

Success and Backlash: The Remarkable (Continuing) Story of the Clean Water Act

William L. Andreen*

Our nation recently celebrated the fortieth anniversary of a truly transformative statute: the Clean Water Act of 1972 (“Act”).¹ The Act instituted a fundamental shift in the nation’s approach to water pollution control. Prior to its enactment, the primary responsibility for regulating water pollution resided with the states,² although the federal government had aided state efforts for years by providing technical and financial support.³ In addition, Congress created a program in 1965 that called upon the states to set and implement water quality standards for their interstate waters.⁴ Although some state programs made progress, this regulatory paradigm largely failed.⁵ As late as 1968, seventy percent of industrial discharges remained untreated, while the rest often received only rudimentary treatment.⁶

At the same time, pollutant discharges from municipal waste systems were growing ever larger,⁷ and fish kills had reached record proportions.⁸

By 1972, Congress had grown weary of rivers that resembled “little more than sewers to the seas”⁹ and the many states that were unable, or unwilling, to submit acceptable water quality standards and implementation plans.¹⁰ Even if every state had submitted fully acceptable water quality standards, federal enforcement would have been difficult because the government would have had to prove which particular polluter was responsible for a violation of the relevant stream standards.¹¹ This was a nearly insurmountable challenge because the government possessed virtually no data about the location, volume, or composition of industrial discharges, and the challenge was even greater when there were more than a few likely suspects.¹² So, instead of continuing to rely primarily upon state water quality standards, Con-

* William L. Andreen is the Edgar L. Clarkson Professor of Law, University of Alabama School of Law, and a Scholar Member of the Center for Progressive Reform.

1. Clean Water Act of 1972 (“CWA”), Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251–1376 (2006)).
2. See William L. Andreen, *The Evolution of Water Pollution Control in the United States: State, Local and Federal Efforts, 1789–1972: Part I*, 22 STAN. ENVTL. L.J. 145 (2003) [hereinafter Andreen, *Evolution of Water Pollution Control, Part I*]; N. William Hines, *Nor Any Drop to Drink: Public Regulation of Water Quality Part I: State Pollution Control Programs*, 52 IOWA L. REV. 186 (1966).
3. See 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, 235–52 (2003).
4. See *id.* at 244–50, 252–55; N. William Hines, *Nor Any Drop to Drink: Public Regulation of Water Quality Part III: The Federal Effort*, 52 IOWA L. REV. 799, 825–30 (1967).
5. Andreen, *Evolution of Water Pollution Control, Part I*, *supra* note 2, at 189–99. For a refutation of the claims made by some commentators that the states had made significant strides forward in combating water pollution prior to 1972 see William L. Andreen, *Delegated Federalism Versus Devolution: Some Insights From the History of Water Pollution Control*, in PREEMPTION CHOICE: THE THEORY, LAW, AND REALITY OF FEDERALISM’S CORE QUESTION 257 (William W. Buzbee ed., 2009) [hereinafter Andreen, *Delegated Federalism and Water Pollution Control*]. Similar assertions have been made with regard to air pollution, namely that state and local governments were making considerable regulatory progress in the years before the Clean Air Act Amendments of 1970 were enacted. Those claims are rebutted in William L. Andreen, *Of Fables and Federalism: A Re-Examination of the Historical Rationale for Federal Environmental Regulation*, 42 ENVTL. L. 627 (2012).
6. William H. Rodgers Jr., *Industrial Water Pollution and the Refuse Act: A Second Chance for Water Quality*, 119 U. PA. L. REV. 761, 764 (1971).

7. ANDREW STODDARD ET AL, MUNICIPAL WASTEWATER TREATMENT: EVALUATING IMPROVEMENTS IN NATIONAL WATER QUALITY 469 (2002).
8. FEDERAL WATER QUALITY ADMINISTRATION, 1969 FISH KILLS 1 (1969) (stating that an estimated forty-one million fish were killed by water pollution in 1969, the highest toll “by far” since “census-taking” began in 1960).
9. STAFF OF S. COMM. ON ENV’T & PUB. WORKS, A STRONG EPA PROTECTS OUR HEALTH AND PROMOTES ECONOMIC GROWTH 2–3 (2011) (quoting Sen. Edmund Muskie) (citation omitted), available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=4832ff13-a018-4898-949a-80e6f543ea6f. Senator Muskie added, in an especially apt way, that only ten minutes from Capitol Hill, at the Georgetown Gap, fifteen million gallons of raw sewage were pouring into the Potomac River every day. *Id.* Senator Muskie was the principal Senate sponsor of the bill. See S. 2770, 92d Cong. (1971); EPA v. Nat’l Crushed Stone Ass’n, 449 U.S. 64, 71 n.10 (1980).
10. Only twenty-nine states had fully approved water quality standards by the end of 1970. BEATRICE HORT HOLMES, HISTORY OF FEDERAL WATER RESOURCES PROGRAMS AND POLICIES, 1961–70, at 190 (1979).
11. See EPA v. California ex rel. State Water Res. Control Bd., 426 U.S. 200, 202–03 (1976). By the end of 1970, a total of only fourteen notices of violation had been issued under the water quality standards program, and no case had progressed beyond the stage of an informal conference. James W. Moorman, *Primer for the Practice of Federal Environmental Law*, 1 ELR 50001, 50015 (Jan.-Dec. 1971).
12. See *Water Pollution Control Legislation 1971: Oversight Hearings Before the H. Comm. on Public Works*, 92d Cong., 1st Sess. at 11 (1971) (statement of Elmer B. Staats, U.S. Comptroller Gen.) (“[I]t is difficult to relate a change in water quality to a specific municipal or industrial discharge.”); Andreen, *Evolution of Water Pollution Control, Part I*, *supra* note 2, at 253–54. At the time, many federal officials bemoaned the absence of effluent standards which would have

gress adopted a wholly new approach and, in doing so, vastly expanded the federal role in water pollution control.

Congress based its new approach upon the federal establishment of uniform, technology-based effluent limitations that set performance standards for new and existing facilities in hundreds of industrial categories and subcategories.¹³ These limitations, in turn, were applied to thousands of point source dischargers¹⁴ through a new permit system—the National Pollutant Discharge Elimination System (“NPDES”) permit program—that specifically defines the enforceable obligations of the individual discharger.¹⁵ Congress retained and expanded the state water quality standard program, however, to ensure that water quality objectives were met.¹⁶ Accordingly, in cases where compliance with effluent limitations alone was not enough to meet water quality standards, Congress directed permit writers to issue NPDES permits with even tougher permit conditions designed to bring about compliance with water quality standards.¹⁷ The Act thereby combined technology-based limitations with ambient-based quality standards in a creative attempt to combat rising levels of water pollution. Although the U.S. Environmental Protection Agency (“EPA”) issued many of the initial NPDES permits, the states could obtain the authority to administer the NPDES permit program within their jurisdiction, and the vast majority of them have done so.¹⁸ Moreover, all of these states have the authority to set and enforce standards, if they wish, that are even more protective of public health and the environment.¹⁹

The permit system greatly eased enforcement of the Act because NPDES permits normally contain precise numerical limits that define compliance with the Act.²⁰ Determining the existence of a violation is thus a relatively simple process in most cases, involving just a comparison of the permit conditions with actual performance.²¹ Congress also gave the

federal government enormous power to respond directly to violations of the Act through administrative actions, civil actions, and criminal sanctions,²² while also recognizing that federal enforcement could falter on occasion due to budget reductions or inhospitable administrations.²³ Therefore, Congress created a redundant system for enforcement, recognizing both the authority of state governments to enforce their permits²⁴ and the zeal that private citizens could bring to the Act’s enforcement.²⁵

To facilitate municipal compliance with the requirements of the NPDES program, Congress also created one of the largest public works programs in history to fund the construction and renovation of thousands of publicly-owned wastewater treatment plants. Until it was phased out in the late 1980s, EPA’s construction grants program provided billions of dollars of funding directly to local governments based on a state-established priority list.²⁶ Since that time, EPA funding has continued, but it is now provided through the State Revolving Fund (“SRF”).²⁷ Under this newer program, EPA makes funding available to the states, which in turn provide assistance to local governments in various ways, including low-interest loans.²⁸

In addition to the NPDES permit system, the Act contained another critically important permit program. The discharge of dredged or fill material into waters of the United States—including wetlands—may only take place pursuant to a section 404 permit from the U.S. Army Corps of Engineers (“Corps” or “Corps of Engineers”).²⁹ The section 404 program, however, is not exclusively administered by the Corps. When drafting dredge and fill permits, the Corps must abide by guidelines promulgated by EPA.³⁰ The permits, moreover, are subject to EPA review and possible disapproval.³¹

The Act and the regulatory programs it created have proven remarkably successful. Both municipal and industrial discharges have declined sharply,³² the loss of wetlands has been cut decisively,³³ and water quality has broadly improved across the country.³⁴ All of this was achieved without causing any significant harm to the economy in terms of employment, growth, or investment.³⁵ It is, in short, a real success story and a tribute to the foresight of the 92nd Congress,³⁶ as well as to the men and women in both state and federal regu-

eased the task of implementation and enforcement. HOLMES, *supra* note 10, at 192–93.

13. CWA §§ 301(b)(1)(A), (b)(1)(B), (b)(2), 306(b)(1)(B), 33 U.S.C. §§ 1311(b)(1)(A), (b)(1)(B), (b)(2), 1316(b)(1)(B) (2006).

14. Point sources are defined as “any discernible, confined and discrete conveyance” such as pipes, conduits, ditches, containers, confined animal feeding operations, and the like “from which pollutants are or may be discharged.” *Id.* § 502(14), 33 U.S.C. § 1362(14) (2006). A “discharge of pollutants” is defined as the “addition of any pollutant to navigable waters,” *id.* § 502(12), 33 U.S.C. § 1362(12), and “navigable waters” are in turn defined as “waters of the United States.” *Id.* § 502(7), 33 U.S.C. § 1362(7).

15. *Id.* § 402, 33 U.S.C. § 1342 (2006). Stormwater discharges from industry, construction sites of one acre or more, and municipal separate storm sewer systems are also subject to this permit requirement although they often receive general permits (a permit applicable to a broad group of dischargers) rather than individual permits. However, stormwater discharges are regulated through the use of best management practices rather than through the application of effluent limitations. *See* Storm Water Discharges, 40 C.F.R. § 122.26 (2011).

