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## Symposium Introduction: The Clean Water Act at 50: Is the Act Obsolete?

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## — Introduction —

THE CLEAN WATER ACT AT 50:  
IS THE ACT OBSOLETE?*Jonathan H. Adler*<sup>†</sup>

The Clean Water Act (CWA or the Act)<sup>1</sup> is fifty years old. In 1972, Congress rewrote the Federal Water Pollution Control Act<sup>2</sup> to erect the architecture of federal water quality regulation that is still in place today.<sup>3</sup> While Congress initially reviewed and reauthorized the law on a regular basis, the CWA has not been meaningfully revised in thirty-five years.<sup>4</sup>

Over the past half-century, the CWA has helped to protect and improve surface water quality throughout much of the United States.<sup>5</sup> In particular, it has reduced the discharge of pollutants from point sources and funded the construction and upgrade of water quality

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1. 33 U.S.C. §§ 1251–1389.
2. *Id.*
3. *Id.*
4. See William L. Andreen, *The Clean Water Act Needs Positive Reform*, REG. REV. (Aug. 12, 2013), <https://www.theregreview.org/2013/08/12/12-andreen-clean-water/> [<https://perma.cc/FB5W-XZPW>] (noting it had been over twenty-five years since the CWA “was amended in comprehensive fashion”). The last substantive reforms to the CWA were enacted in 1987. See Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 7 (codified as amended in various sections of 33 U.S.C.). Minor revisions or additions have been made to select portions of the CWA since then. See, e.g., Clean Boating Act of 2008, Pub. L. No. 110-288, 122 Stat. 2650, which added subsections to several CWA provisions to address discharges from recreational vessels. See 33 U.S.C. § 1322(o) (management practices for recreational vessels); *id.* § 1342(r) (discharges incidental to the normal operation of recreational vessels); *id.* § 1362(25) (defining “recreational vessel”). Congress has also continued to authorize federal funding for drinking water and wastewater infrastructure. See, e.g., Drinking Water and Wastewater Infrastructure Act of 2021, Pub. L. 117-58, 135 Stat. 1135.
5. See William L. Andreen, *Water Quality Today—Has the Clean Water Act Been a Success?*, 55 ALA. L. REV. 537, 542 (2004) (claiming the CWA “has been remarkably successful in doing what it was designed to do”).

infrastructure.<sup>6</sup> There has been significant progress in many places,<sup>7</sup> but water quality improvements have lagged behind the law's stated goals.<sup>8</sup> The law's stated purpose is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."<sup>9</sup> Toward this end, Congress expressly declared the goals of making all of the nation's waters fishable and swimmable by 1983 and eliminating the discharge of pollutants into the nation's waterways by 1985.<sup>10</sup> These deadlines were never met, and substantial portions of the nation's waters are still considered impaired.<sup>11</sup>

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6. See William L. Andreen, *Success and Backlash: The Remarkable (Continuing) Story of the Clean Water Act*, 4 GEO. WASH. J. ENERGY & ENV'T L. 25, 26 (2013) ("The Act and the regulatory programs it created have proven remarkably successful. Both municipal and industrial discharges have declined sharply, the loss of wetlands has been cut decisively, and water quality has broadly improved across the country.").
7. See *id.* at 28–30.
8. See JAMES SALZMAN & BARTON H. THOMPSON, JR., ENVIRONMENTAL LAW AND POLICY 180 (5th ed. 2019) ("The CWA in fact has come nowhere close to meeting its goals."). Some suggested that the CWA's stated goals were unrealistic at the time. See *id.* ("[C]ritics argued that the goals were totally infeasible and thus destined to lead to public disappointment."); see also Robert L. Glicksman & Matthew R. Batzel, *Science, Politics, Law, and the Arc of the Clean Water Act: The Role of Assumptions in the Adoption of a Pollution Control Landmark*, 32 WASH. U. J.L. & POL'Y 99, 105 (2010) ("In hindsight, the goal of eliminating all surface water pollution within thirteen years of the CWA's adoption appears to be wildly aspirational, and perhaps even to amount to foolhardy optimism."). Others have a more pessimistic take, questioning whether the CWA bears much responsibility for observed improvements in water quality. See David A. Keiser & Joseph S. Shapiro, *Consequences of the Clean Water Act and the Demand for Water Quality*, 134 Q.J. ECON. 349, 350 (2018) ("[I]t is unclear whether the Clean Water Act has been effective or whether water pollution has decreased at all.").
9. See 33 U.S.C. § 1251(a) ("The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.").
10. See *id.*, which further provides:
  - In order to achieve this objective it is hereby declared that, consistent with the provisions of this chapter—
    - (1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;
    - (2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983.
11. See SALZMAN & THOMPSON, *supra* note 8, at 175 ("Recent state surveys of national waters suggest that over half of our rivers and streams, two-thirds of lakes and ponds, and three-fourths of bays and estuaries are 'impaired waters.'").

After fifty years, it is appropriate to ask whether the statutory framework enacted a half-century ago remains up to date and whether it is capable of facilitating further water quality progress. Significant water quality challenges remain, and new challenges continue to emerge. Since the CWA was last amended, new types of pollutants have been created and discovered and once-speculative environmental concerns have become manifest.<sup>12</sup> Climate change, in particular, has begun to affect waterways and hydrological systems, and yet little in the CWA addresses such concerns.<sup>13</sup> In the face of such challenges, is the nation's primary water pollution control law obsolete?

Statutory obsolescence is a common problem. It is simple common sense that “laws must change to meet the needs of changing times.”<sup>14</sup> And yet Congress often fails to revisit and revise statutes to account for legal, economic, technological, social, or other changes.<sup>15</sup> While legislative dysfunction may be a long-standing problem, it appears to have gotten worse in recent years.<sup>16</sup> The failure to revisit older statutes not only constrains the federal government's ability to address new problems; it can undermine the ability of older laws to fulfill their original purposes as well.<sup>17</sup> Failure to keep laws current renders some of them obsolete.<sup>18</sup>

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12. See Daniel C. Esty, *Red Lights to Green Lights: From 20th Century Environmental Regulation to 21st Century Sustainability*, 47 ENV'T. L. 1, 13 (“[T]oday's environmental issues are different in kind from the problems of the 1970s.”).
  13. See Robin Kundis Craig, *Climate Change Comes to the Clean Water Act: Now What?*, 1 WASH. & LEE J. ENERGY, CLIMATE & ENV'T. 9, 37, 41–43 (2010); see also Victor B. Flatt, *Unsettled: How Climate Change Challenges a Foundation of Our Legal System, and Adapting the Legal State*, 2016 BYU L. REV. 1395, 1398 (2016).
  14. GUIDO CALABRESI, A COMMON LAW FOR THE AGE OF STATUTES 3 (1982).
  15. See Michael S. Greve and Ashley C. Parrish, *Administrative Law Without Congress*, 22 GEO. MASON L. REV. 501, 502 (2015) (“[Congress] consistently fails to update or revise old statutes even when those enactments are manifestly outdated or, as actually administered, have assumed contours that the original Congress never contemplated and the current Congress would not countenance . . .”).
  16. See Suzanne Mettler, *The Polycscape and the Challenges of Contemporary Politics to Policy Maintenance*, 14 PERSPS. ON POL. 369, 379–83 tbl.1 (2016) (observing that the frequency of legislative reauthorizing and revising of major statutes appears to have slowed over the last few decades).
  17. *Id.* at 370 (“The lack of policy maintenance undermines laws' ability to achieve the purposes for which they were created.”).
  18. For a discussion of how Congress may itself encourage more frequent reauthorization of regulatory statutes, see Jonathan H. Adler & Christopher J. Walker, *Delegation and Time*, 105 IOWA L. REV. 1931, 1974–92 (2020).

There are many reasons why an old statute might not continue to be effective or continue to advance the public aims that motivated its initial passage. Times change. Broader social, economic and technological changes affect the nature of the environmental challenges we face and our ability to address them.<sup>19</sup> As scientific research advances and knowledge improves, we understand our environmental problems more fully, discover environmental concerns that were previously ignored, and develop the capabilities to address environmental concerns in ways that were not appreciated when older statutes were enacted.<sup>20</sup> The evolution of social values also affects which problems are of greatest concern. At the time the CWA was enacted, the nation's environmental imagination was transfixed by the threat of river fires.<sup>21</sup> Today, there is greater focus on toxic algal blooms and environmental justice. The inequities of environmental exposures and regulatory responses were largely ignored in the twentieth century but are now a substantial priority.<sup>22</sup>

If a given statute is not achieving its goals, obsolescence is not the only potential cause. If a statute is failing to fulfill its prescribed legislative purpose, that could be the result of poor drafting, political compromises, or a failure to implement and enforce the laws on the books. Thus not all policy failures can be attributed to obsolescence.<sup>23</sup>

Concerns about statutory obsolescence seem particularly salient in the early twenty-first century because Congress has become particularly reticent to revise and update regulatory statutes, particularly (though

