Volume 31, Number 5 • September/October 2014

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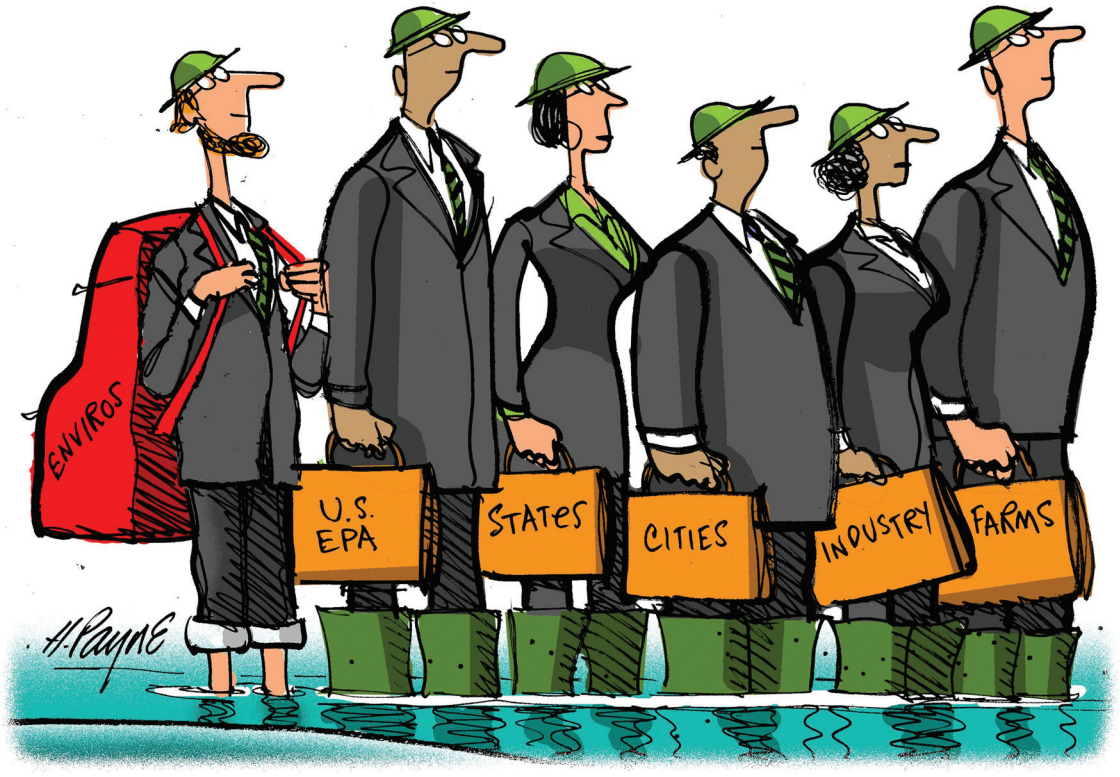

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The Nutrient Wars

States battle with green organizations, regulated industry, cities, agriculture, and the federal Environmental Protection Agency over promulgating Clean Water Act criteria for pollution from nitrogen and phosphorus

Richard Schwartz is a partner at Crowell & Moring LLP and **David Chung** is a counsel at the firm. They represent industry stakeholders in Clean Water Act nutrient regulation, including challenges to EPA's numeric nutrient criteria for Florida's waters, EPA's Chesapeake Bay Total Maximum Daily Load for nitrogen, phosphorus, and sediment, and EPA's denial of a 2008 petition seeking the promulgation of federal numeric nutrient criteria nationwide.

The Environmental Protection Agency acknowledged in a 2011 strategy memorandum that nutrient pollution has the potential to become one of the costliest and the most challenging environmental problems facing the country. A 2011 Senate Finance Committee report includes an estimate that the total cost to implement EPA's Total Maximum Daily Load regulation for the Chesapeake Bay (just one of EPA's nutrient initiatives) for just one state (Virginia) will total $13.6 to $15.7 billion over the next two decades. The bay is an impaired estuary, due in large part to nutrient pollution from the surrounding states' farms and factories and wastewater treatment plants. Another example is the hypoxic zone in the Gulf of Mexico, a result of nutrient loadings from the Mississippi River and its tributaries.