16. CWA § 303, 33 U.S.C. § 1313 (2006).

17. *Id.* §§ 402(a), 301(b)(1)(C), 33 U.S.C. §§ 1342(a), 1311(b)(1)(C).

18. *Id.* § 402(b), 33 U.S.C. § 1342(b). Forty-six states currently possess the authority to issue NPDES permits. *See National Pollutant Discharge Elimination System (NPDES), Specific State Program Status*, U.S. ENVTL. PROT. AGENCY, <http://cfpub.epa.gov/npdes/statestats.cfm> (last updated Apr. 14, 2003).

19. CWA § 510, 33 U.S.C. § 1370 (2006).

20. William L. Andreen, *Water Quality Today—Has the Clean Water Act Been a Success?*, 55 ALA. L. REV. 537, 549 (2004) [hereinafter Andreen, *Water Quality Today*].

21. *Id.*

22. CWA § 309, 33 U.S.C. § 1319 (2006).

23. For a discussion of three occasions during which federal enforcement declined in a serious fashion, see William L. Andreen, *Motivating Enforcement: Institutional Culture and the Clean Water Act*, 24 PACE ENVTL. L. REV. 67, 71–74 (2007).

24. *See* CWA § 402(b)(7), 33 U.S.C. § 1342(b)(7) (2006).

25. *See id.* § 505(a)(1), 33 U.S.C. § 1365(a)(1) (2006) (citizen suit enforcement provision).

26. *See* Andreen, *Water Quality Today*, *supra* note 20, at 552.

27. *See id.*

28. *See id.* at 552 n.107.

29. *See* CWA § 404, 33 U.S.C. § 1344 (2006).

30. *Id.* § 404(b), 33 U.S.C. § 1344(b).

31. *Id.* § 404(c), 33 U.S.C. § 1344(c).

32. *See infra* notes 63–69, 90 and accompanying text.

33. *See infra* notes 96–100 and accompanying text.

34. *See infra* notes 70–94 and accompanying text.

35. *See* Andreen, *Water Quality Today*, *supra* note 20, at 577–78.

36. *See supra* notes 13–31 and accompanying text.

latory agencies who have labored so hard, and for so long, to restore and maintain the integrity of our nation's waters.

The Act is showing its age, however. Twenty-five years have passed since it was last amended in a comprehensive fashion,³⁷ and more than a little fine-tuning is necessary to finish the task that began in 1972. The most significant problem involves nonpoint source pollution—the indirect discharge of polluted runoff from fields and roads, clear cuts, and parking lots. The Act never addressed nonpoint source pollution in a straightforward way; rather, it was treated as something of an afterthought left primarily in the hands of state and local government. Instead of directly regulating nonpoint source pollution, Congress relied at first upon a state-implemented, regional planning process to deal with the problem.³⁸ When that approach proved ineffective, Congress added a new provision calling upon the states to identify waters that are water quality impaired due to nonpoint source pollution and then develop management plans to rectify the problem.³⁹ Unfortunately, the states have primarily relied upon management practices that are entirely voluntary in nature.⁴⁰ As a result, the nonpoint source program has not made great strides forward,⁴¹ and nonpoint source pollution has evolved into the largest single source of water quality impairment in the country.⁴² These diffuse sources of water pollution are, furthermore, much more diverse than we once thought. In addition to obvious sources such as polluted runoff from agriculture, urban areas, logging operations, and mines, nonpoint source pollution also includes cross-media transfers, including the deposition of air pollutants such as mercury and nitrogen, into our waters.⁴³

Many other problems remain as well. Two Supreme Court cases, *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*⁴⁴ (“SWANCC”) and *Rapanos v. United States*⁴⁵ (“Rapanos”), have narrowed the Act's jurisdiction in such a way that many formerly protected wetlands, headwaters, and intermittent streams are now fair game for degradation.⁴⁶ Another recent decision has created the possibility of industrial dischargers avoiding the

application of effluent limitations (and thus limits on the discharge of many pollutants, including toxics) by placing enough fill material into their waste stream to come under regulation as a dredge or fill operation rather than as an industrial polluter.⁴⁷

The nation's existing infrastructure for collecting and treating municipal wastewater is aging while the population is growing, and sanitary sewer overflows and combined sewer overflows persist as problems in hundreds of cities.⁴⁸ EPA's efforts to update the technology-based effluent limitations are seriously lagging due to inadequate funding,⁴⁹ while permit compliance⁵⁰ and state enforcement efforts⁵¹ remain too inconsistent.

Since 1987, Congress has been unable to act, however, on any positive legislation to strengthen the Act in a comprehensive way. The Senate Environment and Public Works Committee made an attempt in 1994 when it reported S. 2093.⁵² The bill progressed no further, however, as Congress became consumed by regulatory relief issues.⁵³ Since then, Congress has only considered patchwork legislation, such as bills, to restore the Act's former jurisdictional reach—bills that also failed to pass.⁵⁴ Congress did, however, manage to provide a significant additional sum for funding municipal sewage

1 (2009), available at <http://www.epa.gov/oig/reports/2009/20090430-09-N-0149.pdf>.

47. See *Coeur Alaska, Inc. v. Southeast Alaska Conservation Council*, 557 U.S. 261 (2009); Robert B. Moreno, *Filling the Regulatory Gap: A Proposal for Restructuring the Clean Water Act's Two-Permit System*, 37 *ECOLOGY L.Q.* 285, 288 (2010). Although EPA could veto such a dredge and fill permit issued by the U.S. Army Corps of Engineers, see CWA § 404(c), 33 U.S.C. § 1344(c) (2006), the agency has only vetoed thirteen Corps-issued permits since 1972. See *Testimony of Nancy K. Stoner, Acting Ass't Adm'r, EPA Office of Water, Before the Subcomm. on Water Resources and Env't. of the H. Comm. on Transp. & Infrastructure*, 112th Cong. at 4 (May 11, 2011).
48. See U.S. ENVTL. PROT. AGENCY, EPA-832-R-10-002, CLEAN WATERSHEDS NEEDS SURVEY 2008: REPORT TO CONGRESS vi-vii [hereinafter EPA, CLEAN WATERSHEDS NEEDS SURVEY 2008], available at <http://water.epa.gov/scitech/datat/databases/cwns/upload/cwns2008rtc.pdf>.
49. See ANDREEN & JONES, BLUEPRINT FOR REFORM, *supra* note 40, at 21–22.
50. EPA, for example, reported that 23.2% of major dischargers were in significant noncompliance with their permits during FY2009. OFFICE OF ENFORCEMENT & COMPLIANCE ASSURANCE, U.S. ENVTL. PROT. AGENCY, FY2009 CWA NATIONAL DATA DOWNLOAD (2010), available at <http://www.epa.gov/oecaerth/resources/reports/performance/cwa/cwa-pdf-2009.pdf>.
51. See OFFICE OF INSPECTOR GEN., U.S. ENVTL. PROT. AGENCY, REP. NO. 12-P-0113, EPA MUST IMPROVE OVERSIGHT OF STATE ENFORCEMENT 8–10 (2011), available at <http://www.epa.gov/oig/reports/2012/20111209-12-P-0113.pdf>.
52. See Water Pollution Prevention and Control Act of 1994, S. 2093, 103d Cong. (1994).
53. CLAUDIA COPELAND, CONG. RESEARCH SERV., RL33466, WATER QUALITY: IMPLEMENTING THE CLEAN WATER ACT 2–3 (2006) [hereinafter COPELAND, WATER QUALITY]. The Republican majority in the 104th Congress did attempt to pass comprehensive legislation, which was designed to cripple the Clean Water Act. For instance, it would have added broad mandates to engage in risk assessment and cost-benefit analysis prior to issuing standards, effluent limitations, and other regulatory requirements in addition to requiring the federal government to compensate many regulated entities subject to section 404 dredge and fill regulation. See Clean Water Amendments of 1995, H.R. 961, 104th Cong. (1995); COPELAND, WATER QUALITY at 3. Although the House of Representatives passed the bill in May 1995, the Senate did not act on this Clean Water Act legislation. See *id.*
54. See CLAUDIA COPELAND, CONG. RESEARCH SERV., R41594, WATER QUALITY ISSUES IN THE 112TH CONGRESS: OVERSIGHT AND IMPLEMENTATION 12–13 (2011) [hereinafter cited as COPELAND, WATER QUALITY ISSUES IN THE 112TH CONGRESS]. One of these bills, the Clean Water Restoration Act, S. 787, was approved by the Senate Environment and Public Works Committee in 2009, but it was not considered by the full Senate. See *id.* at 13.

37. See Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 7 (1987).

38. CWA § 208(b)(2)(F), 33 U.S.C. § 288(b)(2)(F) (2006).

39. *Id.* § 319, 33 U.S.C. § 1329 (2006).

40. See WILLIAM L. ANDREEN & SHANA JONES, THE CLEAN WATER ACT: A BLUEPRINT FOR REFORM 15, 21–22 (2008) [hereinafter ANDREEN & JONES, BLUEPRINT FOR REFORM], available at http://www.progressivereform.org/articles/CW_Blueprint_802.pdf.

41. ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 764 (6th ed. 2009).

42. Linda A. Malone, *The Myths and Truths That Ended the 2000 TMDL Program*, 20 *PACE ENVTL. L. REV.* 63, 76 (2002).

43. See OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, NATIONAL WATER QUALITY INVENTORY: REPORT TO CONGRESS, 2004 REPORTING CYCLE 10, 18–19 (2009) [hereinafter EPA, NATIONAL WATER QUALITY INVENTORY 2004]; Andreen, *Water Quality Today*, *supra* note 20, at 556–57, 562–64.

44. *Solid Waste Agency of N. Cook Cnty. v. U.S. Army Corps of Eng'rs*, 531 U.S. 159, 166 (2001).

45. *Rapanos v. United States*, 547 U.S. 715, 731–32 (2006).