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19. See RICHARD J. LAZARUS, *THE MAKING OF ENVIRONMENTAL LAW* 209 (2004) (“Because of technological and societal changes, the ecological problems that the United States and the world now face are very different from those of the past.”).
  20. See *id.* at 150 (noting how the emergence of new information and scientific advances “produce a demand for new approaches” to environmental problems).
  21. For a more thorough discussion of the river fires, with a focus on the infamous (if also misunderstood) 1969 fire on the Cuyahoga River, see Jonathan H. Adler, *Fables of the Cuyahoga: Reconstructing a History of Environmental Protection*, 14 *FORDHAM ENV'T L.J.* 89 (2002) [hereinafter Adler, *Fables of the Cuyahoga*]; see also David Stradling & Richard Stradling, *Perceptions of the Burning River: Deindustrialization and Cleveland's Cuyahoga River*, 13 *ENV'T HIST.* 515 (2008).
  22. See, e.g., Clifford J. Villa, “Don't Blame the Flint River,” 52 *ENV'T L.* 341, 343–44 (2022) (discussing how concerns about environmental justice may seem obvious in hindsight).
  23. See generally STEVEN M. GILLON, *THAT'S NOT WHAT WE MEANT TO DO: REFORM AND ITS UNINTENDED CONSEQUENCES IN THE 20TH CENTURY* (2000) (exploring examples of legislation that did not have the effects its supporters intended).

not exclusively) in the environmental arena.<sup>24</sup> New policy ideas and programs are initiated by the executive branch, not the legislature. Presidential administration has arguably filled the gap left by legislative inaction.<sup>25</sup> Yet this option may be frustrated, if not foreclosed, by more recent legal developments. Recent Supreme Court decisions, most notably *West Virginia v. EPA*,<sup>26</sup> suggest that the Supreme Court is concerned about the tendency of administrative agencies to pour new wine out of old bottles and is ready to invalidate new regulatory initiatives that lack express legislative authorization.<sup>27</sup>

As an introduction to “The Clean Water Act at 50” symposium, this Article explores the question of statutory obsolescence in the particular context of the CWA. Part I considers the phenomenon of statutory obsolescence and what it means to say that a given statute is “obsolete.” Part II then evaluates the CWA, identifying the reasons one might conclude that the Act is (or is not) obsolete. Part III then considers what could be done about the CWA’s obsolescence if, in fact, one concludes it is obsolete.

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24. See DAVID SCHOENBROD, RICHARD B. STEWART & KATRINA M. WYMAN, *BREAKING THE LOGJAM: ENVIRONMENTAL PROTECTION THAT WILL WORK*, at x (2010) (noting the “growing obsolescence of our environmental statutes”); Jody Freeman & David B. Spence, *Old Statutes, New Problems*, 163 U. PA. L. REV. 1, 17 (2014) (“[t]ime, science, and experience have revealed many deficiencies” in environmental laws); Victor B. Flatt, *Frozen in Time: The Ossification of Environmental Statutory Change and the Theatre of the (Administrative) Absurd*, 24 FORDHAM ENV’T L. REV. 125, 126 (2013) (“Environmental statutes have not kept up with changing circumstances and new problems, forcing increasing complexity on the administrative process.”).
25. See generally Elena Kagan, *Presidential Administration*, 114 HARV. L. REV. 2245 (2001).
26. 142 S. Ct. 2587 (2022).
27. For more on the *West Virginia v. EPA* decision, see Jonathan H. Adler, *West Virginia v. EPA: Some Answers About Major Questions*, CATO SUP. CT. REV. 2021-22, at 37 (2022) [hereinafter *Some Answers About Major Questions*]; see also Mila Sohoni, *The Major Questions Quartet*, 136 HARV. L. REV. 262 (2022) (placing *West Virginia v. EPA* in the broader context of the Supreme Court’s other “major questions” decisions of October Term 2021). But see Kristin E. Hickman, *The Roberts Court’s Structural Incrementalism*, 136 HARV. L. REV. F. 75 (2022) (suggesting caution about over-reading *West Virginia v. EPA* and associated decisions). Some raised concerns about the Court’s trajectory even before the *West Virginia v. EPA* decision. See, e.g., Lisa Heinzerling, *The Power Canons*, 58 WM. & MARY L. REV. 1933 (2017).

## I. STATUTORY OBSOLESCENCE

What does it mean for a law to be obsolete? Common definitions of “obsolete” include “no longer useful” and “no longer current.”<sup>28</sup> A nineteenth-century legal dictionary instructs that the term applies to “those laws which have lost their efficacy, without being repealed.”<sup>29</sup> By this definition, then, a statute is obsolete when, due to age or changed circumstances, it can no longer function as intended or fulfill its legislative purpose. *Black’s Law Dictionary* has also defined “obsolete” as “[t]hat which is no longer used.”<sup>30</sup> In this sense, a law is obsolete if it is subject to desuetude.<sup>31</sup>

Obsolescence is almost always a consequence of time. As needs and circumstances change, it is perhaps inevitable that statutory frameworks will eventually fail to align with contemporary needs and circumstances.<sup>32</sup> Yet time is a necessary but not sufficient condition for obsolescence. All else equal, an older, unamended law is more likely to be obsolete than is a law of more recent vintage. But a law’s age alone does not determine its obsolescence. Portions of the federal Judiciary Act<sup>33</sup> are nearly as old as the nation itself, but that does not render them obsolete.<sup>34</sup> Centuries-old prohibitions on murder or theft are

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28. *Obsolete*, MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 803 (10th ed. 1998). The *Cambridge Dictionary* also lists “not in use anymore, having been replaced by something newer and better or more fashionable,” and “no longer used or needed, usually because something newer and better has replaced it.” *Obsolete*, CAMBRIDGE DICTIONARY, <https://dictionary.cambridge.org/us/dictionary/english/obsolete> [<https://perma.cc/P74F-B7T4>].
29. *Obsolete*, JOHN BOUVIER, A LAW DICTIONARY, ADAPTED TO THE CONSTITUTION AND LAWS OF THE UNITED STATES 257 (1856).
30. *Obsolete*, BLACK’S LAW DICTIONARY (6th ed. 1990).
31. See John F. Stinneford, *Death, Desuetude, and Original Meaning*, 56 WM. & MARY L. REV. 531, 565 (2014) (“Desuetude is the idea that if a law is left unenforced for a long time despite numerous enforcement opportunities, it may lose all legal force because a negative custom has grown up against it.”).
32. This need not be true of all statutes, however. We would be quite surprised were statutes prohibiting murder or rape to one day be considered obsolete. On the other hand, subsidiary legal questions, including what might justify the use of deadly force or how to assess or demonstrate consent to sexual contact, could well change over time. Insofar as relevant statutes fail to align with contemporary values, this is one way in which they could be considered obsolete.
33. Ch. 20, 1 Stat. 73 (1789).
34. The so-called Alien Tort Claims Act was enacted as part of the Judiciary Act of 1789. See Judiciary Act, ch. 20, 1 Stat. 73, 77 (1789) (“And [district courts] shall also have cognizance, concurrent with the courts of the several States, or the circuit courts, as the case may be, of all causes where

hardly obsolete, despite their age, though contemporaneous morals legislation, based upon centuries-old conceptions of morality, could well be. The pace of change matters too, so statutes authorizing regulation of rapidly evolving industries could become obsolete rather quickly.<sup>35</sup> The precise causes (and consequences) of obsolescence in any given context matter, particularly if obsolete laws are to be updated and improved.

In his 1982 book *A Common Law for the Age of Statutes*, Judge Guido Calabresi describes “legal obsolescence” as “[t]he combination of a lack of fit and lack of current legislative support” that results from the fact that it is difficult to revise or revisit statutes once they have been enacted.<sup>36</sup> This problem has become more pronounced, Calabresi suggests, because of the broader “statutorification” of American law.<sup>37</sup> Whatever its faults (and in the environmental context, there are many), the common law is more flexible and evolutionary than the statutory alternative.<sup>38</sup> And while administrative agencies, such as the EPA,

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an alien sues for a tort only in violation of the law of nations or a treaty of the United States.”). Whatever the problems with the Alien Tort Claims Act, obsolescence is not among them.

35. The 1996 amendments to the Communications Act were dismissed as “woefully outdated” within a decade of their enactment. *See, e.g.*, Randolph J. May, *Why Stovepipe Regulation No Longer Works: An Essay on the Need for a New Market-Oriented Communications Policy*, 58 FED. COMM’NS L.J. 103, 103 (2006).
36. CALABRESI, *supra* note 14, at 2. As Calabresi notes, “[B]ecause a statute is hard to revise once it is passed, laws are governing us that would not and could not be . . . reenacted but also do not fit, are in some sense inconsistent with, our whole legal landscape.” *Id.*
37. *Id.* at 1.
38. On some of the benefits of common law litigation as a means to address environmental problems, see, for example, Henry N. Butler, *A Defense of Common Law Environmentalism: The Discovery of Better Environmental Policy*, 58 CASE W. RESV. L. REV. 705, 707 (2008) (“[G]iven the longstanding and widespread dissatisfaction with the current centralized regulatory regime, it is time to seriously consider the common law as an alternative institutional arrangement for protecting environmental assets.”); William W. Buzbee, *Asymmetrical Regulation: Risk, Preemption, and the Floor/Ceiling Distinction*, 82 N.Y.U. L. REV. 1547, 1556 (2007) (“The common law system’s independence and private incentives to challenge the status quo are particularly valuable antidotes to complacency and ineffective regulation.”); Jason J. Czarnecki & Mark L. Thomsen, *Advancing the Rebirth of Environmental Common Law*, 34 B.C. ENV’T AFFS. L. REV. 1, 35 (2007) (“State common law doctrines can effectively determine what is an unreasonable act using state promulgated environmental standards, and provide for alternative or additional remedies.”); Keith N. Hylton, *When Should We Prefer Tort Law to Environmental Regulation?*, 41 WASHBURN L.J. 515, 515 (2002) (arguing common law tort litigation is sometimes superior to regulation); Roger Meiners & Bruce Yandle, *Common Law and the Conceit of Modern*



typically have some authority to update regulatory requirements over time, Calabresi concludes such authority has generally been insufficient to prevent statutory obsolescence.<sup>39</sup> As Calabresi notes, vested interests tend to prevent “any reconsideration of how the law that created an agency and the regulations issued by the agency fit the changing times.”<sup>40</sup> Were he to revisit the subject today, Calabresi might also add that courts are also more reluctant to allow the degree of agency renovation of congressional enactments that would be required to keep them up to date.<sup>41</sup>

