

COMPELLING A NUTRIENT POLLUTION SOLUTION:
HOW NUTRIENT POLLUTION LITIGATION IS
REDEFINING COOPERATIVE FEDERALISM UNDER
THE CLEAN WATER ACT

BY
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Nutrient pollution is one of the most pressing, costly, and complex environmental problems facing the nation's waters. It is essential for states to utilize their Clean Water Act Water Quality Standard programs to combat the impacts of nutrient pollution. Yet, states have been slow to do so. Frustrated with states' progress in addressing nutrient pollution, environmental organizations in Florida and the Mississippi-Atchafalaya River Basin attempted to compel the Environmental Protection Agency to act. These nutrient pollution battles that ensued in Florida and subsequently in the Mississippi-Atchafalaya River Basin are redefining the contours of cooperative federalism under the Clean Water Act.

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I. INTRODUCTION

Nutrient pollution is one of the most complex, expensive, and pervasive environmental problems in the United States.¹ While nitrogen and phosphorus are essential nutrients for plants and animals, in overabundance, nitrogen and phosphorous pollution—collectively referred to as “nutrient pollution”—have devastating ecological,² human health,³ and economic

¹ U.S. ENVTL. PROT. AGENCY, EPA-840-F12-003, THE FACTS ABOUT NUTRIENT POLLUTION 1 (2012), *available at* http://water.epa.gov/polwaste/upload/nutrient_pollution_factsheet.pdf.

² Nutrient pollution overstimulates aquatic plants and algae, leading to eutrophication. U.S. Geological Survey Water Sci. Sch., *Nitrogen and Water*, <http://water.usgs.gov/edu/nitrogen.html> (last visited Nov. 22, 2014). This leads to excessive growth of these organisms resulting in a reduction of sunlight and dissolved oxygen in water bodies. *Id.* In turn, this leads to the proliferation of dead zones, harmful algal blooms, and fish kills. *Id.*

³ Direct exposure to nutrient pollution can cause skin irritation, staph infections, allergic reactions, gastrointestinal upset, liver damage, and death. U.S. Env'tl. Prot. Agency, *The Effects: Human Health*, <http://www2.epa.gov/nutrientpollution/effects-human-health> (last visited Nov.

impacts.⁴ Nutrient pollution, which comes primarily from wastewater and stormwater discharges⁵ as well as agricultural runoff,⁶ affects all types of water bodies, including rivers, lakes, bays, and oceans.⁷

Despite the quixotic goal of the Clean Water Act (CWA)⁸ to eliminate pollution by 1985, the nation's waters remain impaired and nutrient pollution is one of the top contributors to water quality impairment in the United States.⁹ In 1998, recognizing the severity of the nutrient pollution problem in the United States, the U.S. Environmental Protection Agency (EPA) published a National Nutrient Strategy outlining important steps to address nutrient pollution.¹⁰ To combat the environmental, health, and economic impacts of nutrient pollution, EPA emphasized that the CWA's water quality standards (WQS) program is essential to assess the health of water bodies and to implement management programs.¹¹ Under the WQS program, which utilizes a cooperative federalism model, states have primary authority over the development and implementation of their own WQS programs while EPA plays a supervisory role.¹²

22, 2014). Furthermore, exposure to nitrates through the drinking water supply is especially dangerous for infants, who can become seriously ill and even die. *Id.*

⁴ Nutrient pollution in drinking water sources drastically increases treatment costs. U.S. Env'tl. Prot. Agency, *The Effects: Economy*, <http://www2.epa.gov/nutrientpollution/effects-economy> (last visited Nov. 22, 2014). Moreover, nutrient pollution has been linked to an annual decrease of \$1 billion in tourism revenues and is estimated to decrease annual commercial fishing spending by tens of millions of dollars. *Id.*

⁵ Many sewage treatment plants do not treat wastewater specifically for nitrogen or phosphorous, leading to the introduction of these nutrients into aquatic systems. U.S. Geological Survey Water Sci. Sch., *supra* note 2. Urban stormwater carries nutrient pollution into waterways. U.S. Env'tl. Prot. Agency, *Sources and Solutions: Stormwater*, <http://www2.epa.gov/nutrientpollution/sources-and-solutions-stormwater> (last visited Nov. 22, 2014).

⁶ Farms frequently use nitrogen and phosphorous-rich fertilizers and these nutrients are also present in animal manure. U.S. Geological Survey Water Sci. Sch., *supra* note 2. Runoff from farms conveys this nutrient pollution to nearby water bodies. *Id.*

⁷ U.S. Env'tl. Prot. Agency, *Where Nutrient Pollution Occurs*, <http://www2.epa.gov/nutrientpollution/where-nutrient-pollution-occurs> (last visited Nov. 22, 2014).

⁸ Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (2012). Except as otherwise expressly provided in this Comment, all references to statutory sections refer to sections of the CWA.

⁹ STATE-EPA NUTRIENT INNOVATIONS TASK GROUP, AN URGENT CALL TO ACTION: REPORT OF THE STATE-EPA NUTRIENT INNOVATIONS TASK GRP. 5 (2009), *available at* http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/upload/2009_08_27_criteria_nutrient_nitgreport.pdf; *see* 33 U.S.C. § 1251(a)(1) (2012) (announcing the goal to eliminate pollutant discharge into navigable waters by 1985).

¹⁰ Notice of National Strategy for the Development of Regional Nutrient Criteria, 63 Fed. Reg. 34,648, 34,649 (June 25, 1998) (“The National Water Quality Inventory 1996 Report to Congress cites nutrients . . . as one of the leading causes of water quality impairment in our Nation’s rivers, lakes and estuaries.”).

¹¹ *See* U.S. Env'tl. Prot. Agency, *Nutrient Pollution and Numeric Water Quality Standards—May 2007 Update Memo*, <http://www2.epa.gov/nutrient-policy-data/nutrient-pollution-and-numeric-water-quality-standards-may-2007-update-memo> (last visited Nov. 22, 2014) (explaining the widespread effects of nutrient pollution and the importance of states setting numeric WQS for phosphorus and nitrogen).

¹² *See* 33 U.S.C. § 1313 (2012) (establishing WQS and implementation plans).

State WQS programs have not achieved much progress in addressing the growing problem of nutrient pollution.¹³ Frustrated with the lack of progress states have made, environmental organizations in both Florida and the Mississippi-Atchafalaya River Basin (MARB) attempted to compel EPA to act under section 303(c)(4)(B).¹⁴ Section 303(c)(4)(B) enables EPA to establish WQS when it deems it necessary under the CWA.¹⁵ These environmental organizations argue that since states have been too slow in enacting numeric water quality limits for nutrient pollution, it is necessary under the CWA for EPA to step in and promulgate federal numeric nutrient water quality criteria.¹⁶

This Comment examines the litigation that unfolded as a result of this claim in Florida and then, in the MARB. The nutrient pollution battles that ensued, first in *Florida Wildlife Federation v. Jackson*,¹⁷ and subsequently in *Gulf Restoration Network v. EPA*,¹⁸ are redefining the contours of section 303(c)(4)(B) and, more broadly, cooperative federalism under the CWA. In both cases, environmental organizations attempted to utilize section 303(c)(4)(B) to compel EPA to promulgate federal numeric nutrient criteria, and in both cases, these attempts ultimately failed due to cooperative federalism concerns.¹⁹ While nutrient pollution has been the focus of environmental legal scholars, no legal scholarship has focused specifically on the rise of section 303(c)(4)(B)—until recently, a rarely utilized provision within the CWA—and its implications for cooperative federalism within the CWA.

This Comment posits section 303(c)(4)(B) will not be a mechanism for shifting the cooperative federalism balance. The recent litigation in Florida and the MARB demonstrates EPA will not take a primary role in addressing nutrient pollution within the WQS program. Instead, a states-in-the-first-instance approach to addressing nutrient pollution will prevail. Therefore, I will argue the principles of cooperative federalism can inform a more successful pathway to numeric nutrient criteria development and, ultimately, a reduction in nutrient pollution in the nations' waters.

Part II of this Comment examines the development of the statutory scheme to demonstrate the role the WQS program is to play under the modern day CWA, and explains the unique problems that nutrient pollution presents under the WQS program. Part III explores how principles of cooperative federalism shape and inform the CWA and, more specifically, the WQS program. Parts IV and V provide an overview of the recent litigation in Florida and the MARB. Lastly, Part VI examines the implications of this

¹³ See U.S. Env'tl. Prot. Agency, *supra* note 11.

¹⁴ See *infra* Parts IV–V (describing two separate legal actions brought by environmental groups in the respective regions).

¹⁵ 33 U.S.C. § 1313(c)(4)(B).

¹⁶ See *infra* Parts IV–V.

¹⁷ No. 4:08cv324-RH/WCS, 2009 WL 5217062 (N.D. Fla. Dec. 30, 2009).

¹⁸ Civ. No. 12-677, 2013 WL 5328547 (E.D. La. Sept. 20, 2013).

¹⁹ In Florida, the state ultimately developed numeric nutrient criteria. See *infra* Part IV. In the case concerning the MARB, the court upheld EPA's determination that development of numeric nutrient criteria was best left to the states. See *infra* Part V.

litigation on section 303(c)(4)(B) and proposes how principles of cooperative federalism can inform a better pathway forward on the road to addressing nutrient pollution.

II. THE CLEAN WATER ACT

Although a comprehensive federal legislative framework for water pollution control was first established in 1948,²⁰ the 1972 Amendments to the CWA ushered in the modern era of water pollution regulation.²¹ One of the largest changes made to the statutory scheme was a shift away from using WQS as the central pollution control mechanism to a technology-based approach.²² There was much debate between the House and Senate about whether WQS should still play a role in the 1972 Act, and if so, what sort of role they should play.²³ Eventually Congress reached a compromise.²⁴ WQS were kept as “a measure of program effectiveness and performance.”²⁵ Congress viewed WQS as a backstop to address ambient water quality problems that persist after the implementation of technology-based effluent limitations.²⁶ However, as early as the 1980s, EPA realized its technology-based National Pollutant Discharge Elimination System (NPDES) permitting program was not, in itself, enough to abate water pollution.²⁷ Because

²⁰ Water Pollution Control Act of 1948, Pub. L. No. 80-845, ch. 758, 62 Stat. 758 (1948).

²¹ *Milwaukee v. Illinois*, 451 U.S. 304, 317 (1981) (“[T]he [1972] Amendments were viewed by Congress as a ‘total restructuring’ and ‘complete rewriting’ of the existing water pollution legislation. . .”).

²² See Jeffrey M. Gaba, *Federal Supervision of State Water Quality Standards Under the Clean Water Act*, 36 VAND. L. REV. 1167, 1180 (1983) (noting that technology-based limitations were one of the “significant changes” that the 1972 Act introduced). The primary reason Congress decided to shift to a technology-based approach was that it believed these standards would be easier to enforce. See *id.* at 1182 (explaining that National Pollutant Discharge Elimination System permits were “an effective mechanism to monitor and implement the requirements of the revised Federal Water Pollution Control Act”).

²³ The Senate pushed for the abandonment of WQS out of a concern that if WQS remained in effect, there would not be enough resources to implement the new technology-based programs 93 CONG. REC. S33,696 (daily ed. Oct. 4, 1972) (statement of Sen. Edmund Muskie), *reprinted in* A LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, at 171 (1973). The House wanted to keep the WQS program intact. 93 CONG. REC. H33,755 (daily ed. Oct. 4, 1972) (statement of Rep. William Harsha), *reprinted in* A LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, at 245–46 (1973).

²⁴ Roger Flynn, *New Life for Impaired Waters: Realizing the Goal to “Restore” the Nation’s Waters Under the Clean Water Act*, 10 WYO. L. REV. 35, 42 (2010).

²⁵ S. REP. NO. 92-414, at 8 (1971).

²⁶ 93 CONG. REC. H33,755 (daily ed. Oct. 4, 1972) (statement of Rep. William Harsha), *reprinted in* A LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, at 246 (1973). For example, Senator Muskie, the principal author and proponent of the CWA, urged EPA to relegate WQS programs to “secondary priority” after technology-based programs. 93 CONG. REC. S33,696 (daily ed. Oct. 4, 1972) (statement of Sen. Edmund Muskie), *reprinted in* A LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, at 171 (1973).

²⁷ Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States’ Compliance, 57 Fed. Reg. 60,848, 60,850–51 (Dec. 22, 1992) (to be codified at 40 C.F.R. pt. 131).

technology-based standards were not effective enough on their own, WQS have continued to play a prominent role in abating pollution.²⁸ “In recent years, [WQS] have received renewed emphasis by . . . EPA in the continuing quest to enhance and maintain water quality.”²⁹

Thus, the modern day CWA utilizes a two-step approach to achieve its goal to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”³⁰ First and foremost, the CWA employs a technology-based approach to pollution control.³¹ EPA promulgates effluent standards that limit the amount of pollution various categories of point source dischargers can discharge into the nation’s waters.³² Once promulgated, these effluent limitations are incorporated into individual dischargers’ permits through the NPDES program.³³ Second, the CWA relies on ambient WQS to serve as the basis for a water quality approach to control pollution.³⁴ WQS are narrative or numeric criteria that describe the maximum concentration of a certain pollutant a water body can receive and still achieve its designated use.³⁵ These are adopted by states for water bodies within their jurisdiction.³⁶

A. Overview of Water Quality Standards

WQS define “the water quality goals of a water body . . . by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses” while also establishing provisions such as antidegradation policies to protect water bodies from pollutants.³⁷ The purpose of the WQS program is to ensure that water quality protects public health, the aquatic environment, and water-based recreation.³⁸ WQS are comprised of three

²⁸ *Id.* at 60,849.

²⁹ *Id.*

³⁰ 33 U.S.C. § 1251(a) (2012).

³¹ See U.S. Env’tl. Prot. Agency, *Water Quality Standards History*, <http://water.epa.gov/scitech/swguidance/standards/history.cfm> (last visited Nov. 22, 2014) (explaining that state and EPA attention focused on technology-based effluent limitations, while the WQS program was a low priority until the late 1970s and early 1980s).