46. See Jon Devine et al., *The Intended Scope of Clean Water Act Jurisdiction*, 41 *ENVTL. L. REP.* 11,118, 11,125 (2011). According to a recent study, hundreds of Clean Water Act enforcement matters have not been pursued due to uncertainty over the scope of the Act's jurisdiction created by the two cases. OFFICE OF INSPECTOR GEN., U.S. ENVTL. PROT. AGENCY, REP. NO. 09-N-0149, CONGRESSIONALLY REQUESTED REPORT ON COMMENTS RELATED TO EFFECTS OF JURISDICTIONAL UNCERTAINTY ON CLEAN WATER ACT IMPLEMENTATION

projects as part of the 2009 stimulus bill⁵⁵ and pass a number of bills dealing with specific water quality issues and programs, such as the Chesapeake Bay cleanup and the National Estuary Program.⁵⁶ The prospects for the passage of any more piecemeal reform legislation, let alone a comprehensive bill, appear nil at present, however. In fact, the momentum on Capitol Hill appears to lie with those who would roll back the protections provided by the Act.

Since the beginning of the 112th Congress in January 2011, the House of Representatives has passed a long line of bills and riders designed to retard progressive regulation.⁵⁷ One bill in particular, the Clean Water Cooperative Federalism Act of 2011,⁵⁸ was specifically intended to blunt further progress under the Clean Water Act. Although these bills were unlikely to either pass the Senate during the 112th Congress or receive President Obama's signature,⁵⁹ they demonstrated a significant disconnect in American politics: the public continues to support strong environmental protection,⁶⁰ while many of their representatives—apparently a majority in the House in the 112th Congress—did not. It is a vexing problem, and one that poses not only a present obstacle, but possibly a continuing barrier to efforts to update the Act.

This Article will first examine the progress that the Act has produced in terms of water quality. It will then briefly discuss the nature of the water quality challenges that we face today and why the Act's regulatory framework is not well designed to address many of those problems. Finally, the Article will address the current backlash on Capitol

Hill before offering a few thoughts on what can be done to restore an effective commitment to clean water in the halls of Congress. That task will involve stronger and more comprehensive efforts to inform and mobilize public opinion, not only to deflect the current backlash, but to build support for broad legislative reform.

I. A Record of Remarkable Progress

In contrast to the degraded conditions that characterized water quality in the 1960s, the Clean Water Act has produced remarkable results. In the mid-1990s, EPA funded a study that evaluated progress under the Act in a fairly comprehensive way. It did so by examining (1) national loadings of organic material measured as biological oxygen demand ("BOD")⁶¹ from sewage treatment facilities before and after the Act; (2) worst-case historical levels of dissolved oxygen in waters downstream from point sources both before and after the Act; and (3) case study assessments comparing before and after conditions.⁶²

With regard to the discharge of organic waste, EPA found considerable progress. Between 1973 and 1995, the discharge of BOD⁶³ by industrial point sources fell by forty percent.⁶⁴ Moreover, despite the fact that loadings of BOD to municipal facilities increased by thirty-five percent between 1968 and 1996, discharges of BOD from these plants dropped twenty-three percent.⁶⁵ This improvement was due to the construction and renovation of thousands of municipally-owned sewage treatment plants as well as to the imposition of secondary, and even better, treatment requirements.⁶⁶ In fact, between 1970 and 1995, EPA provided local governments with over \$61 billion under the old construction grants program.⁶⁷ Additionally, EPA distributed \$34.5 billion to the states through the Clean Water State Revolving Fund Program between 1989 and 2011.⁶⁸ Of the 226 million Americans who were served by municipal sewer systems in 2008, 113 million were provided with advanced waste-

55. The bill provided \$3.81 billion to the Clean Water State Revolving Fund. See OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, REP. NO. EPA-832-K-11-001, IMPLEMENTATION OF THE AMERICAN RECOVERY & REINVESTMENT ACT OF 2009: CLEAN WATER & DRINKING WATER STATE REVOLVING FUND PROGRAMS 22 (2011). These funds supplemented the annual appropriation for this purpose, which amounted to \$689 million in FY 2009. The regular appropriation rose to \$2.1 billion, however, in FY 2010 before falling to \$1.5 billion in FY 2011. See COPELAND, WATER QUALITY ISSUES IN THE 112TH CONGRESS, *supra* note 54, at 6.

56. See CLAUDIA COPELAND, CONG. RESEARCH SERV., RL33800, WATER QUALITY ISSUES IN THE 110TH CONGRESS: OVERSIGHT AND IMPLEMENTATION 3 (2008).

57. See *infra* notes 143–54 and accompanying text.

58. H.R. 2018, 112th Cong. (2011) available at <http://www.gpo.gov/fdsys/pkg/BILLS-112hr2018eh/pdf/BILLS-112hr2018eh.pdf>.

59. The Administration, for instance, issued a statement strongly opposing H.R. 2018 and stating that the President's senior advisors would recommend a veto if the President were presented with this legislation. News Release Office of Mgmt. & Budget, Exec. Office of the President, Statement of Administration Policy: H.R. 2018—Clean Water Cooperative Federalism Act (July 12, 2011) [hereinafter Statement of Administration Policy: H.R. 2018], available at <http://yosemite.epa.gov/opa/admpress.nsf/1e5ab1124055f3b28525781f0042ed40/d01e5a8bc5244b7c852578cb007e6508?OpenDocument>.

60. According to an ORC International Poll conducted in January 2011, sixty-three percent of the Americans who were surveyed want EPA to do more, not less, to protect the nation's water and air. ORC INT'L, SURVEY HIGHLIGHTS: AMERICANS WANT EPA TO DO MORE, NOT LESS (2011), available at <http://bit.ly/fXmFyX>. This general view was confirmed by a Gallup Poll taken in March 2011 in which seventy-nine percent of the respondents reported that they remained concerned about the quality of the nation's rivers and lakes. Lydia Saad, *Water Issues Worry Americans Most, Global Warming Least* (March 28, 2011), <http://www.gallup.com/poll/146810/water-issues-worry-americans-global-warming-least.aspx>. It is also supported by a Pew Research Center Poll taken in February–March 2011 in which seventy-one percent of the respondents agreed that the country should do whatever it takes to protect the environment. PEW RESEARCH CTR. FOR THE PEOPLE & THE PRESS, BEYOND RED VS. BLUE: THE POLITICAL TYPOLOGY 132 (2011), available at <http://www.people-press.org/files/legacy-pdf/Beyond-Red-vs-Blue-The-Political-Typology.pdf>.

61. BOD is the measurement that allows scientists to determine how much organic material is present in a body of water. See OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, REP. NO. EPA-832-R-00-008, PROGRESS IN WATER QUALITY: AN EVALUATION OF THE ENVIRONMENTAL & ECONOMIC BENEFITS OF THE 1972 CLEAN WATER ACT 1–5 (2000) [hereinafter EPA, PROGRESS IN WATER QUALITY]; STODDARD ET AL., *supra* note 7, at 5.

62. See EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 1–5. This peer-reviewed study was subsequently published in book form. STODDARD ET AL., *supra* note 7.

63. See EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 1–5; STODDARD ET AL., *supra* note 7, at 5.

64. In 1973, industrial discharges of BOD amounted to 5,406 tons per day compared to 3,243 in 1995. STODDARD ET AL., *supra* note 7, at 588, 590. A portion of this decline, however, may be attributed to the fact that many industrial facilities shifted their discharges to municipal systems during that time. See Andreen, *Delegated Federalism and Water Pollution Control*, *supra* note 5, at 272.

65. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 2–43; STODDARD ET AL., *supra* note 7, at 61.

66. See Andreen, *Delegated Federalism and Water Pollution Control*, *supra* note 5, at 272.

67. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 2.

68. COPELAND, WATER QUALITY ISSUES IN THE 112TH CONGRESS, *supra* note 54, at 5–6 (including the supplemental funds provided by the American Recovery and Reinvestment Act of 2009). Local governments spent an estimated fifteen billion dollars per year between 2002 and 2006 to address capital wastewater needs. EPA, CLEAN WATERSHEDS NEEDS SURVEY 2008, *supra* note 48, at x.

water treatment (up from 7.8 million in 1972); 110 million were provided with secondary treatment; and 3.8 million received less than secondary treatment (down from 50 million in 1972).⁶⁹

The most innovative portion of EPA's study, however, was its approach to determining long-range national trends in ambient concentrations of dissolved oxygen ("DO").⁷⁰ EPA examined DO levels in rivers located downstream from point sources in a systematic way both before and after the enactment of the Act.⁷¹ In doing so, it evaluated changes in DO only for monitoring stations that were affected by point sources; EPA excluded stations impacted solely by nonpoint sources.⁷² To isolate low-flow conditions (thus screening out seasonal variations in precipitation, flow, and temperature, and minimizing the impact of nonpoint source loadings),⁷³ EPA limited the monitoring data to the months of July through September. To represent comparable worst-case, low-flow conditions, EPA selected two especially dry periods: 1961-1965 (pre-Act) and 1986-1990 (post-Act).⁷⁴ In an effort to go beyond prior research efforts that had concentrated on localized impacts, EPA evaluated changes at three different scales: (1) river reaches (small scale); (2) catalog units (medium scale); and (3) major river basins (large scale).⁷⁵

Somewhat surprisingly, the investigators documented "significant improvements" in summer DO concentrations at all three spatial scales.⁷⁶ Progress had been made in more than two-thirds of the reaches, catalog units, and major river basins that EPA surveyed.⁷⁷ Sixty-nine percent of the river reaches that EPA assessed (representing a disproportionately large number of urban/industrialized areas) experienced improved DO levels.⁷⁸ The number of reaches with worst-case DO levels above the benchmark of 5.0 milligrams per liter ("mg/L") rose from forty-six percent to sixty-nine percent.⁷⁹ 5.0 mg/L is considered the dividing line between healthy and unhealthy levels of DO.⁸⁰ In addition, sixty-eight percent of the larger catalog units (also dominated by urban/industrial-

ized areas) enjoyed higher levels of DO.⁸¹ As with the smaller reaches, the percentage of catalog units with worst-case DO levels meeting or exceeding 5.0 mg/L rose, in this instance, from fifty-three to seventy-four percent.⁸² Finally, eight of the eleven major river basins that EPA assessed enjoyed "statistically significant improvement," while the other three basins did not suffer significant degradation.⁸³ According to the investigators, "[g]iven the very large spatial scale of the major river basins, it is remarkable to observe statistically significant before and after DO improvements. . . ."⁸⁴

The study, therefore, presented unambiguous evidence that the Act's approach to point source regulation was environmentally effective.⁸⁵ For the first time, there is clear proof that the point source program and the municipal construction program have worked and worked well; the Act's basic framework, as conceived in 1972, was sound.⁸⁶ In fact, the urban waters that were most severely impacted by discharges from industrial and municipal point sources have enjoyed the most improvement.⁸⁷ Progress, however, was not limited to those urban areas; improvement was discerned dozens, even hundreds of miles downstream.⁸⁸

EPA's study also contained assessments of nine specific urban waterways. The investigators chose these waterways for evaluation based upon the availability of historical data and the fact that the waters were notoriously dirty in the 1960s.⁸⁹ These case studies also revealed dramatic improvements after the implementation of the Act.⁹⁰ Between 1961 and 1970, worst-case DO levels in most of these waters were quite bad, ranging between 1.0 and 4.0 mg/L.⁹¹ Between 1986 and 1995, these concentrations had risen to acceptable levels, between 5.0 and 8.0 mg/L.⁹² Moreover, extraordinary progress had been made in four of the waterways: New York Harbor, the Delaware estuary, the Potomac estuary, and the Chattahoochee River.⁹³ Improvements also occurred with regard to other pollutants such as BOD, suspended solids, fecal coliform bacteria, nutrients, and heavy

69. *Id.* at ix. Nearly all of the facilities that fail to meet secondary treatment have received section 301(h) variances for deep ocean outfalls. *Id.* at 3-2.