Nutrients present an unusual regulatory challenge because, in proper quantities, they are vital to ecosystem health. In excess, however, they can generate algal growth that, upon death and decay of the plant life, can rob a waterbody of adequate oxygen and block sunlight from reaching below the surface — conditions present in the Chesapeake Bay and the Gulf of Mexico.

The long struggle over regulation of nutrients (primarily nitrogen and phosphorus) entering lakes, streams, estuaries, and coastal waters has become a fight over methodology. In one corner are the environmental NGOs seeking *numeric criteria* for water quality, preferably generated by the federal EPA, covering most, if not all, waterbodies in each state. This regulatory approach specifies no more than so-many milligrams per liter of nitrogen allowed in a waterbody, or base levels of available oxygen per liter of water. In the other corner are many states, and many agricultural, industry, and local government stakeholders, who advocate reliance on *narrative criteria* — generally, these prohibit nutrient pollution that results in imbalances in flora and fauna or other biological harm. Those narrative criteria would be interpreted on a site-specific basis to derive numeric limits. Over the last few decades, most states have developed narrative criteria for nutrients, and those criteria have been approved by EPA.

Below we trace the unusual history of this struggle — which involves NGO petitions, litigation, consent decrees, and changing EPA policies. We will then summarize a critical decision currently confronting the agency. Finally, we will explain why we believe that state-specific criteria should trump the federal process.

The fight over who will control nutrient regulation has become politically contentious due to federalism concerns. Controlling nutrients may require changes

to land use practices and regulation of development. Such land use choices have traditionally been reserved to the states. To protect this area of authority, 21 states recently filed an amicus brief with the U.S. Court of Appeals for the Third Circuit challenging EPA's authority to issue source limits, implementation requirements, and deadlines as part of the Chesapeake Bay TMDL. These states assert that the agency's load limits have infringed on their traditional authority over land use planning. In addition, 13 states intervened on EPA's behalf in the Eastern District of Louisiana to defend the agency's denial of a petition seeking promulgation of federal numeric nutrient water quality criteria in every state. These are just two illustrations of how the costs associated with nutrient regulation and its federalism implications ensure that such limits will remain a highly contested issue.

The dispute over whether states must adopt numeric criteria instead of narrative ones has become a central battleground in the nutrient wars. Environmental NGOs have advocated that EPA supplant state-derived narrative nutrient criteria with EPA-created numeric nutrient criteria. Major stakeholders, such as the agriculture and home-building industries, have generally opposed these efforts. This dispute has spawned litigation, most notably over the agency's effort to impose such numeric criteria in Florida and its refusal to do the same (at least as yet) for the Mississippi River Basin. After its experience in Florida, EPA has stated that in general it supports state-led efforts to confront the nutrient problem and also that it favors numeric criteria. Whether the agency will act to impose such numeric criteria on states remains to be seen. As discussed below, EPA is likely to take a more-definitive position this year.

Starting in the 1990s, environmentalists stepped up their efforts to prod EPA to address nutrient pollution. In 1994, several groups petitioned the agency to convene a multi-state management conference under the Clean Water Act's Section 319(g)(1) to address hypoxia (a condition of reduced oxygen) in the Gulf of Mexico. Although EPA denied the petition, it acknowledged the need to act, called for additional study, and promised nutrient-reduction strategies. In 1997, EPA convened a Nutrient Task Force to further study the issues and develop a plan of action.