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*Environmental Policy*, 7 GEO. MASON. L. REV. 923 (1999) (discussing the virtues of common law litigation to address pollution); Todd J. Zywicki, *A Unanimity-Reinforcing Model of Efficiency in the Common Law: An Institutional Comparison of Common Law and Legislative Solutions to Large-Number Externality Problems*, 46 CASE W. RES. L. REV. 961 (1996). On the failures of common law litigation to redress and prevent environmental harms, see, for example, Christopher H. Schroeder, *Lost in the Translation: What Environmental Regulation Does That Tort Cannot Duplicate*, 41 WASHBURN L.J. 583 (2002); Frank B. Cross, *Common Law Conceits: A Comment on Meiners & Yandle*, 7 GEO. MASON L. REV. 965, 977 (1999) (“The common law era saw some of the most dramatic pollution episodes.”); Peter S. Menell, *The Limitations of Legal Institutions for Addressing Environmental Risks*, 5 J. ECON. PERSPS. 93 (1991). For this author’s tentative assessment, see Jonathan H. Adler, *Is the Common Law the Free Market Solution to Pollution?*, 24 CRITICAL REV. 61 (2012); see also Jonathan H. Adler & Andrew P. Morriss, *Introduction*, 58 CASE. W. RES. L. REV. 575 (2008) (summarizing law review symposium on the role of the common law in environmental protection).

39. CALABRESI, *supra* note 14, at 45–46.

40. *Id.* at 46–47. As Calabresi notes, the “need for administrative renovation” of regulatory statutes “exists . . . precisely because the legislature is not acting” and the reasons for legislative action may also militate against meaningful administrative action. *Id.* at 48. The EPA and Army Corps’ reluctance to revisit the definition of “waters of the United States” after the decisions in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)*, 531 U.S. 159 (2001), and *Rapanos v. United States*, 547 U.S. 715 (2006), could be seen as an example of the phenomenon. Despite the two Supreme Court decisions concluding the U.S. Army Corps of Engineers and EPA had adopted an unduly expansive interpretation of their regulatory jurisdiction under the CWA, a new regulatory definition of “waters of the United States” was not promulgated until 2015. See Clean Water Rule: Definition of “Waters of the United States,” 80 Fed. Reg. 37,054 (June 29, 2015) (to be codified at 33 C.F.R. pt. 328; 40 C.F.R. pts. 110, 112, 116, 117, 122, 230, 232, 300, 302, 401).

41. As Calabresi notes, “[I]t is too much to expect bureaucrats whose job it is to apply a law to undermine that law, consistent within itself, because it has become out of phase with other laws outside their jurisdiction.” CALABRESI, *supra* note 14, at 49. In addition to the problem of statutory obsolescence, there is also the question of “agency obsolescence.” See Jonathan R. Macey, *Administrative Agency Obsolescence and Interest*

One reason statutes, and perhaps environmental statutes in particular, may become obsolete is because the world keeps changing, due to both human activities and natural processes.<sup>42</sup> The world of the twenty-first century is substantially different from that which came before. Indeed, the world today is quite different from that of just twenty-five or fifty years ago.

America's once-industrial economy is now a service and informational economy. Much of the economy is dematerializing, but the environmental consequences of consumption remain.<sup>43</sup> Americans may consume less "stuff," but some of what is consumed or disposed of may be of greater environmental concern.<sup>44</sup> Suburbanization has proceeded apace, as have broader changes to the American landscape.<sup>45</sup> Some types of pollution have subsided, even as others have increased.

Environmental laws may be particularly prone to obsolescence because ecosystems are dynamic and constantly evolving. This natural ecological dynamism has been compounded by the effects of climate change, which is contributing to substantial—and often substantially

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*Group Formation: A Case Study of the SEC at Sixty*, 15 CARDOZO L. REV. 909, 910–21 (1994).

42. See Joseph A. Schremmer & Tara K. Righetti, *Rediscovering the Doctrine of Waste and Common Law Environmental Governance*, 36 NAT. RES. & ENV. 22, 25 (2022) (observing that "statutory obsolescence" is "one of the overarching problems of modern environmental law").
43. See generally ANDREW MCAFEE, MORE FROM LESS: THE SURPRISING STORY OF HOW WE LEARNED TO PROSPER USING FEWER RESOURCES—AND WHAT HAPPENS NEXT (2019) (documenting the dematerialization of advanced economies including the United States').
44. A prime example is nanomaterials, which can pose distinct environmental problems despite their small size. See Kimberly A. Gray, *Five Myths About Nanotechnology in the Current Public Policy Debate: A Science and Engineering Perspective*, in THE NANOTECHNOLOGY CHALLENGE: CREATING LEGAL INSTITUTIONS FOR UNCERTAIN RISKS 46 (David A. Dana ed., 2012) (noting that nanoscale materials "develop entirely new properties and behave uniquely relative to the same atoms packaged as bulk materials"); see also Albert C. Lin, *Size Matters: Regulating Nanotechnology*, 31 HARV. ENV'T L. REV. 349, 358 (2007) (observing that what makes nanomaterials useful and attractive to manufacturers—"their small size, chemical composition, surface structure, solubility, shape, and aggregative tendencies"—may also make them more dangerous).
45. Robert W. Adler, *Resilience, Restoration, and Sustainability: Revisiting the Fundamental Principles of the Clean Water Act*, 32 WASH. U. J.L. & POL'Y 139, 160 (2010) ("Since 1972, the United States has continued its massive migration to urban and suburban areas, and sprawl now threatens the integrity of our waterways as much or more than industrial discharges did in the 1960s.").

unpredictable—shifts in hydrological cycles and precipitation.<sup>46</sup> Even where environmental conditions may not have changed in relevant ways, our understanding of ecological processes and the consequences of various interventions has expanded and improved, as has our technological and technical capacity to monitor effects and make improvements. Some “new” environmental problems are only new insofar as we belatedly learned to recognize them as problems or understand the importance of a given ecological effect.

A law could also become obsolete if it is a victim of its own success. Once the mischief that motivated a statute’s passage has been addressed, the statute may serve to prevent the problem’s recurrence. On the other hand, it is possible the statute may no longer serve a salutary purpose and may even be the source of harm.<sup>47</sup> Insofar as laws reflect broadly held social values, it is also possible that older laws may become obsolete insofar as they embody normative values that are no longer widely shared. In this sense, obsolescence results from a mismatch between laws on the books and contemporary values and preferences.

A statute or regulatory program may also become obsolete insofar as it is at odds with prevailing legal frameworks and norms. A statute that embodies one set of assumptions about the scope of federal power or the authority of administrative agencies may be considered obsolete if those premises conflict with more recent legal developments.<sup>48</sup> This sort of legal obsolescence may further hamper a law’s ability to serve the purposes for which it was enacted.

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46. See P.C.D. Milly, Julio Betancourt, Malin Falkenmark, Robert M. Hirsch, Zbigniew W. Kundzewicz, Dennis P. Lettenmaier & Ronald J. Stouffer, *Stationarity Is Dead: Whither Water Management?*, SCI., Feb. 1, 2008, at 573; see also Robin Kundis Craig, “Stationarity Is Dead”—*Long Live Transformation: Five Principles for Climate Change Adaptation Law*, 34 HARV. ENV’T. L. REV. 9, 15–16 (2010); Robert M. Hirsch, *A Perspective on Nonstationarity and Water Management*, 47 J. AM. WATER RES. ASS’N 436, 438 (2011).

47. Some twenty years after the initial enactment of the federal Clean Air Act the National Research Council concluded that, depending upon local conditions, continued reductions in nitrogen oxide emissions could actually *increase* ambient ozone levels. See COMMITTEE ON TROPOSPHERIC OZONE FORMATION AND MEASUREMENT, NAT’L RSCH. COUNCIL, RETHINKING THE OZONE PROBLEM IN URBAN AND REGIONAL AIR POLLUTION 11 (1992) (“NO<sub>x</sub> [nitrogen oxide] reductions can have either a beneficial or detrimental effect on ozone concentrations, depending on the locations and emissions rates of VOC [volatile organic compound] and NO<sub>x</sub> sources in a region.”).

48. It is also possible that this sort of mismatch may reflect the obsolescence of other legal doctrines, rather than of the conflicting statute.

## II. IS THE CLEAN WATER ACT OBSOLETE?

There is widespread consensus that the CWA is long overdue for reform.<sup>49</sup> The Act has not been meaningfully revised, or even reauthorized, in over three decades.<sup>50</sup> The Clinton Administration proposed a “Clean Water Initiative” in 1994 that called for dramatic changes to the law, including enforceable measures governing nonpoint source pollution and greater attention to environmental justice and ecosystem health.<sup>51</sup> Even then, some of the law’s limitations were apparent, but repeated efforts to enact reforms were unavailing.<sup>52</sup> Since then, a wide range of groups have urged reform.<sup>53</sup> Congress has not yet responded.