70. Dissolved oxygen is a key parameter to focus on if one's interest is concentrated on protecting fish and other aquatic organisms. Fish kills, for instance, are the most obvious symptom of low dissolved oxygen levels. EPA, PROGRESS IN WATER QUALITY *supra* note 61, at 1-6; STODDARD ET AL., *supra* note 7, at 6.

71. See EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-15; STODDARD ET AL., *supra* note 7, at 122.

72. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-15; STODDARD ET AL., *supra* note 7, at 122.

73. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-13; STODDARD ET AL., *supra* note 7, at 120.

74. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-5 to 3-15; STODDARD ET AL., *supra* note 7, at 108-21.

75. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 1-8 to 1-9; STODDARD ET AL., *supra* note 7, at 7-10.

76. STODDARD ET AL., *supra* note 7, at xvi.

77. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at ix; STODDARD ET AL., *supra* note 7, at xvi.

78. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-45; STODDARD ET AL., *supra* note 7, at 175.

79. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-46; STODDARD ET AL., *supra* note 7, at 175.

80. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 1-7; STODDARD ET AL., *supra* note 7, at 6.

81. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-46; STODDARD ET AL., *supra* note 7, at 175.

82. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-46; STODDARD ET AL., *supra* note 7, at 175.

83. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-46; STODDARD ET AL., *supra* note 7, at 175.

84. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-47; STODDARD ET AL., *supra* note 7, at 176.

85. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at ES-18.

86. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-47.

87. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-30.

88. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 3-35.

89. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 4-4; STODDARD ET AL., *supra* note 7, at 183. The nine waters that were examined were the Connecticut River, Hudson-Raritan estuary, Delaware estuary, Potomac estuary, James estuary, Chattahoochee River, Ohio River, Upper Mississippi River, and Willamette River. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 4-4; STODDARD ET AL., *supra* note 7, at 185.

90. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 4-6; STODDARD ET AL., *supra* note 7, at 184.

91. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 4-6; STODDARD ET AL., *supra* note 7, at 184.

92. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 4-6; STODDARD ET AL., *supra* note 7, at 184.

93. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 4-6; STODDARD ET AL., *supra* note 7, at 189.

metals.⁹⁴ Data from other sources further demonstrates that there have also been substantial declines in the discharge of toxic contaminants to the waters of the United States.⁹⁵

In addition, the implementation of the section 404 program in the 1970s has brought about a substantial decline in the rate of wetlands loss. From the mid-1970s to the mid-1980s, wetlands losses in the conterminous United States fell to approximately 290,000 acres each year, about half of the average annual losses experienced during the twenty years before the Act was implemented.⁹⁶ Beginning in the mid-1980s, federal efforts to protect wetlands intensified, and as a result, annual wetlands losses dropped to approximately 58,500 acres between 1986 and 1997.⁹⁷ More recently, the U.S. Fish and Wildlife Service (“FWS”) estimated that only about 14,000 acres of wetlands were lost annually between 2004 and 2009.⁹⁸ This estimate is likely inaccurate, however, because the FWS offset losses during this period with gains thought to have been achieved through wetland reestablishment or creation,⁹⁹ and it is often quite difficult to actually restore or create well-functioning wetland systems.¹⁰⁰ Despite all of this progress and the success achieved in many waterways, much more work remains to be done.

II. Remaining Challenges

A. Water Quality

Under section 305(b)(1) of the Clean Water Act, each state is required to prepare a report every two years on the condition of its water quality and its progress towards achieving the Act’s goal of swimmable and fishable waters.¹⁰¹ EPA, in turn, is directed to transmit these reports to Congress along with the agency’s analysis of the state results.¹⁰² These reports, however, do not produce data on water quality trends because the states do not assess the same water bodies every two years.¹⁰³ Moreover, no one knows how representative these assessed waters are.¹⁰⁴ In fact, many states target their monitoring

resources to waters that they believe are impaired for water quality, thus skewing results to some extent.¹⁰⁵ Nevertheless, the data presented in these reports do present a fairly accurate idea of the major causes and sources of water quality degradation in American waters.

According to the water quality data EPA reported for 2010, the picture is not good. Of the twenty-seven percent of rivers and streams that state agencies assessed, fifty-three percent were impaired,¹⁰⁶ which means that the rivers and streams were not clean enough to fully support their designated uses, such as fishing or recreation.¹⁰⁷ Pathogens, polychlorinated biphenyls (“PCBs”),¹⁰⁸ sediment, and organic enrichment were cited by the states as the leading causes of impairment, and the top sources of impairment included agriculture (such as crop production, grazing, and animal feeding operations) and atmospheric deposition.¹⁰⁹

Of the forty-three percent of the nation’s forty-two million acres of lakes, reservoirs, and ponds that the states assessed, nine percent were impaired.¹¹⁰ Mercury (from atmospheric deposition), nutrients, and PCBs were the most significant causes of impairment.¹¹¹ The top sources of pollutants to these waters included atmospheric deposition, various nonpoint sources (including agriculture), and municipal discharges/sewage.¹¹²

The states also assessed thirty-seven percent of their bays and estuaries.¹¹³ Of those, sixty-three percent were identified as water quality impaired.¹¹⁴ Mercury, PCBs, pathogens, and organic enrichment were reported as the leading causes of impairment.¹¹⁵ The most significant sources of impairment included atmospheric deposition, various nonpoint sources (including agriculture), as well as municipal and industrial discharges.¹¹⁶

94. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 4-6; STODDARD ET AL., *supra* note 7, at 189.

95. See Andreen, *Water Quality Today*, *supra* note 20, at 573 n.268.

96. THOMAS E. DAHL & CRAIG E. JOHNSON, FISH & WILDLIFE SERV., U.S. DEPT. OF THE INTERIOR, WETLANDS: STATUS AND TRENDS IN THE COTERMINOUS UNITED STATES, MID-1970s TO MID-1980s, at 1 (1991).

97. THOMAS E. DAHL, FISH & WILDLIFE SERV., U.S. DEPT. OF THE INTERIOR, STATUS AND TRENDS OF WETLAND IN THE COTERMINOUS UNITED STATES, 1986 TO 1997, at 9 (2000). Some of this improvement may be ascribed to the Swampbuster and other conservation measures that were included in a number of farm bills during this time period. See Andreen, *Water Quality Today*, *supra* note 20, at 585.

98. THOMAS E. DAHL, FISH & WILDLIFE SERV., U.S. DEPT. OF THE INTERIOR, STATUS AND TRENDS OF WETLANDS IN THE COTERMINOUS UNITED STATES 2004 TO 2009, at 40 (2011).

99. See *id.* at 45.

100. See NAT’L RESEARCH COUNCIL, COMPENSATING FOR WETLAND LOSSES UNDER THE CLEAN WATER ACT 22-45 (2001); J.B. Ruhl & James Salzman, *Gaming the Past: The Theory and Practice of Historic Baselines in the Administrative State*, 64 VAND. L. REV. 1, 35 (2011).

101. CWA § 305(b)(1), 33 U.S.C. § 1315(b)(1) (2006).

102. *Id.* § 305(b)(2), 33 U.S.C. § 1315(b)(2).

103. See J. CLARENCE DAVIES & JAN MAZUREK, POLLUTION CONTROL IN THE UNITED STATES: EVALUATING THE SYSTEM 68 (1998).

104. See Debra S. Knopman & Richard A. Smith, *20 Years of the Clean Water Act*, 35 ENV’T 16, 18-20 (1993).

105. EPA, NATIONAL WATER QUALITY INVENTORY 2004, *supra* note 43, at 1, 7.

106. *National Summary of State Information, Reporting Year 2010*, U.S. ENVTL. PROT. AGENCY [hereinafter EPA, *National Summary of State Information*], http://ofmpub.epa.gov/tmdl_waters10/attains_nation_cy.control#status_of_data (last updated Dec. 18, 2012).

107. *Water: Total Maximum Daily Loads (303d) Glossary*, U.S. ENVTL. PROT. AGENCY <http://water.epa.gov/lawsregs/lawguidance/cwa/tmdl/glossary.cfm#i> (last updated Mar. 6, 2012).

108. PCBs are synthetic chemicals that belong to a group of organic chemicals known as chlorinated hydrocarbons. PCBs were produced in the United States from 1929 until 1977 for a variety of commercial purposes. Because they have a high boiling point, chemical stability, and low electrical conductivity, PCBs were used as cooling fluids in electrical transformers and capacitors, and as heat transfer fluids. PCBs are hazardous to health, however, even at low levels. Since they decompose slowly, PCBs remain in the environment for decades after their release. PCBs are also absorbed readily and stored in the fatty tissues of all organisms. The concentration of PCBs in the fatty tissues of organisms will increase over time by a process known as bioaccumulation, even if the exposure to PCBs is low. Bioaccumulation may result in significant concentrations of PCBs at the end of the food chain, namely, human consumption. OFFICE OF PESTICIDES AND TOXIC SUBSTANCES, U.S. ENVTL. PROT. AGENCY, REP. NO. TS-793, TOXIC INFORMATION SERIES (1980), available at <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=2000U2WW.txt>; see Polychlorinated Biphenyls (PCBs): Toxic Pollutant Effluent Standards, 42 Fed. Reg. 6532, 6533-43 (Feb. 2, 1977).

