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WATER, WATER EVERYWHERE, BUT NOT A DROP TO SWIM AND FISH IN: CLEAN WATER ACT NATIONAL STANDARDS AND THE ISSUE OF ECOLOGICAL DIVERSITY

The EPA should embrace ecological diversity in its administration of national water quality pollutant criteria and standards established under the Clean Water Act in an effort to promote ecologically appropriate and scientifically supported state water quality standards.

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I. INTRODUCTION

Water quality standards are the basis for nearly all Clean Water Act (“CWA”)¹ programs ranging from National Point Discharge Elimination Source (“NPDES”)² permits to Total Maximum Daily Loads

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1. Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 1566 (codified as amended at 33 U.S.C. §§ 1251-1387(2000)).

2. The EPA website explains:

("TMDLs").³ While these programs include active public involvement in execution and implementation, the core basis of these programs are water quality standards, which are critical in determination of when discharge constitutes a pollution problem or a health impact.⁴ While the Environmental Protection Agency ("EPA") gives the impression that it is the final determiner of water quality standards, and is not subject to review or challenges by the stakeholder community, this simply cannot be the case.⁵

This paper, in part II, examines the background of the CWA and introduces the problems states face in formulating water quality standards given the growth of scientific understanding in environmental interactions. Next, Part III examines several ways entities may challenge the EPA including: (1) the use of public comment and participation period during rulemaking; (2) the use of the Constitution to challenge the EPA's authority to establish nationwide standards; (3) the role of federalism and states as social laboratories; and (4) the use of *stare decisis* to challenge the EPA attempts to implement nationwide water quality standards. Finally, Part IV of this paper will conclude by encouraging stakeholders to participate in the rulemaking process

[T]he [NPDES] permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. In most cases, the NPDES permit program is administered by authorized states. Since its introduction in 1972, the NPDES permit program is responsible for significant improvements to our Nation's water quality.

U.S. EPA, National Pollutant Discharge Elimination System (NPDES), <http://cfpub.epa.gov/npdes/index.cfm> (last visited Nov. 15, 2006).

3. The EPA website defines TMDL as:

[A] calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

Water quality standards are set by States, Territories, and Tribes. They identify the uses for each waterbody, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use.

A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the waterbody can be used for the purposes the State has designated. The calculation must also account for seasonal variation in water quality.

The Clean Water Act, section 303, establishes the water quality standards and TMDL programs.

U.S. EPA, Introduction to TMDLs, <http://www.epa.gov/owow/tmdl/intro.html> (last visited Nov. 15, 2006).

4. See 40 C.F.R. § 131.2 (2005).

5. See 40 C.F.R. §§ 131.4-131.7.

even though the EPA is not bound to make any of the stakeholders' recommended changes. Despite the fact that courts will likely find such agency inaction constitutionally appropriate under the Commerce Clause,⁶ case law indicates that EPA's authority under the CWA is limited to a non-rulemaking role, with Congress giving the states the authority to adopt water quality criteria and standards.⁷

II. BACKGROUND

In 1972, Congress passed amendments to the Federal Water Pollution Control Act, a precursor to the Clean Water Act, to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."⁸ In an effort to achieve the lofty "national goal" of eliminating the discharge of pollutants into the navigable waters of the United States by 1985,⁹ Congress provided that "the [EPA] Administrator, in cooperation with the States, shall develop and publish regulations

6. U.S. CONST. art. I, § 8, cl. 3.

7. This body of case law has not addressed the larger constitutional issues and arguments. Rather it involved direct challenges to specific EPA decisions regarding the approval or disapproval of a water quality standard. See *City of Albuquerque v. Browner*, 97 F.3d 415, 425 (10th Cir. 1996) (citing *Natural Res. Def. Council, Inc. v. EPA*, 16 F.3d 1395, 1399, 1401 (4th Cir. 1993)).

8. Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251-1387).

The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this chapter—

(1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;

(2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;

(3) it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited;

(4) it is the national policy that Federal financial assistance be provided to construct publicly owned waste treatment works;

(5) it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State;

(6) it is the national policy that a major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants into the navigable waters, waters of the contiguous zone, and the oceans; and

(7) it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this chapter to be met through the control of both point and nonpoint sources of pollution.

33 U.S.C. § 1251(a) (2000).

9. *Id.* § 1251(a)(1).

specifying minimum guidelines for public participation in such processes.”¹⁰ Generally speaking, state water quality standards are composed of three elements:

(1) the classification system for state surface waters, which assigns different protected uses to different water classes [also known as designated or beneficial uses]; (2) the specific numeric or narrative water quality criteria needed to achieve that use; and (3) a general antidegradation policy, which maintains and protects water quality for the uses defined for a class.¹¹

The EPA, in a draft guidance document, analogized water quality standards to a three-legged stool with each element comprising a necessary leg to support the standard.¹² It described designated or beneficial uses as “descriptions of water quality expectations or water quality goals.”¹³ The document further stated: “A designated use is a legally recognized description of a desired use of the waterbody, such as aquatic life support, body contact recreation, [or] fish consumption, . . . that the state. . . wants the waterbody to be healthy enough to fully support.”¹⁴ The antidegradation requirements are comprised of a tiered structure to protect “waters threatened by human activities that might cause a lowering of water quality.”¹⁵ Water quality criteria:

[D]efine minimum conditions, pollutant limits, goals, and other requirements that the waterbody must attain or maintain to support its designated use(s). Criteria describe physical, chemical, and biological attributes or conditions as measurable (e.g., parts per million of a certain chemical) or narrative (e.g., no objectionable odors) water quality components.”¹⁶

The EPA further explained that states generally “must adopt the minimum federal criteria for uses such as aquatic life support, human

10. *Id.* § 1251(e).

11. HAWAII STATE DEPARTMENT OF HEALTH, HAWAII’S WATER QUALITY STANDARDS: A PUBLIC GUIDE, 2 (2001), available at <http://www.state.hi.us/health/environmental/env-planning/wqm/wqsbrochure.pdf>. Ms. Katina D. Henderson, of the Department’s Environmental Planning Office, prepared this water quality standards pamphlet as a public outreach and education tool to explain the purpose of Hawaii’s water quality standards and how Hawaii uses its standards to protect the environment. See also U.S. EPA, OFFICE OF WATER, NONPOINT SOURCE CONTROL BRANCH, HANDBOOK FOR DEVELOPING WATERSHED PLANS TO RESTORE & PROTECT OUR WATERS- DRAFT 2-13 (2005), available at http://www.epa.gov/nps/watershed_handbook/pdf/handbook.pdf.

