sewer.

Nearly fifty years ago, during the adoption of the Clean Water Act, Senator Edmund Muskie of Maine told the Senate:

> This country once was famous for its rivers. . . . A vigorous people, following their rivers to the oceans and beyond, built along the riverbanks a strong and productive economy. But today, the rivers of this country serve as little more than sewers to the seas. Wastes . . . poison the estuaries, threaten the life of the ocean depths. . . . The use of any river, lake, stream, or ocean as a waste treatment system is unacceptable.[84]

Senator Muskie's words eloquently expressed the views of Congress at that time. They are just as true today. Congress must act to ensure that the Chesapeake Bay is restored.

[84] 117 Cong. Rec. 38,797 (1971) (statement of Sen. Edmund Muskie), *reprinted in* COMM. ON PUB. WORKS, LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, 1253–54 (1973).