

MAKING REGIONAL AND LOCAL TMDLS WORK: THE CHESAPEAKE BAY TMDL AND LESSONS FROM THE LYNNHAVEN RIVER

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The Clean Water Act (“CWA”) of 1972 is often—and rightly—described as one of our nation’s most effective environmental laws,¹ with its “cooperative federalism” framework considered crucial to its success.² Prior to the CWA, state and local government had long dominated water pollution control—to disastrous result.³ Rivers burst into flames.⁴ Fisheries disappeared.⁵ Industrial wastewater went largely untreated.⁶ Sewage

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¹ Clean Water Act of 1972, Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251–1376); see OFFICE OF WATER, EPA, REP. NO. EPA-832-R-00-088, *PROGRESS IN WATER QUALITY: AN EVALUATION OF THE ENVIRONMENTAL & ECONOMIC BENEFITS OF THE 1972 CLEAN WATER ACT* 1-1, 2–11 (2000) [hereinafter EPA, *PROGRESS IN WATER QUALITY*]; see, e.g., William L. Andreen, *Success and Backlash: The Remarkable (Continuing) Story of the Clean Water Act*, 4 GEO. WASH. J. ENERGY & ENVTL. L. 25 (Winter 2013) [hereinafter Andreen, *Success and Backlash*]; ROBERT ADLER ET AL., *THE CLEAN WATER ACT 20 YEARS LATER*, 5 (1993).

² Robin Kundis Craig, *Adapting Water Federalism to Climate Change Impacts: Energy Policy, Food Security, and the Allocation of Water Resources*, 5 ENVT'L & ENERGY L. & POL'Y J. 183, 202–03 (2010); Alexandra Dapolito Dunn & Meghan Boian, *Postcards from the Edge: Perspectives to Reinvigorate Clean Water Act Cooperative Federalism*, 4 GEO. WASH. J. ENERGY & ENVTL. L. 68, 69 (2013); Robert L. Glicksman, *From Cooperative to Inoperative Federalism: The Perverse Mutation of Environmental Law and Policy*, 41 WAKE FOREST L. REV. 719, 719–21 (2006).

³ See EPA, *PROGRESS IN WATER QUALITY*, *supra* note 1, at 2–42 (demonstrating through charts that pollution levels had spiked before the CWA was passed into law).

⁴ See ADLER ET AL., *supra* note 1, at 5.

⁵ OLIVER A. HOUCK, *THE CLEAN WATER ACT TMDL PROGRAM: LAWS, POLICY, AND IMPLEMENTATION* 3–4 (1999) (citing EPA & U.S. DEPT. OF AGRIC., REP. NO. EPA-840-R-98-001, *CLEAN WATER ACTION PLAN: RESTORING AND PROTECTING AMERICA'S WATERS* 1–2 (1998)) [hereinafter HOUCK, *THE CWA TMDL PROGRAM*].

⁶ In 1970, for example, only 29% of the 22 billion gallons of industrial wastewater discharged daily was treated, with much of that treatment inadequate. In 1969, for example, forty-one

discharges from municipal management systems grew at alarming rates.⁷ Local and state efforts to restore and protect water quality had failed.⁸ Under the CWA, however, the task of protecting and restoring water quality was divided among federal, state, and local government.⁹ Now, more than forty years after the CWA was enacted, our waters are significantly cleaner. Industrial pollution has fallen dramatically,¹⁰ as has pollution from sewage treatment plants.¹¹ Fisheries have returned. Rivers no longer catch on fire. Dividing the job among all levels of government clearly improved our nation's water quality.

Yet, serious problems remain. A 2013 EPA report found that “55% of the nation's river and stream miles do not support healthy populations of aquatic life, with phosphorus and nitrogen pollution and poor habitat the most widespread problems.”¹² Given that finding, it should come as no surprise that the Chesapeake Bay (“Chesapeake” or “Bay”) and the Gulf of Mexico struggle with “dead zones”—huge areas of low or no oxygen that cannot support marine life.¹³ Dead zones persist in these majestic national treasures because too much nitrogen and phosphorus load the many rivers and streams that drain into their watersheds, exemplifying writ large how

million fish were killed by water pollution, with 70% from industrial operations. William L. Andreen, *The Evolution of Water Pollution Control in the United States—State, Local, and Federal Efforts, 1789–1972: Part II*, 22 STAN. ENVTL. L.J. 215, 240–55 (2003) [hereinafter Andreen, *Evolution*].

⁷ EPA, PROGRESS IN WATER QUALITY, *supra* note 1, at 2–42.

⁸ See Andreen, *Evolution supra* note 6, at 240–55.

⁹ Craig, *supra* note 2, at 202.

¹⁰ ADLER ET AL., *supra* note 1, at 18.

¹¹ According to a peer-reviewed study conducted by EPA in 2000, by 1996, discharge from sewage treatment plants of organic material known as “biological oxygen demand” or “BOD” decreased by 45% from 1973 levels, in spite of the fact that BOD loadings had increased by 35% because of population growth. EPA, PROGRESS IN WATER QUALITY, *supra* note 1, at ES-11 (Figure 6). The same study found that 69% of the river reaches EPA assessed showed significant improvements in dissolved oxygen levels. *Id.* at 3–45.

¹² EPA, THE NATIONAL RIVERS AND STREAMS ASSESSMENT 2008–2009: A COLLABORATIVE SURVEY (2013), available at http://water.epa.gov/type/rsll/monitoring/riverssurvey/upload/NRSA200809_FactSheet_Report_508Compliant_130314.pdf.

¹³ NOAA, *Partners Predict Possible Record-Setting Dead Zone for Gulf of Mexico*, NAT'L OCEANIC & ATMOSPHERIC ADMIN. (June 18, 2013), http://www.noaanews.noaa.gov/stories2013/20130618_deadzone.html; Darryl Fears, *Alarming 'Dead Zone' Grows in the Chesapeake*, WASH. POST, July 24, 2011, http://www.washingtonpost.com/national/health-science/alarming-dead-zone-grows-in-the-chesapeake/2011/07/20/gIQABRmKXI_story.html (“Especially heavy flows of tainted water from the Susquehanna River brought as much nutrient pollution into the bay by May as normally comes in an entire average year, a Maryland Department of Natural Resources researcher said.”).

diffuse pollution sources—known as “nonpoint source pollution”—continue to plague our waters.¹⁴

What happened? Leading environmental scholars have fingered Congress’s unwillingness, when it enacted the CWA, to tackle land use and nonpoint source pollution¹⁵—runoff from sources such as farmland, animal feeding operations, roads, atmospheric deposition, excess fertilizer on lawns and golf courses, and construction sites.¹⁶ Certainly, the case is a good one. In contrast to the CWA’s approach to point sources—the technology-based standards established by EPA, the permitting process typically managed by the states, and enforcement mechanisms allowing for federal, state, and citizen enforcement—nonpoint sources are largely unregulated and uncontrolled, and we have persistent pollution problems to show for it.¹⁷

Yet the CWA did not abandon attempting to control nonpoint sources entirely. Section 303(d) of the CWA, which devises a strategy for addressing waterways that remain impaired after the traditional technology-based permitting approach has been tried, is awakening to show real potential to make gains in reducing nonpoint source pollution after many decades of slumber.¹⁸ This strategy involves “total maximum daily load[s]” or TMDLs.¹⁹ No TMDL is more ambitious than the Chesapeake Bay TMDL (“Bay TMDL”), the largest and most “accountable” TMDL attempted²⁰—and a recent federal district court opinion upholding the Bay TMDL strengthens EPA’s hand.²¹ Indeed, efforts by EPA and the Chesapeake Bay Partners under the Bay TMDL arguably foreshadow the next generation of cooperative federalism under the CWA—one that not only includes genuine accountability measures but also requires increased local government and

¹⁴ Andreen, *Success and Backlash*, *supra* note 1, at 27; HOUCK, *The CWA TMDL Program*, *supra* note 5, at 4.

¹⁵ Andreen, *Success and Backlash*, *supra* note 1, at 27; HOUCK, *The CWA TMDL Program*, *supra* note 5, at 60–61.

¹⁶ *What Is Nonpoint Source Pollution?*, EPA, <http://water.epa.gov/polwaste/nps/whatis.cfm> (last updated Aug. 27, 2012).

¹⁷ See Andreen, *Success and Backlash*, *supra* note 1, at 27; HOUCK, *THE CWA TMDL PROGRAM*, *supra* note 5, at 60–61.

¹⁸ See 33 U.S.C. § 1313(d) (2006); Oliver A. Houck, *The Clean Water Act Returns (Again): Part I, TMDLs and the Chesapeake Bay*, 41 ENVTL. L. REP. 10,208, 10,208–09 (2011) [hereinafter Houck, *The CWA Returns*].

¹⁹ HOUCK, *THE CWA TMDL PROGRAM*, *supra* note 5, at 3.

²⁰ Houck, *The CWA Returns*, *supra* note 18, at 10,215.

²¹ *Am. Farm Bureau Fed’n v. EPA*, No. 1:11-CV-0067, 2013 WL 5177530, at *48–49 (M.D. Pa. Sept. 13, 2013).

grassroots action, thus creating improved watershed protection because all levels of government and many diverse stakeholders are genuinely engaged. As this Article will explore, the kind of local action the regional Bay TMDL is designed to spur is already happening in at least one small corner of the Chesapeake Bay watershed (“Bay watershed”), the Lynnhaven River in Virginia Beach, Virginia. This Article’s primary claim is straightforward: namely, that the city of Virginia Beach’s effort to meet the Lynnhaven River TMDL is a case study in making the Bay TMDL and other TMDLs work, with lessons for successful implementation for both local and regional TMDL efforts.

This Article will first provide an overview of how restoration developed in the Bay in order to provide a regional context for the Lynnhaven River TMDL. The Article will then explain the 2011 Chesapeake Bay TMDL and how it potentially foreshadows “next generation” cooperative federalism and watershed restoration because it is generating increased engagement from local government, private citizens, and non-profit restoration efforts. This Article will then tighten its focus to the Lynnhaven River, a local tributary within the Chesapeake Bay watershed, and will examine the local government’s success in implementing measures to meet a local TMDL, as well as how this success spurred a neighboring jurisdiction to support a local TMDL. Finally, the Article will conclude with a discussion of how both the Bay TMDL and the Lynnhaven River TMDL provide important lessons for regional and local watershed restoration efforts more generally.

I. THE CHESAPEAKE BAY’S RESTORATION STORY

The Chesapeake Bay’s restoration story is as complicated and multi-layered as the Bay watershed itself. This section begins with a brief overview of the Chesapeake Bay, describing how its geography and characteristics complicate its most difficult environmental problems. A brief overview of Bay restoration efforts then follows—a history that reveals increasing understanding of how focusing on local water quality is critical if the Bay, as a whole, is ever to be restored.

A. *The Chesapeake Bay: A Brief Overview*

The Chesapeake Bay, the second-largest estuary in the world,²² is renowned for its crabs and oysters, its beauty, and its importance to

²² *Chesapeake Bay*, UNIV. R.I. OFFICE OF MARINE PROGRAMS, <http://omp.gso.uri.edu/ompweb/does/science/descript/bayches.htm> (last visited Feb. 6, 2014).

American culture and history. Its economic importance to the region is likewise significant. The seafood industry alone in Maryland and Virginia contributed “\$3.39 billion in sales, \$890 million in income, and almost 34,000 jobs to the local economy,” while saltwater recreational fishing was estimated to provide “\$1.34 billion in sales” and “roughly 11,000 jobs.”²³ Two of the Eastern Seaboard’s major ports—Baltimore and Hampton Roads—are located on the Chesapeake.

The Bay also has several striking geographic characteristics that make it both fascinating to explore and frustrating to protect. The Chesapeake sits within a six-state, 64,000-square-mile watershed, making its “land-to-water ratio (14:1) . . . the largest of any coastal water body in the world.”²⁴ This geographic area is home to more than seventeen million people.²⁵ Five major rivers—the Susquehanna, Potomac, Rappahannock, York and James rivers—and more than 100,000 streams, creeks and small tributaries drain into the Bay.²⁶ The Bay also boasts a very long shoreline—approximately 8000 miles—in relation to the overall size of its water body.²⁷ What this means is that the Bay is extremely “branchy,” with numerous creeks, bays, inlets, and “guts.”²⁸ Sailors love exploring the Bay as a result, but the Bay’s “branchiness” also increases the ability for people to live on the water as well as impact the Bay’s water quality by how they use their land.²⁹ Although huge in surface area, the Bay is very shallow, with an average depth of twenty-one feet.³⁰ According to the Chesapeake Bay Program, “[a] person who is 6 feet tall could wade through more than 700,000 acres of the Bay and never get his or her hat wet.”³¹ The Bay’s shallowness is both the source of its immense productivity—it

²³ CHESAPEAKE BAY FOUND., *THE ECONOMIC ARGUMENT FOR CLEANING UP THE CHESAPEAKE BAY AND ITS RIVERS* 5 (2012) (citing a 2009 NOAA Report), *available at* <http://www.cbf.org/document.doc?id=1094>.

²⁴ *The Chesapeake Bay Watershed*, CHESAPEAKE BAY PROGRAM, <http://www.chesapeakebay.net/discover/baywatershed> (last visited Feb. 6, 2014).

