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50 Years of the Clean Water Act: Can We Sustain Its Success?

by Chris O. Yoder

The 50th anniversary of Federal Water Pollution Control Act (FWPCA) amendments of 1972 (Public Law 92-500) was celebrated on October 17, 2022. The term Clean Water Act (CWA) was coined later as a more descriptive title for this Act of Congress. The 1972 CWA amended prior laws that date back to 1948 and was the first meaningful effort to deal with water pollution that had existed since the middle of the 19th century. The effectiveness of the CWA in mandating the abatement of gross pollution by setting technology standards for categories of municipal and industrial point sources is well documented. Still, the CWA has not been modernized to update water quality standards, it has not readily employed the latest science (Duggan and Kotalik 2020), and the benefits have not been documented nearly well enough (Keiser et al. 2019). Increasingly insidious attempts to undermine its continued effectiveness have arisen over the past 10–15 years mostly at the state level.

While some of these deficiencies are dealt with by other articles in this series (e.g., Bennett 2023), the arrangement of CWA implementation, where US states are afforded the opportunity to receive federal delegation to operate the wastewater permitting (National Pollutant Discharge Elimination System) and water-quality-standards-based programs, is of equal importance. The implementation of the CWA has naturally matured as the US Environmental Protection

Agency (EPA) and the states have accrued new knowledge, in terms of both improved policy and technical approaches. A uniquely experienced and qualified workforce and knowledge base emerged to spur needed innovation in the development and maturation of water quality standards, which was led mostly by the states. This wealth of institutional knowledge has been critical to the success of the CWA and the maintenance of environmental improvements. Despite the long-documented success of the CWA, it has not extinguished a lingering resentment about the role of government in issuing regulatory mandates. However, the bipartisan origins and general popularity of this, and other, landmark environmental legislation has made it politically difficult to weaken the enabling legislation.

What has recently emerged is the systematic debilitation of state programs through the undermining of the implementation of the CWA by state legislatures and administrative agencies. This process has been attempted in multiple states where they have reduced and eliminated institutional knowledge, failed to modernize the science inherent to preserving CWA successes and addressing new problems, cut funding substantially (Kelderman et al. 2019), replaced enforcement with compliance assistance, and attempted to blunt or eliminate regulations by legislative edict. These actions have fostered a noticeable decay of CWA programs in some places,

especially where program managers have deliberately frustrated the transfer of the institutional knowledge and experience gained since 1972. It is all part of a national playbook to reduce the size of government and deconstruct the so-called administrative state, thus yielding greater latitude to regulated entities to pollute and evade accountability for legacy problems that they created in the first place.

Two examples of legislative attempts to undermine state environmental agencies are Maine LD 1 in 2011 and Ohio SB 9 in 2022. Entitled an “Act To Ensure Regulatory Fairness and Reform,” Maine LD 1 weakened the role of the Maine Board of Environmental Protection by transferring power to an appointed commissioner thus diminishing the value of the experience and expertise of board members that spanned different administrations in setting rulemaking, licensing, and enforcement policy. It also required review and revision or removal of regulations if they were seen to inhibit business interests or if they were not required by a federal law or regulation. It encouraged regulated entities to voluntarily discover, disclose, correct, and prevent violations of state and federal environmental requirements by developing an environmental audit program and compliance management system. While that seems reasonable, it carried with it restrictions on the state’s ability to carry out meaningful enforcement actions.

Ohio SB 9, passed in June 2022, mandates a “specified percentage of reductions in regulatory restrictions” in state administrative rules. SB 9 defines regulatory restrictions as regulations that includes words such as *shall*, *must*, *require*, *shall not*, *may not*, and *prohibit*. Each Ohio agency was required

to produce an inventory of such words that included classifying rules as having a basis in federal law or regulation or in state law. Those that exist solely under the rulemaking authority of a state agency are particularly vulnerable to modification or outright removal without the consideration of its merits in pursuit of an arbitrary reduction quota of 30 percent. The Ohio EPA regulations are particularly vulnerable as they constitute nearly 20 percent of all state administrative rules. Both Ohio SB 9 and Maine LD 1 are part of an emerging trend of canned legislation, i.e., legislation written by outside special interests and marketed to state legislators who support an aggressive deregulatory agenda. This legislation and the inventories required by prior related legislation in 2019 had virtually no public input except as via the process of law making that can have limited and ineffective public input.

Seldom are such laws a mere single action; they are part of a concerted strategy intended to weaken the impact of environmental regulations on business interests. Ohio adopted a lengthy Business Impact Analysis in 2014 under a Common Sense Initiative that directed agencies to “balance the critical objectives of regulations that have an adverse impact on business with the costs of compliance by the regulated parties.”¹ While again seeming to be reasonable, such initiatives coupled with what amounts to purposeful malfeasance in the administration of the CWA have effectively diminished and threaten to undo the many hard-won improvements in environmental quality that have accrued over the past 40 to 50 years. Evidence of the negative side of this deregulatory zeal shows up in the failure to regulate new chemicals, increased

episodes of environmental noncompliance, and singularly more serious events such as the recent spillage of harmful chemicals in East Palestine, Ohio, due to a malfunctioning brake on a rail car. Industry cutbacks in environmental and safety personnel have quickly followed the cutbacks in state environmental agencies.