12. U.S. EPA, OFFICE OF WATER, NONPOINT SOURCE CONTROL BRANCH, *supra* note 11, at 2-13.

13. *Id.*

14. *Id.*

15. *Id.* at 2-15.

16. *Id.* at 2-14.

health, and contact recreation unless they can demonstrate that site-specific, time-sensitive, or other criteria are appropriate to reflect the unique conditions or uses of a waterbody.”¹⁷ The EPA stated that “[n]umeric criteria for protecting aquatic life are often expressed as a concentration minimum or maximum for certain parameters and include an averaging period and frequency or recurrence interval” while at the same time stating that “narrative criteria are nonnumeric descriptions of desirable or undesirable water quality conditions.”¹⁸ Often, EPA uses the terms water quality criteria and water quality standard interchangeably causing confusion. This is because water quality “[c]riteria for protecting human health are derived from epidemiological studies and laboratory studies of pollutant exposure involving species like rats and mice.”¹⁹ As a result, one may see these criteria as the scientific backbone of the water quality standards, which set a goal for a particular waterbody based on the designated use(s) and supported by the antidegradation policy. Each water body may have a different water quality standard based on its designated uses and the water quality criteria set to protect those uses.²⁰

Pursuant to the CWA, the EPA has established a national scheme for water quality protection by establishing a procedure to approve water quality standards proposed by states, replacing them with EPA standards when necessary.²¹ It is EPA’s policy to “apply these standards equally to every state without regard to differences in environment of the various states.”²² Research done in Hawaii, the only state with a tropical climate, has produced two lines of evidence showing microbial populations behave differently in tropical environments than they do in temperate environments.²³ As a result, scientists in Hawaii have determined that EPA water quality criteria for indicator bacteria, developed from data obtained from temperate climate, are not reliable for use in Hawaii’s tropical climate.²⁴ Dr. Fujioka argued:

17. *Id.*

18. *Id.*

19. *Id.*

20. *See id.*

21. 33 U.S.C. §§ 1313-15 (2000).

22. Roger S. Fujioka, Ph.D. et al, Pacific Research Center for Marine Biomedicine, *Research Project 2: Microbial Pathogens in Tropical Coastal Waters: An Ecosystem Approach to Determine Risk and Prevent Water-Borne Diseases*, <http://www.prcmb.hawaii.edu/p2.asp> (last visited Nov. 18, 2006).

23. *Id.*

24. *See id.*; see also Stephanie N. Stotts, *Virulence and Antibiotic Resistance Gene Combinations among Staphylococcus aureus Isolates from Coastal Waters of Oahu, Hawaii*, J. YOUNG INVESTIGATORS, <http://www.jvi.org/articletools/print.php?id=148> (last visited Oct. 3, 2006) (discussing the correlation between seawater exposure and *S. aureus* infection rates and routinely finding *S. aureus* in the waters surrounding the island of Oahu).

The first line of evidence is that all streams in Hawaii contain concentrations of EPA-approved fecal indicator bacteria (fecal coliform, *E. coli*, enterococci) that exceed EPA recreational water quality standards. EPA water quality guidelines assume that fecal matter is the only significant source of these fecal indicator bacteria and when water quality standards are exceeded, that body of water is significantly contaminated with sewage and the risk for transmission of sewage borne pathogens is unacceptable. However, the tropical soil environment in Hawaii and other tropical locations (Guam, Puerto Rico, south Florida), support the growth of EPA-approved fecal indicator bacteria and they become established in soil as a significant environmental and non-fecal source of these bacteria. Rainfall washes these soil-bound fecal bacteria into streams at high concentrations, which no longer indicate degree of fecal contamination. Thus, one identified problem is the need to develop appropriate water quality standards for tropical climates. The second line of evidence that tropical climates can affect microbial populations in environmental waters is greater prevalence of three non-enteric pathogens (*Leptospira* sp, *Staphylococcus aureus*, *Vibrio* spp) in tropical waters, which cause higher incidences of water borne diseases in Hawaii than in the rest of the states. Significantly, water borne transmissions of these three pathogens are not recognized as high risk in temperate climate of continental USA and EPA has not established water quality guidelines or methods for these pathogens. As a result, the second identified problem is the need to develop methods to establish water quality guidelines for water borne transmission of these three non-enteric pathogens that occur more frequently in tropical climates.²⁵

In summary, Dr. Fujioka asserted:

[T]he two identified water quality problems in Hawaii (appropriate fecal microbial water quality standards, increased incidence of some non-enteric water borne diseases) are directly attributable to changes in microbial populations in tropical climates, and EPA policies, [direct] all states to adopt the same water quality management strategy without regard to environmental differences in different climates.²⁶

While EPA has been slow to recognize the shortcoming in its current practice for measuring beach water quality, pressure from the scientific community has caused EPA to begin considering new technology and indicators that will provide rapid measurement of beach waters.²⁷

25. Fujioka et al., *supra* note 22. Dr. Fujioka is a Professor of Public Health and Researcher at the University of Hawaii, Manoa's Pacific Research Center for Marine Biomedicine. See Pacific Research Center for Marine Biomedicine, Administration, <http://www.prcmb.hawaii.edu/participants.asp> (last visited Nov. 18, 2006).

26. Fujioka et al., *supra* note 22.

27. Alfred P. Dufour, Ph.D., Pacific Research Center for Marine Biomedicine Seminar Series, *Water Quality and Swimming-Associated Health Effects*, <http://www.prcmb.hawaii.edu/DufourSeminar.asp> (last visited Nov. 18, 2006).