109. EPA, *National Summary of State Information*, *supra* note 106.

110. *Id.*

111. *Id.*

112. *Id.*

113. *Id.*

114. *Id.*

115. EPA, *National Summary of State Information*, *supra* note 106.

116. *Id.*

These statistics demonstrate that the nature of water pollution in the United States has changed radically during the past forty years. In 1977, EPA reported that ninety-one percent of the nation's water basins were experiencing water quality problems stemming from point source discharges,¹¹⁷ while eighty-seven percent were suffering from nonpoint source pollution.¹¹⁸ Today, by contrast, nonpoint source pollution, rather than point source pollution, poses the primary problem.¹¹⁹ Agriculture, in fact, is a leading culprit.¹²⁰ In addition, many of our waters suffer from air pollution deposition and the residue of past industrial practice and misconduct—namely, sediments that are contaminated with substances such as PCBs,¹²¹ a problem that is most likely best addressed through the Comprehensive Environmental Response, Compensation, and Liability Act.¹²² Point sources still present some serious problems, however, such as sanitary sewer overflows and combined sewer overflows, as well as outdated effluent limitations.¹²³

B. Statutory Design

The Act and the success it has produced stand as a testament to the vision, insight, and courage of its drafters. It has actually achieved much of what it was designed to do. Unfortunately, as the water quality data demonstrate, the design of the Act was not perfect.

Congress should, therefore, act on a number of fronts, in comprehensive fashion, to finish the task that it began forty years ago.¹²⁴ Most importantly, Congress should restore the Act's jurisdiction to the breadth it enjoyed before the Supreme Court issued its decisions in *SWANCC*¹²⁵ and *Rapanos*.¹²⁶ This would not only strengthen the section 404 dredge and fill program, but would also ensure that critical headwaters and many intermittent streams are protected from potentially unregulated industrial point source discharges.¹²⁷

The nonpoint source program obviously needs to be strengthened. States, for instance, could be required to establish enforceable conditions and requirements as part of their section 319 management plans, and EPA could be authorized to promulgate management plans for states that fail to submit adequate plans.¹²⁸ States, moreover, could be required to implement total maximum daily loads ("TMDL") for non-

point sources that are contributing to water quality problems.¹²⁹ The time to act is upon us, especially because more frequent and more severe wet-weather events due to climate change will exacerbate nonpoint source pollution problems in many areas of the country.¹³⁰

The point source program would benefit from a number of statutory reforms as well. Technology-based effluent limitations should be updated, especially the limitations that apply to toxic water pollutants, to ensure that the limits reflect the most modern and effective technologies available.¹³¹ The federal government, one of the nation's largest polluters, should not be immune from enforcement actions brought by states or citizens, and EPA should be authorized to bring administrative actions against federal agencies that violate the Act.¹³² Pre-enforcement judicial review of administrative compliance orders should be explicitly precluded, at least in urgent instances where the orders are necessary to prevent imminent environmental harm.¹³³ Industrial point sources, moreover, should not be permitted to avoid regulation as an industrial polluter simply by adding fill material to the waste stream.¹³⁴

Congress must also provide EPA with the monetary resources to get the job done. The agency has suffered for years from a chasm between its responsibilities under the Act and its funding. In real terms, EPA's budget in 2010 was little higher than the agency's budget in 1990, despite increased responsibilities.¹³⁵ In fact, the agency's budget in 1978 was higher, adjusted for inflation, than in 2010.¹³⁶ Since 2010, however, the picture has grown even worse. The agency suffered a 16% cut in its 2011 budget¹³⁷ and an additional 3.2% cut in 2012.¹³⁸ With a budget that better matched the agency's duties, enforcement could be strengthened (especially in states where state enforcement efforts are deficient), effluent

117. OFFICE OF WATER PLANNING & STANDARDS, U.S. ENVT. PROT. AGENCY, NATIONAL WATER QUALITY INVENTORY: 1977 REPORT TO CONGRESS 9 (1978).

118. *Id.* at 15.

119. See EPA, *National Summary of State Information*, *supra* note 106.

120. *Id.*

121. See Andreen, *Water Quality Today*, *supra* note 20, at 562–64 (discussing the sources of water pollution as reported in 2000).

122. 42 U.S.C. §§ 9601–75 (2006).

123. See ANDREEN & JONES, BLUEPRINT FOR REFORM, *supra* note 40, at 15, 32.

124. For more comprehensive recommendations for congressional action, see ROBERT W. ADLER, JESSICA C. LANDMAN & DIANE M. CAMERON, THE CLEAN WATER ACT 20 YEARS LATER (1993); ANDREEN & JONES, BLUEPRINT FOR REFORM, *supra* note 40.

125. *Solid Waste Agency of N. Cook Cnty. v. U.S. Army Corps of Eng'rs*, 531 U.S. 159, 159 (2001).

126. *Rapanos v. United States*, 547 U.S. 715, 715 (2006).

127. See Devine, *supra* note 46; ANDREEN & JONES, BLUEPRINT FOR REFORM, *supra* note 40, at 36–37.

128. See CWA § 319, 33 U.S.C. § 1329 (2006).

129. See *id.* § 303(d), 33 U.S.C. § 1313(d) (2006). States are required to identify waters that are not meeting water quality standards and to establish a total maximum daily load ("TMDL") for each of those waters. A TMDL sets the maximum loading for each of the relevant pollutants at a level which will not exceed water quality standards. The loading is then allocated among point sources and nonpoint sources. While point source permits must contain any more stringent limitations, such as TMDL allocations, necessary to meet water quality standards, the Act is silent regarding implementation by nonpoint sources. See ANDREEN & JONES, BLUEPRINT FOR REFORM, *supra* note 40, at 18.

130. See Yee Huang et al., *Climate Change and the Puget Sound: Building the Legal Framework for Adaptation*, in 2 CLIMATE CHANGE 299, 324 (2011).

131. See ANDREEN & JONES, BLUEPRINT FOR REFORM, *supra* note 40, at 15–16, 21–22.

132. See *id.* at 46, 48.

133. See *Sackett v. U.S. Env't. Prot. Agency*, 132 S. Ct. 1367, 1374 (2012) (holding that an EPA compliance order issued under the Clean Water Act constitutes final agency action subject to judicial review).

134. See *Coeur Alaska, Inc. v. Southeast Alaska Conservation Council*, 557 U.S. 261, 276–77 (2009).

135. See Richard N.L. Andrews, *The EPA at 40: An Historical Perspective*, 21 DUKE ENVT. L. & POL'Y F. 223, 255 (2011). The number of full-time employees authorized to work at EPA, moreover, fell from 18,100 in 2000 to 17,417 in 2010. See OFFICE OF THE CHIEF FINANCIAL OFFICER, U.S. ENVT. PROT. AGENCY, REP. NO. EPA-190-S-11-001, FY 2012 EPA BUDGET IN BRIEF 11 (2011).

136. See ROBERT ESORTHY ET AL., CONG. RESEARCH SERV., R41149, ENVIRONMENTAL PROTECTION AGENCY (EPA): APPROPRIATIONS FOR FY2011, at 31 (2010).

137. H. APPROPRIATIONS COMM., 112TH CONG., SUMMARY-FINAL FISCAL YEAR 2011 CONTINUING RESOLUTION (Comm. Print Apr. 12, 2011), available at http://appropriations.house.gov/_files/41211SummaryFinalFY2011CR.pdf.

138. See *infra* note 166 and accompanying text.

limitations modernized, and dozens of other important tasks addressed more comprehensively.

Finally, more federal funding is necessary to meet the needs of our publicly owned wastewater treatment facilities.¹³⁹ These facilities and their collection systems are aging and many suffer from overflows when it rains.¹⁴⁰ Not infrequently, they must be upgraded to meet more protective water quality standards and expanded to prepare for population growth.¹⁴¹ In addition, facilities located in low-lying coastal areas will be increasingly vulnerable to flooding resulting from more severe storm surges and rising sea levels brought on by climate change.¹⁴² Unfortunately, capital expenditures have not kept pace with the need to rehabilitate or replace this aging infrastructure or to adapt it for climate change.¹⁴³ In 2008, an EPA Needs Survey estimated that \$274 billion would have to be spent over the next twenty years to address these needs,¹⁴⁴ but this is likely a gross underestimate of the need.¹⁴⁵ EPA issued a more thorough report dealing with wastewater needs in 2002, and that report estimated that \$388 billion would have to be spent over the next twenty years on our wastewater treatment infrastructure.¹⁴⁶ According to the 2002 report, the gap between actual spending and projected spending needs will amount to approximately \$6 billion per year, unless funding is increased.¹⁴⁷ If investment levels do not increase substantially, EPA believes that sewage discharges by 2025 could exceed levels experienced in 1968—the worst in our nation’s history.¹⁴⁸ Clearly, more federal support should be provided to help our communities fill this critical gap.

139. The American Society of Civil Engineers, for example, recently gave our national wastewater infrastructure a grade of D-, meaning “poor.” AM. SOC’Y OF CIVIL ENGRS, 2009 REPORT CARD FOR AMERICA’S INFRASTRUCTURE 57 (2009) [hereinafter ASCE, 2009 REPORT CARD].

140. Hundreds of sewage treatment systems suffer from sanitary sewer overflows in which raw sewage is released before reaching the treatment facility. The overflows often result from the infiltration of rainwater into old collection systems, thus overwhelming the capacity of the collection system, the treatment facility, or both. Andreen, *Water Quality Today*, *supra* note 20, at 543 n.33. A similar problem, combined sewer overflows, afflicts 1,100 older municipal systems, primarily in the Northeast and Midwest. *Id.* These systems collect both sanitary waste and stormwater and thus often discharge raw waste during rainfall events. *Id.* Approximately 850 billion gallons of raw sewage flow into our waters every year from these combined sewer overflows. ANDREEN & JONES, BLUEPRINT FOR REFORM, *supra* note 40, at 32.

141. EPA, CLEAN WATERSHEDS NEEDS SURVEY 2008, *supra* note 48, at vi.

142. See Huang et al., *supra* note 130, at 326–30.

143. EPA, CLEAN WATERSHEDS NEEDS SURVEY 2008, *supra* note 48, at x.

144. See *id.* at vi–vii (combining total for wastewater treatment, combined sewer overflow correction, and small community needs).