When Congress last amended the CWA, Ronald Reagan was President and the Berlin Wall had yet to be torn down. More people listened to music on cassette tapes than compact discs, and more families drove station wagons than sport utility vehicles. America Online (AOL) was still a startup and shoebox-sized cell phones still did

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49. See, e.g., Bobby Magill, *Clean Water Act Marks 50 Years as Lawyers Say Improvement Needed*, BLOOMBERG (Oct. 18, 2022, 5:30 AM), <https://news.bloomberglaw.com/environment-and-energy/clean-water-act-marks-50-years-as-lawyers-say-improvement-needed> [<https://perma.cc/2JMP-NETK>]; Codi Kozacek, *U.S. Clean Water Law Needs New Act for the 21st Century*, CIRCLE OF BLUE (Aug. 20, 2015), <https://www.circleofblue.org/2015/world/u-s-clean-water-law-needs-new-act-for-the-21st-century> [<https://perma.cc/T73H-SC3D>]; Freeman & Spence, *supra* note 24, at 17 (“[T]he CWA would benefit from a substantial update to address modern challenges.”); Andreen, *supra* note 4 (“[M]ore than a little legislative fine-tuning must be done to complete the task that began in 1972.”).
50. See *supra* note 4 and discussion therein.
51. See U.S. ENV’T. PROT. AGENCY, EPA 800-R-94-001, PRESIDENT CLINTON’S CLEAN WATER INITIATIVE (1994).
52. See LAZARUS, *supra* note 19, at 150 (noting failure of “repeated efforts to amend the Clean Water Act”). One reason for the failure to update the CWA was a refusal to accept reforms desired by business groups and property rights advocates that commanded majority support in Congress at the time. See John H. Cushman, Jr., *Environmental Lobby Beats Tactical Retreat*, N.Y. TIMES (Mar. 30, 1994), <https://www.nytimes.com/1994/03/30/us/environmental-lobby-beats-tactical-retreat.html> [<https://perma.cc/KY9A-83RL>] (discussing environmental advocacy group’s decision to adopt a “kill strategy” on environmental reform legislation, including CWA reauthorization); see also Ann Reilly Dowd, *Environmentalists Are on the Run*, FORTUNE, Sept. 19, 1994, at 91.
53. See, e.g., *Policy Statement 420—Clean Water Act Reauthorization*, AM. SOC’Y CIV. ENG’RS (July 16, 2021), <https://www.asce.org/advocacy/policy-statements/ps420--clean-water-act-reauthorization> [<https://perma.cc/86UQ-2XM2>]; *The Clean Water Act at 50: Promises Half Kept at the Half-Century Mark*, ENV’T INTEGRITY PROJECT (Mar. 17, 2022), <https://environmentalintegrity.org/wp-content/uploads/2022/03/CWA@50-report-EMBARGOED-3.17.22.pdf> [<https://perma.cc/G4KM-NNGD>]; NICHOLAS INST., *infra* note 57.

not have digital service. Coal accounted for over 50 percent of U.S. electricity production, and climate change was not yet a dominant policy concern.<sup>54</sup> If the Act is going to accomplish its lofty goals “more than a little legislative fine-tuning” is necessary.<sup>55</sup> There are “fundamental flaws in the nation’s water quality architecture.”<sup>56</sup> Most conspicuously, the law fails to focus on the most pressing water quality challenges of the twenty-first century.<sup>57</sup>

The CWA’s largest failing may be its inability to control nonpoint source pollution.<sup>58</sup> While nonpoint source water pollution has long been a concern, it has become more severe over the past several decades.<sup>59</sup> The Act’s primary regulatory provisions target point source discharge and impose technology-based emission standards on industrial facilities. Policymakers were aware of nonpoint source contributions to water pollution in the 1960s and early 1970s, but pollution from point sources was a more salient concern.<sup>60</sup> It also mattered that point sources were easier to control at the time, both practically and politically.<sup>61</sup> Forcing industrial and municipal emitters to obtain permits and adopt specified pollution controls was a relatively straightforward way to control water

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54. Scientists were aware of the greenhouse effect, and some were concerned with the potential problem of global warming, but these concerns had not yet begun to influence policy. The Intergovernmental Panel on Climate Change would not be created until 1988.
55. See Andreen, *supra* note 4.
56. James Shortle, *Policy Reforms Needed for Better Water Quality and Lower Pollution Control Costs*, CHOICES, 4th Qtr. 2017, at 1.
57. See Adler, *supra* note 45, at 141 (“[S]ome of the major underpinnings of the CWA merit reconsideration given changes in science and society.”); see also NICHOLAS INST. FOR ENV’T POL’Y SOLS., DUKE UNIV., CONFERENCE REPORT: CONSIDERING THE CLEAN WATER ACT 6 (2009), <https://nicholasinstitute.duke.edu/sites/default/files/publications/considering-the-clean-water-act-paper.pdf> [<https://perma.cc/PU2Z-G5Z6>] (detailing “critical ways in which the Clean Water Act fails to address specific and emerging water quality challenges”).
58. See J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law*, 27 ECOLOGY L.Q. 263, 298 (2000) (“Efforts to address nonpoint source water pollution in the CWA and other statutes have been feeble, unfocused, and underfunded.”); SCHOENBROD ET AL., *supra* note 24, at 105 (noting that nonpoint source pollution represents greatest water quality challenge).
59. See Andreen, *supra* note 4 (“The Clean Water Act has also never adequately addressed our most significant remaining source of pollution problems: non-point sources.”).
60. See Adler, *supra* note 45, at 162 (noting CWA permitting system “was designed in and for an industrial society, during which industrial sources of pollution were viewed as the most severe”).
61. See LAZARUS, *supra* note 19, at 177 (noting that imposing technology-based requirements on point sources was easier than ecologically based standards).

pollution. Identifying and quantifying nonpoint source contributions to water quality problems, on the other hand, was quite difficult.<sup>62</sup>

However well justified the emphasis on point source pollutants may have been in 1972,<sup>63</sup> it is misplaced today. Nonpoint source pollution now presents the far greater threat to water quality,<sup>64</sup> and it has for quite some time.<sup>65</sup> For over two decades, nonpoint source pollution has been “the leading cause of the siltation, nutrients, bacteria, metals (primarily mercury), and oxygen-depleting substances that are responsible for continued impairment of our surface waters.”<sup>66</sup> It is possible that the increasing prevalence of nonpoint source pollution is due, in part, to the CWA’s relative success at controlling point source pollution, but that does not make the need to address nonpoint source pollution any less urgent.

The CWA’s failure to constrain nonpoint source pollution is a significant reason for the Act’s limited effectiveness.<sup>67</sup> Water pollution control has been “arguably the most expensive environmental investment in U.S. history.”<sup>68</sup> Despite the substantial investments made, most cost-benefit analyses of federal water quality regulations

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62. See Glicksman & Batzel, *supra* note 8, at 115 (“[T]he means of controlling (and measuring) nonpoint source pollution were not as readily available as those for point source pollution . . .”).
63. See *id.* at 120 (characterizing the focus on point sources in the 1972 Act as “a product of necessity”); see also Jonathan Cannon, *A Bargain for Clean Water*, 17 N.Y.U. ENV’T L.J. 610, 615 (2008) (“The Act’s exclusion of pollution from agricultural runoff and from non-point sources more generally was a political concession to a collection of economic interests . . .”).
64. See SCHOENBROD ET AL., *supra* note 24, at 105 (noting that nonpoint source pollution represents the greatest water quality challenge); Robin M. Rotman, Ashley A. Hollis & Kathleen M. Trauth, *Realigning the Clean Water Act: Comprehensive Treatment of Nonpoint Source Pollution*, 48 ECOLOGY L.Q. 115, 117 (2021) (same).
65. See Drew Caputo, *A Job Half Finished: The Clean Water Act After 25 Years*, 27 ENV’T L. REP. 10574, 10584 (1997) (noting that “new legislation is necessary” to address nonpoint source pollution).
66. See Glicksman & Batzel, *supra* note 8, at 132.
67. David A. Keiser, Catherine L. Kling & Joseph S. Shapiro, *The Low but Uncertain Measured Benefits of US Water Quality Policy*, 116 PROC. NAT’L ACAD. SCI. 5262, 5262 (2019) (observing that “most government and academic benefit-cost analyses find negative net benefits from surface water quality, is not generally known”); Cannon, *supra* note 63, at 616 (“Unregulated nonpoint source pollution is solely responsible for failure of 30 to 50 percent of U.S. waterbodies to meet water quality standards and is a contributing factor in an even larger percentage.”).
68. David A. Keiser & Joseph S. Shapiro, *U.S. Water Pollution Regulation over the Past Half Century: Burning Waters to Crystal Springs?*, 33 J. ECON. PERSPS. 51, 52 (2019) [hereinafter Keiser & Shapiro, *Past Half Century*].

issued since 2000 have found that “these regulations’ benefits are much smaller than their costs (i.e. they have negative net benefits).”<sup>69</sup> These conclusions may be a consequence of patchy data on water quality and the difficulty of fully accounting for and quantifying the benefits of water quality improvements.<sup>70</sup> Nonetheless, the results are striking, particularly when compared to the positive economic assessments of Clean Air Act<sup>71</sup> regulation.<sup>72</sup> Insofar as the CWA’s primary regulatory constraints are still directed at squeezing additional increments of pollution reduction from point sources, the Act’s cost-effectiveness is unlikely to improve.<sup>73</sup>

While some measures of water quality have improved since the CWA’s enactment, these trends began before the CWA was enacted.<sup>74</sup> This should not be completely surprising, as states began to enact more stringent water pollution control laws in the 1960s.<sup>75</sup> Many of the same

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69. Keiser et al., *supra* note 67, at 5262. As the authors note, cost-benefit analyses were not done routinely (if at all) for earlier CWA regulations. *Id.*

70. *Id.* at 5268.