²⁵ *Factors Impacting Bay and Watershed Health*, CHESAPEAKE BAY PROGRAM, <http://www.chesapeakebay.net/track/health/factors> (last visited Feb. 6, 2014).

²⁶ *The Chesapeake Bay Watershed*, *supra* note 24.

²⁷ STEVEN G. DAVISON ET AL., *CHESAPEAKE WATERS: FOUR CENTURIES OF CONTROVERSY, CONCERN, AND LEGISLATION* 15 (2d ed. 1997).

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Facts & Figures*, CHESAPEAKE BAY PROGRAM, <http://www.chesapeakebay.net/discover/bay101/facts> (last visited Feb. 6, 2014).

³¹ *Id.*

supports 3600 species of plant and animal life—and its demise.³² The shallow Bay does not “flush” pollutants away or dilute them well, allowing local water quality conditions to become and remain acute.³³ Moreover, shallow waters allow for plenty of sunlight to penetrate the Bay’s water column. While this creates a welcoming habitat for underwater grasses, crabs, and shellfish, it also makes the Bay vulnerable to excess algae growth. Too much algae creates “hypoxic conditions” or “dead zones,” where large algae blooms consume dissolved oxygen to such an extent that other aquatic organisms cannot survive.³⁴

Excess nutrients—nitrogen and phosphorus—are the primary causes of hypoxic dead zones.³⁵ From 2009 to 2011, only about one-third of the Bay could be considered truly alive, as only “34 percent of the combined volume of open-water, deep-water and deep-channel water of the Bay and its tidal tributaries met dissolved oxygen standards during summer months.”³⁶ In 2009, the Chesapeake Bay Program reports that approximately 226 million pounds of nitrogen and 9.1 million pounds of phosphorus drained into the Bay.³⁷ With 44% of nitrogen and phosphorus loads, runoff from agriculture is the largest contributor.³⁸ Combined, point source pollution and urban runoff almost total the amount contributed by agriculture.³⁹ Polluted storm water runoff from developed lands is the fastest-growing source of pollution.⁴⁰

³² TOM HORTON, TURNING THE TIDE: SAVING THE CHESAPEAKE BAY 335 (2d ed. 2003).

³³ See *id.* at 4.

³⁴ Donald F. Boesch et al., *Chesapeake Bay Eutrophication: Scientific Understanding, Ecosystem Restoration, and Challenges for Agriculture*, 30 J. ENVTL. QUALITY 303, 303–04 (2001).

³⁵ Monica Bruckner, *The Gulf of Mexico Dead Zone*, MICROBIAL LIFE EDUC. RES., <http://serc.carleton.edu/microbelife/topics/deadzone/index.html> (last visited Feb. 6, 2014).

³⁶ *Water Quality: Overview*, CHESAPEAKESTAT, http://stat.chesapeakebay.net/?q=node/130&quicktabs_10=0 (last visited Feb. 6, 2014).

³⁷ *Nitrogen Loads and River Flow to the Bay*, CHESAPEAKE BAY PROGRAM, http://www.chesapeakebay.net/indicators/indicator/nitrogen_loads_and_river_flow_to_the_bay1 (last visited Feb. 6, 2014); *Phosphorus Loads and River Flow to the Bay*, CHESAPEAKE BAY PROGRAM, http://www.chesapeakebay.net/indicators/indicator/phosphorus_loads_and_river_flow_to_the_bay (last visited Feb. 6, 2014).

³⁸ EPA, CHESAPEAKE BAY TOTAL MAXIMUM DAILY LOAD FOR NITROGEN, PHOSPHORUS AND SEDIMENT 4–29 (2010) [hereinafter “BAY TMDL”], available at <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/tmdlexec.html>.

³⁹ *Water Quality: Agriculture*, CHESAPEAKESTAT, http://stat.chesapeakebay.net/?q=node/130&quicktabs_10=1 (last visited Feb. 6, 2014).

⁴⁰ *Stormwater Runoff*, CHESAPEAKE BAY PROGRAM, http://www.chesapeakebay.net/issues/issue/stormwater_runoff#inline (last visited Feb. 6, 2014).

B. Bay Restoration: A Regional Approach

While residents living in the watershed have been concerned about pollution in the Chesapeake Bay for more than a century, the concern was initially local.⁴¹ With the exception of over-harvesting fisheries, the Bay's woes were largely linked to industrial pollution from sources such as power and chemical plants, municipal pollution from sewage treatment plants, and channel dredging—all problems a concerned citizen could identify by pointing to a specific name and location.⁴² This localized understanding of the causes of Bay degradation changed, however, in the 1980s, when scientists began to document how eutrophication—the over-enrichment of waters by organic matter that depletes oxygen in the water—was occurring throughout the Bay from a variety of non-traditional pollution sources, including nutrient run-off from agriculture and development.⁴³ A bigger and more diffuse picture of the Bay's problems thus emerged, and with it came a regional, Bay-wide restoration approach.

The Bay-wide restoration focus began in earnest in 1983, after United States Senator Charles “Mac” Mathias (R-MD) sponsored a \$27 million EPA study that explained how excess nutrient pollution was causing the Bay's rapid decline.⁴⁴ Soon after the study was released, the first of three Bay Agreements was signed by the governors of Maryland, Virginia, and Pennsylvania, the mayor of the District of Columbia, and the Administrator of EPA.⁴⁵ Congress then took the agreement a step further by incorporating it into the Clean Water Act, creating the Chesapeake Bay Program (“CBP”) and designating the agreement's signatories as the “Executive Council” that “directs” the Bay Program.⁴⁶ The CBP is one of the oldest regional watershed partnerships in the country.⁴⁷

⁴¹ Boesch et al., *supra* note 34, at 303.

⁴² *Id.*

⁴³ *See id.* at 303–05.

⁴⁴ DAVISON ET AL., *supra* note 27, at 160.

⁴⁵ CHESAPEAKE BAY PROGRAM, THE CHESAPEAKE BAY AGREEMENT OF 1983 (1983) [hereinafter 1983 “BAY AGREEMENT”], *available at* http://www.chesapeakebay.net/documents/1983_CB_Agreement2.pdf.

⁴⁶ 33 U.S.C. § 1267(a)(4) (2006) (“The term ‘Chesapeake Bay Program’ means the program directed by the Chesapeake Executive Council in accordance with the Chesapeake Bay Agreement.”).

⁴⁷ SOCIETY FOR ECOLOGICAL RESTORATION INTERNATIONAL, LARGE-SCALE ECOSYSTEM RESTORATION: FIVE CASE STUDIES FROM THE UNITED STATES 172 (Mary Doyle & Cynthia A. Drew eds., 2008).

The three agreements that CBP partners have signed over the past three decades have profoundly shaped the CBP's approach and focus. Signed in 1983, the first Bay Agreement was modest in scope—a one-page document that created a group of state “[c]abinet designees” to oversee the coordination of Bay restoration efforts.⁴⁸ A short document, the 1983 Agreement did not include legally binding commitments and set the tone for the voluntary (and oft-criticized) culture of the Bay Program.⁴⁹ A second and more robust Bay Agreement followed in 1987 that created far more substantive and detailed—although still voluntary—policy goals, including an agreement to reduce nitrogen and phosphorus pollution by forty percent by 2000.⁵⁰ It also replaced the cabinet secretaries with the governors of Virginia, Maryland, and Pennsylvania, and included both the EPA administrator and the chair of the Chesapeake Bay Commission.⁵¹ The 1987 Agreement was amended in 1992.⁵² The Amendment reaffirmed the forty percent reduction goal and widened the CBP's focus beyond the Bay itself, stressing the need to reduce nonpoint source pollution from the tributaries emptying into the estuary.⁵³

The CBP missed the 2000 deadline of reducing nutrient pollution by forty percent, and a third agreement—Chesapeake 2000—was signed.⁵⁴ Chesapeake 2000 was a comprehensive and ambitious document that acknowledged, for the first time, the importance of local and individual efforts, setting as one of its goals promoting “individual stewardship” and assisting “individuals, community-based organizations, businesses, local governments and schools to undertake initiatives to achieve the goals and commitments of this agreement.”⁵⁵ Significantly, it also included a goal to remove the Bay and the tidal portions of its tributaries from the Clean Water Act's impairment list by 2010.⁵⁶

⁴⁸ 1983 BAY AGREEMENT, *supra* note 45 (stating that “a cooperative approach is needed . . . to fully address the extent, complexity, and sources of pollutants entering the Bay.”).

⁴⁹ *Id.* See, e.g., HOWARD R. ERNST, FIGHT FOR THE BAY: WHY A DARK GREEN ENVIRONMENTAL AWAKENING IS NEEDED TO SAVE THE CHESAPEAKE BAY 15 (2009).

⁵⁰ CHESAPEAKE BAY PROGRAM, 1987 CHESAPEAKE BAY AGREEMENT 3, 6 (1987), *available at* http://www.chesapeakebay.net/content/publications/cbp_12510.pdf.

⁵¹ *Id.* at 6.

⁵² CHESAPEAKE BAY PROGRAM, CHESAPEAKE BAY AGREEMENT: 1992 AMENDMENTS (1992), *available at* http://www.chesapeakebay.net/content/publications/cbp_12507.pdf.

⁵³ *Id.*

⁵⁴ CHESAPEAKE BAY PROGRAM, CHESAPEAKE 2000 5–6 (2000), [hereinafter CHESAPEAKE BAY 2000], *available at* http://www.chesapeakebay.net/documents/cbp_12081.pdf.

⁵⁵ *Id.* at 11.

⁵⁶ *Id.* at 6. This goal was set, in large part, because of two consent decrees resulting from court cases in Virginia and the District of Columbia. See Preliminary Notice of Total

By 2008, however, it was clear that the CBP would fall far short of meeting this goal, and CBP partners discussed openly the problems that the Program's lack of success created for its credibility with the public.⁵⁷ The CBP's failure also led to President Obama's 2008 Executive Order on Chesapeake Bay Protection and Restoration—the first Executive Order of its kind to focus on a specific watershed and which required EPA to “examine how to make full use of its authorities under the Clean Water Act to protect and restore the Chesapeake Bay and its tributary waters.”⁵⁸ EPA responded in 2010 with the “Bay Total Maximum Daily Load” (“Bay TMDL”), which includes new pollution limits “for each of the 92 impaired segments” flowing into the Bay and constitutes the nation's first regional TMDL.⁵⁹

Meanwhile, as this Article goes to press, the CBP is considering adopting yet another Bay Agreement.⁶⁰ An “abridged” draft was released in the summer of 2013 for public “feedback.”⁶¹ The draft, as many organizations observed, was remarkably short on details, consisting of only three pages with several placeholders including only boilerplate language.⁶² Several organizations expressed concern about the limited time provided for public comment as well as a lack of transparency and communication about the agreement-development process.⁶³ In addition, the draft agreement,

Maximum Daily Load (TMDL) Development for the Chesapeake Bay, 74 Fed. Reg. 47,792 (Sept. 17, 2009); *Kingman Park Civic Ass'n v. EPA*, 84 F. Supp.2d 1 (D.C. 1999); *Am. Canoe Ass'n v. EPA* 54 F. Supp.2d 621, 629 (E.D. Va. 1999) (providing that “[i]f Virginia continues in its failure to create and establish TMDLs, the CWA requires that EPA eventually acknowledge this failure and step into the breach”); *Lynnhaven River TMDL Implementation Plan*, *infra* note 184, at 13 (citing the *Am. Canoe Ass'n* consent decree as requiring Virginia to develop TMDLs for all impaired water segments by 2010).

⁵⁷ Karl Blankenship, *Proof or Consequences: Latest Cleanup Plans Must Meet Goals*, BAY J., Oct. 1, 2008, http://www.bayjournal.com/article/proof_or_consequences_latest_cleanup_plans_must_meet_goals.

⁵⁸ Exec. Order No. 13,508, 3 C.F.R. 23,099 (2009).

⁵⁹ BAY TMDL, *supra* note 38, at xiii.

⁶⁰ *Chesapeake Bay Watershed Agreement*, CHESAPEAKE BAY PROGRAM, <http://www.chesapeakebay.net/chesapeakebaywatershedagreement/page> (last visited Feb. 6, 2014).

⁶¹ *Id.*

⁶² CHESAPEAKE BAY PROGRAM, DRAFT CHESAPEAKE BAY WATERSHED AGREEMENT (2013) [hereinafter DRAFT ABRIDGED 2013 BAY AGREEMENT], *available at* http://www.chesapeakebay.net/documents/Abridged_Agreemnt_Draft_7-9-13_stakeholder_version_fin_2a.pdf.

⁶³ *See, e.g.*, Letter from Choose Clean Water Coal to Keith Anderson, Chair, Principals' Staff Comm., Chesapeake Bay Program (June 26, 2013), *available at* <http://www.chesapeakebay.net/documents/20846/cbfjune26final.pdf>; Letter from Albert Todd, Exec. Dir., Alliance for the Chesapeake Bay, to Nicholas DiPasquale, Dir., Chesapeake Bay Program (July 10, 2013), *available at* [http://www.chesapeakebay.net/documents/20846/alliance_comments_new_bay_agreement_july_10_2013_\(2\).pdf](http://www.chesapeakebay.net/documents/20846/alliance_comments_new_bay_agreement_july_10_2013_(2).pdf).

in what appeared to be a surprise to many stakeholders,⁶⁴ included only vague references to climate change, even though Chesapeake Bay 2000 included a specific climate change goal.⁶⁵ There was wide interest in knowing where the CBP was in meeting existing goals and how it would provide more accountability moving forward, suggesting that long-time Bay stakeholders are wary of yet another agreement that establishes goals but does little to measure progress or press the partners to actually meet them. Another draft agreement was released in the winter of 2014 for public comment as this article went to press.⁶⁶ Like its predecessors, it does not include legally binding commitments.⁶⁷ It still does not mention climate change.