The next year, the agency began making broad policy pronouncements that narrative nutrient criteria are inadequate. For instance, in its 1998 Clean Water Action Plan: Restoring and Protecting America's Waters, EPA announced its effort to develop "numerical ranges for acceptable levels of nutrients (i.e., nitrogen and phosphorus) in water" under CWA Section 304(a). The agency stressed that within three years, "All states and tribes . . . should have adopted water quality standards for nutrients." EPA made similar statements in its National Strategy for the Development of Regional Nutrient Criteria later that year, when it urged all states and tribes to implement numeric criteria by the end of 2003. The agency warned that if they did not, the agency would initiate federal rulemaking. In the years since, EPA has made various pronouncements reiterating that states should accelerate efforts to establish numeric nutrient criteria.

Following up on its policy pronouncements, in 2000, EPA began publishing technical guidance manuals for the development of numeric nutrient criteria under Section 304(a). The agency published manuals for rivers/streams and lakes/reservoirs in 2000; for estuaries and coastal waters in 2001; and for wetlands in 2007. EPA also published recommended numeric criteria for rivers/streams in 13 ecoregions (out of 14); for lakes/reservoirs in 12 ecoregions; and for wetlands in 1 ecoregion. Each time it published these ecoregional criteria documents, the agency indicated in the associated fact sheets that it expected states and tribes to use the documents as "starting points" to establish more-precise numeric criteria on site-specific or subregion-specific scales. Alternatively, the agency suggested that states and tribes develop criteria using other scientifically defensible methods or simply adopt EPA's recommended Section 304(a) criteria in their water quality standards. These three options mirror those set forth in the agency's regulations governing the establishment of water quality criteria.

Despite EPA's issuance of guidance and Section 304(a) criteria, few states have adopted statewide nu-

meric criteria for either nitrogen or phosphorus covering one or more waterbody types, and none have statewide numeric criteria for both nitrogen and phosphorus for all waterbody types. The states' unwillingness to fall into line may be attributable to the unique considerations involved in regulating nutrients. So many confounding factors influence the way nutrient levels affect a particular waterbody that it can be difficult to establish causation, or even statistical correlation, between nutrient levels and water quality.

To illustrate, when Florida set out to develop numeric nutrient criteria for its waters, it examined EPA's recommended criteria for streams and lakes in the three nutrient ecoregions that cover its waters. In the state's 2009 numeric nutrient criteria development plan, Florida ultimately concluded that EPA's recommendations "are not sufficiently defensible." It found that the agency's methodology in developing those recommended criteria failed to "directly link nutrient concentrations to valued ecological attributes (healthy, well-balanced populations of flora or fauna) and consequently, [the state] believes that other options are preferable and more scientifically justified."

To bring their long-standing campaign for numeric nutrient criteria to fruition, environmentalists have, in the past decade, filed numerous petitions urging EPA to take matters into its own hands by issuing federal numeric criteria under CWA Section 303(c)(4)(B). In 2003, the Sierra Club petitioned the agency to, among other things, promulgate numeric nutrient criteria for portions of the Mississippi and Missouri rivers within Arkansas, Illinois, Iowa, Kansas, Kentucky, Missouri, Nebraska, and Tennessee. EPA denied that petition in June 2004, emphasizing that "it is not appropriate to promulgate numeric criteria for these specific waters until the science and the development of numeric nutrient criteria in the big rivers are better understood."

Several years later, a coalition of environmental groups renewed their pressure for EPA action. They contended that the agency's policy pronouncements in the late 1990s constituted formal determinations under Section 303(c)(4)(B) that numeric nutrient criteria for Florida's waters are necessary to meet the requirements of the act. Although Florida was in the process of spending millions of dollars and devoting years of hard work to develop numeric criteria, those environmental groups nevertheless urged that federal promulgation was required because the state's progress was too slow. EPA initially defended that lawsuit, but ultimately entered into a consent decree with the environmentalists after the agency made an unequivocal determination, in a January 2009 letter, that numeric nutrient criteria were necessary for Florida's waters. Under the consent decree, EPA committed to finalizing federal criteria for Florida's lakes, flowing waters, springs, estuaries, and coastal waters by dates certain.