III. CHALLENGING EPA WATER QUALITY STANDARDS

A. USE OF PUBLIC COMMENT AND PARTICIPATION TO CHALLENGE THE AGENCY

At issue in this article is the fact that the EPA determines what water quality standards apply in assessing the quality of the nation's waters. The EPA dictates the type of bacteria, compound, or element that states should monitor. It is important to note that once the EPA establishes numeric or narrative water quality standards for selected criteria, they are not set in stone. Rather, they are subject to a review and revision process every three years.²⁸ Section 1313(c)(2)(A) of the CWA establishes that revisions or new water quality standards shall:

[C]onsist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses. Such standards shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter...taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.²⁹

Furthermore, section 1313(c)(2)(B) provides that whenever a state reviews, revises, or adopts new water quality standards pursuant to section 1313(c)(1), it shall adopt specific numerical criteria for all toxic pollutants, and where such numerical criteria are not available, the state shall adopt criteria based on biological monitoring or assessment methods.³⁰

Since the revision process provides for public participation in the form of public hearings, the CWA falls under a form of rulemaking known as "notice-and-comment" rulemaking. "Notice-and-comment" rulemaking "requires the agency to notify the public of the proposed rule," as indicated in the requirement of public hearings, "and to consider written comments submitted by the public prior to adopting the

28. 33 U.S.C. § 1313 (c)(1) (2000).

The Governor of a State or the State water pollution control agency of such State shall from time to time (but at least once each three year period beginning with October 18, 1972) hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and adopting standards. Results of such review shall be made available to the [EPA] Administrator.

Id.

29. *Id.* § 1313 (c)(2)(A).

30. *Id.* §1313(c)(2)(B).

rule.”³¹ The Administrative Procedure Act (“APA”), enacted in 1946, governs the process of “notice-and-comment” rulemaking applicable to federal agencies.³² The APA states that a “[g]eneral notice of proposed rule making shall be published in the Federal Register, unless persons subject thereto are named and either personally served or otherwise have actual notice thereof in accordance with law.”³³ It further provides that:

The notice shall include—

- (1) a statement of the time, place, and nature of public rule making proceedings;
- (2) reference to the legal authority under which the rule is proposed; and
- (3) either the terms or substance of the proposed rule or a description of the subjects and issues involved.

Except when notice or hearing is required by statute, this subsection does not apply—

- (A) to interpretative rules, general statements of policy, or rules of agency organization, procedure, or practice; or
- (B) when the agency for good cause finds (and incorporates the finding and a brief statement of reasons therefore in the rules issued) that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest.³⁴

Like the CWA, the APA outlines a procedure and timeline for public participation.³⁵

31. BRADLEY BOBERTZ, ENVIRONMENTAL LAW INSTITUTE, PUBLIC PARTICIPATION IN ENVIRONMENTAL REGULATION 3 (1991), available at <http://www.elistore.org/Data/products/d2-03.pdf>.

32. Administrative Procedure Act, Pub. L. No. 79-404, 60 Stat. 237 (1946) (codified at 5 U.S.C. §§ 500-596 (2000)).

33. 5 U.S.C. § 553(b) (2000).

34. *Id.*

35. *See id.* §§ 553(c)-(e).

After notice required by this section, the agency shall give interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments with or without opportunity for oral presentation. After consideration of the relevant matter presented, the agency shall incorporate in the rules adopted a concise general statement of their basis and purpose. When rules are required by statute to be made on the record after opportunity for an agency hearing, sections 556 and 557 of this title apply instead of this subsection.

In light of the scientific findings in Hawaii that have determined that EPA water quality criteria standards for bacteria, developed from data obtained from temperate climate, are not reliable in tropical climates, one may wonder who this “public” that participates in the rule-making process actually is; moreover, in light of the seemingly technical or scientific requirements framed by the statute, what, if any, substantive input does such limited participation have on the process?³⁶ The CWA and APA seek to include several types of people and groups in the decision making process including: (1) common everyday citizens, some who may participate as individuals and others who organize together around some common interest³⁷ forming grassroots community groups; (2) the regulated community, which may consist of industry, agriculture, or any other person or organization whose activities would require a permit under the CWA; and (3) the scientific community and members of institutes of higher education, who have an interest in the standard from a technical perspective as well as any personal convictions they may hold regarding the impact of such governmental rule.³⁸

Due to varying interests and perspectives, government regulators composing and/or revising standards can easily become overwhelmed and quickly disregard the public comments as static or noise from “lobbyists” seeking to interfere with agency statutory directives to restore and maintain the chemical, physical, and biological integrity of the Nation's waters³⁹ and protect public health and welfare.⁴⁰ This is

(d) The required publication or service of a substantive rule shall be made not less than 30 days before its effective date, except-

(1) a substantive rule which grants or recognizes an exemption or relieves a restriction;

(2) interpretative rules and statements of policy; or

(3) as otherwise provided by the agency for good cause found and published with the rule.

(e) Each agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.

Id.

36. See Wendy E. Wagner, *Restoring Polluted Waters with Public Values*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 429, 450-55 (2000) (arguing citizen participation is discouraged by the water quality march due to the increasing the cost of participation by miring water quality programs in technical equations while artificially reducing the perceived benefits of participation, discouraging all but the most sophisticated or well-financed individual or groups from becoming involved). However, Ms. Wagner notes the growing wealth of community grassroots organizations, facilitating information exchange is leveling the technical playing field. *Id.* at 455-57. Examples of these types of organizations include the Clean Water Network and the River Network. See Clean Water Network, Home Page, <http://www.cwn.org/cwn> (last visited Nov. 19, 2006); River Network, Home Page, <http://www.rivernetwork.org> (last visited Nov. 19, 2006).

37. These common interests may include environmental protection, government accountability, and/or public health concerns.

38. See 40 C.F.R. § 25.3 (2005).

39. See 33 U.S.C. § 1251(a) (2000).

particularly easy to do when technocratic government officials, many of whom are scientists and engineers, assume they are in a better position to make important decisions due to their expertise and access to data. As a result, some states—like Hawaii—have found it is easier to ensure productive community involvement by creating an advisory group for the sole purpose of providing public input and comment into the process of water quality standard revision.⁴¹ For example, Hawaii created an advisory group composed of a variety of players reflective of the industrial, agricultural, environmental conservation, cultural, and scientific communities, as well as other state and federal agencies impacted by state standards.⁴² Such organizations act like a mini-representative government, but instead of being comprised of elected officials, they are composed of self-appointed community representatives who have the time and desire to participate in the rulemaking process.⁴³ While this may not be completely an accurate reflection of the community's interest, nor provide for the "best interest," of the community, in general it is reflective of the interested community.⁴⁴

The use of the public comment period is an effective tool to challenge the EPA during the rulemaking process, but it may not lead to the actual change or result sought because the EPA is only legally obligated to hear the public's comment on its regulations and acknowledge receipt of those comments.⁴⁵ It is not obligated to implement any of the public's suggestions, regardless of how scientifically sound or reasonable they may be. As a result, the likelihood of the public successfully using comment and participation to challenge the EPA's selection of water quality criteria or standards appears bleak and prone to the political ebb and flow of the Administration. Nonetheless, it is important for stakeholders to use this opportunity to begin a dialog with the EPA for the following reasons: (1) it is the cheapest, most