³² 33 U.S.C. § 1311(e) (directing EPA to develop effluent limitations that cap the maximum allowable discharge at each individual point source); *id.* § 1316(b)(1)(B) (applying standards of performance to categories of new sources); *id.* § 1317(a)(2), (b)(1) (instructing EPA to develop a program for toxic pollutants and to develop standards that apply to pre-treatment systems).

³³ See *id.* § 1342(a)(1) (allowing the issuance of a permit for the discharge of a pollutant that meets the requirements of §§ 1311, 1312, 1316, 1317, 1318, and 1343). The permits contain the maximum levels of discharges of particular contaminants allowable via these sources. See *id.*

³⁴ U.S. Env’tl. Prot. Agency, *Water Quality Standards History*, <http://water.epa.gov/scitech/swguidance/standards/history.cfm> (last visited Nov. 22, 2014).

³⁵ See 40 C.F.R. § 131.3(b), (i) (2014) (providing definitions of “water quality standards” and “criteria”).

³⁶ 33 U.S.C. § 1313(a)(1).

³⁷ 40 C.F.R. §§ 131.2, 131.12.

³⁸ *Id.* § 131.2.

basic elements: designated uses, water quality criteria, and antidegradation policies.³⁹

Designated uses are “a [s]tate’s concise statements of its management objectives and expectations for each of the individual surface waters under its jurisdiction.”⁴⁰ A state must specify the appropriate water uses to be achieved and protected for waters within its borders, taking into account “the use and value of water for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation.”⁴¹ Water quality criteria are standards set to protect designated uses.⁴² These criteria represent a quality of water that supports a particular use.⁴³ They can be expressed as constituent concentrations, levels, or narrative statements when numeric standards cannot be established, representing a quality of water that supports a designated use.⁴⁴ A water body will be able to meet its designated use when water criteria are met.⁴⁵ Antidegradation policies are statewide policies that preserve “[e]xisting instream water uses and the level of water quality necessary to protect the existing uses.”⁴⁶

B. Establishment and Implementation of Water Quality Standards

The federal requirements for the establishment and implementation of WQS are set forth in section 303 of the CWA.⁴⁷ The statute and accompanying regulations set forth distinct roles for states and the federal government in this process. States act as the primary authority in implementing WQS. While the federal government plays a supervisory role, section 303(c)(4)(B) enables states to step into the principal role.

³⁹ See 33 U.S.C. § 1313(c)(2)(A), (d)(4)(B) (discussing how new and revised standards need to be consistent with these three elements); 40 C.F.R. §§ 131.10, 131.11, 131.12 (providing a description of each of the elements).

⁴⁰ Water Quality Standards for the State of Florida’s Lakes and Flowing Waters, 75 Fed. Reg. 75,762, 75,789 (Dec. 6, 2010) (to be codified at 40 C.F.R. § 131). Under EPA’s regulations, designated uses are more technically defined as the “uses specified in water quality standards for each water body or segment whether or not they are being attained.” 40 C.F.R. § 131.3(f).

⁴¹ 40 C.F.R. § 131.10(a). The designated use of a water body must be set so it is protective of fish habitat and recreation unless a state can show it is unattainable due to naturally occurring pollutant concentrations, low flow conditions or water levels, or other factors. *Id.* § 131.10(g). Such water bodies must be reexamined every three years to determine if new information has become available that would warrant a revision of the standard. *Id.* § 131.20(a).

⁴² *Id.* § 131.3(b).

⁴³ *Id.*

⁴⁴ *Id.*; *id.* § 131.11(b)(2). There is one exception to this general rule: States must promulgate numeric criteria for toxic pollutants. *Id.* § 131.11(a)(2).

⁴⁵ *Id.* § 131.11(a)(2).

⁴⁶ *Id.* § 131.12(a)(1). In addition, antidegradation policies identified high quality waters whose water quality should be maintained. *Id.* § 131.12(a)(3).

⁴⁷ 33 U.S.C. § 1313(c) (2012).

1. *The Role of States*

States have primary authority in setting, reviewing, and revising WQS.⁴⁸ While states have autonomy to set their own standards, at a minimum, states' WQS must comply with the CWA's mandate to "protect the public health or welfare, enhance the quality of the water and serve the purposes of this chapter."⁴⁹ When establishing designated uses and water quality criteria for water bodies within their respective jurisdictions, states are provided guidance from EPA. The CWA requires EPA to develop suggested water quality criteria "accurately reflecting the latest scientific knowledge."⁵⁰ These suggested criteria act as guidelines for states.⁵¹ States are free to adopt different criteria as long as the criteria are based on "scientifically defensible methods," or modify the section 304(a) criteria to reflect "site-specific conditions."⁵² Pursuant to section 303(c)(1), states must hold hearings every three years to review and, if appropriate, to revise their established WQS.⁵³

2. *The Role of the Environmental Protection Agency*

EPA, in its role as overseer,⁵⁴ is required to review state-adopted WQS after states' initial adoption and implementation, and when WQS are revised.⁵⁵ The review process ensures a state has adopted designated uses that are consistent with the requirements of the CWA, as well as adequate water quality criteria to protect those designated uses.⁵⁶ If EPA determines that a state's WQS comply the CWA, it must approve the standards.⁵⁷ However, if EPA deems a state's WQS are inconsistent with the CWA, EPA must notify the state and instruct it to make those changes which are necessary to come into compliance with the CWA.⁵⁸ If a state does not make the required changes within a specified timeframe, EPA must promulgate federal water quality criteria.⁵⁹

⁴⁸ *Id.* § 1313(a)–(c); 40 C.F.R. § 131.4(a) (2014).

⁴⁹ 33 U.S.C. § 1313(c)(2)(A). In accordance with the cooperative federalism principles espoused by the CWA, state standards must comply with the CWA, but states may develop WQS more stringent than those required by the CWA. *See id.* § 1313(i)(3).

⁵⁰ *Id.* § 1314(a).

⁵¹ *See* 40 C.F.R. § 131.11(a).

⁵² *Id.* § 131.11(a)–(b).

⁵³ 33 U.S.C. § 1313(c)(1); 40 C.F.R. 131.4(a).

⁵⁴ More specifically, the CWA grants administrative authority to the "Administrator," defined as "the Administrator of the Environmental Protection Agency." 33 U.S.C. § 1251(d). This section references EPA, generally, as the authoritative body even though technically it is the Administrator who is granted authority.

⁵⁵ *Id.* § 1313(c)(3).

⁵⁶ *Id.* § 1313(d)(2); 40 C.F.R. § 131.5(a).

⁵⁷ 33 U.S.C. § 1313(c)(3); 40 C.F.R. § 131.5(b).

⁵⁸ 33 U.S.C. § 1313(c)(3); 40 C.F.R. § 131.5(b).

⁵⁹ 33 U.S.C. § 1313(c)(3)–(4)(A); *id.* § 1313(d)(2).

3. CWA Section 303(c)(4)(B) Necessity Determinations

While EPA's role in the establishment and implementation of WQS is generally as an overseer, primary authority to enact WQS is vested in EPA under particular circumstances. Section 303(c)(4)(B) is a unique provision that mandates EPA to "promptly prepare and publish proposed regulations setting forth a revised or new water quality standard . . . in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of [the CWA]" even in the absence of a state submission.⁶⁰ If EPA makes a necessity finding under section 303(c)(4)(B), EPA is required to promulgate such standards within ninety days of making the determination.⁶¹ In the event a state adopts a new or revised WQS deemed by EPA to comply with the CWA before EPA promulgates a federal WQS, EPA is relieved of its duty to promulgate a WQS.⁶²

As evident from the text, EPA has discretionary authority.⁶³ The CWA and EPA's regulations are silent on what particular factors or information EPA must consider in making a section 303(c)(4)(B) necessity determination.⁶⁴ EPA views the section 303(c)(4)(B) necessity determination as "symptomatic of something awry with the basic statutory scheme" and explained they should only be used as a "last resort."⁶⁵ In nonbinding statements, EPA stated that necessity determinations are based on a situation's "particular facts and circumstances."⁶⁶ The agency will only make a determination after evaluating "all relevant factors."⁶⁷ What EPA means by this is not clear because EPA rarely exercises its authority under section 303(c)(4)(B).⁶⁸ EPA has only relied on this authority nationally to develop national numeric standards for toxics after the states failed to do

⁶⁰ *Id.* § 1313(c)(4)(B); 40 C.F.R. § 131.22(b) ("The Administrator may also propose and promulgate a regulation, applicable to one or more States, setting forth a new or revised standard upon determining such a standard is necessary to meet the requirements of the Act.").

⁶¹ 33 U.S.C. § 1313(c)(4).

⁶² *Id.*

⁶³ *See id.* (allowing the EPA to choose which factors it considers since the statute is silent on the issue).

⁶⁴ *Id.*

⁶⁵ Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; States' Compliance, 57 Fed. Reg. 60,848, 60,858 (Dec. 22, 1992) (codified at 40 C.F.R. pt. 131).

⁶⁶ Letter from Benjamin Grumbles, Assistant Adm'r, EPA Region IV, to Michael Sole, Sec'y, Fla. Dep't of Env'tl. Prot., at 2 (Jan. 14, 2009) [hereinafter Grumbles Letter], *available at* http://water.epa.gov/lawsregs/lawsguidance/cwa/upload/2009_01_16_standards_rules_fl-determination20090114.pdf.

⁶⁷ Water Quality Standards Regulatory Clarifications, 78 Fed. Reg. 54,518, 54,521 (proposed Sept. 4, 2013) (to be codified at 40 C.F.R. pt. 131).

⁶⁸ Richard E. Schwartz et al., *Nutrients in the Courts: Cooperative Federalism Entangles EPA Actions on Nitrogen and Phosphorus*, 44 ENVTL. L. REP. 10,163, 10,168 (2014) ("Since the passage of the CWA, courts rarely have had occasion to review EPA necessity determinations under § 303(c)(4)(B) because EPA has rarely made them.").

so.⁶⁹ Also, EPA has used this authority on a state-specific level in very limited instances.⁷⁰

C. The Establishment and Implementation of Water Quality Criteria for Nutrient Pollution

Development of water quality criteria for nutrients presents unique challenges. As EPA aptly put it, “nutrient criteria development isn’t rocket science. Its [sic] harder.”⁷¹ Unlike many pollutants, such as toxics, nutrients are naturally present in, and essential to, aquatic ecosystems.⁷² Therefore, setting nutrient levels too low can cause adverse environmental impacts in a water body by depriving the aquatic environment of essential natural nutrients. Conversely, if nutrient levels are too high, environmental damage occurs.⁷³ Thus, establishing nutrient criteria at the correct level is imperative. Further complicating the process is the fact that suitable nutrient levels for a particular water body depend on many site-specific environmental factors such as a water body’s size, depth, flow rate, shade cover, and circulation.⁷⁴ Thus, development of appropriate numeric nutrient criteria must be

⁶⁹ 57 Fed. Reg. at 60,857 (codified at 40 C.F.R. pt. 131).

⁷⁰ See U.S. Env’tl. Prot. Agency, *Water Quality Standards Regulations and Federally Promulgated Standards*, <http://water.epa.gov/scitech/swguidance/standards/wqsregs.cfm#standards3> (last visited Nov. 22, 2014); see also *Water Quality Standards*, 78 Fed. Reg. 20,252, 20,252 (Apr. 4, 2013) (codified at 40 C.F.R. pt. 131) (discussing the withdrawal of federal promulgated rules for Puerto Rico established in 2003); U.S. Env’tl. Prot. Agency, *2004 Bacteria Rule for Coastal and Great Lakes Recreation Waters*, <http://water.epa.gov/lawsregs/lawsguidance/beachrules/bacteria-rule.cfm> (last visited Nov. 22, 2014) (discussing federally promulgated regulations to protect Great Lakes Recreation Waters); U.S. Env’tl. Prot. Agency, *Water Quality Standards for Kansas*, <http://water.epa.gov/lawsregs/rulesregs/ks/ksfs.cfm> (last visited Nov. 22, 2014) (discussing federal promulgated WQS in Kansas per court order in 2003); U.S. Env’tl. Prot. Agency, *Water Quality Standards for Kentucky*, <http://water.epa.gov/lawsregs/rulesregs/kyfs.cfm> (last visited Nov. 22, 2014) (discussing a proposal to promulgate federal regulations for water quality in Kentucky in 2002); U.S. Env’tl. Prot. Agency, *Water Quality Standards for the State of Alabama*, <http://water.epa.gov/lawsregs/rulesregs/alabamafs.cfm> (last visited Nov. 22, 2014) (discussing federal promulgation of WQS for Alabama per consent decree in 2002); U.S. Env’tl. Prot. Agency, *Establishment of Numeric Criteria for Priority Pollutants for the State of California*, <http://water.epa.gov/lawsregs/rulesregs/ctr/index.cfm> (last visited Nov. 22, 2014) (discussing federal promulgation of WQS in California in 2000); U.S. Env’tl. Prot. Agency, *Withdrawal of the Federal Antidegradation Policy for all Waters within the Commonwealth of Pennsylvania*, <http://water.epa.gov/lawsregs/rulesregs/pa/factsheet2010.cfm> (last visited Nov. 22, 2014) (discussing the withdrawal of federally promulgated regulations for WQS established in 1996 in Pennsylvania).

⁷¹ U.S. ENVTL. PROT. AGENCY, EPA WATER QUALITY STANDARDS ACADEMY: NUTRIENT CRITERIA PRESENTATION (2011), available at http://water.epa.gov/learn/training/standardsacademy/upload/module_nutrient.pdf.

⁷² U.S. Geological Survey, *Nitrogen and Water*, <http://water.usgs.gov/edu/nitrogen.html> (last visited Nov. 22, 2014).