71. 42 U.S.C. §§ 7401–7671.

72. See Cannon, *supra* note 63, at 612 (stating that conclusions of CWA cost-benefit analyses are “quite far from the robust net benefits of the CWA’s cousin, the Clean Air Act (CAA)”). The EPA’s retrospective study found extremely positive benefit-cost ratios for CAA regulations. See EPA, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT, 1970 TO 1990 (1997). The EPA’s subsequent prospective studies reached similar conclusions. See EPA, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT, 1990 TO 2010 (1999); EPA, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT, 1990 TO 2020 (2011).

73. See Cannon, *supra* note 63, at 614 (“The CWA’s policy apparatus now squeezes increasingly expensive increments of improvement from point sources.”); see also G. Tracy Mehan III, *Establishing Markets for Ecological Services: Beyond Water Quality to a Complete Portfolio*, 17 N.Y.U. ENV’T. L.J. 638, 638–40 (2008) (noting the “seemingly intractable” challenge of trying to improve water quality given the CWA’s focus on point sources to the exclusion of other sources of water pollution).

74. A. Myrick Freeman III, *Water Pollution Policy*, in PUBLIC POLICIES FOR ENVIRONMENTAL PROTECTION 97, 114 (Paul R. Portney ed., 1990) (“The results of the EPA’s first National Water Quality Inventory, conducted in 1973, indicated there had been significant improvements in most major waterways over the preceding decade, at least in regard to organic wastes and bacteria.”). For arguments against relying upon the EPA’s first water quality inventory, see William L. Andreen, *Delegated Federalism Versus Devolution: Some Insights from the History of Water Pollution*, in PREEMPTION CHOICE: THE THEORY, LAW, AND REALITY OF FEDERALISM’S CORE QUESTION 257 (William W. Buzbee ed., 2009).

75. See N. William Hines, *Nor Any Drop to Drink: Public Regulation of Water Quality: Part I: State Pollution Control Programs*, 52 IOWA L. REV. 186, 215 (1966) (reporting that every state had enacted a water quality program); see also U.S. GEN. ACCT. OFF., WATER POLLUTION

political forces that drove federal policymakers to turn their attention toward environmental concerns were present at the state level.<sup>76</sup> The most comprehensive study of historical water pollution trends in the United States conducted to date found water quality improvements as early as 1962.<sup>77</sup> The relevant trend lines “show no obvious evidence of a mean shift or trend break in water pollution” after enactment of the CWA in 1972.<sup>78</sup> To the contrary, there is some evidence “the rate of decrease in pollution slowed after 1972,” though this could be due to such factors as “declining returns to abatement” and the increased importance of nonpoint source pollution as the CWA was implemented.<sup>79</sup> While the CWA funded investments in wastewater treatment, there is also some evidence the influx of federal dollars crowded out state and local investments in water quality.<sup>80</sup>

Adopting controls on nonpoint source pollution may still be difficult politically, but technological and technical advances have made it more possible to measure and monitor such pollution and the activities that generate or contribute to it. Advances in information technologies, in particular, offer opportunities to monitor and control pollution with greater precision and in a more adaptive fashion than ever before.<sup>81</sup> As

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ABATEMENT PROGRAM: ASSESSMENT OF FEDERAL AND STATE ENFORCEMENT EFFORTS, B-166506, at 13 (Mar. 23, 1972) (noting significant improvements in some state water pollution control programs).

76. It is also true that there were some distinct economic pressures that favored the federalization of environmental law. See E. Donald Elliott, Bruce A. Ackerman & John C. Millian, *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. ECON. & ORG. 313, 326–30 (1985); David Schoenbrod, *Why States, Not EPA, Should Set Pollution Standards*, in ENVIRONMENTAL FEDERALISM 259, 260–62 (Terry L. Anderson & P.J. Hill eds., 1997). For a broader discussion of the role that economic interests have played in the enactment and shaping of environmental regulation, see Jonathan H. Adler, *Clean Politics, Dirty Profits: Rent-Seeking Behind the Green Curtain*, in POLITICAL ENVIRONMENTALISM (Terry Anderson ed., 2000); Todd J. Zywicki, *Environmental Externalities and Political Externalities: The Political Economy of Environmental Regulation and Reform*, 73 TUL. L. REV. 845 (1999); ENVIRONMENTAL POLITICS: PUBLIC COSTS, PRIVATE REWARDS (Michael S. Greve & Fred L. Smith Jr. eds., 1992).
77. Keiser & Shapiro, *supra* note 8, at 349, 373 (“Dissolved oxygen deficits and the share of waters that are not fishable both decreased almost every year between 1962 and 1990.”).
78. *Id.* at 373.
79. *Id.* at 373–76.
80. *Id.* at 382–83. Not all of the decline in state and local investment could be a result of crowding out, however, as much of the decline occurred in the 1960s. *Id.* at 382.
81. See Esty, *supra* note 12, at 43 (“[O]ur capacity to respond [to environmental problems] has been transformed by advances in scientific,



Daniel Esty observes, had we had today's capabilities when laws like the CWA were enacted "we almost certainly would not have designed the environmental protection regime that we live with today."<sup>82</sup> Former EPA General Counsel Jonathan Cannon concurs that "[b]etter data and science are available now" that could be used to adopt a more water quality-focused approach.<sup>83</sup> Some states and localities have made progress in developing innovative approaches to nonpoint source pollution, such as the programs developed by the North Coast Regional Water Quality Control Board in California,<sup>84</sup> but the CWA does relatively little to facilitate, let alone encourage, such efforts.

The greater utilization of water quality trading is one way the CWA could be reformed to enhance water quality in a more efficient and cost-effective manner.<sup>85</sup> Technological and scientific developments over the past several decades make this a more realistic and practical option than it has been before.<sup>86</sup> It is not merely that scientists have an improved understanding of hydrology.<sup>87</sup> Since the 1970s, there has been tremendous advancement in all manner of environmental knowledge, including the nature of environmental risks; the creation, dispersal and

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data analytics, technological, management, political science, economic, and public administration theory and practice.").

82. *Id.* at 45.

83. See Cannon, *supra* note 63, at 620; see also NAT'L RES. COUNCIL, ASSESSING THE TMDL APPROACH TO WATER QUALITY MANAGEMENT 18 (2000) ("[T]he data and science have progressed sufficiently over the last 35 years to support the nation's return to ambient-based water quality management.").

84. See Dave Owen, *Field Notes from an Alternative Water Quality Reality*, 73 CASE W. RES. L. REV. 441, 462–64 (2022).

85. See James Shortle & Richard D. Horan, *Policy Instruments for Water Quality Protection*, 5 ANN. REV. RES. ECON. 111, 112 (2013) (noting "ample evidence" that alternative pollution control strategies "could pay large dividends in both water quality improvements and control cost savings").

86. Cannon, *supra* note 63, at 613 ("[T]here are opportunities to improve the cost-effectiveness of the act, including realizing relative low cost reductions from non-point source dischargers . . ."); see Karen Fisher-Vanden & Sheila Olmstead, *Moving Pollution Trading from Air to Water: Potential, Problems and Prognosis*, 27 J. ECON. PERSP. 147, 147–49 (2013) (discussing the opportunities and challenges of reducing water pollution control costs through pollution credit trading). On why it has been more difficult to adopt emission trading for water, see Sheila M. Olmstead, *The Economics of Water Quality*, 4 REV. ENV'T ECON. & POL'Y 44, 51–52 (2010).