40. See Stephanie Stern, *Cognitive Consistency: Theory Maintenance and Administrative Rulemaking*, 63 U. PITT. L. REV. 589, 596-97 (2002). Often one can find state regulations and programs implementing the CWA under public health codes or within the state's department of health, although this varies state to state. For example, in Hawaii the Department of Health implements the CWA and promulgates Hawaii's administrative rules. See HAW. REV. STAT. §§ 174C-66, -67, -68 (1993 & Supp. 2005). However, in Florida, the Department of Environmental Protection implements the CWA and promulgates Surface Water Quality Standards. See FLA. STAT. ANN. §§ 403.021(10)-(11), 403.031(2), 403.067(3) (West 2002 & Supp. 2006).

41. See HAWAII DEPT. OF HEALTH, OVERVIEW HAWAII'S ENVIRONMENTAL PROTECTION PROGRAMS STRATEGIC PLAN 5, 11 (1999), <http://www.hawaii.gov/health/environmental/env-planning/goals/overview.pdf> (last visited Nov. 19, 2006). The state of Hawaii Department of Health formed a Water Quality Standards Technical Advisory Group to help in its CWA mandated tri-annual review and revision process of the State standards. *Id.*

42. See *id.*

43. See *id.* at 10-11, 18.

44. See BOBERTZ, *supra* note 31, at 20.

45. See 5 U.S.C. § 553(c)-(e) (2000).

direct means to challenge the EPA and if successful, the easiest way to facilitate change; and (2) even if the EPA resists or ignores the comments, the stakeholder has established a record that it can use to challenge the EPA in court. Litigation is costly, time consuming, and the least amicable means to facilitate change, but it is an option. If a court hears the case, it will review the rulemaking process, and likely pay special attention to the dialog of the parties during the comment and response-to-comment periods.

B. USING THE CONSTITUTION TO CHALLENGE THE AGENCY

In her book *The Clean Water Act and the Constitution*, Robin Craig explained that “[w]hile Congress’ constitutional authority to impose minimum federal requirements on water quality regulation is broad, it is not unlimited.”⁴⁶ She notes constitutional federalism is one limit.⁴⁷ Constitutional federalism “describes the balance of power created in the U.S. Constitution between centralized but limited federal government and the relatively unfettered but dispersed state governments, who have jurisdiction over, respectively, national issues and those of local import.”⁴⁸

In 1981, the U.S. Supreme Court upheld the constitutionality of the Federal Surface Mining Control and Reclamation Act (“SMCRA”) of 1977 against allegations by a Virginia mining association that claimed the Act intruded upon state regulatory authority and was therefore unconstitutional.⁴⁹ In holding the Act was a constitutional exercise in “cooperative federalism,” the Court stated, “the power conferred [on Congress] by the Commerce Clause [is] broad enough to permit congressional regulation of activities causing air or water pollution, or other environmental hazards that may have effects on more than one State.”⁵⁰ The Court further stated that in order to succeed, a claim that congressional commerce power legislation is invalid under the Tenth Amendment must satisfy *each* of the following three re-

46. ROBIN KUNDIS CRAIG, *THE CLEAN WATER ACT AND THE CONSTITUTION: LEGAL STRUCTURE AND THE PUBLIC'S RIGHT TO A CLEAN AND HEALTHY ENVIRONMENT* 93 (2004).

47. *Id.* (noting that “[t]he Commerce Clause and the Tenth Amendment undergird much federalism litigation and have interacted frequently with federal environmental law, including the Clean Water Act.”). For discussions of the Commerce Clause and the Tenth Amendment and their relation to environmental law *see generally*, Christine A. Klein, *The Environmental Commerce Clause*, 27 HARV. ENVTL. L. REV. 1 (2003); Jamie Y. Tanabe, Comment, *The Commerce Clause Pendulum: Will Federal Environmental Law Survive in the Post-SWANCC Epoch of “New Federalism”?*, 31 ENVTL. L. 1051 (2001); Lydia B. Hoover, *The Commerce Clause, Federalism, and Environmentalism: At Odds After Olin?*, 21 WM. & MARY ENVTL. L. & POL’Y REV. 735 (1997).

48. CRAIG, *supra* note 46, at 93.

49. *Hodel v. Virginia Surface Mining & Reclamation Ass’n.*, 452 U.S. 264, 268 (1981).

50. *Id.* at 282.

quirements: (1) there must be a showing that the challenged statute regulates "states as states"; (2) the federal regulation must address matters that are indisputably "attributes of state sovereignty"; and (3) it must be apparent that states' compliance with the federal law would directly impair their ability "to structure integral operations in areas of traditional functions."⁵¹ Additionally, Congress does not invade areas reserved to states by the Tenth Amendment "simply because it exercises its authority under the Commerce Clause in a manner that displaces the States' exercise of their police powers."⁵²

In 1984, the Court established a policy of administrative deference in *Chevron v. Natural Resources Defense Council* by holding that "EPA's decision to allow States to treat all of the pollution-emitting devices within the same industrial grouping as though they were encased within a single 'bubble'" was a reasonable construction of the term "stationary source" under the Clean Air Act.⁵³ The Court founded the doctrine of administrative deference upon these theoretical principles: (1) "federal agencies often have an 'intense familiarity with the history and purposes of the legislation at issue'"; (2) under separation of powers the "democratically accountable officials of the executive branch have the power to set policy, not judges"; and (3) most importantly "[i]f Congress has explicitly left a gap for the agency to fill, there is an express delegation of authority to the agency to elucidate a specific provision of the statute by regulation."⁵⁴

The Court later distinguished "environmental regulation" from "land use planning" in *California Coastal Commission v. Granite Rock Co.* holding, "[l]and use planning in essence chooses particular uses for the land," which is a local function, thus presumptively a state prerogative, while "environmental regulation, at its core, does not mandate particular uses of the land but requires only that, however the land is used, damage to the environment is kept within prescribed limits," which could be the subject of federal statute.⁵⁵

As a result, the prospect of constitutional challenges to the CWA looked bleak. Then, in 1995, a gun law case entered upon the constitutional law front and brought hope to those wishing to challenge the CWA. In *United States v. Lopez*, the Court, for the first time in nearly six decades, used the Commerce Clause as grounds to invalidate a congressional action- the Gun Free School Zones Act of 1990.⁵⁶ In *Lopez*, the defendant was convicted of possessing a firearm in a school zone in

51. *Id.* at 287-88.