⁷³ *Id.*

⁷⁴ U.S. ENVTL. PROT. AGENCY, NUTRIENT CRITERIA TECHNICAL GUIDANCE MANUAL: RIVERS AND STREAMS 17 (2000), available at http://www2.epa.gov/sites/production/files/documents/guidance_rivers.pdf.

completed for each water body individually and requires complex site-specific modeling.⁷⁵

1. Utilizing Narrative Nutrient Criteria

Given the complexity in establishing numeric nutrient water quality criteria, most states have opted to express the water quality criteria for nutrients as narrative standards, as opposed to numeric standards, as EPA's regulations permit.⁷⁶ A typical narrative standard for nutrients reads, "[n]utrients shall not result in excess algal growth or other undesirable impacts (e.g., odor, scum)."⁷⁷ While these narrative standards make establishing water quality criteria for nutrients easier, they make protecting waters from nutrient pollution far more difficult.⁷⁸ Narrative standards are problematic because they give no measurable, objective, water quality baseline against which to measure progress in decreasing nutrient pollution.⁷⁹ Moreover, they do not provide any measurable, objective means of determining whether a water quality violation has occurred.⁸⁰

2. Movement Toward Numeric Nutrient Criteria Development

In 1998, recognizing the severity of the nutrient pollution problem in the United States, EPA published a National Nutrient Strategy for addressing nutrient pollution.⁸¹ As of 1998, the vast majority of states had yet to adopt a single numeric nutrient criterion for water bodies within their borders.⁸² According to EPA, which cited the numerous shortcomings of narrative nutrient standards, the failure to utilize numeric nutrient criteria was one of the primary causes of nutrient over-enrichment problems.⁸³ In an effort to address the problem, EPA committed to developing scientific research that would assist states in implementing numeric nutrient criteria.⁸⁴ EPA suggested an optimistic deadline of 2003 for states to implement numeric

⁷⁵ *Id.* at 18 (discussing how modeling establishes a cause and effect relationship between nutrient concentrations and ecological attributes). EPA describes this modeling of adverse biological responses as the most comprehensive and scientifically defensible approach to numeric nutrient criteria developments. *Id.*

⁷⁶ See 40 C.F.R. § 131.11 (2014) (setting forth criteria for state WQS, including the option of narrative criteria); Alexandra Dapolito Dunn & Meghan Boian, *Postcards From the Edge: Perspectives to Reinvigorate Clean Water Act Cooperative Federalism*, GEO. WASH. J. ENERGY & ENVTL. L., Winter 2013, at 68, 73.

⁷⁷ U.S. ENVTL. PROT. AGENCY, *supra* note 74.

⁷⁸ U.S. Envtl. Prot. Agency, *Nutrient Pollution and Numeric Water Quality Standards—May 2007 Update Memo*, <http://www2.epa.gov/nutrient-policy-data/nutrient-pollution-and-numeric-water-quality-standards-may-2007-update-memo> (last visited Nov. 22, 2014).

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ Notice of National Strategy for the Development of Regional Nutrient Criteria, 63 Fed. Reg. 34,648, 34,648–50 (June 25, 1998).

⁸² *Id.* at 34,649.

⁸³ See *id.*

⁸⁴ *Id.*

nutrient criteria.⁸⁵ Yet, given the complexity and resource-intensive nature of numeric nutrient criteria implementation, not a single state met this deadline.⁸⁶ In fact, as recently as 2012—almost a decade after EPA’s deadline—not a single state had numeric nutrient criteria for water bodies within its borders.⁸⁷

III. COOPERATIVE FEDERALISM IN THE CLEAN WATER ACT

The modern day CWA is exemplar of cooperative federalism.⁸⁸ The basis of federalism is the Constitution’s treatment of states as sovereign entities distinct from the federal government.⁸⁹ Cooperative federalism emerged as a guiding principle for how to allocate power, responsibilities, and resources between dual sovereigns.⁹⁰ Cooperative federalism describes the “[d]istribution of power between the federal government and the states in which each recognizes the powers of the other while jointly engaging in certain governmental functions.”⁹¹ In *New York v. United States*,⁹² the Supreme Court characterized cooperative federalism-based environmental programs as those in which Congress chooses “to offer States the choice of regulating [private] activity according to federal standards or having state law pre-empted by federal regulation” even though it “has the authority to regulate private activity under the Commerce Clause.”⁹³ Key features of

⁸⁵ *Id.* (“EPA expects all States . . . to adopt and implement numerical nutrient criteria into their water quality standards by December 31, 2003.”).

⁸⁶ U.S. ENVTL. PROT. AGENCY, 09-P-0223, EPA NEEDS TO ACCELERATE ADOPTION OF NUMERIC NUTRIENT WATER QUALITY STANDARDS 5 (2009), *available at* <http://www.epa.gov/oig/reports/2009/20090826-09-P-0223.pdf> (explaining the progress that individual states and EPA have made toward their goals in the last 10 years).

⁸⁷ Terry J. Satterlee et al., *Nutrients in the Heartland: Regulatory and Legal Issues Surrounding the Mighty Mississippi*, NAT. RESOURCES & ENV’T., Spring 2013, at 12, 13. Fewer than 10 states had adopted numeric criteria for one or more classes of water bodies. Twenty-three states had failed to adopt any numeric nutrient criteria at all. *Id.*

⁸⁸ As the Supreme Court noted, the CWA “anticipates a partnership between the States and the Federal Government.” *Arkansas v. Oklahoma*, 503 U.S. 91, 101 (1992). *See also* *United States v. Homestake Mining Co.*, 595 F.2d 421, 429 (8th Cir. 1979) (“[V]igorous federalism underl[ies] the Clean Water Act.”).

⁸⁹ *See* 1 LAURENCE H. TRIBE, *AMERICAN CONSTITUTIONAL LAW* 119 (3d ed. 2000) (describing the recognition of the sovereignty of states within this dual federalism system); *see also* Edward S. Corwin, *The Passing of Dual Federalism*, 36 VA. L. REV. 1, 1 (1950) (describing this as a system of “dual federalism”).

⁹⁰ *See* U.S. CONST. art. I, § 8, cl. 3 (stating that Congress has the power to regulate commerce among the several states); *id.* art. VI, cl. 2 (establishing that the Constitution is the “supreme Law of the Land” when in conflict with state laws); *id.* amends. X–XI (describing the sovereignty of the states where powers are not explicitly delegated to Congress).

⁹¹ BLACK’S LAW DICTIONARY 687 (9th ed. 2009).

⁹² 505 U.S. 144, 167 (1992).

⁹³ *See* Philip J. Weiser, *Towards a Constitutional Architecture for Cooperative Federalism*, 79 N.C. L. REV. 663, 668 (2001) (discussing cooperative federalism as a choice between state regulation “in compliance with federal standards or preempt[ion] [of] state law with federal regulation”). This form of governance has played a particularly important role in the formation of federal environmental law. *See* Robert L. Glicksman, *From Cooperative to Inoperative Federalism: The Perverse Mutation of Environmental Law and Policy*, 41 WAKE FOREST L. REV.

cooperative federalism in federal environmental statutes include federally set minimum standards, federal oversight and enforcement, compliance incentives, and state flexibility to exceed federal standards.⁹⁴

A. The Evolution of Cooperative Federalism in the Clean Water Act

To achieve the CWA's goal to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters," Congress created a statutory structure in which the federal and state government interact in synergistic ways.⁹⁵ This, however, was not always the case. The evolution of federal involvement in water pollution control is best characterized as "one of increasing intervention into an area of traditional state authority."⁹⁶

The Water Pollution Control Act of 1948⁹⁷—the first comprehensive federal water pollution control statute—did not employ the cooperative federalism structure that is emblematic of the modern CWA.⁹⁸ The 1948 statute assigned states the primary role in controlling water pollution through their own WQS programs.⁹⁹ There was no federal review or federal enforcement of state WQS.¹⁰⁰ Rather, federal involvement was limited to providing states with technical assistance and funding.¹⁰¹ In 1965, Congress expanded federal government oversight in the enforcement of state WQS because of growing concern about water pollution.¹⁰² Notable increases in federal involvement included the ability of the federal government to bring

719, 723 (2006) ("One of the areas in which this tradition of cooperative federalism has been richest is environmental law and policy."). The cooperative federalism model of federal environmental regulation emerged in the 1970s when "Congress adopted a series of statutes that dramatically altered the relative responsibilities of the federal and state governments to restrict polluting activities with the potential to harm public health and the environment." *Id.* at 728.

⁹⁴ Robert L. Fischman, *Cooperative Federalism and Natural Resources Law*, 14 N.Y.U. ENVTL. L.J. 179, 189, 191 (2005).

⁹⁵ Federal Water Pollution Control Act, 33 U.S.C. § 1251(a) (2012); Robin Kundis Craig, *Adapting Water Federalism to Climate Change Impacts: Energy Policy, Food Security, and the Allocation of Water Resources*, 5 ENVTL. & ENERGY L. & POL'Y J. 183, 202–03 (2010).

⁹⁶ Gaba, *supra* note 22, at 1176.

⁹⁷ Pub. L. 80-845, 62 Stat. 1155–1161 (1948) (current version available at 33 U.S.C. §§ 1251–1387 (2012)).

⁹⁸ See Water Pollution Control Act, Pub. L. No. 80–845, 62 Stat. 1155, 1155 (1948) (codified at 33 U.S.C. §§ 466–466j) (recognizing the states' primary responsibility to control water pollution).

⁹⁹ *Id.*

¹⁰⁰ See *id.* (limiting the federal role in water pollution control to providing "technical services" to the states in implementing their programs). There was one exception—the statute did provide a mechanism for the federal government to intervene in interstate water conflicts where a particular discharge "endanger[ed] the health or welfare of persons." 33 U.S.C. § 466a(d)(1) (Supp. III 1946).

¹⁰¹ See ch. 758, 62 Stat. at 1155–56 (declaring Congress' intent to preserve state autonomy in the control of water pollution and to only provide technical assistance and financial aid).

¹⁰² See William L. Andreen, *The Evolution of Water Pollution Control in the United States—State, Local, and Federal Efforts, 1789–1972: Part II*, 22 STAN. ENVTL. L.J. 215, 246–47 (2003) (noting that Senator Edmund Muskie of Maine declared water pollution a "national problem" that was compromising "the physical and economic health of the entire country").

enforcement actions,¹⁰³ review state standards,¹⁰⁴ and promulgate standards in the absence of state action.¹⁰⁵

When Congress revisited the Federal Water Pollution Control Act in 1972, it was clear there was increasing dissatisfaction with states' progress toward protecting the nation's waters.¹⁰⁶ Despite the increase in federal oversight and better enforcement mechanisms, the 1965 Act had numerous shortcomings and was ineffective at achieving its goal of controlling water pollution.¹⁰⁷ As the Senate Committee noted, "[m]any of the Nation's navigable waters are severely polluted, and major waterways near the industrial and urban areas are unfit for most purposes."¹⁰⁸ As part of a major overhaul to improve the quality of the nation's waters, Congress decided to increase federal oversight, control, and funding.¹⁰⁹ Nonetheless, there was still a strong emphasis on working with states to affect change.¹¹⁰ Congress recognized it was of the utmost importance that the federal government and states work together to administer the comprehensive program it envisioned.¹¹¹ Cooperative federalism lies at the heart of the modern CWA.¹¹²

B. Cooperative Federalism in the Water Quality Standard Program

In theory, the WQS program is emblematic of the cooperative federalism structure the CWA strives to create. In practice, the program demonstrates the problems that can arise when trying to achieve the proper federal-state balance. Consistent with the principles of cooperative federalism espoused throughout the CWA, the WQS program has defined

¹⁰³ 33 U.S.C. § 466g(c) (Supp. V 1964) (authorizing the federal government to bring an enforcement action if a violation of state WQS occurred).

¹⁰⁴ *Id.* (authorizing states to adopt WQS and requiring WQS be reviewed and approved by the federal government if they meet the federal guidelines).

¹⁰⁵ *Id.* (authorizing the Secretary of the Interior to promulgate WQS standards if a state failed to promulgate them for the waters within its jurisdiction).

¹⁰⁶ The movement toward more stringent federal environmental laws was, at least in part, premised on the notion that state and local governments were not regulating water pollution stringently enough. Robert V. Percival, *Environmental Federalism: Historical Roots and Contemporary Models*, 54 MD. L. REV. 1141, 1141-44 (1995).

¹⁰⁷ Gaba, *supra* note 22, at 1176-80. Enforcement under the 1965 Act proved challenging due to evidentiary issues. It was difficult for the government to trace water pollution to a particular discharger and prove they were the cause of the pollution. *See, e.g.*, EPA v. State Water Res. Control Bd., 426 U.S. 200, 202-03 (1976) (explaining the reasons for the 1972 amendments to the CWA were the ineffectiveness and inadequacy of the 1965 scheme); CPC Int'l Inc. v. Train, 515 F.2d 1032, 1034-35 (8th Cir. 1975) (citing the unwieldiness of the existing enforcement mechanism as the reason for the 1972 amendments).

¹⁰⁸ S. REP. NO. 92-414, at 7 (1971), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3674.

¹⁰⁹ *See id.* at 8-10 (describing Congress's intent and the details of the new oversight and enforcement scheme).

¹¹⁰ *See id.* at 19 ("The Committee expects the [EPA] Administrator as a first priority to take steps to provide the leadership to create a meaningful working relationship with the States.").

¹¹¹ *Id.* at 106 (statement of Sen. James Buckley) ("The federal government cannot possibly, as I see it, administer this program without the active cooperation of the states.").

¹¹² The 1972 Amendments to the FWPCA were seen as ushering in the modern era of federal water pollution control. *See* Andreen, *supra* note 102, at 260, 286.

roles for states and the federal government. States are to be the primary authority in setting, reviewing, and revising WQS, while the federal government plays a supervisory role and provides technical guidance and assistance.¹¹³ The overlapping roles and policies in the WQS program “intertwine[] and involve[] the federal and state governments in a dance from which neither can exit.”¹¹⁴

While the roles for states and the federal government within the WQS program are seemingly well defined, there is an inherent tension within the program.¹¹⁵ As one scholar explained, “[n]owhere is the inherent conflict between the Clean Water Act’s competing goals of state autonomy and federal supervision and control of environmental programs more pronounced than in the water quality standards program.”¹¹⁶ This inherent conflict is evident in the statutory text.