However, the consent decree triggered a widespread backlash from the state and local governments, as well as from industry stakeholders. Perhaps with that intense, broad-based opposition in mind, in 2011 EPA issued a memorandum entitled "Working in Partnership With States to Address Phosphorus and Nitrogen Pollution Through Use of a Framework for State Nutrient Reductions." In that policy document, although EPA reaffirmed its preference for numeric criteria, the agency emphasized the importance of bolstering state-led efforts to establish them.

Upon the federal agency's issuance in late 2010 of numeric criteria for three of the categories selected for federal criteria (lakes, flowing waters, and springs), the state, local governments, industry groups, and environmentalists all immediately challenged EPA's rule. The U.S. District Court for the Northern District of Florida upheld the rule, in part, but invalidated the agency's criteria for Florida's flowing waters in their entirety.

EPA relied heavily on the framework memorandum in its July 2011 denial of the broadest environmentalist petition to date with respect to nutrients. In that petition, 13 NGOs requested that the agency promulgate federal numeric nutrient criteria for all 50 states. Alternatively, the groups asked EPA to promulgate federal criteria in all 31 states within the Mississippi-Atchafalaya Basin or, at a minimum, for the 10 mainstem states along the Mississippi River. EPA's denial of this petition was remanded by the Eastern District of Louisiana in the *Gulf Restoration Network* litigation, discussed below.

To date, although environmentalists have focused heavily on urging EPA to promulgate federal numeric nutrient criteria, they have sought state action as well. For example, in August 2013, environmental groups in Iowa petitioned state officials to establish numeric nutrient criteria for 159 lakes in that state. The state denied that petition three months later, concluding that the requested criteria are not necessary in light of, among other things, the state's voluntary nutrient-reduction strategy and the lack of data correlating particular nutrient concentrations to nutrient impairments in many of the lakes in question. Whether environmentalists will file similar petitions in other states in the future remains to be seen. For now, however, EPA remains in the spotlight as it revisits the environmen-

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Sidebar

Striking the Right Balance Under Federalism

There is perhaps no bigger water quality challenge facing the United States right now than the issue of nutrient impairment. All across the country, from the Chesapeake Bay and the Great Lakes to the Mississippi River Basin and Puget Sound, high levels of nutrients are threatening vital ecosystems. At the same time, the question of how best to address nutrient pollution is creating difficult choices for regulators. This is especially true regarding the appropriate role of federal and state agencies — striking the right balance of cooperative federalism under the Clean Water Act.

The issue is particularly acute for municipal wastewater treatment and stormwater management systems. Publicly owned treatment works have invested hundreds of billions of dollars over the past four decades to clean impaired waters. In many ways these utilities exemplify the success of the CWA. But despite these significant investments, clean water agencies are being asked to spend even more public resources to reduce nutrient discharges.

The POTW community is increasingly questioning a regulatory structure that is struggling to equitably address the complexity of the nutrient challenge. This is because discharges from POTWs could be eliminated and the waterways would still be impaired due to runoff from nonpoint sources — unregulated stormwater and agriculture.

The simple regulatory and water quality realities of this situation — combined with an inability of municipal governments to spend significant public dollars on investments that will result in questionable overall environmental benefits — have caused many in the utility community to take a nuanced view on the appropriate role of cooperative federalism with regard to nutrient regulation.

On the one hand, POTW advocates have long supported a "states first" approach to the development of nutrient water quality criteria under the CWA. This is especially true with the question of numeric versus narrative criteria, with POTWs strongly supporting the ability of states to determine the appropriate criteria for their own waterbodies and opposing efforts to mandate across-the-board, one-size-fits-all federal numeric criteria. Yet, municipal utility advocates are also very much in favor of a holistic, watershed approach to address nutrients that accounts for all sources of impairment in a watershed — point source and nonpoint source — and have backed federal efforts to pursue such holistic approaches.