Understanding this history matters in the context of appreciating the success that has been achieved on the local level on the Lynnhaven River for several reasons. First, local watershed restoration action—especially in a moderate to conservative political culture such as Tidewater Virginia—is often primarily collaborative in approach, even if a regulatory driver ultimately prods it, as was the case with the Lynnhaven River Bacteria TMDL, discussed later in this Article.⁶⁸ Unfortunately, the CBP’s “collaborative partnership” and subsequent missed deadlines arguably have colored the potential of inter-governmental, multi-stakeholder collaboration as an effective approach to Bay restoration.⁶⁹ Professor

⁶⁴ See, e.g., Online Comments from William Stiles, Wetlands Watch (July 11, 2013), available at <http://www.chesapeakebay.net/chesapeakebaywatershedagreement/page>; Letter from Mark Bryer, Dir., Chesapeake Bay Program, the Nature Conservancy, to Keith Anderson, Chair, Principals’ Staff Comm., Chesapeake Bay Program (Aug. 15, 2013) available at http://www.chesapeakebay.net/documents/20846/tnc_bay_agreement_abridged_version_comment_letter.pdf; Letter from Claudia Friedetzky, Conservation Representative for Water Prot., Sierra Club, Md. Chapter, to Keith Anderson, Chair, Principals’ Staff Comm., Chesapeake Bay Program (Aug. 15, 2013), available at http://www.chesapeakebay.net/documents/20846/sierra_club_bay_agreement_august_2013.pdf.

⁶⁵ DRAFT ABRIDGED 2013 BAY AGREEMENT, *supra* note 62, at 3 (stating that climate change was an issue “on which the partnership has not reached consensus for including in the Agreement as a goal or outcome”); CHESAPEAKE 2000, *supra* note 54, at 5 (providing that the signatories “evaluate the potential impact of climate change on the Chesapeake Bay Watershed, particularly with respect to its wetlands, and consider potential management options.”).

⁶⁶ *Chesapeake Bay Watershed Agreement*, CHESAPEAKE BAY PROGRAM, <http://www.chesapeakebay.net/chesapeakebaywatershedagreement/page> (last visited Feb. 6, 2014).

⁶⁷ *Id.*

⁶⁸ See *infra* Part IV.

⁶⁹ See Rena Steinzor & Shana Campbell Jones, *Collaborating to Nowhere: The Imperative of Government Accountability for Restoring the Chesapeake Bay*, 4 GEO. WASH. J. OF ENERGY & ENVTL. L. 51 (2013).

Howard Ernst at the United States Naval Academy—a long-time observer of Bay restoration efforts—is particularly pointed in his criticism of the CBP and of collaboration to achieve meaningful environmental goals. Ernst persuasively observes that the CBP “possesses no independent regulatory powers and no legal basis for action.”⁷⁰ Given the lack of progress in the Bay, it is difficult to quarrel with Ernst’s assessment that, consequently, the CBP appears to do little more than nudge its state partners forward instead of forcing them to invest in expensive storm water controls and sewage upgrades or to regulate agriculture, the Bay’s largest source of pollution.⁷¹ Regardless, the lack of restoration progress from government-organized regional collaboration with a quasi-regulatory veneer, such as the CBP, should not cloud the potential for local government and non-governmental, grassroots collaborative action to improve local water quality, particularly under Section 303’s TMDL process. Indeed, the tangible bacteria-reduction gains achieved in the Lynnhaven River under its Bacteria TMDL demonstrate that genuine water quality improvement is possible under such a similar approach.

In addition, Bay restoration history also reveals a growing awareness among Bay partners of the complexity of the Bay’s ecosystem and a greater need for focusing on local water quality improvements to restore the Bay at large.⁷² As Professor Dan Tarlock has observed, “[T]he environmental role of local governments is underdeveloped, compared to their federal and state counterparts,” particularly with respect to watershed management.⁷³ Bay restoration has been no different. Only in 2000 was the importance of local and individual efforts officially acknowledged by the CBP as part of the third Bay Agreement.⁷⁴ Indeed, as Janet Pawlukiewicz, Director of the Water Security Division of EPA in the Clinton and George W. Bush Administrations, observed, “I think we basically decided . . . there is a place for top down and there’s a role for the state and the most action happens really locally.”⁷⁵ Robert Wayland—EPA’s Director of the Office

⁷⁰ ERNST, *supra* note 49, at 15.

⁷¹ BAY TMDL, *supra* note 38, at 4–29.

⁷² See Brooke Hassett et al., *Restoring Watersheds Project by Project: Trends in Chesapeake Bay Tributary Restoration*, 3(5) FRONTIERS IN ECOLOGY & THE ENV’T 259 (2005).

⁷³ A. Dan Tarlock, *The Potential Role of Local Governments in Watershed Management*, 20 PACE ENVIRO. L. REV. 149, 150 (2002).

⁷⁴ CHESAPEAKE 2000, *supra* note 54.

⁷⁵ Interview with Robert Wayland, Former Dir. of Office of Wetlands, Oceans, & Watersheds, EPA & Janet Pawlukiewicz, Former Dir. of Water Security Division, EPA (May 16, 2012) [hereinafter Interview with Wayland & Pawlukiewicz].

of Wetlands, Oceans, and Watersheds—recounted how, beginning in the mid-1990s, EPA started providing support to local watershed groups and encouraged states to do state-level watershed roundtables.⁷⁶ As part of these roundtables, Wayland recalled there was significant discussion about the importance of finding linkages among groups at different levels, especially to deal with the thornier problem of unregulated, nonpoint source pollution:

[A]nd some of these other problems where there wasn't a regulatory handle and they got interested in watershed management and we got them to talk about the concept of nesting management or pyramid management where you had lots of [River] level groups that might be collaborating with the CBF, EPA, Chesapeake Bay Program—so you have this mutually informing, mutually supporting framework of smaller to larger or larger to smaller⁷⁷

Wayland went on to observe that, to his knowledge, neither the Chesapeake Bay Program nor EPA ever developed such a network.⁷⁸ The Chesapeake Bay Program may yet play such a role. According to Jeff Corbin, Senior Advisor on the Chesapeake for EPA, local implementation is increasingly a topic of discussion for the Chesapeake Bay Program's Executive Council, which consists of the governors of Virginia, Maryland, and Pennsylvania, the EPA administrator, the mayor of the District of Columbia, and the chair of the Chesapeake Bay Commission.⁷⁹ Notably, according to Corbin, LRN's exposure is rising among CBP leadership as a potential model of local success.⁸⁰

While prodded in part by the looming possibility of a series of TMDLs being set for Bay segments and tributaries, the CBP's slow, but nevertheless evident, evolution may also represent a growing emphasis on local implementation from EPA and the states as well as increased engagement by local groups,⁸¹ although comments on the most recent draft agreement suggest that even more engagement with local groups

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ Interview with Jeff Corbin, U.S. Envtl. Prot. Agency Special Advisor for the Chesapeake Bay (July 10, 2012).

⁸⁰ *Id.*

⁸¹ *See id.*; Interview with James Davis-Martin, *infra* note 170.

is desired and needed.⁸² Certainly, as discussed in Part II.B below, the Bay TMDL appears to be generating new action locally. With this context in mind, we now turn to the Chesapeake Bay TMDL.

II. THE CHESAPEAKE BAY TMDL: NEXT GENERATION COOPERATIVE FEDERALISM AND WATERSHED RESTORATION?

The Chesapeake Bay TMDL has been—and continues to be—an enormous effort unparalleled in CWA history. This section will first provide an overview of the TMDL process under the CWA and discuss how it reflects a cooperative federalism approach. It will then describe the Bay TMDL. This section will conclude with an examination of how the Bay TMDL potentially foreshadows “next generation” cooperative federalism in the watershed restoration context.

A. *Cooperative Federalism: TMDLs and the CWA’s Design*

The CWA is often cited as the premier example of cooperative federalism in American law.⁸³ Although described in many ways, cooperative federalism is an approach that involves collaboration among differing levels—federal, state, and local—of government.⁸⁴ Its proponents champion it “as ‘partnership federalism,’ enabling a collaboration in which each level of government takes responsibility for what it can do best.”⁸⁵

The CWA’s cooperative federalism is revealed by its approach to improving water quality, which delegates certain responsibilities to EPA and others to the states.⁸⁶ The Act does so in two steps: first, in its approach to point sources—“any discernable, confined, and discrete conveyance,”⁸⁷ such as a pipe—and second, in its approach to improving

⁸² *E.g.*, Letter from Mark Bryer, *supra* note 64, at 2–3 (observing that “[t]he engagement of local decision makers will be a decisive factor in most outcomes of this new Chesapeake Bay Agreement, and the cumulative effect of local land use and management decisions are at the heart of our ability to maintain healthy lands and waters. . . . [W]e believe that you must involve local governments in the development of the new Bay Agreement to the maximum extent possible . . .”).

⁸³ *See, e.g.*, Dunn & Boian, *supra* note 2; Erin Ryan, *Federalism and the Tug of War Within: Seeking Checks and Balance in the Interjurisdictional Gray Area*, 66 MD. L. REV. 503, 638–39 (2007).

⁸⁴ Dunn & Boian, *supra* note 2, at 68.

⁸⁵ Ryan, *supra* note 83, at 639.

⁸⁶ *See, e.g.*, 33 U.S.C. § 1342(a)–(b) (2006).

⁸⁷ 33 U.S.C. § 1362(a)(14) (2006).

ambient water quality under Section 303's TMDL strategy. With respect to point sources, the CWA authorizes EPA to develop industry-wide regulations, called effluent limitations, which establish performance limits for the discharge of industrial pollutants.⁸⁸ The Act then creates a permitting system known as the National Pollution Discharge Elimination System ("NPDES") to ensure that these limitations were met.⁸⁹ EPA may issue these permits, but the CWA also provides that states may "administer" the NPDES permitting program if it complies with the Act's statutory and regulatory requirements.⁹⁰ In this way, the CWA "divides the job" of controlling pollution from point sources between state and federal government. Significantly, nothing in the CWA prohibits states from exceeding federal requirements.⁹¹

The CWA's method to improving ambient water quality, the second step under the CWA's regulatory scheme,⁹² likewise reflects a cooperative federalism approach. Unlike the NPDES permitting process, which focuses on specific and discrete sources of pollution, this step targets the quality of the receiving waters more broadly. First, the CWA requires states to develop water quality standards.⁹³ Then states must assess whether existing permit controls are working, identify which waters remain polluted, and prioritize the most polluted waters by establishing what is known as the state's "impaired waters" list or 303(d) list.⁹⁴ A total maximum daily load ("TMDL") must then be established for that impaired water body.⁹⁵

A TMDL sets the maximum amount of total loading levels for both point source and nonpoint source pollutants impairing the water body—in other words, a TMDL is the entire pollution amount that can enter into a water body without violating state water quality standards.⁹⁶ EPA tried to give TMDLs a more user-friendly term for the public by

⁸⁸ 33 U.S.C. § 1311(b)(1)(A) (2006).

⁸⁹ 33 U.S.C. § 1342 (2006).

⁹⁰ *Id.* See *State NPDES Program Authority*, EPA, http://www.epa.gov/npdes/images/State_NPDES_Prog_Auth.pdf (last visited Feb. 6, 2014).

⁹¹ 33 U.S.C. § 1370(1) (2006).

⁹² *National Recommended Water Quality Criteria*, EPA, <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm> (last updated Aug. 22, 2013).

⁹³ 33 U.S.C. § 1313(c) (2006).

⁹⁴ 33 U.S.C. § 1313(d) (2006). See HOUCK, *THE CWA TMDL PROGRAM*, *supra* note 5, at 5.

⁹⁵ 33 U.S.C. § 1313(d)(1)(C) (2006).

⁹⁶ *Friends of Pinto Creek v. U.S. EPA*, 504 F.3d 1007, 1011 (9th Cir. 2007); 40 C.F.R. § 130.7(a) (2013).

calling the Bay TMDL a “pollution diet.”⁹⁷ A TMDL is the sum of three components: the waste load allocation (“WLA”), or the pollutant loading assigned to point sources; the load allocation (“LA”), or the pollutant loading assigned to nonpoint sources; and a margin of safety, which accounts for any lack of knowledge concerning the relationship between the effluent limitations and water quality.⁹⁸ Crucially, a state must establish TMDLs for “all pollutants preventing or expected to prevent attainment of water quality standards.”⁹⁹ This requirement pulls both regulated point sources and unregulated nonpoint sources into the ambit of the TMDL.¹⁰⁰ Each state is required to submit its list of impaired waters and TMDLs to EPA for approval or disapproval.¹⁰¹ If EPA disapproves of the submission, EPA has a non-discretionary duty to establish the impaired waters list and the necessary TMDLs.¹⁰² If EPA approves of the state’s submission, the state then incorporates the list or approval document into its “continuing planning process” (“CPP”).¹⁰³ This section requires a state to establish and maintain a CPP that contains a state’s processes for ensuring compliance with requirements in the CWA.¹⁰⁴

At this point, achieving water quality standards would seem to involve two steps: establishing the TMDL and *implementing* pollution controls needed to achieve it. Section 303, however, does not expressly provide for TMDL implementation.¹⁰⁵ As a result, many TMDLs have been developed, but good information about the rates of implementation is scarce.¹⁰⁶

⁹⁷ *EPA Establishes Landmark Chesapeake Bay “Pollution Diet,”* EPA (Dec. 29, 2010), <http://yosemite.epa.gov/opa/admpress.nsf/90829d899627a1d98525735900400c2b/c15f64f4d172edff852578080061fa30!OpenDocument>.