Recent state legislation about redefining *waters of the state*, which anticipated the survival of the Trump administration era Waters of the U.S. (WOTUS) rule rollback, have deleted ephemeral features from the waters of the state definitions and therefore removed them from CWA jurisdiction. At least two US states, Ohio and Indiana, adopted this approach by passing legislation in 2022 that is being peddled to deregulation advocates in all states by outside special interests. In light of the ambiguous series of judicial rulings and the reversals of successive prior administration WOTUS rules, these actions have led to a confusing morass of inconsistency between states and confusion where clarity and simplicity were glibly touted as the promised solution.

These rollbacks are made easier due in part to the massive loss of institutional knowledge at the state agency level that is sweeping the country. The first and most serious loss of institutional knowledge occurred as government and regulated community personnel who did the heavy lifting to improve water quality in the 1970s, 1980s, and 1990s began to retire. This dilemma is exemplified by a recent post by Erin Stone (2022), shared by the Water Environment Federation stating,

Baby boomers became the backbone of the water workforce after the CWA became law. Now that they are retiring, more needs to be done to

address a general lack of awareness of the water industry and its jobs.

The legacy that they left behind has been poorly documented across the United States, which makes state programs ever more vulnerable to attempts to further undermine the implementation of the CWA.

While, the administrative accomplishments, regulations, and programs remain mostly in place, three decades of neglect by the EPA in particular has led to half-baked attempts to measure its impact in the ambient environment on a consistent national basis, resulting in a troubling vacuum that cannot be readily filled. Relying on simple counts of permits issued and programs delegated to states is insufficient to convince increasingly skeptical and hostile legislative oversight. Many, if not most, state programs abandoned the practice of pollution science by opting for a less intensive and easier to implement pass/fail status assessment and reporting. A glaring result of this seemingly esoteric shift is the lack of sufficiently robust datasets to better support benefit-cost analyses that presently underestimate the true value of CWA effectiveness. One recent study admits that empirical evidence about instream improvements is limited and undercounts many types of benefits:

US investment to decrease pollution in rivers, lakes, and other surface waters has exceeded \$1.9 trillion since 1960, and has also exceeded the cost of most other US environmental initiatives. These investments come both from the 1972 Clean Water Act and the largely voluntary efforts to control pollution from agriculture and urban runoff....Surprisingly, most analyses estimate that these policies' benefits are much smaller than

their costs; the benefit-cost ratio from the median study is 0.37....We conclude that it is unclear whether many of these regulations truly fail a benefit-cost test or whether existing evidence understates their net benefits. (Keiser et al. 2019: 5262)

The response to this shortcoming has been disappointing, if not alarming. In 2022, the EPA Office of Research and Development issued a request for proposals entitled *Water Quality Benefits²* to solicit research that will address how measurable attributes of water quality improvements can be valued, either directly or through indicators. While the goal of this research is laudable (and urgently needed), one of the major objectives of the request for proposals is improving water quality indices. The problem with this emphasis is that water quality indices employ a handful of commonly measured chemical parameters as surrogates for demonstrating improvements in the ecological goals of the CWA. Maine, Ohio, and a handful of other states had demonstrated in the 1980s and 1990s that chemical water quality alone is a poor predictor when compared to biologically based indicators that more directly represent the biological integrity and fishable/swimmable goals in Section 101[a] of the CWA (Karr and Yoder 2004). Without a direct biological basis for measuring improvements and within a pollution survey design, benefits will continue to be woefully undercounted. This leaves the CWA vulnerable to mandates for strict benefit-cost analysis as was witnessed with the Clean Air Act under the Trump administration. If the CWA can be characterized by opportunistic interests as a fraudulent set of requirements that basically wasted time and resources for 50

years, its future will be in serious doubt if such claims go unchallenged.

Building awareness about the recent attempts to debilitate and weaken CWA programs has been, and will be, difficult because the baseline CWA programs appear to have remained in place. Nongovernmental organizations that oppose threats to weaken state programs usually lack the technical and policy expertise needed to detect, anticipate, and articulate the undesirable long-term effects of such stealth initiatives. Otherwise, with time and increased separation from the critical institutional knowledge that was built over the past 50 years, the ability to understand and react to these threats will be increasingly diminished, ineffective, and vulnerable to deliberate attempts to further weaken the CWA. It took nearly 100 years for the United States to take meaningful action to address water pollution via the CWA and another 30–40 years to achieve and demonstrate meaningful success. Unfortunately, in some places it has taken only 10 years to set the stage for undermining it.

NOTES

- 1 The Common Sense Initiative was established by Executive Order 2011-01K by Governor Kasich on January 10, 2011.
- 2 Funding Opportunity Number: EPA-G2022-STAR-D1.

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