52. *Id.* at 291.

53. *Chevron U.S.A. Inc. v. Natural Res. Def. Council Inc.*, 467 U.S. 837, 840 (1984).

54. Tanabe, *supra* note 47, at 1059 (citing Diarmuid F. O'Scannlain, *Remark: Current Trends in Judicial Review of Environmental Agency Action*, 27 ENVTL. L. 1, 4 (1997); *Chevron*, 467 U.S. at 843-44).

55. *California Coastal Comm'n v. Granite Rock Co.*, 480 U.S. 572, 587 (1987).

56. *U.S. v. Lopez*, 514 U.S. 549, 551-52 (1995).

violation of the federal Gun Free School Zones Act which made it a federal offense for any individual knowingly to possess a firearm at a place that the individual knew or had reasonable cause to believe was a school zone.⁵⁷ The late Chief Justice Rehnquist noted in the opinion of the court that possession of a gun in a local school zone was not an economic activity that substantially affected interstate commerce.⁵⁸ At the heart of the opinion were concerns of federalism, and the Court pointed to its decision in *NLRB v. Jones & Laughlin Steel* to emphasize that

the scope of the interstate commerce power “must be considered in the light of our dual system of government and may not be extended so as to embrace effects upon interstate commerce so indirect and remote that to embrace them, in view of our complex society, would effectually obliterate the distinction between what is national and what is local and create a completely centralized government.”⁵⁹

In its ruling, the *Lopez* Court identified three broad categories of activity that Congress may regulate under its commerce power: (1) “the use of the channels of interstate commerce”; (2) “instrumentalities of interstate commerce, or persons and things in interstate commerce, even though the threat may come only from intrastate activities”; and (3) “those activities having a substantial relation to interstate commerce.”⁶⁰ The holding in *Lopez* renewed hope for challenging the constitutionality of many federal environmental statutes such as the Clean Water Act, but any excitement was short lived.⁶¹

States seeking to prevent the EPA from forcing them to adopt a national water quality standard that they find inappropriate for their ecosystems may initially find hope in *Lopez* on the grounds that, like the Gun-Free School Zone Act of 1990 invalidated by the *Lopez* Court, federal water quality standards do not pertain to commerce or economics. Additionally, federal water quality standards “impinge upon traditional

57. *Id.* at 551-52.

58. *Id.* at 561.

59. *Id.* at 557 (quoting *NLRB v. Jones & Laughlin Steel Corp.*, 301 U.S. 1, 37 (1937)).

60. *Id.* at 558-59.

61. See Stephen M. Johnson, *United States v. Lopez: A Misstep, but Hardly Epochal for Federal Environmental Regulation*, 5 N.Y.U. ENVTL. L. J. 33, 41 (1996); Lori J. Warner, *The Potential Impact of United States v. Lopez on Environmental Regulation*, 7 DUKE ENVTL. L. & POL'Y F. 321, 341 (1997); J. Blanding Holman, IV, Note, *After United States v. Lopez: Can the Clean Water Act and the Endangered Species Act Survive Commerce Clause Attack?*, 15 VA. ENVTL. L.J. 139, 139 (1995); Peter Arey Gilbert, Note, *The Migratory Bird Rule After Lopez: Questioning the Value of State Sovereignty in the Context of Wetland Regulation*, 39 WM. & MARY L. REV. 1695, 1697 (1998); Lisa Wilson, Comment, *Substantial Effect Under Lopez: Using a Cumulative Impact Analysis for Environmental Regulations*, 11 TUL. ENVTL. L.J. 479, 487 (1998).

state functions—regulation of land and water use.”⁶² The Court struck down the statute involved in *Lopez* largely because it interfered with states rights by attempting to regulate criminal activity, an area that states have traditionally regulated.⁶³ By requiring federal permits for development, the CWA usurps local land use development discretion.⁶⁴ Congress enacted the water quality standards portion of the CWA to protect public health and the environment, not to regulate economic activity.⁶⁵ Furthermore, as outlined by the statute, it is Congressional policy to “recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter.”⁶⁶

However, under the CWA the federal government regulates “waters of the United States” to protect the navigability of these waters in addition to regulating interstate commerce throughout the nation’s waters.⁶⁷ Under the *Lopez* categories of interstate commerce, regulation of water quality affects the channels of interstate commerce and substantially affects interstate commerce by ensuring the nation’s waters are fishable and swimmable.⁶⁸ In other words, the CWA set the national goal “that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983.”⁶⁹ One could characterize both fishing and swimming as economic in nature and as having an impact on interstate commerce—from the basic sale of fish for consumption to tourism related to recreational activities. By its nature, pollution often flows interstate and, as a result, “[t]he general problem of environmental harm is often not susceptible of a local solution.”⁷⁰

Furthermore, when Courts evaluate federal water quality standards under the *Chevron* doctrine of administrative deference, the provisions again are well within the bounds of the Constitution. A court applying *Chevron* must first determine whether the statute is ambiguous.⁷¹ If the court finds Congress’s intent is clear, it must give effect to that intent.⁷²

62. Tanabe, *supra* note 47, at 1071 (citing *U.S. v. Lopez*, 514 U.S. 549, 561 (1995)).

63. *Id.* at 1071-72.

64. *Id.* at 1072.

65. *Id.*

66. 33 U.S.C. § 1251(b) (2000).

67. *Id.* § 1362(7).

68. *U.S. v. Lopez*, 514 U.S. 549, 558 (1995).

69. 33 U.S.C. § 1251(a)(2).

70. Johnson, *supra* note 61, at 44 (quoting *Pennsylvania v. Union Gas Co.*, 491 U.S. 1, 20 (1989)).

71. *Chevron v. NRDC*, 467 U.S. 837, 842-43 (1984).