⁹⁸ 40 C.F.R. § 130.7(a) (2013).

⁹⁹ *Id.* at (c)(1)(ii).

¹⁰⁰ 40 C.F.R. § 130.2(g) (2013).

¹⁰¹ 33 U.S.C. § 1313(d)(2) (2006).

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ *Id.* § 1313(e).

¹⁰⁵ *Am. Farm Bureau Fed’n v. U.S. EPA*, No. 1:11-CV-0067, 2013 WL 5177530, at *8 (M.D. Pa. Sept. 13, 2013) (“TMDLs are not self-implementing, but rather are informational tools utilized by EPA and the states to coordinate necessary responses to excessive pollution in order to meet applicable water quality standards.”). *See also* HOUCK, *THE CWA TMDL PROGRAM*, *supra* note 5, at 61.

¹⁰⁶ OFFICE OF INSPECTOR GEN., EPA, REPORT NO. 2007-P-00036, TOTAL MAXIMUM DAILY LOAD PROGRAM NEEDS BETTER DATA AND MEASURES TO DEMONSTRATE ENVIRONMENTAL RESULTS 1 (2007), *available at* <http://www.epa.gov/oig/reports/2007/20070919-2007-P-00036.pdf> (finding that “EPA does not have comprehensive information on the outcomes

A 2010 EPA Report on TMDL implementation rates found that only 17% of TMDLs involving point sources had sufficient data to determine implementation status.¹⁰⁷ Of this small subset, however, 77% had permits meeting the terms of the applicable TMDL.¹⁰⁸ Under the CWA, of course, NPDES permits must be tightened to include “any more stringent limitation . . . necessary to meet water quality standards.”¹⁰⁹ The result is that point source dischargers are likely to face more stringent permit limitations to meet their WLA under a TMDL. Nonpoint sources, in contrast, remain outside of traditional CWA point source controls—thus seemingly outside of pressure from the TMDL process.¹¹⁰ Yet there is some indication that some movement is occurring on this front as well. According to the EPA’s 2010 report, 78% of all nonpoint source TMDLs (a total of 30,702) had “mapped” data available, with 8% of this amount having involvement in Section 319–funded nonpoint source reduction programs.¹¹¹ Of this admittedly small subset, 1402 nonpoint source TMDLs (57%) “reported direct involvement in a TMDL.”¹¹² However slight this movement may be—and clearly more data about actual implementation is needed—TMDLs appear to be moving, in some cases, from plans on a shelf to genuine on-the-ground action. As described in more detail in the next section, the Bay TMDL represents some of EPA’s more creative and ambitious efforts in using the TMDL process to begin making inroads in reducing nonpoint source pollution.

of the Total Maximum Daily Load (TMDL) program nationwide, nor national data on TMDL implementation activities.”); HOUCK, *THE CWA TMDL PROGRAM*, *supra* note 5, at 54.
¹⁰⁷ OFFICE OF WATER, EPA, NO. EPA 841-R-11-002, FY2010 NATIONAL REPORT ON IMPLEMENTING TOTAL MAXIMUM DAILY LOADS (TMDLS) 1 (2011) [hereinafter EPA, 2010 TMDL Report], available at <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/tmdl-impl-natreport.pdf>.

¹⁰⁸ *Id.* at 11–12.

¹⁰⁹ 33 U.S.C. § 1311(b)(1)(C) (2006). Under the regulations, the process for the implementation of new or revised water quality standards is limited to the CPP, which itself does not require specific actions. 40 C.F.R. § 130.5(b)(3), (6) (2013).

¹¹⁰ States, of course, could enact legislation and promulgate rules to regulate nonpoint sources to meet the TMDL. Interestingly, Virginia appears to require the implementation of TMDLs by statute, although, to my knowledge, it has not been relied upon for that purpose. See VA. CODE ANN. § 62.1-44.19:7(C) (2013) (providing that “[t]he [State Water Quality Control] Board shall develop and implement pursuant to a schedule total maximum daily loads of pollutants that may enter the water for each impaired water body as required by the Clean Water Act”).

¹¹¹ EPA, 2010 TMDL REPORT, *supra* note 107, at 1.

¹¹² *Id.*

B. The Bay TMDL: Next Generation Cooperative Federalism Under the CWA

On December 29, 2011, EPA published the Chesapeake Bay Total Maximum Daily Load (“Bay TMDL”), “a historic and comprehensive ‘pollution diet’ with rigorous accountability measures to initiate sweeping actions to restore clean water in the Chesapeake Bay and the region’s streams, creeks, and rivers.”¹¹³ The Bay TMDL covers the entire 64,000-square-mile Bay watershed and includes six states and the District of Columbia, making it the largest and most complex TMDL in the country.¹¹⁴ While it is a comprehensive framework, the Bay TMDL is actually a combination of 92 smaller TMDLs for individual tributary segments.¹¹⁵

1. The Bay TMDL’s Accountability Framework

In addition to its scope and size, the Bay TMDL is striking for several reasons. EPA, which has been criticized in the past for taking a “hands-off” approach to the Chesapeake Bay Program, took a large role in both assuming responsibility and setting “expectations” for the states for action.¹¹⁶ Regional pollution reduction loads were also set, which would have to be divided further by the states in “Watershed Implementation Plans” (“WIPs”) on a sub-watershed and water segment level.¹¹⁷ In a new tactic, EPA made the WIPs the “cornerstone of the accountability framework” for ensuring real gains are made and set two-year milestones for evaluating progress.¹¹⁸ If the WIPs are insufficient or progress stalls, the

¹¹³ BAY TMDL, *supra* note 38, at ES-1.

¹¹⁴ *Frequently Asked Questions About the Bay TMDL*, EPA, <http://www.epa.gov/reg3wapd/tmdl/ChesapeakeBay/FrequentlyAskedQuestions.html> (last visited Feb. 6, 2014) [hereinafter *FAQ About the Bay*]. The final annual pollutant limits are 185.9-million pounds of nitrogen (25% reduction); 12.5-million pounds of phosphorous (24% reduction); and 6.45-billion pounds of sediment per year (20% reduction). BAY TMDL, *supra* note 38, at ES-1.

¹¹⁵ *FAQ About the Bay*, *supra* note 114.

¹¹⁶ Houck, *The CWA Returns*, *supra* note 18, at 10,216.

¹¹⁷ *Id.* at 10,217.

¹¹⁸ *Id.* See also BAY TMDL, *supra* note 38, at 7-1. The Bay TMDL provides for a “reasonable assurance” standard for EPA to evaluate whether state implementation is adequate to meet Section 303(d)’s requirement that a TMDL be “established at a level necessary to implement the applicable water quality standard.” *Id.* EPA stated that “[d]ocumenting adequate reasonable assurance increases the probability that regulatory and voluntary mechanisms will be applied such that the pollution reduction levels specified in the TMDL are achieved and, therefore, applicable WQS are attained.” *Id.* For point sources, the issuance of revised permits meeting the TMDL’s WLA is this adequate reasonable

EPA also states in the Bay TMDL that it will take “contingency actions” such as:

[E]xpanding coverage of NPDES permits to sources that are currently unregulated, increasing oversight of state-issued NPDES permits, requiring additional pollution reductions from point sources such as wastewater treatment plants, increasing federal enforcement and compliance in the watershed, prohibiting new or expanded pollution discharges, redirecting EPA grants, and revising water quality standards to better protect local and downstream waters.¹¹⁹

It appears that EPA’s increased and expressed willingness to take these contingency actions has had some effect. For example, in the two years after the Bay TMDL effort began, the Maryland General Assembly required new regulations for proposed developments using septic systems, citing specifically the Bay TMDL as the impetus for the legislation.¹²⁰ Meanwhile, EPA withheld funds from Virginia for the first time until the state agreed to revise storm water permits (known as “MS4

assurance. For nonpoint sources, EPA, in its “best professional judgment,” states that “determinations of reasonable assurance that the TMDL’s LAs will be achieved could include whether practices capable of reducing the specified pollutant load: (1) exist; (2) are technically feasible at a level required to meet allocations; and (3) have a high likelihood of implementation.” *Id.*

¹¹⁹ BAY TMDL, *supra* note 38, at ES-8.

¹²⁰ 2012 Md. Laws 149. For example, the Preamble to SB 236 provides, in part:

WHEREAS, In 2010 the U.S. Environmental Protection Agency (EPA) set limits on the amount of nutrient and sediment pollution that can enter the Chesapeake Bay, known as Total Maximum Daily Loads (TMDLs); and

WHEREAS, As required by EPA, Maryland submitted and EPA approved Phase I Watershed Implementation Plans (WIP) which allocate the allowable pollution load among different sources and identify strategies for reducing nutrients and sediments that harm the Chesapeake Bay; and

WHEREAS, Maryland is in the process of developing the Phase II WIP, which will refine the Phase I WIP and provide additional detail on pollution reductions; and

WHEREAS, The Phase II WIP will also identify a set of specific actions that, once implemented, will achieve the reductions necessary to meet the nutrient and sediment limits by 2025 . . .

Id.

permits”) in a stricter fashion consistent with the Bay TMDL and on a tighter timeline.¹²¹

2. Bay WIPs: Drilling Down to the Local Level

The Bay TMDL WIPs are designed to establish a “roadmap” for how the Bay states and the District of Columbia, “in partnership with federal and local governments,”¹²² will achieve pollution reductions to meet water quality standards.¹²³ Notably, in an effort to address the perennial problem of TMDL implementation, the Bay TMDL “is designed to ensure that all pollution control measures needed to fully restore the Bay and its tidal rivers are in place by 2025, with at least 60 percent of the actions completed by 2017.”¹²⁴ To meet these deadlines, EPA required Bay jurisdictions to submit WIPs in phases, with each phase providing more detail and covering more actions in order to meet the 2025 implementation goal.¹²⁵

The Phase I WIPs were completed by the jurisdictions on November 29, 2010, prior to the final issuance of the Bay TMDL.¹²⁶ As part of the Phase I WIPs, EPA requested the Bay jurisdictions divide the basin nutrient and sediment target loads among point and nonpoint sources that drain into each of the 92 tributary segments.¹²⁷ The Phase I plans formed the basis for EPA’s determination of WLA and LA in the final TMDL. Put another way, the Phase I plans provided the pollution reduction numbers for the Bay TMDL’s overall “pollution diet.”

The Phase II WIPs, finalized on March 30, 2012, required Bay jurisdictions to push further into the local level, by requiring them to divide

¹²¹ Scott Harper, *EPA Withholds Aid Until State Improves Bay’s Pollution Diet*, VIRGINIAN-PILOT, Sept. 11, 2012, <http://hamptonroads.com/2012/09/epa-withholds-aid-until-va-improves-chesapeake-bay> [hereinafter “*EPA Withholds Aid*”].

¹²² *Watershed Implementation Plan II*, PRINCE GEORGE’S CO., <http://www.princegeorgescountymd.gov/sites/Sustainable/Services/WaterQuality/WIP/Pages/default.aspx> (last visited Feb. 6, 2014).

¹²³ BAY TMDL, *supra* note 38, at ES-1.

¹²⁴ *Id.*

¹²⁵ Letter from William Early, Acting Reg’l Adm’r, EPA Region 3, to Preston Bryant, Va. Sec’y of Natural Res., Chair, Principals Staff Comm. of the Chesapeake Bay Program (Nov. 4, 2009), available at http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/tmdl_implementation_letter_110409.pdf.

¹²⁶ *Id.* at 4.

¹²⁷ *Id.* at 3.