On the one hand, Congress unambiguously expressed its intent to ensure states retain primary authority over their respective waters and land use decisions, explaining: “It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of [s]tates to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources.”¹¹⁷ While this clause is nonoperative, it underscores the primary authority of the states in controlling water pollution and land use decisions within their borders, as the Supreme Court has repeatedly articulated.¹¹⁸ On the other hand, the legislative history demonstrates Congress’s intent to exert increased federal control over water pollution.¹¹⁹ Moreover, the CWA mandates comprehensive federal supervision and control over the WQS program.¹²⁰

Nowhere is the tension between the WQS program’s competing goals of state autonomy, and federal supervision and control more apparent than in section 303(c)(4)(B). While section 303(c) generally grants states the authority to make decisions regarding WQS within its borders, this authority is not absolute.¹²¹ Section 303(c)(4)(B) grants EPA the authority to become the primary implementing body of WQS when it determines a new or revised WQS is “necessary.”¹²² In essence, section 303(c)(4)(B) allows EPA to usurp the role traditionally left to states when the EPA deems it “necessary to meet

¹¹³ See *supra* Part III.A.

¹¹⁴ Dunn & Boian, *supra* note 76, at 72.

¹¹⁵ Gaba, *supra* note 22, at 1170.

¹¹⁶ *Id.* (footnote omitted).

¹¹⁷ 33 U.S.C. § 1251(b) (2012).

¹¹⁸ See, e.g., *Rapanos v. United States*, 547 U.S. 715, 755–56 (2006) (“[C]lean water is not the *only* purpose of the Clean Water Act. So is the preservation of primary state responsibility for ordinary land-use decisions.” (citing 33 U.S.C. § 1251(b))).

¹¹⁹ See *supra* notes 109–112 and accompanying text.

¹²⁰ See, e.g., 33 U.S.C. § 1313(c)(2)–(3) (2012) (explaining state WQS must meet federal requirements).

¹²¹ See *id.* § 1313(c).

¹²² *Id.* § 1313(c)(4)(B).

the requirements of [the CWA].”¹²³ This provision creates ambiguity within the WQS program’s otherwise unambiguous roles for state and federal governments. In addition, section 303(c)(4)(B) raises federalism concerns. Decisions about WQS involve sensitive questions about land use and economic policy.¹²⁴ When EPA makes a necessity determination under section 303(c)(4)(B), it runs the risk of encroaching in the area of land use and economic policy—areas traditionally left to the states to regulate.¹²⁵

Recently, attempts to address the immense problem of nutrient pollution within the nation’s waters has brought up important questions about cooperative federalism and the role of section 303(c)(4)(B) within the WQS program.¹²⁶ Frustrations with states’ progress toward addressing the problem of nutrient pollution have led environmental groups in Florida and the MARB to utilize section 303(c)(4)(B) in an attempt to compel EPA to act as the primary authority addressing nutrient pollution problems.¹²⁷ The battles that ensued, first in Florida, and subsequently in the MARB, are redefining the contours of cooperative federalism and section 303(c)(4)(B).¹²⁸

IV. FLORIDA WILDLIFE FEDERATION V. JACKSON

Nutrient pollution is especially pervasive in Florida due to various geographical features, including high average temperatures, high humidity, flat topography, abundant wetlands, nutrient-rich soils, hydrology, and substantial erosion caused by tropical storms and hurricanes.¹²⁹ As of 2008, approximately 350,000 acres of lakes, 1,000 miles of rivers and streams, and 900 square miles of estuaries were listed as impaired for nutrients.¹³⁰ This nutrient pollution caused blue-green algae blooms, which increased in frequency, duration, and magnitude in water bodies throughout the state as nutrient pollution worsened.¹³¹ Blue-green algae blooms have had devastating ecological,¹³² public health,¹³³ and economic¹³⁴ impacts in Florida.

¹²³ *Id.*

¹²⁴ Gaba, *supra* note 22, at 1170.

¹²⁵ *Id.* at 1214.

¹²⁶ See generally Schwartz et al., *supra* note 68, at 10,163 (discussing nutrient pollution battles and cooperative federalism concerns arising from these battles); Dunn & Boian, *supra* note 76, at 73–75 (same).

¹²⁷ See *infra* Parts IV–V.

¹²⁸ Schwartz et al., *supra* note 68, at 10,163.

¹²⁹ Grumbles Letter, *supra* note 66, at 7. See also Adam Weiss, *Federal Numeric Nutrient Criteria in Florida: When Cooperative Federalism Goes Rogue*, 30 PACE ENVTL. L. REV. 299, 303 (2012) (describing Florida’s need to reject a one-size-fits-all numeric standard because of its unique ecology).

¹³⁰ FLA. DEP’T OF ENVTL. PROT., INTEGRATED WATER QUALITY ASSESSMENT FOR FLORIDA 67 tbl.17 (2008), available at http://www.dep.state.fl.us/water/docs/2008_Integrated_Report.pdf.

¹³¹ *Id.* at 81 (describing the rising prevalence and subsequent impact of harmful algal blooms).

¹³² *Id.* at 107 (explaining that the overgrowth of algae can lead to degradation of biological systems).

A. Early Efforts to Address Nutrient Pollution

In response to EPA's 1998 National Nutrient Strategy, in which EPA set a 2003 deadline for establishing numeric nutrient criteria, Florida's Department of Environmental Protection (FDEP) began working on establishing numeric nutrient criteria.¹³⁵ Florida recognized its nutrient pollution problem was "a significant and growing challenge."¹³⁶ The state has documented steadily increasing nutrient levels in Florida's surface waters since the 1970s.¹³⁷ In 2002, Florida submitted an initial plan to EPA to develop numeric nutrient criteria to address nutrient pollution.¹³⁸ In 2004, EPA concurred with the numeric nutrient plan Florida submitted.¹³⁹

B. The Legal Controversy

Despite its progress, as of 2008, Florida still relied on a narrative WQS for nutrient pollution.¹⁴⁰ This was not atypical—as of 2012, not a single state had numeric nutrient criteria for all the water bodies within its jurisdiction.¹⁴¹ Nevertheless, concerns about the problems posed by nutrient pollution in Florida's waters, and the slow speed at which the state was moving toward adopting numeric nutrient criteria spurred environmental groups to bring suit. In July 2008, a coalition of environmental groups (plaintiffs) filed suit in the U.S. District Court for the Northern District of Florida.¹⁴² Plaintiffs sued EPA for failing to comply with its nondiscretionary duty to set numeric

¹³³ *Id.* at 81–82 (noting public health effects included the presence of cyanotoxins in post-processed drinking water as well as reported problems with skin and vital organs).

¹³⁴ *See id.* at 81 (explaining that algae blooms present a significant threat to recreational sites). Moreover, the Florida Department of Environmental Protection has spent close to 20 million dollars in attempts to address the issue. FLA. DEP'T OF ENVTL. PROT., FLORIDA NUMERIC NUTRIENT CRITERIA: HISTORY AND STATUS 1, *available at* <http://www.dep.state.fl.us/water/wqssp/nutrients/docs/fl-nnc-summary-100109.pdf>.

¹³⁵ FLA. DEP'T OF ENVTL. PROT., *supra* note 134, at 1; *see supra* notes 82–88 and accompanying text (discussing EPA's National Nutrient Strategy).

¹³⁶ Grumbles Letter, *supra* note 66, at 8.

¹³⁷ FLA. DEP'T OF ENVTL. PROT., INTEGRATED WATER QUALITY ASSESSMENT FOR FLORIDA 37 (2008), *available at* http://www.dep.state.fl.us/water/docs/2008_Integrated_Report.pdf.

¹³⁸ FLA. DEP'T OF ENVTL. PROT., FLORIDA NUMERIC NUTRIENT CRITERIA: HISTORY AND STATUS 3, *available at* <http://www.dep.state.fl.us/water/wqssp/nutrients/docs/fl-nnc-summary-100109.pdf>.

¹³⁹ Wayne E. Flowers & James Charles, *Numeric Nutrient Water Quality Criteria: Lessons from Florida*, 26 NAT. RESOURCES & ENV'T 40, 41 (2012).

¹⁴⁰ FLA. ADMIN. CODE ANN. r. 62-302.530(47)(b) (2013) ("In no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora and fauna.").

¹⁴¹ *See* Satterlee et al., *supra* note 87, at 12–13 (describing a brief history of EPA's involvement with nutrients).

¹⁴² *See* Fla. Wildlife Fed'n, Inc. v. Johnson, No. 4:08cv324-RH/WCS, 2009 WL 5217062, at *2 (N.D. Fla. Dec. 30, 2009). Environmental plaintiffs were Florida Wildlife Federation, Inc.; Sierra Club, Inc.; Conservancy of Southwest Florida, Inc.; Environmental Confederation of Southwest Florida, Inc.; and St. Johns Riverkeeper, Inc. *Id.* at *7 n.1.

nutrient criteria for Florida as required by section 303(c)(4)(B).¹⁴³ The litigation that unfolded over six years has been described as a model of failed cooperative federalism.¹⁴⁴ The fallout has widespread implications for the course of nutrient pollution abatement across the country.¹⁴⁵

Plaintiffs alleged EPA's National Nutrient Strategy constituted a determination under section 303(c)(4)(B) that promulgation of numeric nutrient standards was necessary to comply with the CWA.¹⁴⁶ Thus, according to plaintiffs, EPA had a duty under the CWA to promulgate numeric nutrient criteria.¹⁴⁷ Plaintiffs sought declaratory and injunctive relief in the form of requiring EPA to set numeric criteria for nutrients in Florida.¹⁴⁸ Initially, EPA defended the suit by arguing the broad policy statements it made in the National Nutrient Strategy did not constitute a necessity determination under section 303(c)(4)(B).¹⁴⁹ However, in January 2009, EPA issued an "explicit and unequivocal determination that the Florida narrative nutrient standard was inadequate and that a revised or new standard was necessary."¹⁵⁰ This triggered EPA's duty to promulgate numeric nutrient criteria for all water bodies in Florida, unless Florida proposed its own numeric standards first.¹⁵¹

1. *Consent Decree*

In August 2009, EPA and plaintiffs moved for the entry of a consent decree.¹⁵² The proposed decree required EPA to promulgate and submit numeric nutrient criteria for Florida's rivers and lakes by January 14, 2010, unless Florida took action before that date.¹⁵³ Florida was not consulted in entering the decree; rather it only acted as an intervener challenging the decree.¹⁵⁴ Nonetheless, the district court granted a motion for entry of a decree and in 2011, the U.S. Court of Appeals for the Eleventh Circuit dismissed the case for lack of subject matter jurisdiction.¹⁵⁵

¹⁴³ Second Amended Complaint for Declaratory and Injunctive Relief at 1, Fla. Wildlife Fed'n v. Jackson, No. 4:08CV324, 2009 WL 494581 (N.D. Fla. Jan. 6, 2009) [hereinafter Second Amended Complaint].

¹⁴⁴ See, e.g., Weiss, *supra* note 129, at 318–22 (describing the impact of litigation between FDEP and EPA on the promotion of cooperative federalism under the CWA).

¹⁴⁵ See *id.* (indicating the litigation implications on other states seeking to create their own numeric nutrient criteria and acquiring EPA approval of them under Florida's example).

¹⁴⁶ Second Amended Complaint, *supra* note 143, at 7.

¹⁴⁷ See 33 U.S.C. § 1313(c)(4)(B) (2012) (describing review, revised standards, and publication of WQS and implementation plans).

¹⁴⁸ Second Amended Complaint, *supra* note 143, at 1.

¹⁴⁹ EPA's Response to Plaintiff's Motion for Summary Judgment at 1–6, Fla. Wildlife Fed'n, Inc. v. Jackson, No. 4:08CV00324, 2009 WL 1248306 (N.D. Fla. Mar. 27, 2009).

¹⁵⁰ Florida Wildlife Fed'n, Inc. v. Jackson, No. 4:08cv324-RH/WCS, 2009 WL 5217062, at *2 (N.D. Fla. Dec. 30, 2009).

¹⁵¹ 33 U.S.C. § 1313(c)(4).

¹⁵² *Florida Wildlife Fed'n*, 2009 WL 5217062, at *3.

¹⁵³ *Id.* The deadlines for coastal waters and estuaries were set for one year later. *Id.*

¹⁵⁴ Weiss, *supra* note 129, at 306–07.

¹⁵⁵ *Florida Wildlife Fed'n, Inc.*, 2009 WL 5217062, at *7; Fla. Wildlife Fed'n, Inc. v. S. Fla. Water Mgmt. Dist., 647 F.3d 1296, 1299 (11th Cir. 2011).

Pursuant to the consent decree, EPA published final numeric nutrient criteria for Florida's rivers and lakes in the Federal Register in December 2010.¹⁵⁶ Over thirty parties, including Florida, promptly challenged in court the federal criteria issued by EPA.¹⁵⁷ Florida had an uphill road to achieving the numeric nutrient criteria set by EPA—at the time the federal rules were published, one in four water bodies in Florida would not, by definition, meet the standards.¹⁵⁸ EPA estimated the cost of implementation would be between \$135 million and \$236 million annually.¹⁵⁹

Other states watched closely as the consent decree was finalized.¹⁶⁰ Although the decree was binding only on Florida, EPA's willingness to issue a section 303(c)(4)(B) necessity determination—even when Florida was working toward development of numeric nutrient criteria—signaled to other states that EPA was taking an aggressive approach to numeric nutrient criteria development.¹⁶¹ Florida's progress toward numeric nutrient criteria was comparable to the progress made by most other states toward implementing numeric nutrient criteria.¹⁶² Therefore, this signaled to other states that EPA might take the same action elsewhere next.

2. *A Change in Direction*

In March 2011, EPA signaled it would change course in its approach to numeric nutrient criteria development from the aggressive position it previously took in Florida to an approach more grounded in cooperative federalism.¹⁶³ Commentators surmised that this radical shift in approach was due to political pressure from the intense scrutiny EPA received for its

¹⁵⁶ Water Quality Standards for the State of Florida's Lakes and Flowing Waters, 75 Fed. Reg. 75,762, 75,762 (Dec. 6, 2010).