Gardner-Andrews

This balanced approach to cooperative federalism is perhaps best exemplified by the involvement of the National Association of Clean Water Agencies, the advocacy organization for municipal utilities, in a series of recent federal court cases dealing with nutrient regulations. In two landmark cases addressing whether EPA should step in and override individual states regarding promulgation of numeric criteria, one involving Florida and the other involving states within the Mississippi Basin, NACWA has firmly opposed federal action.

In both instances NACWA has endorsed the primary role of the states in setting water quality criteria, including the use of narrative as opposed to numeric criteria. NACWA believes states are best positioned to implement the necessary actions to meet CWA goals, including a determination of the best water quality criteria for their waters.

At the same time, in litigation over EPA's Total Maximum Daily Load levels for the Chesapeake Bay, NACWA has supported federal involvement in crafting the TMDL's holistic watershed approach that sets nutrient-reduction targets for both point and nonpoint sources. NACWA is a strong supporter of the watershed approach, whether pursued by federal or state regulators.

Given the unique circumstances facing cleanup efforts in the Chesapeake Bay, NACWA believes EPA played an appropriate role in working with states to set allocations — especially for nonpoint sources — to adequately address all sources of impairment. Accounting for all nutrient contributors to a waterbody is the essence of a holistic, watershed approach. However, a federal role in helping set allocations in a TMDL is not the same as dictating the means of implementing such allocations, which NACWA agrees is properly the role of states.

NACWA embraces a balanced view of cooperative federalism that acknowledges a potential federal role in certain circumstances to partner with states in reducing nutrients. At the same time, NACWA also embraces the primary role of states in setting criteria and implementing specific actions to address water quality concerns. With these two principles in mind, we can build a collaborative path forward to equitably, cost-effectively, and successfully address nutrients in our nation's waters.

Nathan Gardner-Andrews is general counsel at the National Association of Clean Water Agencies.

talists' petition for federal numeric nutrient criteria in all 50 states.

The remand in the Mississippi River Basin case has placed the question of a national solution through EPA versus state-led solutions back in the federal agency's lap.

Unlike the Florida litigation, in the Mississippi River Basin case the environmental NGO plaintiffs did not argue that EPA had made a formal "necessity determination" in its 1998 policy pronouncements concerning the need for numeric nutrient criteria. In 2008, they had filed a petition urging EPA to make a necessity decision for the Mississippi River Basin because, according to the groups, under CWA Section 303(c)(4) numeric nutrient standards were necessary to address nutrient pollution within the basin and in the northern Gulf of Mexico. When EPA denied the petition in 2011, stating its preference for state action to address the nutrient pollution, the groups filed suit in the U.S. District Court for the Eastern District of Louisiana.

In 2013, Judge Jay C. Zainey denied EPA's motion to dismiss and granted in part and denied in part the cross-motions for summary judgment. Judge Zainey found that the agency's explanation for denying the petition did not meet the requirements of the Administrative Procedure Act and remanded the decision to EPA. The court found that Section 303(c)(4) was in some respects like the Clean Air Act provision at issue in *Massachusetts v. EPA,* which required the agency to determine whether greenhouse gases were harming people or the environment. Judge Zainey found that the CWA provision involves a "discretionary agency determination that serves as a restraint to federal action" by compelling federal action in at least some circumstances. The court found that EPA "lacks the discretion to simply decline to make the threshold determination in response to a rulemaking petition even where the statutory text does not explicitly require it to do so." On this ground the court found EPA's decision to decline to make the threshold necessity determination to be unlawful. EPA has appealed that decision to the Fifth Circuit.

If the Fifth Circuit affirms Judge Zainey's order on remand, EPA must decide whether federal numeric nutrient criteria are necessary to meet the requirements of the CWA in the Mississippi River Basin. Judge Zainey's opinion would inform EPA as to how it can go about making that decision. He rejected the environmental groups' reading of *Massachusetts* as compelling the conclusion that EPA cannot rely on non-scientific factors (such as a policy preference for state-led action) when making a necessity determination under Section 303(c)(4). For the reasons described below, we believe that EPA would be wise to avail itself of the wide discretion provided by Judge Zainey's opinion and opt for the state-led approach.