WLA and LA into smaller geographic areas.¹²⁸ EPA made it clear that it anticipated that “[t]his targeting of nutrient and sediment loads to a finer scale will help local decision-makers, including municipal governments, conservation districts, and watershed associations, better understand their contribution to and responsibilities for reducing pollutant loads.”¹²⁹ In the Phase III WIPs, to be finalized in 2017, EPA expects Bay jurisdictions to detail the actions needed to implement all pollution control measures by 2025.¹³⁰ Again, EPA’s emphasis on local action is notable. In its letter to the Bay jurisdictions about what it expected to see in the WIPs, the agency made it clear that it “expects that States and the District will work with local partners to submit Phase III Watershed Implementation Plans in 2017 with refined actions and controls that will be implemented between 2018 and 2025 to achieve water quality standards.”¹³¹

3. The Bay TMDL’s Accountability Framework: Cooperative Federalism—Messy and Cumbersome at Times—at Work

The Bay TMDL accountability framework was challenged by the American Farm Bureau and several other agricultural interest groups as being unduly coercive and outside of the CWA’s cooperative federalism scheme.¹³² Specifically, plaintiffs claimed as an “issue of first impression . . . that the Final TMDL represent[ed] an unlawful federal implementation because it impede[d] on the states’ rights to implement the TMDL as each state sees fit.”¹³³ The federal district court rejected that argument, concluding that the contention that Section 303 left implementation *exclusively* to the states was an “overbroad” interpretation.¹³⁴ While the court agreed that EPA was not authorized to establish or “take over” implementation plans, the agency retained “supervisory authority” under the state “continuing planning process” or CPP.¹³⁵ This authorized EPA to

¹²⁸ EPA, GUIDE FOR CHESAPEAKE BAY JURISDICTIONS FOR THE DEVELOPMENT OF PHASE II WATERSHED IMPLEMENTATION PLANS 2 (2011) [hereinafter “PHASE II WATERSHED IMPLEMENTATION PLANS”], available at http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/PhaseIIWIPs/GuideforthePhaseIIWIPs_330final.pdf.

¹²⁹ Letter from William Early, *supra* note 125, at 4.

¹³⁰ PHASE II WATERSHED IMPLEMENTATION PLANS, *supra* note 128, at 1–2.

¹³¹ Letter from William Early, *supra* note 125, at 4.

¹³² Am. Farm Bureau Fed’n v. U.S. EPA, No. 1:11-CV-0067, 2013 WL 5177530, at *28 (M.D. Pa. Sept. 13, 2013).

¹³³ *Id.* at *19.

¹³⁴ *Id.*

¹³⁵ *Id.* at *20 (citing 33 U.S.C. § 1313(e)(2) (2006)). In the court’s view, this authority was bolstered by the section of the CWA where Congress authorized the Chesapeake Bay

issue a TMDL that included detailed allocations and required “backstop” adjustments, a timeline for implementation, and “reasonable assurances” from the states that implementation measures would occur.¹³⁶

Plaintiffs first argued that EPA had exceeded its authority by issuing a TMDL with detailed allocations, making the agency, for all practical purposes, the “sole author of the TMDL.”¹³⁷ The court, however, concluded that the “allocations were devised largely by the states in their WIPS” as part of a process that “included considerable back-and-forth between EPA and the Bay states.”¹³⁸ Yes, the court opined, “cooperative federalism can be, at times, messy and cumbersome,” and “[i]t is unavoidable that states and the federal government will occasionally disagree.”¹³⁹

Complete unanimity between the states and EPA in resolving all the complex issues involved here is likely impossible. Disagreements between the states and the federal government regarding some of the allocations necessary to achieve water quality standards was to be expected, and the debate and discussions that ensued were of nature that is required in a cooperative federalism scheme.¹⁴⁰

In this way, the court rejected the Farm Bureau’s arguments that the Bay TMDL WIP arrangement was coercive instead of cooperative.

In the same vein, the court found that the Bay TMDL’s “reasonable assurance” standard under its accountability framework was likewise within EPA’s authority under the CWA and did not “impinge” on state authority to implement TMDLs.¹⁴¹ The Bay TMDL provides for a “reasonable assurance” standard for EPA to evaluate whether state implementation is adequate to meet 303(d)’s requirement that a TMDL be

Program. *See* 33 U.S.C. § 1267(g)(1)(A)–(B) (providing that EPA “ensure that management plans are developed and implementation is begun by signatories to the Chesapeake Bay Agreement to achieve and maintain . . . the nutrient goals of the Chesapeake Bay Agreement . . . [and] the water quality requirements necessary to restore living resources to the Chesapeake Bay ecosystem.”).

¹³⁶ *Am. Farm Bureau Fed’n*, 2013 WL 5177530, at *31–32.

¹³⁷ *Id.* at *28.

¹³⁸ *Id.*

¹³⁹ *Id.* at *29.

¹⁴⁰ *Id.* at *30 (finding it “noteworthy that no state has filed suit challenging the TMDL, let alone alleged that their participation in the TMDL drafting process was a result of coercion.”).

¹⁴¹ *Id.* at *32.

“established at a level necessary to implement the applicable water quality standard.”¹⁴² For point sources, the Bay TMDL explained, the issuance of revised permits meeting the TMDL’s WLA was adequate reasonable assurance—a “tightening” of permits that, while painful, is clearly an anticipated outcome under CWA Section 303.¹⁴³ EPA also included non-point sources within the Bay TMDL’s “reasonable assurance” standard, however, and provided the following parameters for doing so: “determinations of reasonable assurance” that nonpoint source pollution reductions would be met under the Bay TMDL “could include whether practices capable of reducing the specified pollutant load: (1) exist; (2) are technically feasible at a level required to meet allocations; and (3) have a high likelihood of implementation.”¹⁴⁴ While the plaintiffs argued this went too far and was “simply an attempt by the EPA to unlawfully insert itself into TMDL implementation,” the court disagreed, finding that the standard did not “require the states to undertake any particular implementation effort.”¹⁴⁵ Instead, reasonable assurance “was an attempt by EPA to clarify the basis upon which the proposed allocations are judged” under Section 303(d)’s requirement that TMDLs “be established at a level necessary to implement the applicable water quality standards.”¹⁴⁶ As such, “the requirement of reasonable assurances allows a TMDL writer to decide how to apportion loadings between point and non-point sources under the TMDL cap.”¹⁴⁷ In reaching its conclusion that the Bay TMDL’s accountability framework did not violate the CWA, the court emphasized, again, that the approach reflected cooperative federalism at work, stating “TMDLs provide crucial information for federal, state, and local actors in furtherance of the cooperative efforts to improve water quality as envisioned by the CWA.”¹⁴⁸

Given the unique circumstances of Bay restoration and the many decades of work conducted under the CBP, the extent to which the court’s analysis would extend to other TMDLs is unclear. Undoubtedly, the

¹⁴² BAY TMDL, *supra* note 38, at 7-1 (explaining that documenting reasonable assurance “increases the probability that regulatory and voluntary mechanisms will be applied” so that pollution is reduced to meet the TMDL’s reduction requirements).

¹⁴³ 33 U.S.C. § 1311(b)(1)(C) (2006).

¹⁴⁴ BAY TMDL, *supra* note 38, at 7-1.

¹⁴⁵ *Am. Farm Bureau Fed’n v. U.S. EPA*, No. 1:11-CV-0067, 2013 WL 5177530, at *31 (M.D. Pa. Sept. 13, 2013).

¹⁴⁶ *Id.*

¹⁴⁷ *Id.* (emphasis omitted).

¹⁴⁸ *Id.* at *5.

complex scientific modeling underlying Bay TMDL could not have been conceived and conducted without the science and expertise that was developed as part of the CBP's work.¹⁴⁹ Moreover, the CBP's many decades of research, assessment, and partnership clearly supported the court's recent decision to uphold the Bay TMDL.¹⁵⁰ As the court opined:

The Chesapeake Bay TMDL is not a new or recent idea. Thus, it would be improper to view the Final TMDL in a vacuum as a single, isolated effort to restore water quality to the Chesapeake Bay. Rather, it is readily apparent from the record before this court that the Final TMDL is merely the latest effort in a long line of efforts dating back several decades to reach that end.¹⁵¹

The court then went on to provide a thorough overview of Bay restoration history, emphasizing the CBP's many years of effort.¹⁵² The court also described the multi-jurisdictional nature of the pollution problems plaguing the Bay and how the CBP endeavored to document and address it, using the best available science.¹⁵³ In short, for similar TMDLs to succeed, whether they are regional and/or include an accountability framework involving milestones, deadlines, and consequences such as lost grant funding for lack of progress, it may be necessary to demonstrate a history of significant engagement in collaborative partnership and consensus in order to "preserve the framework of cooperative federalism, as envisioned by the CWA."¹⁵⁴ Certainly, in the Bay TMDL's case, the court was particularly persuaded that no state challenged EPA's approach.¹⁵⁵ While the CBP has been a frustrating institution to observe, its many years of work and multi-state partnership clearly helped convince the court that the Bay TMDL framework was scientifically and legally sound¹⁵⁶—a tremendous step forward for Bay restoration efforts that also heralds a

¹⁴⁹ *See id.* at *45–46.

¹⁵⁰ *See id.* at *46–47.

¹⁵¹ *Am. Farm Bureau Fed'n*, 2013 WL 5177530, at *5.

¹⁵² *Id.* at *5–9.

¹⁵³ *Id.*

¹⁵⁴ *Id.* at *49. *See id.* at *34 (concluding that "Plaintiffs' characterizations of [the Bay TMDL's] deadlines as 'EPA's deadlines' is misleading" and that a "closer look at the record reveals that EPA and the Bay Jurisdictions reached a consensus regarding the target dates").

¹⁵⁵ *Id.* at *30.

¹⁵⁶ *Am. Farm Bureau Fed'n*, 2013 WL 5177530, at *45–46.

new era of cooperative federalism under the CWA's TMDL program that genuinely engages stakeholders from all levels of government.

4. Bay TMDL Cooperative Federalism in Hampton Roads: From Local Skepticism to Engagement

Ultimately, given that land use practices are such large factors impairing water quality, watershed protection programs most often require local government action in order to be successful.¹⁵⁷ As the Bay TMDL's very existence illustrates, it is no longer possible to avoid land use issues—from excess fertilizer on golf courses to excessive manure application on farms—if we want a healthy estuary. The Bay TMDL's approach arguably foreshadows the next generation of cooperative federalism under the CWA as it has spurred increased action on the local level, both from governmental and non-governmental actors, to begin to address some of these persistent nonpoint source pollution problems caused by poor land use management.¹⁵⁸

Certainly, at least from the perspective of stakeholders in the Hampton Roads region of Virginia, the WIP Phase I and II processes generated significant local discussion and engagement.¹⁵⁹ Not all of it was positive at first. Indeed, the Hampton Roads Planning District Commission (“HRPDC”), a regional organization that includes and represents sixteen local governments in the Hampton Roads area,¹⁶⁰ considered suing EPA over the Bay TMDL.¹⁶¹ A study commissioned by the HRPDC estimated the cost of meeting the storm water requirements alone at more than \$9.7 billion just for the Hampton Roads area.¹⁶² The HRDPC ultimately decided not to sue, after publicly crediting EPA's senior adviser

¹⁵⁷ Tarlock, *supra* note 73, at 152.

¹⁵⁸ *See generally id.* at 160 (explaining the importance of land use management to improved local water quality).

¹⁵⁹ *See infra* note 160.

¹⁶⁰ The Virginia General Assembly created Planning District Commissions (“PDCs”) in 1968 when it passed the “Regional Cooperation Act.” VA. CODE ANN. § 15.2-4200 (2013). The purpose of PDCs is “to encourage and facilitate local government cooperation and state-local cooperation in addressing on a regional basis problems of greater than local significance.” VA. CODE ANN. § 15.2-4207 (2013).

¹⁶¹ Scott Harper, *Leaders Choose Not to Sue EPA over ‘Pollution Diet,’* VIRGINIAN-PILOT, Apr. 1, 2011, <http://hamptonroads.com/2011/03/leaders-choose-not-sue-epa-over-pollution-diet> [hereinafter “*Leaders Choose Not to Sue*”].

¹⁶² HAMPTON ROADS PLANNING DISTRICT COMMISSION, COST ESTIMATES FOR THE CHESAPEAKE BAY TMDL 2 (2011), available at http://www.hrpdcva.gov/Documents/Phys%20Planning/2011/ChesBayTMDL/AdditMaterials/Rpt_CostEstCBTMDL_Aug2011.pdf.

on the Bay, Jeff Corbin, for entering into an open dialogue with the Commission and making an effort to be more flexible.¹⁶³

While the HRPDC was considering legal action, it simultaneously had to respond to requests from EPA and the state for coordination, planning, and information as the Bay TMDL process proceeded.¹⁶⁴ For example, when Virginia was tasked by EPA to develop the “Phase II Watershed Implementation Plan” and develop pollution reduction goals and plans for the local level, state officials requested PDCs to coordinate local stakeholder meetings and gather data.¹⁶⁵ HRPDC created local government working groups and a steering committee that included government representatives from each locality, professionals from federal and state agencies, the agricultural community, and environmental groups, including CBF, LRN, and ERP.¹⁶⁶ This engagement of local stakeholders appears to have set the stage for establishing local support—if grudging at times—for the Bay TMDL effort. Whitney Katchmark, Principal Water Resources Planner at HRPDC, described how local government officials became persuaded that many private property owners were interested in supporting the Bay TMDL because it would improve local water quality:

[At] [t]he initial meetings most of the local government representatives were very skeptical. They didn't think anybody would participate in such a program and they didn't think people would want to do retrofits on their private properties and they didn't really want to ask them to. I think at that meeting, it was probably the first time that a lot of the . . . CBF and LRN [organizations] were there and they spoke up and were like, “We got people to do it or people have asked us how they can do it.” There are people out there that want to do stuff and need guidance. They want to do something and if you gave them an incentive that might push them over the edge. There are willing participants out there. I think that was helpful for the

¹⁶³ *Leaders Choose Not to Sue*, *supra* note 161.