87. Murugesu Sivapalan & Günter Blöschl, *The Growth of Hydrological Understanding: Technologies, Ideas, and Societal Needs Shape the Field*, 53 WATER RES. RSCH. 8137, 8138 (2017) ("[T]he 20th century has seen enormous progress in hydrological understanding.").

migration of pollutants; their synergistic effects; and more.<sup>88</sup> At the same time, advances in data collection and processing, ecological monitoring, and even artificial intelligence expand the opportunities to adopt more dynamic and responsive regulatory measures that account for a wider variety of pollution sources and adopt a wider range of control techniques.<sup>89</sup>

The environmental statutes Congress enacted in the 1970s largely reflected outdated ecological notions that presumed ecosystems tended toward a stable balance or equilibrium absent human interference.<sup>90</sup> The CWA, in particular, reflected the prevailing “notion that nature was static and maintained an equilibrium or ‘balance.’”<sup>91</sup> This view has been long discarded, even if few environmental statutes have been revised accordingly.<sup>92</sup> Not only do statutes like the CWA not reflect contempo-

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88. Esty, *supra* note 12, at 3 (“We’ve learned a great deal about the spectrum of harms that we face; the fate and transport of pollutants; the epidemiological and ecological impacts of emissions; and the environmental effects of choices made in other domains including energy, agriculture, trade, transportation, and the economy.”); *see also* A. Dan. Tarlock, *Environmental Law: Then and Now*, 32 WASH. U. J.L. & POL’Y 1, 2 (2010) (observing that “there has been considerable learning in fields such as ecology and toxic substance exposure” since the CWA and other major environmental laws were enacted); *id.* at 9 (“[S]ince the 1960s, there have been major advances in our understanding of the links between pollution, individual genetic makeup and illness, and the dynamic behavior of ecosystems.”).
89. On why market-based regulatory strategies may demand more information and greater predictive capacity than other types of pollution control strategies, see, for example, Michael W. Wara, *Instrument Choice, Carbon Emissions, and Information*, 4 MICH. J. ENV’T & ADMIN. L. 261 (2015).
90. Tarlock, *supra* note 88, at 11 (“In the 1960s, the prevailing view of ecosystems was that they would eventually reach stasis or stability.”); A. Dan Tarlock, *The Nonequilibrium Paradigm in Ecology and the Partial Unraveling of Environmental Law*, 27 LOY. L.A. L. REV. 1121, 1122–23 (1994) (noting how much environmental law was based upon an equilibrium paradigm that is no longer accepted by scientists); DANIEL B. BOTKIN, *THE MOON IN THE NAUTILUS SHELL: DISCORDANT HARMONIES RECONSIDERED*, at xi (2012) (noting that major environmental laws are based on “the wrong set of assumptions”); Craig Anthony (Tony) Arnold & Lance H. Gunderson, *Adaptive Law and Resilience*, 43 ENV’T L. REP. 10426, 10426 (2013) (“The foundational assumptions of U.S. environmental law are questionable.”).
91. LAZARUS, *supra* note 19, at 215.
92. *See* Glicksman & Batzel, *supra* note 8, at 108 (noting the “paradigm shift” in the understanding of ecology) (quoting Judy L. Meyer, *The Dance of Nature: New Concepts in Ecology*, 69 CHI.-KENT L. REV. 875, 877 (1994)).

rary understandings of ecosystems, they also fail to adequately account for ecosystem services.<sup>93</sup>

Of particular significance today, the Congresses that drafted and amended the CWA also did not fully appreciate the challenge posed by climate change. Most regulatory efforts to mitigate climate change have focused on finding ways to deploy the Clean Air Act to reduce greenhouse gas emissions, yet climate change is relevant for water quality as well.<sup>94</sup> Changes in the timing and distribution of precipitation, and the resulting effects on waterflows and hydrological systems, will affect water quality,<sup>95</sup> and little existing water quality regulation takes such considerations into account.<sup>96</sup>

Aspects of the CWA are not only out-of-step with contemporary scientific understandings, they are misaligned with contemporary values and preferences as well. Whereas environmental measures used to receive substantial bipartisan support, environmental regulation is now a source of deep partisan division, despite an apparent public consensus on the need to make environmental protection a priority. Republicans are particularly resistant to supporting federal regulation, and there is relatively little support for alternative approaches to environmental protection across the aisle.<sup>97</sup>

The American public has supported environmental protection relatively consistently over the past several decades, control of water pollution in particular.<sup>98</sup> A consensus in support of protecting and enhancing water quality does not necessarily translate into a consensus about a given set of control measures. When pollsters delve into questions about *how* to achieve given environmental goals, they often find disagreement.<sup>99</sup> There may be broad agreement about the need to

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93. J.B. Ruhl, *Ecosystem Services and the Clean Water Act: Strategies for Fitting New Science into Old Law*, 40 ENVTL. L. 1381, 1382 (2010) (“[T]he statute’s statutory structure has failed to keep pace with scientific advances, one prominent example being research on ecosystem services.”).
94. See P.G. Whitehead, R.L. Wilby, R.W. Battarbee, M. Kernan & A.J. Wade, *A Review of the Potential Impacts of Climate Change on Surface Water Quality*, 54 HYDROLOGICAL SCI. J. 101 (2009).
95. See *supra* note 46 and accompanying text.
96. See *supra* note 13 and accompanying text.
97. On the increased partisanship and legislative dysfunction related to environmental law, see Richard J. Lazarus, *Congressional Descent: The Demise of Deliberative Democracy in Environmental Law*, 94 GEO. L.J. 619 (2006).
98. Keiser & Shapiro, *Past Half Century*, *supra* note 68, at 52 (“Polls . . . suggest that water pollution has been Americans’ top environmental concern for at least 30 years.”).
99. See, e.g., Jonathan H. Adler & Kellyanne Fitzpatrick, *For the Environment, Against Overregulation*, WALL ST. J., July 29, 1997, at A12 (discussing

conserve wetlands, for example, but disagreement over whether the costs of such conservation efforts should be borne by those unlucky individuals who own (and previously refrained from developing) ecologically important parcels. Likewise, broad consensus on the need to invest in federal infrastructure does not necessarily entail a consensus on how such investments are funded.

Since the CWA was last amended there has been increased attention to inequity in environmental policy.<sup>100</sup> Research has highlighted the unequal distribution of pollution exposures and other environmental harms.<sup>101</sup> Combined with unequal allocation of cleanup resources and enforcement, these inequities have spurred a call for greater environmental justice that is only now receiving significant federal attention. Yet while such concerns now have the attention of the EPA and other federal agencies, such concerns are not (yet) reflected in the text and structure of federal environmental laws like the CWA.<sup>102</sup>

Those who drafted and amended the CWA did not anticipate the need to give greater attention to the distributional consequences of environmental pollution and pollution control. They also did not anticipate that federal courts would enforce constitutional and other legal constraints on the implementation and enforcement of federal environmental laws like the CWA.<sup>103</sup> Despite the ambitious sweep of federal environmental legislation, there was little, if any, thought given

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survey results finding support for environmental protection but opposition to centralized federal regulation).

100. See generally Spencer Banzhaf, Lala Ma & Christopher Timmins, *Environmental Justice: The Economics of Race, Place, and Pollution*, 33 J. ECON. PERSPS. 185 (2019); LUKE W. COLE & SHEILA R. FOSTER, FROM THE GROUND UP: ENVIRONMENTAL RACISM AND THE RISE OF THE ENVIRONMENTAL JUSTICE MOVEMENT (2001); ROBERT BULLARD, DUMPING IN DIXIE: RACE, CLASS AND ENVIRONMENTAL QUALITY (3d ed. 2000).
101. For a survey of the relevant empirical literature, see H. Spencer Banzhaf, Lala Ma & Christopher Timmins, *Environmental Justice: Establishing Causal Relationships*, 11 ANN. REV. RES. ECON. 377 (2019).
102. On the EPA's increased focus on environmental justice, see Coral Davenport, *E.P.A. Will Make Racial Equality a Bigger Factor in Environmental Rules*, N.Y. TIMES (Sept. 24, 2022), <https://www.nytimes.com/2022/09/24/climate/environmental-justice-epa.html> [<https://perma.cc/8CMA-6H3E>].
103. See ROBIN KUNDIS CRAIG, THE CLEAN WATER ACT AND THE CONSTITUTION: LEGAL STRUCTURE AND THE PUBLIC'S RIGHT TO A CLEAN AND HEALTHY ENVIRONMENT 22–23 (2004) (discussing how Congress's willingness to expand the federal role in water pollution control was facilitated by an expansive understanding of its power to regulate interstate commerce).

to the constitutional justification for such enactments.<sup>104</sup> The CWA, like all the major environmental statutes, gives a passing nod to the historic state role in addressing pollution concerns.<sup>105</sup> It nonetheless asserts broad regulatory authority over “waters of the United States” without any express regard for whether such authority is consistent with Congress’s enumerated powers. Hydrological and other ecological connections may be pervasive, but the federal government’s regulatory authority is more limited.

When the CWA was enacted and last revised, federal courts paid little attention to whether a given assertion of federal regulatory authority was within the scope of the Congress’s powers to regulate commerce “among the several states,” or otherwise necessary and proper to such regulation.<sup>106</sup> This changed in the 1990s when the Supreme Court, most notably in *United States v. Lopez*,<sup>107</sup> reaffirmed

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104. See Glicksman & Batzel, *supra* note 8, at 128 (“The CWA’s drafters seemed to have had no concern that the anticipated broad coverage of the Act’s discharge prohibitions and permit programs might run afoul of any limits on federal regulatory power derived from the Commerce Clause.”); Denis Binder, *The Spending Clause as a Positive Source of Environmental Protection: A Primer*, 4 CHAP. L. REV. 147, 148 (2001) (explaining that the “underlying assumption” of late twentieth-century environmental legislation was that “the Commerce Clause grants virtually carte blanche authority to Congress to legislate for environmental protection”); Philip Soper, *The Constitutional Framework of Environmental Law*, in FEDERAL ENVIRONMENTAL LAW 20, 24 (Env’t. L. Inst. ed., 1974) (observing that applying contemporary Commerce Clause jurisprudence “to the environmental context results in a picture of congressional power that appears practically unbounded at least as far as concerns control over the typical areas of pollution”). *But see id.* at 21–22 (citing commentators who argued, in the 1960s, that some environmental concerns may lie beyond the scope of federal power).