145. First, the Needs Surveys only identify capital investment needs related to compliance, not needs related to service levels. OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, REP. NO. EPA-816-R-02-020, THE CLEAN WATER AND DRINKING WATER INFRASTRUCTURE GAP ANALYSIS 19 (2002) [hereinafter EPA, INFRASTRUCTURE GAP ANALYSIS]. Second, the need is defined as a need only if it exists on January 1 of the survey year. *Id.* at 20. Third, most communities only plan projects with a ten-year horizon, not a twenty-year one, so the Needs Surveys do not necessarily include the entire cost needs associated with a full twenty-year period. *Id.* Finally, the costs of adapting to climate change were not considered. See EPA, CLEAN WATERSHEDS NEEDS SURVEY 2008, *supra* note 48, at x.

146. EPA, INFRASTRUCTURE GAP ANALYSIS, *supra* note 145, at 5.

147. See *id.* at 6; ASCE, 2009 REPORT CARD, *supra* note 139, at 58.

148. EPA, PROGRESS IN WATER QUALITY, *supra* note 61, at 2-72; STODDARD ET AL., *supra* note 7, at 99.

III. Backlash

A. Backlash in the 112th Congress

As Richard Andrews recently wrote, “EPA’s most serious unsolved problems and deficiencies are congressionally imposed: they cannot be solved without congressional [action].”¹⁴⁹ Unfortunately, not only has Congress been unable to act on a comprehensive clean water reform agenda for twenty-five years, but a serious backlash against environmental protection, including the Clean Water Act, is currently taking place.

I. Regulatory “Reform” Efforts in the House

Since January 2011, Congress has been the site of a continuous and all-out assault on federal environmental protection programs. The House, for example, passed the Regulations from the Executive in Need of Scrutiny Act (H.R. 10)¹⁵⁰ (“REINS Act”), which would have required a vote in Congress before any regulation with an economic impact of over \$100 million could go into effect.¹⁵¹ The Senate version of the REINS Act, however, failed to pass on the floor, as did the Regulatory Time-Out Act (S. 1538), which would have imposed a one-year moratorium on the promulgation of significant federal rules.¹⁵²

Another bill passed by the House was the Transparency in Regulatory Analysis of Impacts on the Nation Act (H.R. 2401)¹⁵³ (“TRAIN Act”), which would have required a study of the cumulative costs of nearly a dozen regulations, including the Cross-State Air Pollution rule and the utility Maximum Achievable Control Technology (“MACT”) rule that is designed to limit toxic air emissions from coal-fired electric power plants.¹⁵⁴ The Senate did not act on the bill,¹⁵⁵ and the White House threatened to veto it.¹⁵⁶

The House also passed the Regulatory Flexibility Improvements Act (H.R. 527),¹⁵⁷ which would have required agencies to consider any reasonably foreseeable indirect effect on small businesses from proposed or final regulations.¹⁵⁸ The Senate did not act on the bill.¹⁵⁹

149. Andrews, *supra* note 135, at 255–56.

150. H.R. 10, 112th Cong. (2011), available at <http://www.gpo.gov/fdsys/pkg/BILLS-112hr10eh/pdf/BILLS-112hr10eh.pdf>.

151. *Id.* § 3.

152. *Defeat of Republican Infrastructure Package Sinks REINS Act, Other Deregulation Plans*, 42 ENV’T REP. (BNA) No. 44, at 2534 (Nov. 11, 2011).

153. H.R. 2401, 112th Cong. (2011), available at <http://www.gpo.gov/fdsys/pkg/BILLS-112hr2401eh/pdf/BILLS-112hr2401eh.pdf>.

154. *Id.* § 3.

155. See THE LIBRARY OF CONG., *Bill Summary & Status, 112th Congress (2011–2012), H.R. 10, Major Congressional Actions*, <http://thomas.loc.gov/cgi-bin/bdquery/z?d112:HR00010:@@R> (last visited Dec. 18, 2012).

156. *White House Threatens TRAIN Act Veto, Warns EPA Rules Delay Would Harm Health*, 42 ENV’T REP. (BNA) No. 37, at 2139 (Sept. 23, 2011).

157. H.R. 527, 112th Cong. (2011), available at <http://www.gpo.gov/fdsys/pkg/BILLS-112hr527eh/pdf/BILLS-112hr527eh.pdf>; *House Approves Bill Aiming to Ease Regulatory Burden on Small Businesses*, 42 ENV’T REP. (BNA) No. 47, at 2704 (Dec. 2, 2011).

158. H.R. 527, 112th Cong. § 2(b).

159. See THE LIBRARY OF CONG., *Bill Summary & Status, 112th Congress (2011–2012), H.R. 527, Major Congressional Actions*, <http://thomas.loc.gov/cgi-bin/>

In addition, the House passed the Regulatory Accountability Act (H.R. 3010).¹⁶⁰ The bill would have required agencies to give greater weight to both direct and indirect costs of proposed rules, including any indirect economic impacts to industrial sectors that are not being directly regulated.¹⁶¹ The Senate did not take action on the bill.¹⁶²

2. Appropriations Bills and Anti-Environmental Riders

The House appropriations bill for EPA (H.R. 2584), as reported to the floor, would have slashed the agency's budget by seventeen percent.¹⁶³ It also contained approximately forty environmental policy riders,¹⁶⁴ including a number aimed at EPA actions under the Act. These riders prohibited, for example, funding for EPA's promulgation of nutrient water quality standards for Florida; implementation of the agency's regulatory initiatives dealing with mountaintop mining in Appalachia; a proposed rule to regulate cooling water intake structures at power plants and industrial facilities; and a rule under consideration, but not yet proposed, to expand the stormwater management program.¹⁶⁵

The final omnibus spending bill (H.R. 2055), which was enacted into law in December 2011, cut EPA spending for 2012 by 3.2%.¹⁶⁶ Although the bill contained fewer anti-environmental riders than did the House version, it did prohibit EPA from regulating water pollution from logging roads, among other things.¹⁶⁷

The House passed a rider to the appropriations bill for the Corps of Engineers that would have prohibited the Corps from using any funds to develop or implement any change to existing guidance concerning the extent of jurisdictional waters under the Act.¹⁶⁸ An attempt to pass a similar rider in the Senate, however, failed.¹⁶⁹

3. The House Takes Particular Aim at the Clean Water Act

Amid all of this frantic activity, one bill specifically targeting the heart of the Clean Water Act passed on the floor of the House of Representatives.¹⁷⁰ The Clean Water Cooperative Federalism Act of 2011 (H.R. 2018) was apparently drafted out of concern by some members about EPA's action to set numeric water quality standards for Florida and EPA's veto of a section 404 permit for a mountaintop coal mine in West Virginia.¹⁷¹ Rather than address those actions, however, the bill attempted to alter the fundamental nature of the federal-state partnership under the Act, which would have significantly weakened the protections provided by the Act.

First, the bill would have prevented EPA from acting to revise an outdated state water quality standard, even when necessary to protect human health or the aquatic environment, unless the state concurred with EPA's action.¹⁷² Second, the bill would have prohibited EPA from withdrawing approval of a state permitting program because the state failed to implement approved water quality standards.¹⁷³ Although EPA is not in the habit of withdrawing permit program approvals,¹⁷⁴ this provision would have taken a substantial step toward eliminating the requirement that states implement water quality standards and TMDLs in their water pollutant discharge permits.¹⁷⁵ Third, the bill would also have barred an EPA veto of a state-issued permit that was based upon the agency's interpretation of a state water quality standard.¹⁷⁶ This provision could have potentially upset EPA's oversight role over state programs, a role that helps ensure that state permits are consistent with the requirements of the Act, including water quality standards. Fourth, the bill would also have subjected EPA's veto authority over section 404 permits issued by the Corps of Engineers to a state veto.¹⁷⁷ In other words, EPA could not issue a veto if the state in which the discharge occurs did not concur with EPA's determination. Although EPA has only issued thirteen vetoes in history under section 404(c),¹⁷⁸ the revision would have radically disrupted the structure of the Act, which gives carefully articulated and balanced responsibilities to both the Corps and EPA under section 404.¹⁷⁹

bdquery/D?d112:1:/temp/-bdidZB:@@R|/home/LegislativeData.php|
(last visited Dec. 18, 2012).

160. H.R. 3010, 112th Cong. (2011), available at <http://www.gpo.gov/fdsys/pkg/BILLS-112hr3010eh/pdf/BILLS-112hr3010eh.pdf>.

161. *See id.* § 3(b).

162. *See* THE LIBRARY OF CONG., *Bill Summary & Status, 112th Congress (2011–2012), H.R. 3010, Major Congressional Actions*, <http://thomas.loc.gov/cgi-bin/bdquery/z?d112:HR03010:@@R> (last visited Dec. 18, 2012).

163. COPELAND, WATER QUALITY ISSUES IN THE 112TH CONGRESS, *supra* note 54, at 21.

164. *House Republicans Seek to Deny EPA Use of Appropriated Funds for Climate Programs*, 42 ENV'T REP. (BNA) No. 42, at 1691 (July 29, 2011).

165. COPELAND, WATER QUALITY ISSUES IN THE 112TH CONGRESS, *supra* note 54, at 21–22. *See supra* note 15 for a capsule summary of the way in which stormwater discharges are managed.

166. *See Omnibus Bill Would Restrict EPA Regulation of Livestock Operations, Logging Roads*, 42 ENV'T REP. (BNA) No. 49, at 2839 (Dec. 16, 2011).

167. *Id.*

168. H.R. 5325, 112th Cong. § 110 (2012), available at <http://www.gpo.gov/fdsys/pkg/BILLS-112hr5325eh/pdf/BILLS-112hr5325eh.pdf>. The Corps of Engineers issues dredge and fill permits under section 404 of the Clean Water Act, 33 U.S.C. § 1344 (2006), subject to EPA guidelines and oversight.

169. *Senate Leadership Blocks Measure to Bar Corps from Using Clean Water Act Guidance*, 42 ENV'T REP. (BNA) No. 45, at 2581 (Nov. 18, 2011).

170. H.R. 2018, 112th Cong. (2011), available at <http://www.gpo.gov/fdsys/pkg/BILLS-112hr2018eh/pdf/BILLS-112hr2018eh.pdf>.