¹⁶⁴ HAMPTON ROADS PLANNING DISTRICT COMMISSION, NO. PEP-12-01, CHESAPEAKE BAY PHASE II WATERSHED IMPLEMENTATION PLAN: HAMPTON ROADS REGIONAL PLANNING FRAMEWORK, SCENARIO, AND STRATEGIES III (2012) [hereinafter HRPDC, PHASE II WIP], available at http://www.hrpdcva.gov/Documents/Phys%20Planning/2012/ChesBayTMDL/PEP-12-01_HR_PhIIWIP_RegionalAppendix.pdf.

¹⁶⁵ *Id.*

¹⁶⁶ *Id.* at 2–4, 2–5.

local government to hear that. That kind of led into this bigger discussion and we actually ended up doing this project that was supposed to be part of the Bay TMDL and Phase II project.¹⁶⁷

In this way, because the Bay TMDL process required local stakeholder input and data gathering, it also ended up generating local support and buy-in for the overall restoration effort. Support and pressure from important community members associated with local environmental groups specifically appear to have played a role in changing the HRPDC's mind.¹⁶⁸ Christy Everett, Executive Director of CBF's Hampton Roads Office, described the Commission's decision as a "trifecta" that involved the Commission's willingness to engage, grassroots pressure organized by CBF and other groups, and "grasstops" pressure from high-level leaders in the community associated with, or supportive of, local watershed groups such as LRN in Virginia Beach, ERP in Norfolk, and the Nansemond River Preservation Alliance ("NRPA") in Suffolk.¹⁶⁹

James Davis-Martin, the Virginia Department of Conservation and Recreation's Chesapeake Bay TMDL coordinator, also made several instructive observations about the important role local environmental groups played in educating citizens about the Bay TMDL approach.¹⁷⁰ Given how complicated and jargon-filled the Bay-wide TMDL process has been, Davis-Martin perceived that many of the citizens he encountered in the Hampton Roads meetings were highly informed about the TMDL, the scientific modeling underlying the TMDL, and the WIP-development process generally.¹⁷¹ He credited the educational work that local environmental groups such as LRN, ERP, and NRPA and larger groups such as CBF have conducted to an increased understanding of the issues involved with addressing non-point source pollution, the Bay TMDL's focus.¹⁷² Because controlling non-point source pollution will require increased

¹⁶⁷ Interview with Whitney Katchmark, Hampton Roads Planning Dist. Comm'n, Principal Water Res. Planner, & Jenny Tribo, Hampton Roads Planning Dist. Comm'n, Sr. Water Res. Planner (Feb. 28, 2012) [hereinafter "Interview with Katchmark & Tribo"].

¹⁶⁸ *Id.*

¹⁶⁹ Interview with Christy Everett, Dir. of Hampton Roads Office, Chesapeake Bay Found. (Feb. 28, 2012).

¹⁷⁰ Interview with James Davis-Martin, Chesapeake Bay TMDL Coordinator, Va. Dep't of Conservation & Recreation (July 10, 2012).

¹⁷¹ *Id.*

¹⁷² *Id.*

investment by local government as well as increased private action, Davis-Martin and his colleague Todd Herbert also predict that local environmental groups will become even more important partners for local governments.¹⁷³ Many of the best management practices or “BMPs” necessary to meet Bay TMDL requirements are residential, Davis-Martin explained—and the “social networking” facilitated by local watershed groups will be critical for the BMP implementation that local governments want to see happen.¹⁷⁴ Herbert observed:

[When] local governments have to deal with the reality of having to make some implementation on the ground happen I think it’s the localities are going to be using non-profits for their community outreach, for their networking, the networking that’s going on as a way to get to the residents because these non-profits go out and they have these activities and cities do not have the time or the resources to reach that many people.¹⁷⁵

Jeff Corbin, EPA’s Special Advisor to the Administrator on the Chesapeake Bay, had a similar view and predicts local watershed restoration groups will play an increasingly larger role as the states work to meet the pollution reduction deadlines established under the Bay TMDL:

That is where the implementation is going to happen. They are going to have to be the people the states are turning to. Here is the list that has to be done. How are we going to get it done? They are going to have to have those local level discussions. It’s not just the policymakers. You have to have those groups at the table. Like it or not, but I think they are going to have a bigger role in this in the next 10–12 years than they ever have.¹⁷⁶

In sum, Bay restoration efforts appear to be moving toward an era where local action—both by local government and by local environmental groups—is becoming increasingly significant, reflecting a broadening of the traditional cooperative federalism federal-state dichotomy to include increased

¹⁷³ *Id.*

¹⁷⁴ *Id.*

¹⁷⁵ *Id.*

¹⁷⁶ Interview with Jeff Corbin, EPA Special Advisor for the Chesapeake Bay (July 10, 2012).

participation and partnership from local stakeholders. This expansion is critical, as much of non-point source pollution caused by various and diffuse sources can only be controlled by individual behavior change—a far different challenge than presented by discrete point sources, which have been much more successfully controlled under the Clean Water Act's permitting scheme. Moreover, as the recent “Bay TMDL” case, *American Farm Bureau v. EPA*, demonstrates, multi-stakeholder partnership may be more than a good way to build local support for on-the-ground action¹⁷⁷: it may also be a way to give a court confidence that the TMDL implementation reflects the CWA's cooperative federalism framework.¹⁷⁸

III. THE LYNNHAVEN RIVER TMDL: A CASE STUDY IN SUCCESSFUL LOCAL WATERSHED ACTION

Because of the Bay TMDL and local interest in improving water quality generally, local governments controlling storm water and individual property owners changing land use patterns are the next frontier for improving water quality. Local government engagement and local environmental groups—with their laser-like focus on improving a specific, beloved river important to their community's history, environment, and economy—will be critical to informing and supporting these efforts. The next section reviews the Lynnhaven River TMDL for bacteria, a rare success for the TMDL program that demonstrates the value of strong local collaboration and local government engagement.¹⁷⁹ The Chesapeake Bay often receives enormous press and attention, but whether it is restored to health largely relies upon how well local water quality gains are achieved—stream by stream, river by river. The Lynnhaven River is home to one of the few examples in the nation of successful TMDL implementation—one that EPA highlights as an example of a “TMDL at Work,” and environmentalists point to as a success.¹⁸⁰ While the Lynnhaven River TMDL has many lessons for Bay TMDL implementation specifically, it also holds many lessons for local government-non-profit partnerships generally.

¹⁷⁷ *Am. Farm Bureau Fed'n v. U.S. EPA*, No. 1:11-CV-0067, 2013 WL 5177530, at *9, *46 (M.D. Pa. Sept. 13, 2013).

¹⁷⁸ *Id.* at *31.

¹⁷⁹ See Houck, *The CWA Returns*, *supra* note 18, at 10,211 (explaining how few TMDLs have actually been implemented).

¹⁸⁰ *Total Maximum Daily Loads (TMDLs) at Work*, EPA, <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/TMDLsWork.cfm> (last updated Mar. 6, 2012) [hereinafter “*TMDLs at Work*”]; Interview with Christy Everett, *supra* note 169.

A. *The Lynnhaven River TMDL for Bacteria: An Overview*

Located entirely in the city of Virginia Beach, the Lynnhaven River is a tidal estuary that flows into the Chesapeake Bay. Once a productive oyster harvesting area, the river's "Lynnhaven Oysters" were world-famous until excessive bacteria levels forced the Virginia Health Department to close almost all of its shellfish areas in 1986.¹⁸¹ While fecal coliform was the culprit, Virginia Beach's population explosion was the cause.¹⁸² Approximately 225,000 people and 40,000 dogs reside within the Lynnhaven's 64-square-mile watershed.¹⁸³ Sanitary sewer overflows, failing septic systems, storm water discharges, and sanitary discharges from boats polluted the river to such an extent that its once treasured resource became inedible.¹⁸⁴

In 2004, the Virginia Department of Environmental Quality completed a TMDL for Fecal Coliform for the Lynnhaven Bay, Broad Bay, and Linkhorn Bay Watersheds that encompassed Lynnhaven River (Lynnhaven Bacteria TMDL).¹⁸⁵ The Virginia DEQ developed an implementation plan for the TMDL in 2006.¹⁸⁶ The plan focused on human and pet sources of fecal coliform, identifying activities such as sanitary sewer system

¹⁸¹ Scott Harper, *Lynnhaven River Oysters Pass the Taste Test*, VIRGINIAN-PILOT, Dec. 1, 2007, <http://hamptonroads.com/node/439821>.

¹⁸² *Total Maximum Daily Loads (TMDLs) at Work: Virginia*, EPA, <http://water.epa.gov/lawsregs/lawguidance/cwa/tmdl/lynnhaven.cfm> (last updated Sept. 11, 2013) [hereinafter "*TMDLs at Work: Virginia*"].

¹⁸³ LYNNHAVEN RIVER NOW, 2010 STATE OF THE RIVER REPORT (2010) [hereinafter "LRN, 2010 REPORT"], available at http://www.lynnhavenrivernow.org/files/pages/state_of_the_river_report_2010_final.pdf.

¹⁸⁴ HAMPTON ROADS PLANNING DISTRICT COMMISSION, IMPLEMENTATION PLAN FOR THE FECAL COLIFORM TOTAL MAXIMUM DAILY LOAD (TMDL) FOR SHELLFISH AREAS OF LYNNHAVEN BAY, BROAD BAY AND LINKHORN BAY WATERSHEDS 24–25 (2006) [hereinafter "LYNNHAVEN RIVER TMDL IMPLEMENTATION PLAN"], available at <http://www.deq.virginia.gov/Portals/0/DEQ/Water/TMDL/ImplementationPlans/lynnhvnp.pdf>.

¹⁸⁵ VA DEP'T OF ENVTL. QUALITY, LYNNHAVEN BAY, BROAD BAY AND LINKHORN BAY WATERSHEDS TOTAL MAXIMUM DAILY LOAD (TMDL) REPORT FOR SHELLFISH AREAS LISTED DUE TO BACTERIA CONTAMINATION 39 (2004) [hereinafter "LYNNHAVEN BACTERIA TMDL"], available at <http://www.deq.virginia.gov/portals/0/DEQ/Water/TMDL/apptmdls/shellfish/lynnfc.pdf>. Virginia, under a court settlement, agreed to develop TMDLs for "the approximately 475 impaired waters and the approximately 225 condemned or restricted shellfish waters identified in Virginia's 1998 303(d) list." VA. DEP'T OF ENVTL. QUALITY, DRAFT 305(B)/303(D) WATER QUALITY INTEGRATED REPORT 280–81 (2012) available at http://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityAssessments/IntegratedReport/2012/ir12_Integrated_Report_All_Draft.pdf.

¹⁸⁶ LYNNHAVEN RIVER TMDL IMPLEMENTATION PLAN, *supra* note 184, at 1.

improvements, storm water upgrades, boating programs, aquatic resource restoration, pet waste programs, and soil and erosion control.¹⁸⁷ By 2007, twenty-nine percent of the river was deemed safe for shellfish consumption.¹⁸⁸ By 2012, that figure had reached forty-two percent, although it subsequently declined that same year to forty percent.¹⁸⁹ During this time, Lynnhaven oysters returned to local menus, and several companies now grow and harvest oysters from the river on a scale large enough to support their operations.¹⁹⁰ As Karen Forget, the Executive Director of LRN, the local environmental group dedicated to restoring the river, observed, “[t]o have this kind of quantifiable progress in environmental restoration in such a short time is almost unheard of.”¹⁹¹

B. *The Lynnhaven TMDL for Bacteria: Elements of Its Success*

While more must be done to reduce bacteria in the Lynnhaven, the progress made so far is impressive and represents tangible results over about a decade’s worth of work, a relatively short period of time. While stakeholder engagement on the local level was—and continues to be—a critical component to this success, traditional regulatory drivers also generated action that led to bacteria-reduction gains. This section maintains that progress in the Lynnhaven has occurred as the result of combining regulatory action with creative, local stakeholder engagement to both support that action and go beyond it.

1. Existing and Emerging Regulatory Pressure

According to EPA, both ongoing and newly implemented activities identified in the Lynnhaven Bacteria TMDL’s implementation plan “played

¹⁸⁷ *Id.* at 2–3.

¹⁸⁸ U.S. ENVTL. PROT. AGENCY, EPA 841-F-09-002H, RESTORING THE LEGENDARY LYNNHAVEN OYSTERS 2 (2009) [hereinafter “RESTORING THE LEGENDARY LYNNHAVEN OYSTERS”], available at http://www.epa.gov/owow/tmdl/tmdlsatwork/pdf/lynnhaven_river_sound_byte.pdf.

¹⁸⁹ Scott Harper, *Lynnhaven River Losing Some of Harvest Zones*, VIRGINIAN-PILOT, Apr. 6, 2012, <http://hamptonroads.com/2012/04/lynnhaven-river-losing-some-harvest-zones>.

¹⁹⁰ See VA. MARINE PRODUCTS BOARD, VIRGINIA AQUACULTURE: OYSTER GROWERS (2012), available at http://www.virginiaseafood.org/the_trade/virginia_oyster_growers/images/2012-Virginia-Aquaculture-Oyster-Growers.pdf (listing at least three oyster companies based on the Lynnhaven).