72. *Id.*

If the court finds the statute is ambiguous, then it must determine “whether the agency’s answer is based on a permissible construction of the statute.”⁷³ It is clear by the direct language of the CWA that Congress intended to preempt the state’s exercise of police power over water quality in an effort to protect the nation’s waters.⁷⁴

Several Supreme Court decisions that have upheld environmental laws under Commerce Clause attack support the conclusion that the CWA is immune from Commerce Clause challenges.⁷⁵ In these opinions, the Court provided necessary “guidance regarding the nature and extent of Congress’s power to regulate pollution that has interstate effects.”⁷⁶ When the Court held that Congress, under the Commerce Clause, could prohibit surface coal miners from mining private land except with a permit and in accordance with the reclamation standards established under the SMCRA, the Court specifically stated that “the power conferred [on Congress] by the Commerce Clause [is] broad enough to permit congressional regulation of activities causing air or water pollution, or other environmental hazards that may have effects in more than one State.”⁷⁷ *Hodel v. Virginia Surface Mining & Reclamation Association* suggests that Congress has the authority to regulate water quality in an effort to prohibit pollution in the nation’s navigable waters because “water pollution creates environmental and health threats that are not confined to the discharging state, and because such discharges interfere with the channels of commerce.”⁷⁸ The *Hodel* court cited *United States v. Ashland Oil & Transportation Co.*, a Sixth Circuit Court of Appeals case, which upheld the CWA’s prohibition of discharges of pollutants into navigable waters:

[W]ater pollution is a health threat to the water supply of the nation. It endangers our agriculture by rendering water unfit for irrigation. It can end the public use and enjoyment of our magnificent rivers and lakes for fishing, for boating, and for swimming. These health and welfare concerns are, of course, proper subjects for Congressional attention because of their many impacts upon interstate commerce generally.⁷⁹

The Supreme Court, in another line of cases, provided important “guidance regarding Congress’s authority to regulate transportation

73. *Id.* at 843.

74. *See* 33 U.S.C. § 1251(a) (2000).

75. *See, e.g.* *Pennsylvania v. Union Gas Co.*, 491 U.S. 1 (1989); *New York v. U.S.*, 505 U.S. 144 (1992); *Hodel v. Virginia Surface Mining & Reclamation Ass’n*, 452 U.S. 264 (1981).

76. Johnson, *supra* note 61, at 60.

77. *Hodel*, 452 U.S. at 282.

78. Johnson, *supra* note 61, at 62-63.

79. *U.S. v. Ashland Oil & Transp. Co.*, 504 F.2d 1317, 1325 (6th Cir. 1974).

and disposal of solid, hazardous, and radioactive waste.”⁸⁰ For example, in *City of Philadelphia v. New Jersey*, the Court held that solid waste is an article of commerce, and that a state law prohibiting the disposal of most solid or liquid waste generated or collected outside of the state discriminated against interstate commerce and violated the Commerce Clause.⁸¹ In light of the *Hodel*, and the *Philadelphia* line of cases, it is unlikely that *Lopez* will have any effect on the constitutionality of the federal water quality standards established under the CWA.⁸² As a result, it seems that a constitutional challenge to section 303 of the CWA using the Commerce Clause would likely be unsuccessful.

C. FEDERALISM AND STATES AS SOCIAL LABORATORIES

Despite the existence of constitutional authority, Congress making the EPA the sole determiner of what the national water quality standard shall be creates issues. Environmentalism, the catchall term for man’s uses and impacts upon the natural world, “possesses a duality in itself when the public is told to ‘think globally and act locally’ and when there are both state and federal laws aimed at regulating how individuals may act in relation to particular areas of the environment.”⁸³ The nature of ecosystem protection makes water quality standards vulnerable to the jurisdictional complications of federalism. Dan Tarlock, in his article *Biodiversity Federalism*, outlined three reasons why federalism principles are likely to frustrate biodiversity protection.⁸⁴ Tarlock stated that federalism is “premised on the search for the optimum exclusive regulatory balance, and this can often frustrate necessary intergovernmental cooperation” for biodiversity protection.⁸⁵ He then explained that the national government must rely on state powers for biodiversity protection, primarily land use controls and water-rights administration, which are “traditionally and firmly lodged within the state and local governments.”⁸⁶ Tarlock further stated that, “the maintenance of national protection floors supplemented by states is unworkable because in contrast to air and water pollution control, there are no uniform standards that one can realistically apply to biodiversity in states as different as Alaska, Arizona and Florida.”⁸⁷

While Tarlock clearly hits upon some very persuasive and important points in his assessment of federalism’s failures in the protection of biodiversity, he is unclear as to why these same issues do not impact

80. Johnson, *supra* note 61, at 63.

81. *City of Philadelphia v. New Jersey*, 437 U.S. 617, 621-23, 628 (1978).

82. Johnson, *supra* note 61, at 65.

83. Hoover, *supra* note 47 at 746.

84. A. Dan Tarlock, *Biodiversity Federalism*, 54 MD. L. REV. 1315, 1318 (1995).

85. *Id.*

86. *Id.*

87. *Id.*

the use of federalism to control water pollution. The national goal of the CWA is to maintain fishable and swimmable waters.⁸⁸ As such, the CWA could be described as a watershed protection act. Inherent in this goal is the protection of biodiversity as well as the general health of the nation's waters. In implementing TMDLs unique for each individually listed water body under the CWA, riparian uses are curtailed and altered in an effort to control the amount of pollution entering the impaired water body.⁸⁹ This is because the program recognizes that no two water bodies are the same; they do not have the same flow rates, pollution sources, biota, or uses.⁹⁰ However, the EPA apparently fails to recognize these differences, as it uniformly applies water quality criteria across the nation. Few people, if any, would dispute that the nature of watersheds differ in states such as Alaska, Arizona and Florida, just as Tarlock correctly asserts that biodiversity does. As a result, there is a valid argument that the principles of federalism can just as easily frustrate the intergovernmental cooperation necessary for maintaining fishable and swimmable waters and interfere with traditionally and firmly lodged regulatory responsibilities of states and local governments in the area of water quality assessment and preservation. The establishment and implementation of TMDLs to reduce nonpoint sources of pollution is a testament to these frustrations. Under the CWA there are no mechanisms to force the reduction of nonpoint sources of water pollution.⁹¹ The only way such reductions can occur is with inter-agency and community/industry cooperation. The EPA's attempt to use its federal power to mandate creation of TMDL implementation plans only serves to undermine their purpose and frustrate the parties who, under more amicable non-threatening conditions, may be willing to make concessions in their business practices and community operations which would result in the reduction of pollution entering the impaired water body.