¹⁵⁷ Flowers & Charles, *supra* note 139, at 42; Weiss, *supra* note 129, at 310–11. Environmentalists, private industry, and the State of Florida all challenged the standards as arbitrary and capricious. *Id.*

¹⁵⁸ Flowers & Charles, *supra* note 139, at 41–42.

¹⁵⁹ *Running Roughshod Over States and Stakeholders: EPA's Nutrients Policies: Hearing Before the Subcomm. on Water Res. & Env't of the H. Comm. on Transp. & Infrastructure*, 112th Cong. 123 (2011) (written testimony of Richard J. Budell, Office of Agric. Water Policy, Fla., Dep't of Agric. & Consumer Serv.).

¹⁶⁰ See Weiss, *supra* note 129, at 308 (noting that while the consent decree was binding only on Florida, it “usurped Florida's ongoing efforts to develop its own standards and thus has the potential to set important precedents in every other state”).

¹⁶¹ See *id.* (discussing EPA's subsequent steps and the fact that states “remain concerned” despite EPA's acknowledgement that a Florida-style consent decree would not be “desirable or necessary” in every state).

¹⁶² See Brian Glass, *Federal Numeric Nutrient Criteria: A Tragedy in Two Acts*, <http://warrenglasslaw.com/federal-numeric-nutrient-criteria-a-tragedy-in-two-acts/> (last visited Nov. 22, 2014) (noting that despite EPA's efforts, “by 2008 many states still relied solely on narrative nutrient criteria”).

¹⁶³ Memorandum from Nancy K. Stoner, Acting Assistant Adm'r, EPA, to Reg'l Adm'rs, Regions 1–10, at 1 (Mar. 16, 2011) [hereinafter Stoner Memo], *available at* http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/upload/memo_nitrogen_framework.pdf.

actions in Florida.¹⁶⁴ EPA published a policy memorandum—known as the “Stoner Memo”—reaffirming its “commitment to partnering with states and collaborating with stakeholders to make greater progress in accelerating the reduction of nitrogen and phosphorus loadings to our nation’s waters.”¹⁶⁵ In essence, the Stoner Memo signaled that EPA was shifting its approach to addressing nutrient pollution.¹⁶⁶ In the memo, EPA endorsed a states-first approach to addressing nutrient pollution problems.¹⁶⁷ EPA explained its primary role would be to provide “on-the-ground technical assistance and dialogue with state officials and stakeholders.”¹⁶⁸ Essentially, EPA was distancing itself from the actions it took in Florida—issuing a necessity determination and promulgating federal numeric criteria—signaling to Florida that it would be more flexible in its approach in the future.¹⁶⁹

In April 2011, FDEP petitioned EPA asking it to withdraw its section 303(c)(4)(B) necessity determination for numeric nutrient criteria.¹⁷⁰ EPA’s response to Florida’s request signaled EPA was shifting its approach and demonstrated a renewed effort to work within a cooperative federalism framework.¹⁷¹ EPA proposed to repeal the federally promulgated numeric nutrient criteria if FDEP adopted EPA-approved numeric nutrient criteria.¹⁷² This demonstrated EPA was willing to work with Florida, as opposed to simply stepping into the state’s shoes. In February 2012, Florida submitted its numeric nutrient criteria to EPA.¹⁷³ In Florida’s submission, the state requested that EPA “return to Floridians the responsibility for protecting Florida’s waters.”¹⁷⁴

¹⁶⁴ See Glass, *supra* note 162 (describing EPA’s new numeric nutrient criteria promulgated in response to events in Florida); Dunn & Boian, *supra* note 76, at 73 n.64 (listing examples of media coverage of the “battle between Florida and EPA”).

¹⁶⁵ Stoner Memo, *supra* note 163.

¹⁶⁶ See *id.* (urging the regional administrators to “place new emphasis on working with states to achieve near-term reductions in nutrient loadings”).

¹⁶⁷ *Id.* at 2.

¹⁶⁸ *Id.* EPA also notes that leveraging the resources of other agencies, like USDA and state departments of agriculture, to address nonpoint source pollution is part of an effective solution. *Id.* at 2–3.

¹⁶⁹ See *id.* (“The goal of these discussions should be to tailor the framework to particular state circumstances” and recognizing the “need to provide flexibility in key areas.”).

¹⁷⁰ See Letter from Nancy K. Stoner, Acting Assistant Adm’r, EPA, to Herschel T. Vinyard Jr., Sec’y, Fla. Dep’t Env’tl. Prot. (June 13, 2011) [hereinafter Vinyard Letter], *available at* http://water.epa.gov/lawsregs/rulesregs/upload/epa_response_fdep_petition.pdf (noting and responding to the FDEP letter’s requests).

¹⁷¹ See *id.* (“EPA [supports and] looks forward to working with FDEP as it proceeds with its rulemaking efforts.”).

¹⁷² *Id.*

¹⁷³ Letter from Herschel T. Vinyard Jr., Sec’y, Fla. Dep’t Env’tl. Prot., to Gwendolyn Keyes Fleming, Reg’l Adm’r, EPA Region IV (Feb. 20, 2012) [hereinafter Fleming Letter]. Florida had previously sent its proposed criteria to EPA. After a few adjustments, EPA indicated it would adopt the rule. Vinyard Letter, *supra* note 170. EPA explained that “extensive data and technical analysis support[ed] the need for numeric nutrient criteria” to meet the requirements of the CWA. *Id.*

¹⁷⁴ Fleming Letter, *supra* note 173.

This saga is drawing close to an end. In November 2012, EPA approved Florida's numeric nutrient criteria and moved to amend the 2009 consent decree based on Florida's promulgation of its own criteria.¹⁷⁵ While the environmental plaintiffs opposed the amendments, their challenge was rejected.¹⁷⁶ On January 7, 2014, the district court granted EPA's motion to amend the original consent decree.¹⁷⁷ Florida responded in the media to the ruling stating: "We're thrilled."¹⁷⁸

C. The Aftermath

Ultimately, Florida will be in charge of implementing "the most comprehensive numeric nutrient criteria in the nation."¹⁷⁹ Yet, this result came at a price. The prolonged litigation in Florida deeply strained the relationship between EPA and Florida.¹⁸⁰ Both the federal and state governments expended valuable resources and time in an "uncomfortable and inefficient dance" that could have been avoided by "pooling federal and state time, resources, and expertise toward a single outcome."¹⁸¹

Described as "a poster child" for failed cooperative federalism,¹⁸² the Florida nutrient battle was the focus of intense national controversy.¹⁸³ Most notably, congressional concern that EPA was impinging on states' rights to set their own WQS led to the introduction of the Clean Water Cooperative Federalism Act of 2011.¹⁸⁴ The purpose of the bill was to limit EPA's ability to promulgate WQS.¹⁸⁴ It received bipartisan support in the House and passed, only to die in the Senate. Representative John Mica, from Florida, introduced a similar bill in 2013, demonstrating continuing objection to how the controversy unraveled.¹⁸⁵

¹⁷⁵ Fla. Wildlife Fed'n, Inc. v. McCarthy, No. 4:08cv324-RH/CAS, 2014 WL 51360, at *5 (N.D. Fla. Jan. 7, 2014).

¹⁷⁶ *Id.* at *9. The environmental plaintiffs argued that EPA documents issued 10 years earlier imposed "on the EPA the nondiscretionary duty to adopt new standards." *Id.* at *2.

¹⁷⁷ *Id.* at *10. The court found the modification appropriate because "FDEP's adoption of comprehensive new nutrient criteria is a significant change in the factual conditions and law." *Id.* at *6.

¹⁷⁸ Nancy Smith, *Feds Out: Florida 'Thrilled' Over Judge's Nutrient Criteria Order*, SUNSHINE ST. NEWS, Jan. 8, 2014, <http://www.sunshinestatenews.com/story/feds-out-florida-thrilled-over-judges-nutrient-criteria-order> (last visited Nov. 22, 2014).

¹⁷⁹ *Id.* (internal quotation marks omitted).

¹⁸⁰ See, e.g., Fleming Letter, *supra* note 173 (requesting EPA "return to Floridians the responsibility for protecting Florida's waters").

¹⁸¹ Dunn & Boian, *supra* note 76, at 75.

¹⁸² *Id.* at 73 n.64 (citing numerous articles highlighting the controversy surrounding the Florida nutrient pollution battle).

¹⁸³ H.R. 2018, 112th Cong. (2011). The Bill was introduced by Republican Chairman of the House Transportation & Infrastructure Committee, Rep. John Mica (R-Fla.) and the ranking Democrat on the Committee, Rep. Nick Rahall (D-Wa.). *Id.*

¹⁸⁴ *Id.* The proposed legislation stated EPA "may not promulgate a revised or new standard for a pollutant in any case in which the State has submitted to [EPA] and [EPA] has approved a water quality standard for that pollutant, unless the State concurs with [EPA's] determination that the revised or new standard is necessary to meet the requirements of [the CWA]." *Id.* § 2(a).

¹⁸⁵ H.R. 1948, 113th Cong. (2013).

The litigation did ultimately lead to the development of numeric nutrient criteria in Florida, albeit in a convoluted manner.¹⁸⁶ Even though Florida ultimately retained the ability to set its own numeric nutrient criteria, this was the first time EPA ever issued numeric nutrient criteria for any state under section 303(c)(4)(B).¹⁸⁷ This signaled to environmental organizations that section 303(c)(4)(B) could be a powerful tool for compelling EPA to promulgate numeric nutrient criteria, and for abating nutrient pollution in the nation's waters.¹⁸⁸ Environmental organizations in the MARB were the next to act.

V. GULF RESTORATION NETWORK V. EPA

The MARB is the largest river basin in the United States.¹⁸⁹ The basin drains runoff from 41% of land area in the contiguous United States including highly urbanized area and agricultural lands.¹⁹⁰ This runoff contains high levels of nutrient pollution, and ultimately empties into the Gulf of Mexico.¹⁹¹ The excess nutrients that are discharged into the Gulf of Mexico have resulted in the seasonal growth of large algae blooms that have created the largest hypoxic zone in the United States¹⁹²—it covers an area larger than

¹⁸⁶ See *supra* note 173 and accompanying text.

¹⁸⁷ Bonnie A. Malloy, *Testing Cooperative Federalism: Water Quality Standards Under the Clean Water Act*, 6 ENVTL. & ENERGY L. & POL'Y J., no. 1, 2011, at 90–91.

¹⁸⁸ See Daniel Arrieta, *EPA Delays Water Standards Rule to 2015 in New Rulemaking Agenda*, <http://iwppnews.com/201406252475095/EPA-Daily-News/Daily-News/epa-delays-water-standards-rule-to-2015-in-new-rulemaking-agenda/menu-id-1046.html> (last visited Nov. 22, 2014) (reporting that “environmentalists forced EPA to craft controversial numeric nutrient criteria for Florida through a 2009 lawsuit” that had continued impact).

¹⁸⁹ Nat'l Park Serv., *Mississippi River Facts*, <http://www.nps.gov/miss/riverfacts.htm> (last visited Nov. 22, 2014) (noting the Mississippi River Basin is also the third largest river basin in the world).

¹⁹⁰ U.S. Env'tl. Prot. Agency, *Gulf of Mexico*, <http://www2.epa.gov/nutrient-policy-data/gulf-mexico> (last visited Nov. 22, 2014). Runoff from urban areas such as Minneapolis, Chicago, and New Orleans drain into the MARB. *Id.* Furthermore, the MARB drains agricultural runoff from the agricultural land in the basin, which represents the “dominant land use.” U.S. GEOLOGICAL SURVEY, ASSESSMENT OF THE EFFECTS OF CONSERVATION PRACTICES ON CULTIVATED CROPLAND IN THE UPPER MISSISSIPPI RIVER BASIN 6, 14, *available at* http://www.nrcs.usda.gov/Internet/FSE_documents/stelprdb1042093.pdf.

¹⁹¹ U.S. ENVTL. PROT. AGENCY, EPA-SAB-08-003, HYPOXIA IN THE NORTHERN GULF OF MEXICO: AN UPDATE BY THE EPA SCIENCE ADVISORY BOARD, 32 (2007), *available at* http://water.epa.gov/type/watersheds/named/msbasin/upload/2008_1_31_msbasin_sab_report_2007.pdf [hereinafter HYPOXIA REPORT].

¹⁹² U.S. Env'tl. Prot. Agency, *Gulf of Mexico*, <http://www2.epa.gov/nutrient-policy-data/gulf-mexico> (last visited Nov. 22, 2014). When algae blooms die, they sink to the bottom of the Gulf and decompose. This decomposition process requires significant levels of oxygen, thus depleting the amount of dissolved oxygen in the water. This oxygen depletion causes a hypoxic zone in the Northern Gulf of Mexico. Hypoxia occurs when dissolved oxygen concentrations are below those necessary to sustain most animal life. NAT'L OCEANIC & ATMOSPHERIC ADMIN., HYPOXIA IN THE GULF OF MEXICO: PROGRESS TOWARDS THE COMPLETION OF AN INTEGRATED ASSESSMENT 2 (2000) [hereinafter NOAA REPORT], *available at* http://oceanservice.noaa.gov/products/hypox_final.pdf.

Connecticut.¹⁹³ Reducing nutrient loads from the MARB is critical to improving the hypoxic conditions in the Gulf.¹⁹⁴

A. Early Efforts to Address Nutrient Pollution

Recognizing the severity of the nutrient pollution, EPA developed the Mississippi River–Gulf of Mexico Watershed Nutrient Task Force (Task Force) in 1997.¹⁹⁵ The Task Force—composed of five federal agencies, twelve states, and tribes—strived to “coordinate activities to reduce nutrient loads in the MARB and reduce the size, severity, and duration; and ameliorate the effects of hypoxia.”¹⁹⁶ Primarily, the Task Force used its resources to support states in implementing their own nutrient reduction programs.¹⁹⁷

Progress has been slow—nutrient pollution has only marginally lessened since the Task Force was formed. While states have made progress in developing nutrient control strategies, the ten states immediately adjacent to the Mississippi River still have only narrative WQS.¹⁹⁸ As of 2008, there were still no numeric WQS for nitrogen for any water bodies in the MARB, nor any numeric criteria for phosphorus in any rivers or streams in the MARB.¹⁹⁹

¹⁹³ HYPOXIA REPORT, *supra* note 191, at 10 (stating that the zone averages about 16,500 km²).