¹⁹¹ Scott Harper, *Lynnhaven River’s Health Improving, Group Says*, VIRGINIAN-PILOT, Jan. 21, 2011, <http://hamptonroads.com/2011/01/lynnhaven-rivers-health-improving-group-says>.

a significant role in reducing fecal coliform levels and restoring the health of shellfish areas.”¹⁹² This distinction between “ongoing and near-term activities” is important because it reveals that, while many of the “new” activities taken under the TMDL subsequent to 2006 contributed to water quality improvements, some of the success is attributable to good, old-fashioned CWA enforcement that was already spurring action and then became incorporated into the Bacteria TMDL’s planning framework.¹⁹³

Bacteria flourished in the Lynnhaven for many reasons, but a primary cause was the regular sanitary sewage overflows (“SSOs”) into its waters from the City of Virginia Beach’s sewer system network, which the city operated jointly with Hampton Roads Sanitation District (“HRSD”), the regional wastewater treatment agency.¹⁹⁴ Sanitary sewage systems are designed to collect and transport sewage into publicly owned treatment works (“POTW”).¹⁹⁵ SSOs occur when untreated sewage discharges into the environment (or into someone’s basement) before it reaches its POTW destination.¹⁹⁶ Pipe breaks, insufficient capacity, and other factors led to numerous, unauthorized sewage discharges throughout the Lynnhaven watershed and, indeed, the Hampton Roads region.¹⁹⁷ Eventually, the Virginia Department of Environmental Quality (“DEQ”) and EPA took enforcement action. Two consent orders were ultimately issued involving HRSD and several cities in the region, including Virginia Beach—the first by the state in 2007 and the second by EPA in 2009.¹⁹⁸

¹⁹² *TMDLs at Work: Virginia*, *supra* note 182.

¹⁹³ *Id.*

¹⁹⁴ LYNNHAVEN RIVER TMDL IMPLEMENTATION PLAN, *supra* note 184, at 24 (explaining that “[s]ewage collection is a joint system in which the City of Virginia Beach operate and maintain the collection system which discharges into HRSD’s interceptor system” and then “HRSD conveys the locally collected waste to large centralized and interconnected treatment facilities.”).

¹⁹⁵ *Sanitary Sewer Overflows and Peak Flows*, EPA, http://cfpub.epa.gov/npdes/home.cfm?program_id=4 (last updated Feb. 16, 2012).

¹⁹⁶ *Id.*

¹⁹⁷ VIRGINIA DEP’T OF ENVTL. QUALITY, STATE WATER CONTROL BOARD ENFORCEMENT ACTION: SPECIAL ORDER BY CONSENT 3 (2007) [hereinafter “SPECIAL ORDER BY CONSENT”], available at <http://www.deq.virginia.gov/Portals/0/DEQ/Enforcement/FinalOrders/HRSDandLocality-CO-Sept262007.pdf>.

¹⁹⁸ LYNNHAVEN RIVER TMDL IMPLEMENTATION PLAN, *supra* note 184, at 42–43. The state consent order was finalized in September 2007. See SPECIAL ORDER BY CONSENT, *supra* note 197, at 4–5. Monthly sewage treatment bills are anticipated to triple in the Hampton Roads region to fund the necessary infrastructure upgrades, which are estimated at \$1.2 billion. Scott Harper, *Sewage Bills Set to Triple to Fund \$1.2B in Upgrades*, VIRGINIAN-PILOT, Dec. 17, 2011, <http://hamptonroads.com/2011/12/sewage-bills-set-triple-fund-12b-upgrades>.

Work began in Virginia Beach to address these problems two years prior to the 2004 Lynnhaven Bacteria TMDL, which was then incorporated into the 2006 Implementation Plan.¹⁹⁹ The initial work appears to have paid off very quickly, as SSOs were reduced by 43% by 2005, when the number of events dropped from 172 to 82 in three years.²⁰⁰ Given these results, it is perhaps no coincidence that 29% of the Lynnhaven River became safe for shellfish consumption by 2007.²⁰¹ In this instance, it appears that looming state and federal attention—which culminated in consent decrees and the Bacteria TMDL—prodded genuine bacteria-reductions gains for the river.²⁰² Certainly, the city has continued to make sanitary system improvements to reduce bacteria in the river, and LRN reports that the city has spent \$78.2 million since 2003 to do just that.²⁰³ As described below, many other activities have taken place, but it is hard not to attribute the fact that 42% of the Lynnhaven was open to oystering in 2012 to the city's significant investment in improving its sewage system infrastructure.²⁰⁴

Virginia's recent efforts to revise its storm water program in response to Bay TMDL requirements will likely pressure the city to make similar investments in improving its storm water management infrastructure. To date, progress on this front has been slower in the Lynnhaven in comparison to the city's efforts to control sewage overflows.²⁰⁵ Polluted storm water runoff occurs when precipitation runs over the land or impervious surfaces—streets, parking lots, and rooftops—and is not absorbed into the ground.²⁰⁶ In the case of the Lynnhaven, storm water runoff often carries trash, chemicals, fertilizer, dog waste, and sediments with it.²⁰⁷ Some of this storm water pollution occurs by means of point source conveyances such as storm sewers, ditches, and channels, with

¹⁹⁹ LYNNHAVEN RIVER TMDL IMPLEMENTATION PLAN, *supra* note 184, at 43.

²⁰⁰ *Id.*

²⁰¹ RESTORING THE LEGENDARY LYNNHAVEN OYSTERS, *supra* note 188, at 2.

²⁰² See LYNNHAVEN RIVER TMDL IMPLEMENTATION PLAN, *supra* note 184, at 13 (citing the 1999 *American Canoe Ass'n* consent decree as requiring Virginia to develop TMDLs for all impaired water segments by 2010).

²⁰³ LYNNHAVEN RIVER NOW, 2012 STATE OF THE RIVER REPORT (2013) [hereinafter "LRN, 2012 REPORT"], available at <http://www.lynnhavenrivernow.org/files/pages/2012%20State%20of%20the%20River.pdf>.

²⁰⁴ Scott Harper, *Virginia Reopens Lynnhaven Oyster Grounds*, VIRGINIAN-PILOT, Mar. 3, 2011, <http://hamptonroads.com/2011/03/virginia-reopens-lynnhaven-oyster-grounds>.

²⁰⁵ LRN, 2012 REPORT, *supra* note 203.

²⁰⁶ *Stormwater Program*, EPA, http://cfpub.epa.gov/npdes/home.cfm?program_id=6 (last updated Feb. 16, 2012).

²⁰⁷ LRN, 2010 REPORT, *supra* note 183.

other sources including classic nonpoint sources such as lawn fertilizer and pet and wildlife waste.²⁰⁸

From 2002 to 2012, the City of Virginia Beach spent approximately \$17 million on storm water upgrades.²⁰⁹ While this is a significant investment, only 20% of the city's storm water is currently treated before entering the river.²¹⁰ Because of the Bay TMDL and increased pressure from the Commonwealth, which revised its storm water regulations in 2011,²¹¹ however, the city will likely spend much more to control storm water runoff. Indeed, when EPA withheld grant funds from Virginia in 2012 to put pressure on the Commonwealth to develop new storm water permits that met Bay TMDL requirements more quickly, Virginia Beach was one of the eleven localities the agency pointed to as a concern.²¹² Because of this regulatory pressure from the federal and state levels, LRN anticipates that improvements to the city of Virginia Beach's storm water management program will continue.²¹³

2. The Lynnhaven Bacteria TMDL: A Plan that Generated Action and Creative Partnership

Stakeholders in the Lynnhaven watershed point to the development of the Bacteria TMDL and its implementation plan as an important milestone that generated significant and serious efforts by local government and private actors. Karen Forget, LRN's executive director, credited the Bacteria TMDL for spurring the City of Virginia Beach to take action: "I think it was really brilliant to choose bacteria as the first thing to tackle."²¹⁴ More importantly, according to Forget, the Bacteria TMDL did not end up

²⁰⁸ LYNNHAVEN BACTERIA TMDL, *supra* note 185, at 16.

²⁰⁹ LRN, 2012 REPORT, *supra* note 203.

²¹⁰ *Id.*

²¹¹ *Local VSMP Program Development*, VA. DEPT' ENVTL. QUALITY, <http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPPermits/LocalVSMPProgramDevelopment.aspx> (last visited Feb. 6, 2014).

²¹² Tamara Dietrich, *Virginia Is Reapplying for \$1.2m from EPA*, DAILY PRESS, Sept. 13, 2012, http://articles.dailypress.com/2012-09-13/news/dp-nws-epa-withholds-grant-20120913_1_state-works-localities-storm-water. The Commonwealth issued its first MS4 permit designed to meet the Bay TMDL's quantitative requirements to the City of Arlington in June 2013. *Virginia Reissues Arlington's Municipal Storm Water Permit*, ARLINGTON, VA. (June 27, 2013), <http://news.arlingtonva.us/releases/virginia-reissues-arlingtons-municipal-stormwater-permit>.

²¹³ LRN, 2012 REPORT, *supra* note 203.

²¹⁴ Interview with Karen Forget, Exec. Dir., Lynnhaven River NOW (Feb. 23, 2012).

as “one more report that is on the shelf” because the “the city recognized that it was in their best interest to try and clean up the waterway [because of] some significant kind of pressure from the community to try and do so.”²¹⁵ Bill Johnston, Director of Public Works for the City of Virginia Beach, agreed with this assessment.²¹⁶ Christy Everett, Executive Director of CBF’s Hampton Roads Office, likewise praised LRN for providing critical grassroots support to the City of Virginia Beach so that the city was able to take strong action to implement the plan and meet the bacteria TMDL.²¹⁷

The initial pressure from the community to improve the Lynnhaven’s water quality, interestingly, appears to have led the City of Virginia Beach to support LRN’s creation and organizational development around the time that the Bacteria TMDL was established.²¹⁸ Several important business leaders in Virginia Beach—Andy Fine and Harry Lester, in particular—lived on the Lynnhaven River, and, in 2002, they began meeting to discuss how it might be restored.²¹⁹ Early on, they met with Jim Spore, the City Manager of Virginia Beach, and told him of their goal to be able to eat oysters out of the Lynnhaven by 2007.²²⁰ While Spore readily admitted he thought “their minds had left their bodies” for establishing such an ambitious goal, the meeting resulted in a proposal for a partnership between the City and the fledgling nonprofit organization, Lynnhaven River 2007, that Fine and Lester had founded.²²¹ In a unique twist, as part of this partnership, the City of Virginia Beach agreed to “loan” an executive to LRN to help get it on sound financial footing, allowing Barry Frankenfield, who was working in the City’s Parks and Recreation Department, to work for the non-profit two days per week.²²² LRN’s founders pursued a close relationship with the city because they believed

²¹⁵ *Id.*

²¹⁶ Interview with Bill Johnston, Dir. of Public Works for the City of Va. Beach (Sept. 27, 2012).

²¹⁷ Interview with Christy Everett, *supra* note 169.

²¹⁸ Interview with Karen Forget, *supra* note 214.

²¹⁹ Interview with Andrew Fine, President, Runnymede Corp. (Mar. 23, 2012); Interview with Harry Lester, President, Eastern Va. Med. Sch. (Mar. 28, 2012).

²²⁰ Interview with Jim Spore, City Manager of Va. Beach (Apr. 9, 2012).

²²¹ *Id.* (Lynnhaven River 2007 eventually changed its name to Lynnhaven River NOW, which is how it is referred to throughout this article).

²²² Interview with Barry Frankenfield, Strategic Growth Area Manager, City of Va. Beach (May 24, 2012).

they would only be successful if they had strong buy-in from, and partnership with, the City of Virginia Beach local government.²²³

In addition, both the city and LRN's founders shared a strong perception that a non-profit would do a better job at engaging local citizens in supporting river restoration efforts. As Fine, an LRN founder, noted, "[W]e could do things in interacting with the citizens that they could never do."²²⁴ Jim Spore, the City Manager, made a similar observation, emphasizing the need to change individual behavior and attitudes in order to address many of the nonpoint sources in the river:

The real key to the Lynnhaven is going to be getting people to change the way they behave in terms of their lawn practices, animal practices, boating practices and all of that kind of stuff. It's those non-point things at this stage of the game that we need to address and we don't have enough staff to address it.²²⁵

Steve Herbert, a Deputy City Manager with the City of Virginia Beach, referred to LRN as a "force multiplier."²²⁶ He noted that:

We don't have the staff and resource[s] to get that focused and that much energy devoted to something like this. [LRN's] performance has allowed us to really excel in an area that I don't think anybody would have assumed. We have made advances and progress in terms of water quality, but I don't think anybody would have imagined this happening. I am not sure we would have done it on our own. We would have eventually gotten around to fixing the sewers in Little Neck, but they have the benefit of an organized passion, volunteers, citizens that are influential, and they have adopted an operating mode that has been very successful.²²⁷

²²³ Interview with Andrew Fine, *supra* note 219. As Andy Fine put it, "[I]f we hadn't gotten a reception like we did from the City Manager from day one, I am not sure we would have proceeded." Other benefits of this arrangement turned out to include significant city employee participation on various committees and a contract with the city for community education, which continues to this day. Interview with Karen Forget, *supra* note 214.

²²⁴ Interview with Karen Forget, *supra* note 214.

²²⁵ Interview with Jim Spore, *supra* note 220.

²²⁶ Interview with Steve Herbert, Deputy City Manager, City of Va. Beach (May 4, 2012).