105. See, e.g., 33 U.S.C. § 1251(b) (“It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States . . .”).

106. As one federal judge observed, federal courts treated the commerce clause as the “Hey, you-can-do-whatever-you-feel-like Clause.” Alex Kozinski, *Introduction to Volume Nineteen*, 19 HARV. J.L. & PUB. POL’Y 1, 5 (1995). This was also the view embraced by academics. See, e.g., BRUCE ACKERMAN, WE THE PEOPLE: FOUNDATIONS 105 (1991) (noting that after the New Deal “[a] commitment to federalism . . . was no longer thought to require a constitutional strategy that restrained the national government to a limited number of enumerated powers over economic and social life”).

107. 514 U.S. 549 (1995) (holding that the Gun Free School-Zones Act exceeded the scope of Congress’s power to regulate interstate commerce); see also *United States v. Morrison*, 529 U.S. 598 (2000) (holding that portions of the Violence Against Women Act exceeded the scope of Congress’s power to regulate interstate commerce). On the implications of these and other federalism decisions on federal environmental law, see Jonathan H. Adler,

that the enumeration of powers in Article I, Section 8 of the Constitution limits the scope of federal power, and that federal courts should enforce such limits.

The *Lopez* decision was particularly important for the CWA, as the EPA and Army Corps of Engineers (“Army Corps”) had asserted broad regulatory authority over broad swaths of the American landscape that had no definite or demonstrable connection to the nation’s navigable waters, and thus were not self-evidently subject to regulation under the Commerce Clause. As Richard Lazarus noted at the time, the regulations defining the scope of federal regulatory authority under the CWA may have been “clearly” constitutional under existing Supreme Court precedent when they were adopted, but they were nonetheless “clearly out of bounds” after *Lopez*.<sup>108</sup> Despite Professor Lazarus’s warning, however, neither Congress nor the regulatory agencies bothered to respond to this legal development.

It was only a matter of time before federal courts applied their new understanding of the limits of federal power to regulation under the CWA. In *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)*<sup>109</sup> and *Rapanos v. United States*,<sup>110</sup> the Supreme Court adopted a narrow construction of the CWA out of a concern that a broad interpretation of the CWA would “push the limit of congressional authority” under the Commerce Clause.<sup>111</sup> In both cases, the Court limited the scope of the CWA to those wetlands and waters that have a “significant nexus” to truly navigable waters.<sup>112</sup> Insofar as the EPA and Army Corps seek to extend CWA authority beyond such waters or wetlands as a means to ensure more comprehensive regulation of those activities that can affect water quality, they may be exceeding the scope of the federal government’s constitutional authority as it is understood today.

Some hold out hope that the EPA and Army Corps will be able to justify broad regulatory authority under the CWA, as written, by emphasizing the CWA’s broader structure and purposes.<sup>113</sup> The

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*Judicial Federalism and the Future of Federal Environmental Regulation*, 90 IOWA L. REV. 377 (2005).

108. Richard Lazarus, *Corps Slips on Lopez, FWS Wins*, ENV’T F., Mar.–Apr. 1998, at 8, 8.

109. 531 U.S. 159 (2001).

110. 547 U.S. 715 (2006).

111. *SWANCC*, 531 U.S. at 173.

112. *Id.* at 167; *Rapanos*, 547 U.S. at 742.

113. See, e.g., Robert W. Adler, *A Unified Theory of Clean Water Act Jurisdiction*, 73 CASE W. RES. L. REV. 235 (2022); Robin Kundis Craig, *There Is More to the Clean Water Act than Waters of the United States: A Holistic Jurisdictional Approach to the Section 402 and Section 404 Permit Programs*, 73 CASE W. RES. L. REV. 349 (2022).

Supreme Court's embrace of a broad yet practical understanding of what constitutes a "discharge" from a point source in *County of Maui v. Hawaii Wildlife Fund*<sup>114</sup> suggests such an outcome might be possible, even if only as far as the National Pollution Discharge Elimination System (NPDES) is concerned.<sup>115</sup> Others worry that any attempt to maintain broad regulatory authority under the CWA will be overcome by the "antiregulatory arsenal" driving recent Supreme Court decisions.<sup>116</sup> Insofar as the latter is the case, this would suggest not that the CWA is obsolete, but that it is at odds with contemporary understandings of federal regulatory authority on the U.S. Supreme Court.<sup>117</sup>

### III. ADDRESSING OBSOLESCENCE

Assuming that the CWA is at least somewhat obsolete, what should be done about it? The *Schoolhouse Rock* answer would be to "pass a bill" and revise the law, but in the twenty-first century that is easier said than done. Whereas Congress used to update federal environmental laws on a regular basis, it largely ceased to do so in the 1990s.<sup>118</sup>

In the twentieth century, a common response to potential statutory obsolescence (and legislative inaction) was for agencies to take advantage of broad delegations of authority from Congress and capacious statutory language to reorient programs and embark on new regulatory initiatives in light of scientific and practical developments.<sup>119</sup> Given their subject matter expertise and relatively narrow focus, agencies may be better positioned to identify when existing programs

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114. 140 S. Ct. 1462, 1473–78 (2020).

115. See Craig, *supra* note 113, at 376–78.

116. See William W. Buzbee, *The Antiregulatory Arsenal, Antidemocratic Can(n)ons, and the Waters Wars*, 73 CASE W. RES. L. REV. 235 (2022); see also Richard J. Lazarus, *The Scalia Court: Environmental Law's Wrecking Crew Within the Supreme Court*, 47 HARV. ENV'T L. REV. (forthcoming 2023) (manuscript at 37–42) (on file with author) [hereinafter Lazarus, *Environmental Law's Wrecking Crew*].

117. As this is being written, the Supreme Court is considering a case that could determine the scope of federal regulatory authority under the CWA. See *Sackett v. Env't. Prot. Agcy.*, 8 F.4th 1075 (9th Cir. 2021), *cert. granted*, 142 S. Ct. 896 (Mem) (No. 21-454) (argued Oct. 3, 2022).

118. See Freeman & Spence, *supra* note 24, at 9 ("[U]ntil the mid-1990s, Congress showed the willingness and ability to modify these existing regulatory regimes in substantive ways as necessary to adapt to new and changing understandings of the policy environment.").

119. See Phillip A. Wallach, *When Can You Teach an Old Law New Tricks?* 16 N.Y.U. J. LEGIS. & PUB. POL'Y 689, 698 (2013) ("Executive branch agency officials, who are the primary interpreters of most laws, are in a position to effect policy change through new interpretations and have done so on numerous occasions.").

have become (or are at risk of becoming) obsolete and take remedial action.<sup>120</sup> Accordingly, as Congress stepped away from reauthorizing and revising environmental laws, “the executive branch stepped in to fill the void . . . .”<sup>121</sup>

Such actions by administrative agencies were not unanticipated. As the Supreme Court noted in *Massachusetts v. EPA*,<sup>122</sup> the Congresses that enacted major environmental laws likely “underst[ood] that without regulatory flexibility, changing circumstances and scientific developments would soon render [those laws] obsolete.”<sup>123</sup> By utilizing “creative interpretations of stale laws,” agencies can keep their regulatory programs up to date and incorporate contemporary knowledge and understanding to keep existing programs “relevant and effective.”<sup>124</sup> Prior to the CWA’s enactment, for example, federal prosecutors interpreted the Rivers and Harbors Act of 1899,<sup>125</sup> more commonly known as the Refuse Act, in a way that would facilitate enforcement actions against polluters.<sup>126</sup> The EPA and Army Corps have also taken innovative steps to incorporate the consideration of ecosystem services and facilitate wetland mitigation banking.<sup>127</sup> Other efforts, such as attempts to implement multistate water quality

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120. See Daniel T. Deacon, *Administrative Forbearance*, 125 YALE L.J. 1548, 1583 (2016) (“Because agencies often have large staffs of experts devoted to studying a particular area, they are more likely to be able to make informed decisions about when statutory requirements have become obsolete. They likely are also better at assessing the often complex effects of lifting a statutory requirement.”).

121. LAZARUS, *supra* note 19, at 156. As Lazarus notes, administrative efforts to update environmental programs served to lessen the incentive for Congress to act.

122. 549 U.S. 497 (2007).

123. *Id.* at 532.

124. Ruhl, *supra* note 93, at 1399.

125. Ch. 425, § 13, 30 Stat. 1151 (codified at scattered sections of 33 U.S.C.).

126. See William H. Rodgers, Jr., *Industrial Water Pollution and the Refuse Act: A Second Chance for Water Quality*, 119 U. PA. L. REV. 761, 761–62, 766–68 (1971) (describing the legal interpretations that enabled the federal government to take enforcement actions against polluters of navigable waterways); see also Adler, *Fables of the Cuyahoga*, *supra* note 21, at 133–36 (discussing federal enforcement actions against polluters on the Cuyahoga River prior to enactment of the CWA).