171. Memorandum from Claudia Copeland & Robert Meltz, Cong. Research Serv., to Hon. Timothy H. Bishop 1 (July 12, 2011), available at http://www.vgazette.com/static/coal%20tattoo/CRS_EPA_Bill.pdf.

172. H.R. 2018, 112th Cong. § 2(a).

173. *Id.* § 2(c).

174. *See* Letter from Arvin Ganesan, Deputy Assoc. Adm'r for Cong. Affairs, U.S. Env'tl. Prot. Agency, to Hon. Tim Bishop (June 21, 2011), available at www.eenews.net/assets/2011/06/22/document_pm_06.pdf [hereinafter Ganesan Letter].

175. *Id.*

176. H.R. 2018, 112th Cong. § 2(d).

177. *Id.* § 3(a).

178. Ganesan Letter, *supra* note 174.

179. The bill also contained a difficult to understand provision dealing with state water quality certifications under section 401 of the CWA, 33 U.S.C. § 1341 (2006). The bill would have prohibited EPA from "superseding" a state determination that a federally permitted discharge (such as a Corps-issued section 404 permit) which originates in that state would meet various require-

Lastly, the bill contained a provision designed to obstruct and possibly kill any new policy initiatives by EPA under the Act.¹⁸⁰ Before the agency issued a regulation, policy statement, or guidance document; responds to a petition; or implements a new or substantially altered program,¹⁸¹ EPA would have to analyze the impact of any such action, “disaggregated by State,” upon “employment levels and economic activity, including estimated job losses and decreased economic activity.”¹⁸² If EPA found that the action would have more than a “de minimis negative impact” on employment or economic activity in a state, the agency would have to give notice to the state’s congressional delegation, the governor, and the legislature,¹⁸³ and hold a public hearing in that state.¹⁸⁴ The trigger of “de minimis negative impact,” in turn, was defined as a loss of more than one hundred jobs or a decrease in economic activity of over one million dollars in any calendar year.¹⁸⁵ Furthermore, the creation of new jobs or new economic activity that might be stimulated by “new technologies” could not be used to offset any direct losses.¹⁸⁶ In short, the provision was clearly intended to create regulatory paralysis and prevent any additional progress to protect our nation’s waters.

Fortunately, the Clean Water Cooperative Federalism Act was unlikely to become law because of the long odds it faced in the Senate and because the Administration was opposed to it.¹⁸⁷ Furthermore, most, if not all of the other anti-environmental initiatives were likely to fail in the Senate.¹⁸⁸ The longer-term prospects for such anti-environmental legislation, however, are unclear.

ments of the Act including water quality standards. See H.R. 2018, 112th Cong. § 2(b). EPA, however, does not have the authority to actually “supercede” a state section 401 certification. Due to the lack of clarity as to what the drafters intended to accomplish, the provision could have possibly interfered with EPA’s ability to help resolve disputes that sometimes arise between a certifying state and a neighboring state that would be affected by the discharge. See CWA § 401(a)(2), 33 U.S.C. § 1341(a)(2) (2006). It could also have interfered with the issuance of section 402 NPDES permits in the four states in which EPA still issues permits. Currently, EPA guidance provides that if a state section 401 certification fails to reflect EPA’s antidegradation policy, EPA—in its permitting action—will add any additional or more stringent limits necessary to ensure compliance with water quality standards as required by section 301(b)(1)(C). Conceivably, it could also interfere with EPA guidance which provides that if a section 401 certification fails to comply with EPA’s antidegradation policy, EPA could comment unfavorably on the issuance of another federally issued permit such as a Corps-issued section 404 permit. OFFICE OF WATER REGULATIONS & STANDARDS, U.S. ENVTL. PROT. AGENCY, WATER QUALITY STANDARDS HANDBOOK, Chapter 2, Appendix A at 2 (December 1983), available at http://water.epa.gov/scitech/swguidance/standards/upload/2006_12_01_standards_antidegqa.pdf.

180. H.R. 2018, 112th Cong. § 8(a)(1), (d)(2). It originated as an amendment offered on the floor of the House by Representative Shelley Moore Capito (R-WV). It was agreed to by a vote of 268 to 152. See The Library of Cong., *Bill Summary & Status, 112th Congress (2011–2012), H.R. 2018, All Congressional Actions*, <http://thomas.loc.gov/cgi-bin/bdquery/D?d112:1:./temp/-bdbvqc:@@X|/home/LegislativeData.php>.

181. H.R. 2018, 112th Cong. § 8(d)(2) (definition of a covered EPA action).

182. *Id.* § 8(a)(1).

183. *Id.* § 8(a)(1), (c).

184. *Id.* § 8(b)(1).

185. *Id.* § 8(d)(3).

186. *Id.*

187. See Statement of Administration Policy: H.R. 2018, *supra* note 59 and accompanying text.

188. Leslie Kaufman, *Database Tracks Votes on Environmental Issues*, GREEN BLOG, N.Y. TIMES (Sept. 14, 2011, 9:28 AM), <http://green.blogs.nytimes.com/2011/09/14/reversing-environment-rules-the-database/>.

B. Prior Backlashes Against Environmental Protection

The current backlash is not unique. Serious attempts to roll-back federal environmental protection have occurred before. In 1980, for example, Ronald Reagan did not disguise his hostility to federal environmental regulation as he campaigned for President.¹⁸⁹ His appointee to head EPA, Anne Gorsuch, shared his outlook, believing that EPA had been too heavy-handed in its oversight of state programs and too insensitive to the burdens of regulation.¹⁹⁰ She sought deep cuts in EPA’s budget, oversaw repeated reorganizations of the agency’s enforcement program, and tried to weaken the newly promulgated hazardous waste rules.¹⁹¹ Enforcement plummeted and criticism grew.¹⁹² Former EPA Administrator, Russell Train, for instance, wrote an op-ed for the Washington Post asserting that EPA enforcement had “ground practically to a halt” and that budgetary and personnel cuts at EPA, “unless reversed, [would] destroy the agency as an effective institution for many years to come.”¹⁹³ What eventually drove Administrator Gorsuch from office in 1983, however, was scandal—charges of political manipulation of Superfund clean-up actions, sweetheart deals, conflicts of interest, and perjury.¹⁹⁴ With her departure, the efforts of the Reagan Administration to administratively “reform” EPA ended.¹⁹⁵ The remaining years of the Reagan Administration and the first two years of the administration of George H.W. Bush “were marked by efforts on the part of those administrations to distance themselves from the debacle of the first two years of the decade.”¹⁹⁶

Another major attempt to reverse the course of environmental protection came a decade later. Having campaigned on Newt Gingrich’s “Contract with America” in the fall of 1994, the Republican 104th Congress, which took office in January 1995, targeted federal environmental programs for major cutbacks.¹⁹⁷ The proposed legislation sought to relax environmental standards, limit so-called unfunded mandates on state and local governments, and make it much harder for government to promulgate rules imposing economic costs on industry.¹⁹⁸ The House took special aim at the Clean Water Act.¹⁹⁹ With the exception of two limited bills, however, none

189. William L. Andreen, *The Evolving Law of Environmental Protection in the United States: 1970–1991*, 9 ENVTL. & PLAN. L.J. 96, 102 (1992) [hereinafter Andreen, *Evolving Law of Environmental Protection*].

190. RICHARD J. LAZARUS, *THE MAKING OF ENVIRONMENTAL LAW* 101 (2004).

191. *Id.*

192. See William L. Andreen, *Beyond Words of Exhortation: The Congressional Prescription for Vigorous Federal Enforcement of the Clean Water Act*, 55 GEO. WASH. L. REV. 202, 204–07 (1987) [hereinafter Andreen, *Beyond Words of Exhortation*].

193. Russell Train, *The Destruction of EPA*, WASH. POST, Feb. 2, 1982, at A15. Train’s piece was only one of many articles that criticized the disturbing state of affairs at EPA during the Gorsuch era. See Andreen, *Beyond Words of Exhortation*, *supra* note 192, at 206–07.

194. Andreen, *Evolving Law of Environmental Protection*, *supra* note 189, at 103.

195. *Id.*

196. LAZARUS, *supra* note 190, at 105.

197. *Id.* at 129.

198. *Id.* at 129–30.

199. See Zygmunt J.B. Plater, *Environmental Law as a Mirror of the Future: Civic Values Confronting Market Force Dynamics in a Time of Counter-Revolution*, 23 B.C. ENVTL. AFF. L. REV. 733, 745–53 (1996).

of these proposals became law.²⁰⁰ In fact, the reform efforts in Congress “dissipated almost as quickly [as] they formed.”²⁰¹ They were blocked, in large measure, through the efforts of the Clinton administration, which characterized the House of Representatives as attempting to undercut public health and the environment for the sake of business.²⁰² As a result, according to Professor Richard Lazarus, “[t]he U.S. public responded with such hostility to any proposed change that the legislative reform effort was effectively sapped of its political viability.”²⁰³

Two other less intensive efforts to reverse course have occurred during the last forty years. Late in the administration of George H.W. Bush, the Vice President’s Competitiveness Council targeted environmental protection for “reform.”²⁰⁴ In addition, during the early years of the administration of George W. Bush, there was an attempt to reduce the scope and strength of federal environmental regulation.²⁰⁵

Environmental law, including the Act, have endured and resisted these repeated attacks. Rebounding from these attacks, however, may have become more difficult of late.