¹⁹⁴ NOAA REPORT, *supra* note 192, at 29.

¹⁹⁵ Mississippi River Gulf of Mexico Watershed Nutrient Task Force, *Task Force History and Reassessment*, <http://water.epa.gov/type/watersheds/named/msbasin/history.cfm> (last visited Nov. 22, 2014).

¹⁹⁶ *Id.*

¹⁹⁷ See MISSISSIPPI RIVER GULF OF MEXICO WATERSHED NUTRIENT TASK FORCE, REASSESSMENT 2013: ASSESSING PROGRESS MADE SINCE 2008, at viii (2013), *available at* http://water.epa.gov/type/watersheds/named/msbasin/upload/hypoxia_reassessment_508.pdf (“State strategies allow for flexibility yet provide similarly organized, detailed plans for making progress tailored to each state.”).

¹⁹⁸ All 10 states immediately adjacent to the Mississippi River have narrative criteria for nutrients in rivers and streams. See 014-004-002 ARK. CODE R. § 2.509 (LexisNexis 2014); ILL. ADMIN. CODE tit. 35, § 302.203 (2014); IOWA ADMIN. CODE r. 567-61.3(2) (2014); 401 KY. ADMIN. REGS. 10:031(1) (2014); LA. ADMIN. CODE tit. 33, § 1113(B)(8) (2014); MINN. R. 7050.0150, Subp. 3, 7050.0210 (2014); MISS. CODE R. 11-006-001 § 2.2(A)(3) (2013); MO. CODE REGS. ANN. tit. 10, § 20-7.031(5) (2014); TENN. COMP. R. & REGS. 0400-40-03-.02 (2013); WIS. ADMIN. CODE NR § 102.04 (2010). See *generally* NAT’L RES. DEF. COUNCIL, NUTRIENT GUIDE FOR THE STATES OF THE MISSISSIPPI RIVER § 3 (2010), *available at* http://docs.nrdc.org/water/files/wat_10100401a.pdf (discussing the nutrient WQS of the 10 states).

¹⁹⁹ MINN. CTR. FOR ENVTL. ADVOCACY ET AL., PETITION FOR RULEMAKING UNDER THE CLEAN WATER ACT: NUMERIC WATER QUALITY STANDARDS FOR NITROGEN AND PHOSPHORUS AND TOTAL MAXIMUM DAILY LOADS FOR THE MISSISSIPPI RIVER AND GULF OF MEXICO 3 (2008), *available at* http://switchboard.nrdc.org/blogs/aalexander/nutrient_petition_final.pdf [hereinafter MARB PETITION]. As of 2008, the 10 Mississippi River mainstem states’ efforts in developing numeric WQS for nitrogen and phosphorous can be summarized as follows: none of the 10 states had adopted numeric phosphorus standards for rivers and streams; only 2 of the 10 states had adopted numeric phosphorus standards for lakes and reservoirs (Minnesota and Illinois); and none of the states have adopted numeric nitrogen criteria for lakes/reservoirs or rivers/streams. *Id.* at 54.

B. The Legal Controversy

States' lack of progress toward implementing numeric nutrient criteria frustrated environmental organizations concerned about nutrient pollution in the MARB. In July 2008, national and state environmental organizations²⁰⁰ petitioned EPA to use its rulemaking powers under section 4 of the Administrative Procedure Act (APA)²⁰¹ to determine that numeric nutrient criteria were "necessary" under section 303(c)(4)(B).²⁰²

1. The Petition

The crux of the environmental organizations' petition was that there is a detrimental nutrient problem in the MARB, states are not doing enough, and therefore, EPA must act because numeric nutrient criteria are necessary.²⁰³ The argument the petitioners made was similar to the argument made by environmental groups in Florida—both groups relied on section 303(c)(4)(B) to compel EPA to promulgate federal numeric nutrient criteria.²⁰⁴ Petitioners claimed EPA was required act under section 303(c)(4)(B) because EPA had long known about the "massive [nutrient pollution] problems."²⁰⁵ The petitioners acknowledged the work EPA had completed through the Task Force but explained that the plans of the Task Force had failed "because they have not been backed by direct action by EPA."²⁰⁶ Furthermore, petitioners argued it was "unreasonable to expect states to develop numeric nitrogen and phosphorus standards to protect their own waters."²⁰⁷ Thus, in a sweeping request, the petition urged EPA to adopt numeric nutrient criteria for all water bodies in all states where they

²⁰⁰ The petitioners were Gulf Restoration Network, Louisiana Environmental Action Network, Tennessee Clean Water Network, Public Employees for Environmental Responsibility, Kentucky Waterways Alliance, Missouri Coalition for the Environment, Iowa Environmental Council, Prairie Rivers Network, Environmental Law & Policy Center, Midwest Environmental Advocates, Minnesota Center for Environmental Advocacy, Natural Resources Defense Council, and the Sierra Club. *Id.* at 1, 4.

²⁰¹ See 5 U.S.C. § 553(e) (2012).

²⁰² See MARB PETITION, *supra* note 199, at 3–4 (citations and internal quotation marks omitted) ("[U]nder Section 303(c) of the [CWA] . . . EPA is authorized to step in and address water quality problems that may exist because of limited state action Indeed, the EPA has the statutory duty to do so. . . . Both numerical federal quality criteria and state water quality standards for nutrients are essential precursors to reducing nutrient inputs to the river and achieving water quality objectives. . . ."); see also 33 U.S.C. § 1313(c)(4)(B) (2012) ("The Administrator shall promptly prepare and publish proposed regulations setting forth a revised or new water quality standard for the navigable waters involved . . . in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of this chapter.").

²⁰³ See MARB PETITION, *supra* note 199, at 1–4 (discussing human health and environmental effects, the states' lack of action and incentive, and the need for numeric criteria to address the concerns).

²⁰⁴ See *supra* text accompanying note 146.

²⁰⁵ MARB PETITION, *supra* note 199, at 2.

²⁰⁶ *Id.* at 2, 41–44.

²⁰⁷ *Id.* at 2.

had yet to be established.²⁰⁸ In the alternative, the petitioners requested EPA adopt numeric nutrient criteria for the Northern Gulf of Mexico and for all waters of the United States within the Mississippi River Basin.²⁰⁹ At a minimum, the petition called for EPA to adopt numeric nutrient criteria in the ten states immediately adjacent to the Mississippi River.²¹⁰

2. EPA's Denial

For nearly three years, EPA failed to respond to the petition.²¹¹ In April 2011, the petitioners wrote to EPA to demand a response, claiming EPA's silence was unreasonable under the APA,²¹² and threatening litigation if EPA failed to respond.²¹³ In July 2011, EPA finally issued a denial letter.²¹⁴ EPA explained it was denying the petition because "the comprehensive use of federal rulemaking authority is the most effective or practical means of addressing these concerns at this time."²¹⁵

EPA's denial demonstrated its reluctance to engage in a battle similar to the one in which it was concurrently embroiled in with Florida.²¹⁶ EPA's denial acknowledged nutrient pollution was a significant water quality problem in the MARB and labeled the problem "a high priority for EPA's water programs."²¹⁷ Nevertheless, citing the Stoner Memo,²¹⁸ EPA explained its approach to nutrient pollution was to support states in the development of WQS by providing technical assistance, overarching support, and working cooperatively with states.²¹⁹ This response demonstrated EPA's shift in tactics—a return to a cooperative federalism approach.²²⁰

²⁰⁸ *Id.* at 4; *see* Amended Complaint for Declaratory and Injunctive Relief at 2–3, 11, Gulf Restoration Network v. Jackson, No. 2:12-cv-00677, 2012 WL 1343169, at *1–2, 6 (E.D. La. Apr. 3, 2012) [hereinafter Amended Complaint] (showing in subsequent litigation, however, the petitioners did not challenge EPA's denial of this request, but did request that EPA establish nutrient total maximum daily loads (TMDLs) for water bodies in the MARB).

²⁰⁹ MARB PETITION, *supra* note 199, at 4–5.

²¹⁰ *Id.*; Amended Complaint, *supra* note 208, at 2, 13–14 (explaining that the Petition states that there are 10 Mississippi River mainstem states, and they do not have numeric water standards).

²¹¹ *See* Amended Complaint, *supra* note 208, at 11, 14.

²¹² Letter from Kevin Reuther, Legal Dir. Minn. Ctr. for Envtl. Advocacy et al., to Lisa Jackson, Adm'r, EPA 2–3 (Apr. 11, 2011) (on file with author).

²¹³ *Id.* at 1; Letter from Michael H. Shapiro, Deputy Assistant Adm'r, EPA, to Kevin Reuther, Legal Dir. Minn. Ctr. for Envtl. Advocacy & Albert Ettinger (July 29, 2011) 1 [hereinafter EPA Denial], *available at* <http://water.epa.gov/scitech/swguidance/standards/upload/Response-to-Mississippi-River-Petition-07-29-11.pdf>.

²¹⁴ *Id.*

²¹⁵ *Id.*

²¹⁶ Dunn & Boian, *supra* note 76, at 75.

²¹⁷ *Id.* at 1–2.

²¹⁸ Stoner Memo, *supra* note 163.

²¹⁹ *See* EPA Denial, *supra* note 214, at 2.

²²⁰ *See* Dunn & Boian, *supra* note 76, at 75 ("EPA's 2011 response denying the petition showed a rekindling of cooperative federalism, and likely a reluctance to walk down a similar path to that it did with Florida.").

Notably, in its denial, EPA emphasized that it believed it had the authority to act under section 303(c)(4)(B), but that this was not a prudent course of action.²²¹ Referring to the prolonged nutrient pollution battle in Florida that was still raging, EPA explained it “has used this authority in one recent instance (Florida) to develop federal [numeric nutrient criteria] and retains its discretion to use it elsewhere, as appropriate.”²²² EPA concluded by explicitly stating it was not “determining that [numeric nutrient criteria] are not necessary to meet CWA requirements”—a statement that, in all likelihood, spurred subsequent litigation and was crucial to the outcome.²²³

3. The Lawsuit

In March 2012, environmental organizations (plaintiffs) filed suit against EPA in the Eastern District of Louisiana under the APA.²²⁴ In *Gulf Restoration Network v. EPA*, plaintiffs claimed EPA’s denial violated the APA for two reasons.²²⁵ First, plaintiffs alleged EPA’s response to their petition was procedurally deficient because EPA failed to answer whether numeric nutrient criteria were “necessary to meet the requirements of the [CWA].”²²⁶ Second, plaintiffs claimed that EPA’s denial did not conform to the statutory factors set forth in section 303(c)(4)(B).²²⁷ Plaintiffs claimed EPA’s decision not to make a necessity determination must be based on scientific criteria, as opposed to policy reasons.²²⁸

Promptly after the lawsuit was filed, thirteen states within the MARB intervened as defendants,²²⁹ demonstrating broad state opposition to promulgating federal numeric nutrient criteria.²³⁰ EPA moved to dismiss plaintiffs’ claim for lack of subject matter jurisdiction, arguing that the necessity determination under section 303(c)(4)(B) is “committed to agency discretion by law” and, therefore, unreviewable under the APA.²³¹ All parties then moved for summary judgment.²³²

²²¹ EPA Denial, *supra* note 214, at 4–5 (explaining EPA “retains its discretion to use [its section 303(c)(4)(B) authority] elsewhere, as appropriate” but “the Agency believes that the use of its rulemaking authority, especially in light of the sweeping scope of the Petition, is not a practical or efficient way to address nutrients at a national or regional scale”).

²²² *See id.* at 5.

²²³ *Id.* at 6; Schwartz et al., *supra* note 68, at 10,165.

²²⁴ *See* Amended Complaint, *supra* note 208, at 1–2.

²²⁵ *Gulf Restoration Network v. Jackson*, No. 12-677, 2013 WL 5328547, at *3 (E.D. La. Sept. 20, 2013).

²²⁶ Amended Complaint, *supra* note 208, at 16.

²²⁷ *Id.* at 15–16.

²²⁸ *Id.* at 14–16.

²²⁹ *See* Intervening States’ Memorandum in Support of the Environmental Protection Agency’s Motion for Summary Judgment at 1, *Gulf Restoration Network v. Jackson*, No. 2:12-cv-00677, 2013 WL 5328547 (E.D. La. Mar. 4, 2013). The intervening states were Alabama, Arkansas, Illinois, Iowa, Kansas, Kentucky, Louisiana, Missouri, Montana, Nebraska, North Dakota, Oklahoma, and South Dakota. *Id.*

²³⁰ Schwartz et al., *supra* note 68, at 10,167.

²³¹ *Gulf Restoration Network*, 2013 WL 5328547, at *3 (internal quotation marks omitted).

²³² *Id.* at *4, *8.