While commentators have scoffed at the notion that state and local governments can serve as meaningful and effective social laboratories in the arena of wetland protection,⁹² such criticism is misplaced. While arguably the states have acted slowly in the area of water quality improvement, historically the states have been the first line of defense in

88. 33 U.S.C. § 1251(a)(2) (2000).

89. See generally U.S. EPA, OFFICE OF WATER, NONPOINT SOURCE CONTROL BRANCH, *supra* note 11.

90. See U.S. EPA, Introduction to TMDLs, *supra* note 3.

91. *Am. Wildlands v. Browner*, 94 F. Supp 2d 1150, 1160-61 (D. Colo. 2000).

92. See Gilbert, *supra* note 61, at 1734-35 (alleging states and local governments have historically missed their opportunity to experiment and failed to effectively address wetland preservation thereby raising into question their expertise in the field. The author further states that state level experimentation lacks merit because states tend to craft remedies which suit their own interests at the expense of outsiders' interests).

water quality protection in the context of protecting public health. The understanding of the greater ecosystem impact of impaired water quality has resulted in a new awareness that has only recently received greater public attention and importance. Since each state has a unique political mode of operation, historical social composition, and hydrological and aquatic ecosystem, each state's operation as a social laboratory would be unique and different. Take for instance two states that both have tropical ecosystems: Hawaii and Florida. Hawaii established its Department of Health as the governmental agency charged with protecting water quality in addition to implementing the traditional public health programs.⁹³ Florida, on the other hand, has a Department of Environmental Protection, which is charged with water quality protection separate from its Department of Health which implements traditional public health programs.⁹⁴ As a result, each state faces different intergovernmental hurdles in implementing both its water quality and public health programs in a seamless manner.

Perhaps most important is the difference in the historical social composition of each state. Hawaii, the fiftieth state of the Union, has deep roots in its native understanding of water management system of the *ahupua'a*⁹⁵ or local watershed, while Florida faces its own unique history of the draining and management of the Everglades. As a result, each State has approached water quality protection differently. Florida has put tremendous effort into its Comprehensive Everglades Restoration Plan in an effort to correct the water quantity and flow issues which it hopes will ultimately improve water quality.⁹⁶ Conversely, Ha-

93. See HAW. REV. STAT. §§ 174C-31, -68 (1993 & Supp. 2005).

94. FLA. STAT. §§ 381.0011, 403.031(2), 403.061 (2002).

95. *Ahupua'a* is a native Hawaiian word defined in the Hawaiian Dictionary as a "[1]and division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (*ahu*) of stones surmounted by an impage of a pig (*pua'a*) or because a pig or other tribute was laid on the altar as a tax to the chief." HAWAIIAN DICTIONARY: HAWAIIAN-ENGLISH, ENGLISH-HAWAIIAN 9 (Mary Kawena Pukui & Samuel H. Elbert eds., 1986).

Ancient Hawaiian life was based around the *ahupua'a* system of land management, which evolved to protect the upland water resources that sustained human life. A typical *ahupua'a*, or land division, was wedge-shaped and extended from the mountains to the sea. As water flowed from the upland forest, down through the *ahupua'a*, it passed from the *wao akua*, the realm of the gods, to the *wao kanaka*, the realm of man, where it sustained agriculture, aqua culture and other human uses. Water was a gift from the gods, and all Hawaiians took an active part in its use and conservation.

East Maui Watershed Partnership Website, <http://eastmauiwatershed.org/Watersheds/Ahupuaa.htm> (last visited Nov. 26, 2006).

96. The official website of the Comprehensive Everglades Restoration Program explains why the Florida Everglades should be restored by noting:

Water quality throughout south Florida has deteriorated over the past 50 years. More than one-half of the wetlands that act as natural filters and retention areas are gone. Some untreated urban and agricultural storm water is sent directly to natural areas and estuaries. Too much, or too little, water is

waii has worked to re-embrace the native *ahupua'a* concept in its water quality restoration efforts under the CWA. While there is a persuasive policy argument in favor of supporting states as social laboratories against the use of federal power by the Agency in setting nation-wide criteria, such an argument is simply an academic exercise lacking the legal teeth necessary to initiate change. There is more legal strength in challenging the Agency directly with arguments that use *stare decisis* as a basis.

D. USING *STARE DECISIS* TO CHALLENGE THE AGENCY DIRECTLY

The EPA's role in formulating water quality standards is purported to be limited and it is the states that are primarily responsible for establishing water quality standards under section 303 of the CWA.⁹⁷ When states enact water quality standards, they must also submit them to the EPA's Regional Administrator to determine whether the new standard is consistent with the CWA.⁹⁸ Thus, "EPA's sole function, in this respect, is to review those standards for approval," as "Congress clearly intended the EPA to have a limited, non-rulemaking role in the establishment of water quality standards by states."⁹⁹ If the EPA determines that the standard is inconsistent with the CWA, it will disapprove the standard and notify the state of any changes necessary to gain the Agency's approval.¹⁰⁰ For example, Hawaii, in its rulemaking process, has sought to use *C. perfringens* as an indicator bacteria in assessing the water quality of the states' waters in light of Dr. Fujioka's findings.¹⁰¹ EPA Region IX resisted the use of these indicator bacteria.¹⁰² The EPA, asserting its federal power, gave cues to Hawaii that it had approved the preferred the indicator bacteria of coliform, *E. coli*, enterococci to be used as part of Hawaii's water quality standard criterion, and even though Hawaii could additionally measure for *C. perfringens*, it could only supplement EPA's established criterion.¹⁰³

often sent to estuaries. Too many nutrients are entering the Everglades, with an over abundance of cattails a visible sign of the results.

Comprehensive Everglades Restoration Program, Why Restore the Everglades- Part 4: Ecosystem Problems Center on Water, http://www.evergladesplan.org/about/why_restore_pt_04.cfm (last visited Nov. 26, 2006).

97. 33 U.S.C. §1313 (2000).

98. 33 U.S.C. § 1313(c) (2) (A).

99. *City of Albuquerque v. Browner*, 97 F.3d 415, 425 (10th Cir. 1996).

100. 33 U.S.C. § 1313(c) (3).

101. See Fujioka, *supra* note 22 (discussing the need for site-specific indicator bacteria); see also Roger Fujioka & Muruleedhara Byappanahalli, *Addressing the Needs of the Water Agencies in Hawaii, Guam, Puerto Rico, and South Florida*, at 66-68, available at <http://www.wrrc.hawaii.edu/tropicalind/Adndmdvdr61.pdf> (discussing Hawaii's request to the EPA to monitor tropical water using alternative indicators such as *C. perfringens*).