The Environmental Protection Agency should continue to support a state-led approach to nutrient regulation adopted in EPA's Framework Memorandum. First, the agency should reject the Mississippi River Basin petition now before it on remand. Judge Zainey's decision leaves EPA plenty of room to decide that federal numeric nutrient criteria are not currently necessary for the basin. Federal development of numeric nutrient criteria carries huge administrative burdens, as EPA candidly pointed out in its 2011 response to the NGO petition. Judge Zainey affirmed the relevance of those administrative considerations. In fact, EPA need only repeat its 2011 analysis — coupled with a clear application of those approved administrative considerations — to pass muster.

One vivid lesson of the Florida experience has been that an enormous commitment of resources is needed for federal development of numeric nutrient criteria for just a single state. Replicating this experience elsewhere in multiple (or all) states would be imprudent. We doubt that EPA has the time or resources to undertake federal regulation in even a handful of states, much less all of them.

Second, the harmful effects of nitrogen and phosphorus do not occur at the same concentrations in different waterbodies. Concentrations that promote excessive algal growth in one waterbody may be perfectly benign in another. Thus, an across-the-board number that is appropriate for some lakes or streams will surely be wrong for others. Sometimes federal uniformity is beneficial — but not here.

Third, uniformity that resulted in over-regulation of nitrogen and phosphorus would be a costly mistake. The economic costs of an unduly strict numeric nutrient criterion are huge. Those costs would be borne by farmers, public wastewater treatment plants, urban stormwater runoff systems, and potentially anyone who uses property that drains into a river or lake. The states should decide how big those burdens on its citizens must be.

Finally, nutrient criteria will result in restrictions on land use — a domain traditionally reserved to state regulation, and one that Congress expressly explained (in CWA Section 101(b)) that it wished to "recognize, preserve, and protect" for the states. The act's system of cooperative federalism that has been at the heart of many of the disputes about nutrient regulation counsels for continuation of EPA's approach of assisting the states, not pushing them aside. •

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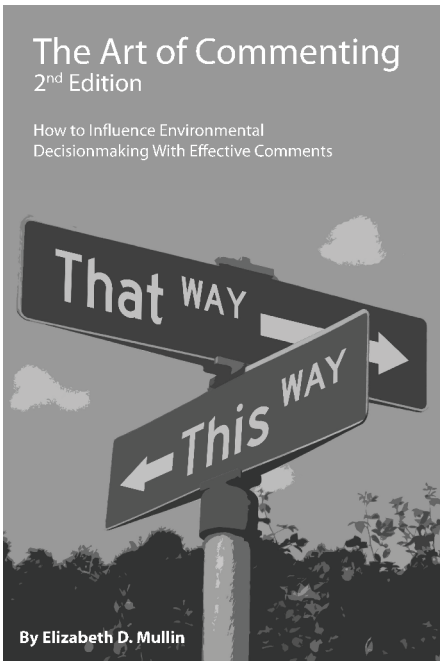

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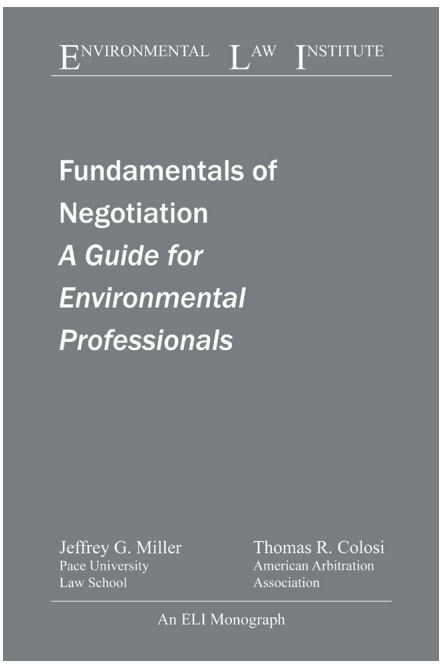

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