The district court first denied EPA's motion to dismiss, explaining EPA's decision was a final agency action and reviewable under the APA.²³³ Then, the court addressed the merits. First, the district court agreed with plaintiffs that EPA had a nondiscretionary duty to make a necessity determination in response to a petition.²³⁴ Relying on *Massachusetts v. EPA* (*Mass. v. EPA*),²³⁵ the court concluded that EPA could not decline to make a threshold necessity determination under section 303(c)(4)(B).²³⁶ In *Mass. v. EPA*, the Supreme Court held that EPA was required to reach a conclusion as to whether greenhouse gases "cause or contribute to, air pollution" that may "endanger public health or welfare."²³⁷ Similarly, the district court found section 303(c)(4)(B) allows EPA to exercise its discretion, but that EPA's discretion "is not necessarily unlimited" and rather is "bounded by the text of the authorizing statute."²³⁸ Thus, according to the court, 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."²³⁹ Therefore, the court held EPA's petition denial was "contrary to law because EPA did not make a necessity determination."²⁴⁰

Second, the court rejected plaintiffs' claim that EPA's section 303(c)(4)(B) determination must be based only on scientific criteria.²⁴¹ The court explained the text of section 303(c)(4)(B) contains no limiting factors requiring EPA to rely solely on scientific considerations alone.²⁴² The court expressly endorsed federalism concerns as a valid reason for declining to make a section 303(c)(4)(B) determination.²⁴³ The court held that EPA could decline to find federal numeric nutrient criteria were necessary based on the fact that "the CWA is by design a states-in-the-first-instance regulatory scheme."²⁴⁴ The court explained that section 303(c)(4)(B) "is more than a mere speed bump on federal regulation because by design it serves as a hurdle to federal jurisdiction—a hurdle that EPA must overcome before it

²³³ *Id.* at *4 (relying on the Supreme Court's holding in *Heckler v. Chaney*, 470 U.S. 821, 830 (1985), that agency action is presumptively reviewable unless there is no meaningful standard against which to judge EPA's exercise of discretion). *Cf.* *Mo. Coal. for the Env't Found. v. Jackson*, 853 F. Supp. 2d 903, 911–13 (W.D. Mo. 2012) (holding EPA's section 303(c)(4)(B) determinations are not subject to judicial review because section 303(c)(4)(B) contains no standard by which a court could review EPA's decision not to undertake rulemaking).

²³⁴ *Gulf Restoration Network*, 2013 WL 5328547, at *7.

²³⁵ 549 U.S. 497 (2007).

²³⁶ *Gulf Restoration Network*, 2013 WL 5328547, at *6.

²³⁷ *Mass. v. EPA*, 549 U.S. at 532–33.

²³⁸ *Gulf Restoration Network*, 2013 WL 5328547, at *6.

²³⁹ *Id.*

²⁴⁰ *Id.*

²⁴¹ *Id.* at *7.

²⁴² *Id.* at *6–7. The plaintiffs further relied on *Mass. v. EPA* for the proposition that EPA may not rely on nonscientific factors when making a necessity determination. *Id.* at 6. The court rejected this argument explaining that "*Massachusetts v. EPA* does not stand for the broad proposition that every discretionary EPA determination that serves as a restraint or hurdle to federal action must be based on scientific data as opposed to policy judgments." *Id.*

²⁴³ *Id.* at *7.

²⁴⁴ *Id.*

moves in to preempt a state's sovereign authority to regulate its own waters."²⁴⁵ Thus, the court held that EPA could consider the very factors it relied upon in its denial of the petition—chiefly, cooperative federalism.²⁴⁶

The court remanded the case and ordered EPA to respond to the environmental groups' petition in 180 days.²⁴⁷ The court's decision basically gave EPA a roadmap for its response to the petition. As long as EPA determined numeric nutrient criteria were not necessary under section 303(c)(4)(B), EPA's decision would be upheld because its policy was to support states in promulgating their own numeric nutrient criteria.²⁴⁸

4. *The Appeal*

Although the district court's decision was very deferential to EPA in respect to EPA's authority to make section 303(c)(4)(B) necessity determinations, EPA still appealed the decision to the U.S. Court of Appeals for the Fifth Circuit in November 2013.²⁴⁹ According to EPA, the district court erred in two respects. First, EPA alleged the district court erred by "ignor[ing] the fact that Congress committed the decision to make a necessity determination entirely to the EPA's judgment."²⁵⁰ Second, EPA claimed the district court erred by holding "that the agency does not have the option to decline to make a necessity determination in response to a petition."²⁵¹ According to EPA, the ramification of the district court's holding was "that a citizen's petition can transform a discretionary statutory function into a mandatory duty" by requiring EPA to make section 303(c)(4)(B) determinations regarding WQS for water bodies across the country.²⁵² EPA's appeal demonstrated both its reluctance to be compelled by environmental organizations to make section 303(c)(4)(B) necessity determinations, and its desire for the states to retain primary control over their own WQS programs.²⁵³

VI. IMPLICATIONS OF THE NUMERIC NUTRIENT CRITERIA LITIGATION IN FLORIDA AND THE MISSISSIPPI-ATCHAFALAYA RIVER BASIN

The cases of *Florida Wildlife Federation v. Jackson* and *Gulf Restoration Network v. EPA* demonstrate that EPA, the states, and the

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ *Id.*

²⁴⁸ Schwartz et al., *supra* note 68, at 10,167.

²⁴⁹ *Gulf Restoration Network v. Jackson*, 2013 WL 5328547, *appeal docketed sub nom. Gulf Restoration Network v. McCarthy*, No. 13-31214 (5th Cir. Nov. 18, 2013).

²⁵⁰ Juan Carlos Rodriguez, *EPA Asks 5th Circ. To Flip Gulf Dead Zone Ruling*, LAW 360, Feb. 24, 2014, <http://www.law360.com/articles/514216/epa-asks-5th-circ-to-flip-gulf-dead-zone-ruling> (last visited Nov. 22, 2014).

²⁵¹ *Id.*

²⁵² *Id.* (internal quotation marks omitted).

²⁵³ *See generally id.* (stating EPA's position that the district court decision requiring EPA to make necessity determinations "undermines" EPA's authority).

courts view cooperative federalism as a guiding principle in the development of WQS to address nutrient pollution. In both cases, environmental organizations attempted to compel EPA to utilize section 303(c)(4)(B) to promulgate federal numeric nutrient criteria, and in both cases, these attempts ultimately failed due to cooperative federalism concerns.²⁵⁴ This raises an important question: What is the best pathway forward for addressing our nation's nutrient pollution problem? In this Part, I address first why recent litigation in Florida and the MARB demonstrates section 303(c)(4)(B) should not be viewed as a mechanism for shifting the cooperative federalism balance. EPA will not take a more active role in implementing numeric nutrient criteria. Thus, a states-in-the-first-instance approach to addressing nutrient pollution must prevail. Second, I argue within the framework of a states-first approach to addressing nutrient pollution, the principles of cooperative federalism can inform a more successful pathway to numeric nutrient criteria development and, ultimately, a reduction in nutrient pollution in the nations' waters.

A. The Narrowing Role of Section 303(c)(4)(B)

Section 303(c)(4)(B) will not play a significant role in the development of numeric nutrient criteria. On its face, section 303(c)(4)(B) seemingly provides EPA a powerful tool to act as the primary authority in setting WQS.²⁵⁵ Nevertheless, litigation in Florida and the MARB demonstrate that neither states, the courts, nor EPA view section 303(c)(4)(B) as a mechanism for shifting the cooperative federalism balance in setting of numeric nutrient criteria.

First, overwhelming state opposition to federal numeric nutrient criteria is evident from wide state participation in the MARB litigation.²⁵⁶ Bipartisan state opposition to EPA's exercise of section 303(c)(4)(B) authority will influence EPA's exercise of this authority in nutrient criteria development.²⁵⁷ Second, courts are likely to continue to be very deferential to EPA in reviewing section 303(c)(4)(B) determinations. Some courts may find necessity determinations made by EPA are committed to agency discretion by law, as was held by the Western District of Missouri in *Environment Foundation v. Jackson*.²⁵⁸ Even if a court determines a necessity determination is reviewable, *Gulf Restoration Network v. EPA* demonstrates courts will afford EPA great deference to weigh policy

²⁵⁴ In Florida, the state ultimately developed numeric nutrient criteria. See *supra* Part IV. In the MARB, the court upheld EPA's determination that development of numeric nutrient criteria was best left to the states. See *supra* Part V.

²⁵⁵ By providing EPA the authority to set WQS whenever the Agency deems it necessary, section 303(c)(4)(B) gives EPA broad discretionary authority. See 33 U.S.C. § 1313(c)(4)(B) (2012).

²⁵⁶ See *supra* note 227 (listing the numerous states that intervened in *Gulf Restoration Network v. EPA*, No. 2:12-cv-00677, 2013 WL 5328547 (E.D. La. Mar. 13, 2013)).

²⁵⁷ Schwartz et al., *supra* note 68, at 10,167.

²⁵⁸ 853 F. Supp. 2d 903, 911–12 (W.D. Mo. 2012).

considerations.²⁵⁹ This will enable EPA to decline to make necessity determinations regarding numeric nutrient criteria based on its policy that its resources “can best be employed by catalyzing and supporting action by states”²⁶⁰

Lastly, EPA is unlikely to utilize its section 303(c)(4)(B) authority to set federal numeric nutrient criteria. At the outset of the Florida nutrient pollution battle, EPA was ready and willing to exercise its section 303(c)(4)(B) authority, as demonstrated by its voluntary issuance of a necessity determination.²⁶¹ Nonetheless, after intense state opposition, media scrutiny, and the threat of congressional action to constrict EPA’s jurisdiction over the WQS program, EPA changed its course.²⁶² This was apparent in the MARB battle where EPA continually delayed making a necessity determination and expounded a states-first approach.²⁶³

Moreover, in September 2013, EPA issued a proposed rule to clarify what constitutes a formal determination under section 303(c)(4)(B).²⁶⁴ Under the proposed rule, for an agency statement to constitute a necessity determination, it must be signed by the Administrator and contain a statement that the document constitutes the Administrator’s determination under section 303(c)(4)(B).²⁶⁵ EPA issued this clarification as a result of the nutrient pollution controversy in Florida, where the environmental organizations initially claimed broad policy statements constituted a necessity determination.²⁶⁶ According to EPA, the benefit of the proposed rule is that it allows EPA to provide written guidance to states regarding state WQS programs without running the risk of being construed as a necessity determination.²⁶⁷ Conversely, the rule makes it more difficult for

²⁵⁹ See notes 239–244 and accompanying text.

²⁶⁰ Stoner Memo, *supra* note 163, at 2.

²⁶¹ See *supra* Part IV.B.2; see also Schwartz et al., *supra* note 68, at 10,168 (discussing the voluntary nature of EPA’s necessity determination in the MARB litigation).

²⁶² See *supra* Part IV.B.2.

²⁶³ See *supra* Part V.B.2.

²⁶⁴ Water Quality Standards Regulatory Clarifications, 78 Fed. Reg. 54,518, 54,518 (proposed Sept. 4, 2013) (to be codified at 40 C.F.R. pt. 131).

²⁶⁵ *Id.* at 54,521.

²⁶⁶ See *id.* (“In some instances, [a] lack of understanding [about how necessity determinations are made] has led to a mistaken conclusion that the EPA has made a CWA 303(c)(4)(B) determination when, in fact, the EPA did not make nor intend to make a determination.”). Florida is not the only place where environmental organizations argued broad policy statements made by EPA constitute a necessity determination. In *Puget Soundkeeper Alliance v. EPA*, environmental organizations are arguing statements made by EPA Region 10 officials in a series of letters in which EPA declared it could implement federal criteria if Washington continued to delay about whether toxic standards constituted a necessity determination. Litigation is pending. Brief for Plaintiff at 3, *Puget Soundkeeper Alliance v. EPA* (W.D. Wash. Oct. 11, 2013) (No. 2:13-cv-01839-JCC).

²⁶⁷ 78 Fed. Reg. at 54,521 (“[I]t is essential that the EPA have the ability to provide feedback, and states and tribes have the opportunity to consider and evaluate the Agency’s views, without fear of litigation triggering a duty on the part of the EPA to propose and promulgate WQS before either a state, tribe or the Agency believes such a course is appropriate or necessary.”).

environmental organizations to prevail in section 303(c)(4)(B) challenges to require EPA to impose federal numeric nutrient criteria.²⁶⁸

At bottom, states, the courts, and EPA are wary of section 303(c)(4)(B) because by employing this provision, EPA unilaterally shifts the cooperative federalism balance that the WQS espouse. Occasionally, EPA has been willing to exercise its authority under section 303(c)(4)(B).²⁶⁹ However, its reticence in the nutrient pollution context is unsurprising given that regulation of nutrient pollution largely implicates decisions about land use and economic policy, both of which “involve particularly sensitive questions of the federal-state relationship.”²⁷⁰ By using its section 303(c)(4)(B) authority in the nutrient pollution context, EPA runs the risk of throwing the cooperative balance off-kilter. Since section 303(c)(4)(B) will not provide an avenue to addressing nutrient pollution, another pathway forward must be contemplated.

B. Addressing Nutrient Pollution by Achieving the Operable Balance of Authority Under the CWA

A restored balance between federal and state authority in the battle against nutrient pollution will enable EPA, the states, and the public to achieve meaningful progress toward the ultimate goal of addressing nutrient pollution in the nation’s waters. In Florida and the MARB, significant resources were channeled toward litigation rather than addressing the underlying problem.²⁷¹ Drawing on theoretical principles of cooperative federalism, as well as experiences learned in Florida and the MARB, a more successful pathway to developing numeric nutrient criteria and, ultimately, a reduction in nutrient pollution in the nations’ waters is possible.

1. Theoretical Underpinnings of Cooperative Federalism

An understanding of why some scholars advocate for greater federal intervention while others advocate for increased state autonomy in addressing water quality problems is critical to achieve the proper federal–state balance tailored to address the problem of nutrient pollution.²⁷² Scholars provide persuasive support for vesting greater authority in the federal government in addressing water quality problems.²⁷³ Advocates of federal intervention provide four overarching justifications for increased

²⁶⁸ Lee Logan, *Advocates Urge EPA to Drop Plan for Raising Bar on Water Determinations*, WATER POL’Y REP. Feb. 10, 2014, at 12, 12–13; *see also* Earthjustice Comments on Proposed Rule, Submitted January 2, 2014 (“It is plain that EPA’s proposed narrowing of the determination requirements is geared to removing this provision and EPA’s obligations thereunder, from the Clean Water Act entirely.”).

²⁶⁹ *See supra* note 71 (listing the occasions on which EPA utilized its section 303(c)(4)(B) authority).