IV. Some Thoughts About the Future

The five periods of backlash that I have just described all appear to either coincide with or immediately follow periods of economic contraction: the early 1980s, the early 1990s, the early 2000s, and most recently, the deep recession of 2007-2009.²⁰⁶ This is not particularly surprising in light of a Gallup tracking poll that has gauged the way Americans have prioritized economic development as opposed to environmental protection since 1984.²⁰⁷ Normally, Americans have placed a higher priority on environmental protection than the economy.²⁰⁸ The gap between the two, however, narrows appreciably during times of economic difficulty.²⁰⁹ This may indicate that it is nearly impossible to avoid some degree of pushback on environmental protection efforts during periods of economic contraction. The Gallup poll, however, reveals a disconcerting trend that has arisen since 2000. Even after the contraction of the early 2000s ceased, the level of support for environmental protection failed to return to the levels that it had enjoyed over the prior twenty years.²¹⁰ Moreover, since 2008, the poll has shown that Americans assign a higher priority to the economy—interrupted only temporarily by the

Gulf of Mexico oil spill—the first time that this has occurred since the poll began in the mid-1980s.²¹¹

Although other recent polling shows that Americans are genuinely in favor of strong environmental protection,²¹² the intensity of that support appears to have diminished, even during relatively good economic times like 2003 to 2007.²¹³ In the past, strong public opinion helped to deflect the periodic backlashes that have occurred against environmental law. Moreover, up through the 1980s, public opinion helped propel Congress to enact additional demanding legislation, like the 1987 amendments to the Clean Water Act.²¹⁴

The problem we face, therefore, is how to translate broad, but somewhat shallow public support, into strong, tangible support for comprehensive legislative action, support that will not only turn back the current backlash, but will encourage Congress to provide the statutory reforms and financial resources that are needed to fully restore and protect the quality of the nation’s waters. I have no brilliant solution, but I do have a few thoughts to offer.

As William Ruckelshaus once stated “[y]ou’ve *got* to have public support for environmental protection or it won’t happen.”²¹⁵ Marshaling and maintaining that kind of public support was easier to do forty years ago when pollution problems were more obvious to the senses. Today, however, rivers no longer catch on fire and smoke no longer billows from thousands of smokestacks. The problems we face are no less real, however, even though they are less visible to the untrained eye. The challenge facing the environmental community is thus greater than at any point since 1972.

The key to meeting this challenge was succinctly put by Professor Zygmunt Plater in an article he wrote during the backlash of the 104th Congress.²¹⁶ To fend off these attacks and build a foundation for future progress, we need “informed and engaged professionals, an incisive press, and an active citizenry.”²¹⁷

To do this, we may want to take a cue from those who have sought to challenge many of the underlying premises of modern environmental law. Beginning in the mid-1970s, many conservative business and industrial leaders embarked on a long-term strategy to influence the national press and public opinion about environmental protection.²¹⁸ Foundations were created, think tanks launched, and organizations established to support conservative scholars, social scientists, lawyers, economists, and writers who would promote ideas sympathetic to the interests of American business.²¹⁹ In doing so, they sowed the seeds of a powerful intellectual movement favoring the “reform” of the nation’s environ-

200. LAZARUS, *supra* note 190, at 131 (referring to two bills that imposed various procedural requirements on unfunded mandates to state and local government (the Unfunded Mandates Reform Act) and the regulation of small business (the Regulatory Accountability and Reform Act)).

201. *Id.*

202. *Id.*

203. *Id.*

204. *Id.* at xii.

205. *Id.* at xii–xiii.

206. See Nat’l Bureau of Econ. Research, *US Business Cycle Expansions and Contractions*, <http://www.nber.org/cycles.html> (last visited Dec. 18, 2012).

207. Jeffrey M. Jones, *Americans Increasingly Prioritize Economy over Environment*, GALLUP POLITICS (March 17, 2011), <http://www.gallup.com/poll/146681/americans-increasingly-prioritize-economy-environment.aspx>.

208. *See id.*

209. *See id.*

210. *See id.*

211. *See id.*

212. *See supra* note 60 and accompanying text.

213. *See Americans Increasingly Prioritize Economy over Environment*, *supra* note 207.

214. Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 41 (1987).

215. William D. Ruckelshaus: *Oral History Interview*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/aboutepa/history/publications/print/ruck.html> (last updated Dec. 10, 2012) (emphasis in original).

216. *See Plater*, *supra* note 199.

217. *Id.* at 741.

218. *See LAZARUS*, *supra* note 190, at 95–96.

219. *See id.* at 95–96, 120–22.

mental law.²²⁰ They recognized, in short, the importance of the marketplace of ideas and sought to influence it in a way favorable to their interests.²²¹

The environmental movement obviously does not possess the resources necessary to replicate that conservative intellectual edifice. It does, however, have the support of thousands of sympathetic professionals around the country. The Center for Progressive Reform (“CPR”) provides a useful template for tapping into those kinds of resources.²²² With but a small professional staff, the CPR has been able to utilize the talent and donated services of dozens of environmental law professors, as well as a number of economists, historians, and scientists, in an effort to support progressive regulatory action.²²³ Perhaps, similar non-profit, educational, and research organizations could be created—organizations that could specifically target scientists, economists, and other scholars who work on and think about these issues and have so much to offer the nation. This means, of course, that these scholars would have to take some time away from their normal academic pursuits. The CPR, however, has proved that at least some academics want to join the public debate.

Many of the White Papers that we write at the CPR are aimed at congressional staffers, the press, and various opinion makers.²²⁴ That is an important contribution to the marketplace of ideas. Nevertheless, we, as well as other progressive academics, should consider spending more time communicating with our local communities through, for instance, op-eds and presentations to local groups.

Our national environmental organizations also have to consider how they can better communicate with the American people, especially younger Americans who are apparently not as environmentally minded as they were in the 1970s and 1980s.²²⁵ This is a tall order, but these groups have demonstrated that they have a remarkable ability to change with the times.²²⁶ Use of social media will help, but nothing would help as much as increased direct contact like pieces that appear in local newspapers, presentations at local meetings, and technical support for state and local environmental groups, among other things. This will likely take more resources and more staff, which means that the foundations that support these organizations need to take heed—broader funding may well be more effective in the long-run than funding aimed at particular projects.

220. See *id.* at 120–22.

221. See *id.*

222. See *About the Center for Progressive Reform*, CTR. FOR PROGRESSIVE REFORM, <http://www.progressivereform.org/aboutCPR.cfm> (last visited Dec. 18, 2012) (describing CPR as a network of university-affiliated Member Scholars).

223. See *id.*

224. See *id.*

225. According to a recent academic analysis of surveys conducted over the last 40 years, young Americans today are less environmentally minded—indeed, less civic-minded overall—than their parents were at their age. See Jean M. Twenge et al., *Generational Differences in Young Adults’ Life Goals, Concern for Others, and Civic Orientation, 1966–2009*, 102 J. PERSONALITY & SOC. PSYCHOL. 1045, 1056 (2012), available at <http://www.apa.org/news/press/releases/2012/03/fame-giving.aspx>.

226. See Deborah Lynn Guber & Christopher J. Bosso, *Past the Tipping Point? Public Discourse and the Role of the Environmental Movement in a Post-Bush Era*, in ENVIRONMENTAL POLICY: NEW DIRECTIONS FOR THE TWENTY-FIRST CENTURY 51, 68 (Norman J. Vig & Michael E. Kraft, eds., 2010).

The funders also need to pay additional attention to the grassroots and the state and local groups that are essential to a strong and vibrant environmental movement. These groups should receive additional assistance to support, among other things, efforts to educate youth and the others in their communities about the beauty and richness of their local environment and the problems that threaten it. After all, battles in Washington are, in the final analysis, actually won or lost by the way people think, feel,²²⁷ and vote on “Main Street.” The stakes could not be higher.

Members of the press should also reconsider the way they present environmental issues to the public. As a number of scholars have pointed out, “journalists no longer pursue the difficult goal of objectivity but instead settle for a ‘norm of balance,’ whereby both sides of an issue are presented without respect to the quality and weight of the evidence.”²²⁸ This approach does not serve the public interest; all it does is create conflict and confusion.²²⁹

Finally, the past two decades have witnessed “the wholesale political polarization of the environmental legislative agenda.”²³⁰ Battle lines have been drawn between the two parties and the possibility of passing broad, consensus legislation has largely disappeared.²³¹ Call me hopelessly naïve, but there may still be some hope that one day Republican moderates like John Sherman Cooper, Robert Stafford, and John Chafee will return to the halls of Congress. I say this because a Pew Research Center survey taken in 2011 discovered that “Main Street Republicans,” while socially and fiscally conservative, still support efforts to protect the environment.²³² Sixty-seven percent of this group, comprising fourteen percent of all registered voters, agreed with the statement that stricter environmental laws were worth the cost.²³³ On the other hand, ninety-two percent of “Staunch Conservatives,” comprising eleven percent of registered voters, disagreed,²³⁴ as did seventy-nine percent of Republican-oriented “Liberarians,” comprising ten percent of registered voters.²³⁵ Nevertheless, there is always a possibility that “Main Street Republicans” may regain the ascendancy at least in some states. If so, some semblance of non-partisanship might return to congressional deliberations on environmental policy and serve to break the partisan gridlock that has stifled so much possible progress over the past two decades. Perhaps that is only wishful thinking, however.

227. See Holly Doremus, *Adapting to Climate Change with Law That Bends Without Breaking*, 2 SAN DIEGO J. CLIMATE & ENERGY L. 45, 67–68 (2010) (emphasizing the importance for conservation advocates of building “emotional connections between people and nature”).

228. Deborah Lynn Guber & Christopher J. Bosso, *Past the Tipping Point? Public Discourse and the Role of the Environmental Movement in a Post-Bush Era*, in ENVIRONMENTAL POLICY: NEW DIRECTIONS FOR THE TWENTY-FIRST CENTURY 51, 57 (Norman J. Vig & Michael E. Kraft, eds., 2010).

229. See *id.* at 58.

230. LAZARUS, *supra* note 190, at 153.

231. *Id.*

232. PEW RESEARCH CTR., *supra* note 60, at 11, 33.

233. *Id.* at 33.

234. *Id.* at 10, 33.

235. *Id.* at 12, 33.

V. Conclusion

The Clean Water Act has produced a tremendous amount of progress over the past forty years, but much more work remains to be done. Not surprisingly, given the limits of human forethought and political capacity, the original statutory design was not perfect. Furthermore, the statute's implementation has not been perfect due, in large part, to often straitened budgets, instances of bureaucratic timidity and lethargy, and the hostility that some administrations have exhibited towards strong environmental protection. Although more robust administrative action can improve the effectiveness of the Act in a number of ways, it will take

congressional action to fully address the jurisdictional, budgetary, and structural problems that are obstructing efforts to fully restore and maintain the chemical, physical, and biological integrity of the nation's waters. The prospects for such far-ranging congressional action are slight at the present time. In fact, we are currently enduring yet another backlash against regulation as well as Clean Water Act protections on Capitol Hill. It will take renewed and stronger efforts to inform and to galvanize public opinion, not only to defeat the current backlash, but to build the level of support necessary to complete the task that the nation so boldly embarked upon in 1972.