127. See J.B. Ruhl & James Salzman, *No Net Loss? The Past, Present, and Future of Wetlands Mitigation Banking*, 73 CASE W. RES. L. REV. 411, 411, 417, 422, 428–298 (2022).



standards within the CWA's framework, have produced more mixed results.<sup>128</sup>

There are limits to what agencies can do without new legislative authorization, however. As Calabresi cautioned, "only rarely will" agency efforts to update laws "serve to keep a statute coherent or consistent with the general body of laws and principles that make up the whole of the changing legal landscape."<sup>129</sup> This is particularly true insofar as the passage of time and changing circumstances magnify the lack of "fit" between the relevant statutory language and the problems at hand.<sup>130</sup> Further, an agency's technical knowledge and expertise cannot compensate for agencies' lack of majoritarian legitimacy.<sup>131</sup> For these reasons one may conclude that "agencies cannot legitimately solve the problem of legislative obsolescence," at least not without a legislative assist.<sup>132</sup>

The challenge to addressing legislative obsolescence through administrative innovation has been magnified by an increasing judicial skepticism of agency efforts "to pour new wine out of old bottles."<sup>133</sup> Judicial resistance to agency innovation or adaptation is not entirely new.<sup>134</sup> But it is likely greater than at any time since the initial enactment of the CWA and other major environmental laws.<sup>135</sup> The current Supreme Court is insistent on reading relevant texts carefully and construing legislative delegations narrowly before deferring to agency interpretations. Although the doctrine of *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*,<sup>136</sup> under which courts are to defer to reasonable agency interpretations of ambiguous statutory

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128. See Ridgeway M. Hall, *Pushing the Legal Limits*, ENV'T F., Nov.–Dec. 2021, at 43, 49 (discussing efforts to adopt a multistate TMDL for the Chesapeake Bay).

129. CALABRESI, *supra* note 14, at 54.

130. See Freeman & Spence, *supra* note 24, at 11 ("Congress routinely delegates regulatory authority and policy discretion to agencies, and statutes perpetually age, raising questions about how well they 'fit' the new circumstances.").

131. CALABRESI, *supra* note 14, at 53–54.

132. *Id.* at 52.

133. See Adler, *Some Answers About Major Questions*, *supra* note 27, at 38 ("West Virginia v. EPA reaffirmed that courts should be wary of allowing agencies to pour new wine out of old bottles . . .").

134. See, e.g., E. Donald Elliott, *Portage Strategies for Adapting Environmental Law and Policy During a Logjam Era*, 17 N.Y.U. ENV'T L.J. 24, 25 (2008) (noting "increasing literalism by the courts in applying the *Chevron* doctrine" and denial of "the tools of flexible statutory interpretation" make it difficult for agencies to address "emerging problems").

135. See Lazarus, *Environmental Law's Wrecking Crew*, *supra* note 116, at 37, 49; see also Sohoni, *supra* note 27, at 263–64, 266–67.

136. 467 U.S. 837, 842–43 (1984).

provisions, remains good law, it has not been relied upon by the Supreme Court to uphold an agency action since 2016.<sup>137</sup> Moreover, through the major questions doctrine the Court has erected a substantial obstacle to the ability of agencies to take advantage of broad or unclear statutory language to justify new regulatory initiatives.<sup>138</sup>

States remain free to develop their own programs within the confines of the CWA's broader architecture, and there are examples of promising innovations.<sup>139</sup> Yet there are also reasons to be skeptical that many states will take the lead in developing new approaches to water quality protection unless and until the CWA is reformed to facilitate (and perhaps even to incentivize) such efforts.<sup>140</sup> This has led activists and others to pursue other avenues of reform, including litigation under both state and federal law.<sup>141</sup>

Judicial resistance to entrepreneurial efforts by agencies to update their regulatory programs magnifies the need for legislative action. The problem is that Congress has not, as of yet, shown much willingness to accept the invitation to revisit environmental regulatory statutes.

While Congress has only rarely revisited regulatory programs in the past thirty years, it has shown itself capable of enacting legislation authorizing funding for water projects and infrastructure.<sup>142</sup> In 2020, Congress enacted a major, bipartisan conservation bill, albeit without much fanfare.<sup>143</sup> More significantly, in 2022 Congress enacted the most significant climate-related measure in the nation's history, albeit one that eschewed regulation in favor of government spending and

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137. See Hickman, *supra* note 27, at 87 (“The Court also has not applied *Chevron* to defer to an agency interpretation of a statute since 2016, notwithstanding several opportunities to do so.” (internal citations omitted)). The case in question was *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. 261, 276–77 (2016). See also Kristin E. Hickman & Aaron L. Nielson, *Narrowing Chevron’s Domain*, 70 DUKE L.J. 931, 1001–13 (2021) (identifying all of the Supreme Court decisions citing *Chevron* through the 2019 Term).

138. See Sohoni, *supra* note 27, at 263–64, 275–76; Adler, *Some Answers About Major Questions*, *supra* note 27, at 39.

139. See generally Owen, *supra* note 84, at 445, 448–49, 471–72.

140. See generally Jonathan H. Adler, *When Is Two a Crowd? The Impact of Federal Action on State Environmental Regulation*, 31 HARV. ENV'T L. REV. 67 (2007), for a discussion of how and why federal regulation may crowd out or discourage state-level reforms.

141. See Erin Ryan, *How the Successes and Failures of the Clean Water Act Fueled the Rise of the Public Trust Doctrine and Rights of Nature Movement*, 73 CASE W. RES. L. REV. 475, 478–79 (2022).

142. See, e.g., Drinking Water and Wastewater Infrastructure Act of 2021, Pub. L. No. 117–58, §§ 50001–50222, 135 Stat. 429, 1135–81.

143. See America’s Conservation Enhancement Act, Pub. L. No. 116–88, 134 Stat. 905 (2020).

incentives.<sup>144</sup> As with water-related infrastructure, Congress was more willing to spend money and enact fiscal incentives than to authorize new regulatory initiatives. It is easier to cobble together a legislative majority to distribute carrots than to brandish sticks. These enacted measures have been significant, but they are no substitute for substantive revisions of the nation's foundational environmental laws.

Outside of the environmental context, Congress has been able to reauthorize and revise substantive programs on a regular basis.<sup>145</sup> Typically this occurs because the underlying legal architecture creates a structure that requires periodic legislative action to forestall negative consequences on affected groups. The failure to reauthorize federal farm programs, for example, would leave agricultural producers and other affected interests subject to decades-old frameworks. This creates routine pressure to reauthorize and update the Farm Bill on a regular basis.<sup>146</sup>

While it is possible to enact legislation with built-in incentives for regular reauthorization, existing legislation cannot be retrofitted with such features without legislative action, so this just replicates the problem of legislative inaction unless Congress's failure to reauthorize extant regulatory programs can be used as leverage. Under long-standing rules in both the House and Senate, Congress is not supposed to approve appropriations for unauthorized expenditures.<sup>147</sup> In principle, this requirement can be enforced through a point of order,<sup>148</sup> though it

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144. See Inflation Reduction Act of 2022, Pub. L. No. 117-69, 136 Stat. 1818.

145. See Adler & Walker, *supra* note 18, at 1964-74 (discussing legislative mechanisms that encourage regular reauthorization).

146. *Id.* at 1967-69.

147. See Walt Lukken, *Reauthorization: Let the Debate Begin*, 24 FUTURES & DERIVATIVES L. REP., no. 6, Sept. 2004, at 1 (“Dating back to the 19th century, House and Senate rules have generally banned appropriating monies for non-authorized purposes and have subjected the legislation containing an unauthorized appropriation to a procedural point of order on the House and Senate floors.”); CONSTITUTION JEFFERSON’S MANUAL AND RULES OF THE HOUSE OF REPRESENTATIVES, H.R. DOC. NO. 115-77, at 871 (2019) (“An appropriation may not be reported . . . for an expenditure not previously authorized by law . . .”); STANDING RULES OF THE SENATE, S. DOC. NO. 113-18, at 11-12 (2013).

148. See LUKKEN, *supra* note 147, at n.3 (“Rule 21 of the House of Representatives and Rule 16 of the Senate generally prohibit the inclusion of unauthorized appropriations in appropriation and other legislation. However, these rules are not self-enforcing. Members of each body must raise a point of order at the appropriate time to enforce the rules. If a point of order is not raised, the unauthorized appropriation will continue through the legislative process.”).

appears no such points of order have been raised to challenge continued appropriations for unauthorized programs for quite some time.<sup>149</sup>

What would happen if Congress were unable to appropriate funds for those portions of the CWA that have not been reauthorized?<sup>150</sup> The statutory prohibition against the discharge of pollutants into waters of the United States without a permit would remain, as would those statutory provisions that authorize citizen suits to enforce this requirement. What would change is that the EPA would lack the ability to spend money to issue NPDES permits, promulgate new regulations, or engage in other programmatic efforts. Would such a state of affairs be sufficient to overcome partisan divides and enact CWA reforms? It is hard to say, but common entreaties have not sufficed to date.

In all likelihood, Congress will not revisit and revise the CWA until the political costs of inaction are greater than the real economic and environmental costs of sticking with the status quo. There is, and has long been, substantial public support for water quality.<sup>151</sup> But this has been insufficient to drive regulatory reform. Unless and until creative political entrepreneurs can devise ways to induce legislative action, the CWA is likely to become ever more obsolete, until its obsolescence itself drives a new legislative bargain.

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149. See Adler & Walker, *supra* note 18, at 1980 (“[T]he current rules contemplate that a point of order must be raised—a procedural rule that apparently is never invoked. And, even if it could be successfully invoked, the House and Senate rules dictate that the Speaker of the House and the Presiding Officer of the Senate would have to rule on whether the appropriation lacks authorization.”).

150. See *id.* at 1977–78 for a similar hypothetical involving the Clean Air Act.

151. Keiser & Shapiro, *Past Half Century*, *supra* note 68, at 52 (“Polls . . . suggest that water pollution has been Americans’ top environmental concern for at least 30 years.” (internal citation omitted)).