²⁷⁰ Gaba, *supra* note 22, at 1170.

²⁷¹ Dunn & Boian, *supra* note 76, at 73–75.

²⁷² *See supra* Part II.B–C for a discussion of the water quality standard program.

²⁷³ *See* Dunn & Boian, *supra* note 76, at 81 (“A strong federal framework . . . is essential.”).

federal control in addressing water quality problems. First, states often lack the resources necessary to conduct the research required to implement effective regulatory programs.²⁷⁴ The federal government is able to harness “economies of scale” and leverage resources to implement successful regulatory programs.²⁷⁵ Second, state and local governments are more vulnerable to political pressure from local economic interests.²⁷⁶ Third, since water pollution knows no boundaries, the federal government is better equipped to deal with transboundary pollution issues that states may be unable or unwilling to address.²⁷⁷ Lastly, states are susceptible to the “race to the bottom” dynamic, which describes the phenomenon where states competing for economic development are likely to lessen environmental protections.²⁷⁸ Uniform national minimal standards are necessary to prevent this from occurring.²⁷⁹

Conversely, scholars have also advanced justifications in support of states maintaining authority over water pollution regulatory programs. First, states have a better understanding of their local environments and the environmental problems they face.²⁸⁰ Second, states can act as laboratories, free to innovate within their borders to find solutions tailored to their specific needs.²⁸¹ Lastly, it is often easier for states to implement programs that may stall at the federal level due to political deadlock.²⁸²

There are significant benefits to both federal and state participation in water pollution control. Important laws and policies have been successfully established at both levels.²⁸³ Thus, the purpose of this discussion is not to

²⁷⁴ Glicksman, *supra* note 93, at 733.

²⁷⁵ *Id.* at 733 & n.82.

²⁷⁶ See Percival, *supra* note 106, at 1178 (“[H]istory demonstrates that state and local officials generally are too vulnerable to local economic and political pressures favoring development to be given exclusive responsibility for environmental protection.”).

²⁷⁷ Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1264 (1977).

²⁷⁸ Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570, 603–04 (1996). The “race-to-the-bottom” theory has been criticized. See Percival, *supra* note 106, at 1172. However, Percival goes on to note, “it is still widely believed that federal standards can help states resist industry pressures to relax regulatory standards.” *Id.*

²⁷⁹ See Esty, *supra* note 278, at 604 (arguing that centralized national environmental laws are necessary to escape the prisoners’ dilemma).

²⁸⁰ *Id.* at 610.

²⁸¹ See, e.g., *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting) (“It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.”).

²⁸² See Glicksman, *supra* note 93, at 779–81, 800 (discussing various environmental programs which states have successfully implemented after Congress failed to implement national programs).

²⁸³ See, e.g., Archon Fung & Dara O’Rourke, *Reinventing Environmental Regulation from the Grassroots Up: Explaining and Expanding the Success of the Toxics Release Inventory*, 25 ENVTL. MGMT. 115, 115–16 (2000), available at <http://www.archonfung.net/papers/FungORourkeTRI00.pdf> (praising and explaining the success of the Toxics Release Inventory, which is a pollution control federal regulation). Wisconsin, Maryland, and Florida provide examples of successful state water pollution control programs. William Goldfarb, *Watershed Management: Slogan or Solution?*, 21 B.C. ENVTL. AFF. L. REV. 483, 494 (1994).

endorse one level of control over the other. Rather, achieving an operable balance within the CWA requires an understanding of the benefits and downfalls of regulating at both levels.

2. *How Theory Informs Practice*

As EPA declared in its National Nutrient Strategy, numeric nutrient criteria are necessary to achieve a reduction in nutrient pollution in the nation's waters.²⁸⁴ Starting with this assumption, the theoretical underpinnings of cooperative federalism inform how numeric nutrient criteria can be established without upsetting the federal-state balance espoused by the WQS program.

First and foremost, responsive states should be in charge of implementing numeric nutrient criteria for water bodies within their borders.²⁸⁵ The theories advocated by scholars as to why states should maintain control of water pollution programs are particularly relevant in the field of nutrient reduction. Since establishing numeric nutrient criteria involves site-specific knowledge, states are in the best position to utilize local knowledge to set appropriate criteria.²⁸⁶ In its petition to environmental organizations in the MARB, EPA recognized this exact fact stating, "[t]his approach, in the [a]gency's judgment, is preferable to undertaking an unprecedented and complex set of rulemakings to promulgate federal [numeric nutrient criteria] for a large region."²⁸⁷

Also, by allowing states to implement their own numeric nutrient criteria, states will innovate to ensure nutrient pollution reduction is both environmental and economically beneficial. For example, when EPA established numeric nutrient criteria in Florida, it estimated the implementation would cost between \$135 million and \$236 million annually.²⁸⁸ Yet when Florida took over implementation, the state was able to be innovative and come up with creative cost-saving measures tailored specifically to its situation.²⁸⁹ Ultimately, Florida's program, virtually identical in terms of environmental protections, would only cost between \$50 million and \$130 million annually.²⁹⁰

²⁸⁴ Notice of National Nutrient Strategy for the Development of Regional Nutrient Criteria, 63 Fed. Reg. 34,648, 34,649 (June 25, 1998).

²⁸⁵ See Gaba, *supra* note 22, at 1219 (arguing WQS implementation should be left to states). The idea of responsive states is used purposefully—if states neglect their duties under the CWA or refuse to engage actively in the progress, EPA must take a more active role in this process. *Id.*

²⁸⁶ See *supra* notes 75–76 and accompanying text (discussing site-specific environmental factors important to establishing well-tailored numeric nutrient criteria).

²⁸⁷ EPA Denial, *supra* note 213, at 4.

²⁸⁸ *Running Roughshod Over States & Stakeholders: EPA's Nutrients Policies: Hearing Before the Subcomm. on Water Res. & Env't of the H. Comm. on Transp. & Infrastructure*, 112th Cong. 123 (2011) (statement of Richard J. Budell, Office of Agric. Water Policy, Fla., Dep't of Agric. & Consumer Serv.).

²⁸⁹ Weiss, *supra* note 129, at 319.

²⁹⁰ *Id.*

Finally, when states are at the forefront of developing numeric nutrient criteria, concerns that federal political deadlock will stall progress are not present. This concern became a tangible threat to nutrient pollution reduction in 2011 when the Cooperative Federalism Bill was introduced in Congress, threatening to strip EPA of its role in development of numeric nutrient criteria and likely reduce environmental protections.²⁹¹

A states-first approach can succeed only if EPA develops a strong federal framework within which states can work.²⁹² In 2009, the Inspector General published a Nutrient Pollution Program Evaluation, finding “EPA’s nutrient criteria strategy lacked management control and an adequate system of accountability for either itself or the States.”²⁹³ States have been slow to develop numeric nutrient criteria because they are costly to implement and often unpopular with a variety of constituencies.²⁹⁴ This simple fact is what prompted environmental organizations to act in both Florida and the MARB.²⁹⁵ However, since the ability of environmental organizations to utilize section 303(c)(4)(B) to compel EPA to act is significantly narrowing, EPA must itself work to strengthen federal oversight over state programs to reduce nutrient pollution.

One reason scholars advocate for federal control of environmental regulatory programs is the lack of state resources.²⁹⁶ This rings particularly true in the nutrient pollution context. Nationally, there is a huge gap between the resources states have to implement nutrient reduction programs and the resources they need.²⁹⁷ Typically, states receive approximately one-third or less of the funding needed to implement CWA water quality programs.²⁹⁸ To ensure states comply with the CWA, EPA must work with states to bridge this funding gap.²⁹⁹ While EPA cannot itself fully fund state programs, it can assist states in finding creative sources of funding and reducing the cost of numeric nutrient criteria implementation.³⁰⁰

²⁹¹ See *supra* notes 184–186 and accompanying text (discussing the Cooperative Federalism Bills of 2011, 2012, and 2013).

²⁹² See Dunn & Boian, *supra* note 76, at 81 (referencing the WQS that allow for development of numeric nutrient criteria).

²⁹³ U.S. ENVTL. PROT. AGENCY, OFFICE OF INSPECTOR GENERAL, REP. NO. 09-P-0223, EPA NEEDS TO ACCELERATE ADOPTION OF NUMERIC NUTRIENT WATER QUALITY STANDARDS 5 (2009) [hereinafter NNC REPORT], available at <http://www.epa.gov/oig/reports/2009/20090826-09-P-0223.pdf>.

²⁹⁴ *Id.* at 5–7.

²⁹⁵ See *supra* Parts IV.B–V.

²⁹⁶ See generally Glicksman, *supra* note 93, at 732–34 (summarizing scholarly treatment).

²⁹⁷ STATE WATER QUALITY MGMT. RES. ANALYSIS TASK FORCE, STATE WATER QUALITY MANAGEMENT RESOURCE ANALYSIS: INTERIM REPORT ON RESULTS 13 (2002), available at http://www.ecos.org/files/4238_file_Interim_Report_4_02.pdf. “At the highest level of aggregation, this resource gap indicates that states are receiving *less than one-half* of the resources that they need to implement the requirements of the [CWA].” *Id.*

²⁹⁸ *Id.*

²⁹⁹ See NNC REPORT, *supra* note 293, at 6.

³⁰⁰ See *id.* From 1998 to 2008, EPA estimated it provided \$11 million in funding to all the states combined. State officials in various states estimate that developing numeric nutrient criteria will cost anywhere from \$1.8 million to \$8.2 million. *Id.*

Second, capitalizing on economies of scale, as scholars advocate, EPA must continue to advance scientific research in the area of nutrient pollution.³⁰¹ Currently, due to the complexity of setting sweeping numeric nutrient criteria, EPA has not set minimum nutrient WQS for states.³⁰² Since a federal floor is not feasible, EPA must continue to provide technical guidance to states to develop their own criteria.³⁰³

Third, EPA must play a prominent role in working with states to ensure that numeric nutrient criteria adequately protect downstream states.³⁰⁴ States' unwillingness or inability to address transboundary nutrient pollution is a significant barrier to developing successful numeric nutrient criteria.³⁰⁵ EPA is better equipped to address the issue of transboundary nutrient pollution than individual states.³⁰⁶ For example, the development of the Mississippi River–Gulf of Mexico Watershed Nutrient Task Force in the MARB was a critical first step to ensuring states work together to address this problem.³⁰⁷

Lastly, strong EPA oversight is the only mechanism for ensuring states will set numeric nutrient criteria and avoid the race-to-the-bottom dynamic.³⁰⁸ Litigation in Florida and the MARB demonstrate EPA is unlikely to step in and promulgate federal numeric nutrient criteria.³⁰⁹ Furthermore, the Inspector General's Nutrient Pollution Program Evaluation recommended that EPA set numeric nutrient criteria for water bodies with "significant waters of national value."³¹⁰ In EPA's formal response to the recommendation, it objected to that recommendation explaining "a strategic approach to leverage resources and existing authorities' for 'waters of regional, local and multi-[s]tate value' is the best way to establish effective standards."³¹¹ Because it is highly unlikely EPA will develop either a federal minimum standard or water body-specific standards, EPA must provide significant oversight through establishing priorities, enforceable milestones, and adequate measures to assess states' progress.³¹²

³⁰¹ See *supra* note 274 and accompanying text (discussing the benefits of maximizing economies of scale).

³⁰² Malloy, *supra* note 187, at 100.

³⁰³ Currently, EPA's main technical assistance is the "Recommended Elements of a State Nutrients Framework," which contains key tenants of successive nutrient reduction programs to be used as a guide. Stoner Memo, *supra* note 163, at 2.

³⁰⁴ See NNC REPORT, *supra* note 293, at 7.

³⁰⁵ *Id.*

³⁰⁶ See *supra* note 276 and accompanying text (discussing transboundary pollution issues).

³⁰⁷ See *supra* notes 195–197 (discussing the Task Force).

³⁰⁸ NNC REPORT, *supra* note 293, at 8.

³⁰⁹ See *supra* Parts III–IV.

³¹⁰ NNC REPORT, *supra* note 293, at 10.

³¹¹ *Id.*

³¹² See *id.* at 10 (noting that because EPA has not previously regulated or been successful at curbing nutrient pollution, EPA should prioritize milestones and ways to assess state actions).

VII. CONCLUSION

Florida and the MARB are not the only waters in the nation affected by nutrient pollution.³¹³ In fact, quite the opposite is true.³¹⁴ According to EPA, “[m]ore than 100,000 miles of rivers and streams, close to 2.5 million acres of lakes, reservoirs and ponds, and more than 800 square miles of bays and estuaries in the United States have poor water quality because of nitrogen and phosphorus pollution.”³¹⁵ Nutrient pollution presents a costly, complex, and widespread problem with detrimental effects to the nation’s aquatic resources, public health, and economy.³¹⁶ Litigation in Florida and the MARB resulted from environmental organizations’ frustrations with the speed at which states and EPA are addressing this problem.³¹⁷ Reflecting on the outcome of these respective battles provides valuable insight as to how to accelerate progress toward a solution. Only when the federal government and states work cohesively in a dynamic partnership will the goal of establishing enforceable numeric nutrient criteria be achieved. Even so, the establishment of numeric nutrient criteria is only one step along the way to the ultimate goal of eliminating nutrient pollution and restoring the chemical, physical, and biological integrity of the nations’ waters,³¹⁸ a goal which remains elusive and uncertain.

³¹³ See U.S. Env’tl. Prot. Agency, *Where Nutrient Pollution Occurs*, <http://www2.epa.gov/nutrientpollution/where-nutrient-pollution-occurs> (last visited Nov. 22, 2014) (noting that nutrient pollution affects water all around the country).

³¹⁴ See *id.*

³¹⁵ *Id.*

³¹⁶ See *supra* notes 1–4 and accompanying text (discussing the ecological, human health, and economic impacts of dealing with nutrient pollution).

³¹⁷ See *supra* Parts III–IV.

³¹⁸ See Federal Water Pollution Control Act, 33 U.S.C. § 1251(b) (2012) (stating the federal policy of coordinating with the states to eliminate pollution).