²²⁷ *Id.*

Clay Bernick, Administrator of the City of Virginia Beach's Environment and Sustainability Office, noted that:

The City wouldn't have had as much citizen support without LRN. I think that is where the big difference was. . . . That stewardship ethic is much better communicated through a community group than through the city government.²²⁸

And, indeed, LRN has excelled at engaging citizens throughout the Lynnhaven River watershed. As EPA noted, "[t]he organization's membership total is nearly 10 percent of the Lynnhaven River watershed population," and the agency has praised LRN for its work to significantly reduce the number of septic systems in the watershed and its promotion of the city's "Don't Feed the Ducks and Geese" and "Scoop the Poop" education programs.²²⁹ LRN's "Pearl Homes" program, which began in 2011, has been adopted rapidly, enrolling over 1000 households by 2013.²³⁰ Pearl Home members agree to participate in various activities—from installing rain barrels to reducing lawn cover and fertilizer—designed to address some of the individual behaviors causing problems for the watershed.²³¹

Interestingly, in spite of its close ties with the city, LRN has also taken more controversial stands. It advocated for a No Discharge Zone for the river, and reached out to the marinas and boaters on the river to build support for the regulation.²³² In 2007, the city became the second city in Virginia to adopt a No Discharge Zone that prohibited sanitary discharges of waste from boats in the Lynnhaven,²³³ with more than 8800 gallons of boat sewage pumped out of the river since that time.²³⁴ LRN

²²⁸ Interview with Clay Bernick, Adm'r, City of Va. Beach Env't & Sustainability Office (Apr. 18, 2012).

²²⁹ *TMDLs at Work: Virginia*, *supra* note 182.

²³⁰ *Pearl Homes*, LYNNHAVEN RIVER NOW, <http://www.lynnhavenrivernow.org/Pearl-Homes.aspx> (last visited Feb. 6, 2014).

²³¹ LYNNHAVEN RIVER NOW, PEARL HOME APPLICATION, *available at* <http://www.lynnhavenrivernow.org/files/pages/Flyer%20Final2.pdf>.

²³² Interview with Laurie Sorabella, Exec. Dir., Oyster Reef Keepers of Va. (May 24, 2012).

²³³ *No Discharge Zones*, EPA, <http://www.epa.gov/reg3wapd/nodischarge/> (last updated May 11, 2011) (explaining that § 312 of the CWA regulates vessel sewage discharge); Scott Harper, *Lynnhaven River Designated a 'No Discharge Zone' by State*, VIRGINIAN-PILOT, Mar. 10, 2007, <http://hamptonroads.com/node/234891>.

²³⁴ LRN, 2012 REPORT, *supra* note 203. The Clean Boating and Clean Marinas Committee continues to promote the No Discharge Zone and assist marina owners in attaining the Clean Marina certification through the Clean Marina Program. *Clean Boating and Clean*

also successfully opposed the development of a property on the river now known as Pleasure House Point.²³⁵ Skip Stiles, the Executive Director of Wetlands Watch, a local advocacy group with a reputation for taking aggressive policy positions and opposing wetlands permits, praised LRN for having “a good healthy advocacy position” in spite of their connections to the city and influential people in the community.²³⁶

Finally, in addition to encouraging citizens to take action to improve water quality, LRN’s education and outreach work also built crucial support for city investment designed to meet the Bacteria and Bay TMDLs. City Manager, Jim Spore, observed:

If we didn’t have the support group in terms of LRN and the [Chesapeake Bay Foundation] and others in place supporting this, I think it would have been much more difficult for the politicians to support the kind of investment necessary to meet these TMDLs. I think it would have been digging in your heels resisting. Some of the communities were talking about lawsuits, etc. Now it is like “wait a minute. Maybe some of this stuff does make some sense.” I think the council knows that there [are] a lot of people in the community that support this and it means a lot to them. If we didn’t have the support base, many of them would have dug in their heels and said we are not going to do this because it just doesn’t make any sense.²³⁷

This support included supporting the Bay TMDL effort generally, which, as noted earlier, was initially very controversial in Hampton Roads.²³⁸ For example, Andrew Fine, the politically connected co-chairman of LRN, co-authored with Louis Ryan, a well-known retired lawyer, an opinion piece in support of the Bay-wide TMDL that ran in the *Virginian-Pilot*.²³⁹ According to Christy Everett, the Director of CBF’s Hampton Roads Office, grassroots support designed to help local officials, businesses, and

Marinas Committee, LYNNHAVEN RIVER NOW, <http://www.lynnhavenrivernow.org/clean-boating-marina-committee.aspx> (last visited Feb. 6, 2014).

²³⁵ Interview with Skip Stiles, Exec. Dir., Wetlands Watch (Feb. 17, 2012).

²³⁶ *Id.*

²³⁷ Interview with Jim Spore, *supra* note 220.

²³⁸ See *Leaders Choose Not to Sue*, *supra* note 161.

²³⁹ Louis F. Ryan & Andrew S. Fine, Editorial, *Don’t Impede Bay Cleanup Plan*, VIRGINIAN-PILOT, Mar. 31, 2011, at B7.

citizens make the investments necessary to improve water quality is essential—and groups such as LRN do a good job fulfilling this role.²⁴⁰ In regional discussions about implementing the Bay TMDL, Everett explained that “[w]ithout LRN having the power to say ‘I am standing here speaking on behalf of 3,000 members and we have credibility, don’t delay’ [the discussions] would not have been as effective.”²⁴¹ Moreover, Everett describes local grassroots collaboratives as “neutral territories,” which “resonate[] with trust” and help develop relationships that make people more inclined to change their behavior and donate their time and resources to restoration.²⁴² For their part, larger, regional groups such as CBF, the Virginia Conservation Network (“VCN”), and the Choose Clean Water Coalition (“CCWC”) also benefit from having local grassroots groups as participating members. As Nathan Lott, VCN Executive Director explained, local groups are “going to have the best relationships with their legislators often times.”²⁴³ Peter Marx, who assists CCWC with federal affairs, agreed, describing how LRN was a great asset in expressing to Virginia Beach’s Congressman, Representative Scott Rigell (R-VA), how important certain Farm Bill programs were for local water quality.²⁴⁴ Legislators “listen to locals,” Marx explained.²⁴⁵ Moreover, given that the Bay TMDL is having such an impact on local governments, Marx felt that the participation of local grassroots groups in supporting the TMDL effort is likely to become only more important.²⁴⁶

The importance of the Lynnhaven River TMDL is also extending beyond its local watershed. In addition to serving as a national example at EPA, CBF has used it to support the larger, Bay-wide TMDL effort.²⁴⁷ The Lynnhaven River TMDL also appears to have prompted ERP and CBF to partner together to work with the City of Norfolk on developing an implementation plan for a bacteria TMDL for the Lafayette River, a branch of the Elizabeth River that is primarily residential.²⁴⁸ Together,

²⁴⁰ Interview with Christy Everett, *supra* note 169.

²⁴¹ *Id.*

²⁴² *Id.*

²⁴³ Interview with Nathan Lott, Exec. Dir., Va. Conservation Network (Oct. 9, 2012).

²⁴⁴ Interview with Peter Marx, Fed. Affairs Consultant, Choose Clean Water Coal. (Aug. 9, 2012).

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ Chuck Epes, *Lynnhaven River Points the Way to a Clean Bay*, BAY DAILY (Oct. 22, 2010, 6:02 PM), http://cbf.typepad.com/bay_daily/2010/10/lynnhaven-river-points-the-way-to-a-clean-bay.html.

²⁴⁸ Interview with Katchmark & Tribo, *supra* note 167.

ERP and CBF convened approximately 100 people from the Norfolk community to agree on an implementation plan to restore the Lafayette.²⁴⁹ As ERP has traditionally focused on commercial facilities instead of homeowners, the Lafayette project represents a widening of organizational focus to include residential non-point source pollution.²⁵⁰ Perhaps, as Skip Stiles of Wetlands Watch observed, the ERP–CBF–City of Norfolk partnership is a sign of future collaboration among the city, local, and regional groups to solve some of the area’s most pressing environmental problems.²⁵¹

IV. TMDL LESSONS FROM THE BAY AND LYNNHAVEN

Both the Bay TMDL and the Lynnhaven River Bacteria TMDL provide important lessons for regional and local watershed restoration efforts. First, a more complicated approach to watershed-wide restoration efforts under the CWA’s cooperative federalism framework may well be emerging—one that requires an appreciation of the possible limits of regional collaboration as well as the potential benefits of genuine local government engagement and grassroots collaboration on a local level to complement federally driven approaches such as the Bay TMDL. Given that a significant amount of nonpoint source pollution in the Bay requires individual behavior change to be controlled, engaging local actors to take action to reduce pollution is necessary if we indeed desire an unimpaired Bay. In this vein, as trusted local advocates for environmental improvement, grassroots organizations such as LRN can be a powerful force for citizen action in their communities as well as prove to be an effective bridge between local governments and citizens. More broadly, local nongovernmental groups such as LRN serve to alter the traditional concepts of cooperative federalism and policy accountability when they become full partners in the efforts to meet national environmental standards. Federal and state regulators and local government officials acknowledge that the LRN has played an important role in building trust and educating citizens while communicating the meaning and significance of the federal regulations, and they note that LRN’s participation will be necessary for continued progress.²⁵² Federal and state regulators likewise agree that

²⁴⁹ ELIZABETH RIVER PROJECT, THE PLAN FOR RESTORING THE LAFAYETTE RIVER: EXECUTIVE SUMMARY (2011) [hereinafter “THE PLAN FOR RESTORING THE LAFAYETTE RIVER”], available at <http://www.cbf.org/document.doc?id=659>.

²⁵⁰ Interview with Katchmark & Tribo, *supra* note 167.

²⁵¹ Interview with Skip Stiles, *supra* note 235.

²⁵² See Interview with Jeff Corbin, *supra* note 79; Interview with Jim Spore, *supra* note 220; Interview with Clay Bernick, *supra* note 228.

such local grassroots intervention will indeed be important, if not necessary, for progress in meeting the Bay TMDL in other watersheds on the Chesapeake Bay. LRN is a successful example for the kind of local work and investment necessary to meet many of the Bay TMDL requirements and WIP commitments.

In addition, local watershed groups such as LRN need federal and state policymakers to provide a strong regulatory presence and framework so that they can work within and beyond regulatory foundations. In the Lynnhaven, both a consent decree requiring the reduction of sanitary sewage overflows and the Bacteria TMDL provided a platform for LRN to make the case to both local government officials and citizens that expensive infrastructure improvements, local action, and individual behavior change were needed. As Bob Wayland, a former EPA official, explained when discussing the relationship between local nonprofit groups and regulatory requirements, “[o]ne thing we heard loud and clear from a lot of local groups was we need strong regulations. If we don’t have strong regulations there isn’t a good foundation for us to build on.”²⁵³ Certainly, the Lynnhaven River Bacteria TMDL is a striking example of how a watershed group used a regulatory framework to partner with stakeholders and make tremendous environmental gains—the TMDL became an actual plan to implement instead of “one more report that is on the shelf.”²⁵⁴ With strong support from ERP, CBF, and the city, the recently developed Bacteria TMDL in the Lafayette River in nearby Norfolk appears to be headed in the same direction.

Thirdly, decreasing public resources increases the need for non-governmental actors to support local investment assisting in the implementation of national environmental goals. From improved storm water management to better controlling sanitary sewage overflows, many of the gains that remain to be made require local government investment and expenditure. Meeting the Bay TMDL and Lynnhaven Bacteria TMDL has been—and will continue to be—expensive for local governments and local taxpayers. Having groups such as LRN explain and generate support for these efforts is critical to providing local government officials the support they need to spend the funds necessary to improve local water quality.²⁵⁵

²⁵³ Interview with Wayland & Pawlukiewicz, *supra* note 75.

²⁵⁴ Interview with Karen Forget, *supra* note 214.

²⁵⁵ The Elizabeth River Project and CBF are following suit with their educational efforts regarding the Lafayette River TMDL. See THE PLAN FOR RESTORING THE LAFAYETTE RIVER, *supra* note 249 (highlighting the fact that the City of Norfolk has spent \$76 million to address sanitary sewage overflows since 2002).

As educators, groups such as LRN also serve, in many ways, as “force multipliers” of the kind of local government action that policymakers would take if they had sufficient resources to do so. Again, in a time of limited budgets for government at all levels, the kind of educational, water quality monitoring, and restoration work conducted by LRN fills an important gap.

Finally, from Skip Stiles at Wetlands Watch to James Davis-Martin at DCR to Jeff Corbin at EPA, it is evident to all involved with the Bay TMDL and its implementation that government will not succeed if it decides to go it alone. Local environmental groups in Hampton Roads have already played a critical role in educating their members and the public about many of the actions that will be necessary to control polluted runoff. These groups have also lent credibility to the Bay TMDL process generally, convincing local government officials that a genuine, grassroots desire for improved water quality supported the Bay TMDL effort and could help them meet the Bay TMDL’s requirements. Put simply, local watershed collaboratives play a critical role in both legitimizing government action and engaging citizens to change their behavior. This role could not be more important for a process as complicated, ambitious, and fraught with controversy as the Bay TMDL. Certainly, it appears that some federal and state players are recognizing the power and importance of local watershed action. It will remain to be seen if they fully appreciate and enable its potential.