102. See Fujioka, *supra* note 22.

103. See Fujioka & Byappanahalli, *supra* note 101, at 68.

Agency approval is very important to states because of its link to federal funding.¹⁰⁴ States, such as Hawaii and Florida, which have an abundant amount of recreational and navigational waters to monitor and regulate for public health and welfare, are dependant upon federal dollars to run their programs. While one might think that, since the states are in control of setting the numerical criteria for the indicator bacteria required by EPA, it is a no brainer—the state needs simply to set the standards such that all background bacteria found ambient in the environment would not result in a violation. Unfortunately, that is easier said than done. In years before scientific findings such as Dr. Fujioka's were published and accepted, Hawaii adopted a numerical standard for enterococci which was seemingly too stringent in light of more recent findings of the amount of ambient background enterococci in the natural system.¹⁰⁵ In other words, some waters in Hawaii would always be in "violation" of the enterococci standard without any input from a wastewater treatment discharge point or other identifiable source of bacteria pollution. With the anti-backsliding policy of the CWA, states are not allowed to revise their standards to be less stringent.¹⁰⁶ Consequently, Hawaii is unable to modify its pre-existing enterococci numerical standard to reflect new science. Instead, Hawaii has sought to replace enterococci with a different indicator bacteria species to trigger a violation of the CWA.¹⁰⁷ As will later be discussed in more detail, Mississippi tried something similar in 1980, when it promulgated standards for dissolved oxygen.¹⁰⁸ The EPA found Mississippi's standards unacceptable, and its reasoning unpersuasive, and therefore usurped Mississippi's discretion, forcing the state to accept EPA-promulgated water quality standards in place of its own.¹⁰⁹

While the CWA does not require states to regulate nonpoint sources of water pollution entering into its waterbodies, it does require

104. See, e.g., Alfred R. Light, *He Who Pays the Piper Should Call the Tune: Dual Sovereignty in U.S. Environmental Law*, 4 ENVTL. LAWYER 779, 808 (1998) (outlining the case law maintaining "the legitimacy of the congressional incentives to state action," . . . "such as requiring state implementation as a condition of federal spending or threatening unilateral federal action in that area.") The incentives to state regulation often used in environmental statutes include offers of federal funding and technical assistance and the threat of direct federal regulation within a state. *Id.* at 804-05. As a result environmental statutes "rarely rely on one incentive, but usually combine several into a cumulative statutory system. Whether a particular combination of individually legitimate incentives can combine to cross the threshold into unconstitutional coercion remains to be seen." *Id.* at 808.

105. See generally Fujioka, *supra* note 22 (identifying the need to develop a new measurement standard in light of enterococci's natural presence in the region).

106. See 33 U.S.C. §1342(o) (2000).

107. MELISSA O'CONNOR-FARINAS, HAWAII DEP'T OF HEALTH, HAWAIIAN COASTAL RECREATION WATER QUALITY MONITORING & PUBLIC NOTIFICATION PROGRAM 51 (2002).

108. See *Miss. Comm'n on Natural Res. v. Costle*, 625 F.2d 1269, 1271 (5th Cir. 1980).

109. *Id.* at 1273-74.

states to designate water quality standards and identify waterbodies that fail to meet these standards.¹¹⁰ As a result, it seems Hawaii need not concern itself with violations of bacteria counts that are clearly linked to nonpoint sources of pollution where a regulated discharge point is nowhere near the violation. This sweeping assessment, however, ignores the big picture. Violations of bacteria counts result in beach closures, which result in public outcry and large economic impacts, especially in the tourism driven economies of many of the nation's beach communities. Furthermore, states cannot easily ignore waters listed as impaired due to high bacteria counts, regardless of the fact that the CWA does not mandate states to address the problem because it is nonpoint source in nature. Bacteria polluted waters will result in public outcry and bad press regardless of whether a legitimate health threat exists. Clearly, if the situation in Hawaii and other tropical environments is as presented, the EPA needs to provide for variances from an idealized and uniform national water quality standard scheme.

The Fourth Circuit Court of Appeals noted that provisions for variances are appropriate for regulatory processes, particularly for those regulations "having presumptive application throughout the nation."¹¹¹ In *Appalachian Power Co. v. Train*, the court found in favor of power companies that challenged the EPA's attempt to regulate heat in water, holding invalid the EPA's thermal backfit requirements in regulations establishing limitations on discharge of heat from electric plants into navigable waters.¹¹² The court reasoned that the Agency relied upon figures that did not indicate whether regulations would result in reasonable further progress toward eliminating water pollution.¹¹³ The court stipulated that if, on remand, the EPA could not show a benefit with certainty, the EPA must state the expected benefits for the various alternatives it considered according to whatever scientific opinion it relied on, or if the EPA could not state any expected benefits, it must state why, and cite the scientific opinion that supported such conclusion.¹¹⁴ The court set aside sections 423.13(1), 423.15(1), and 423.25(1) of the Code of Federal Regulations and instructed the EPA to "fully evaluate the total environmental impact of any subsequent regulations which it may issue, particularly with reference to water usage and its effect on the more arid regions of the Nation" in recognition of the concept that different regions of the Nation require different rules when it comes to water.¹¹⁵ The power companies also complained about the adequacy of the variance clause of the EPA provi-

110. See *Am. Wildlands v. Browner*, 94 F. Supp 2d 1150, 1161 (D. Colo. 2000).

111. *Appalachian Power Co. v. Train*, 545 F.2d 1351, 1358-59 (4th Cir. 1976).

112. *Id.* at 1363.

113. *Id.*

114. *Id.* at 1365.

115. *Id.* at 1370.

sion, alleging it was too restrictive because a variance application would only consider technical and engineering factors and excluded of economic impact and non water quality environmental impacts.¹¹⁶ The court reasoned: "Certainly the adverse non-water quality environmental impact which may result from the strict application of the agency's effluent limitations to a particular plant is as significant as the technological difficulties which may be encountered."¹¹⁷

The power companies further alleged that the use of mandated cooling towers would result in a dramatic increase in water consumption, a concern that the EPA acknowledged but dismissed during the rulemaking process "on the ground that 'much of the evaporated water would precipitate [again] through the natural water cycle.'"¹¹⁸ The court reasoned that this answer was not sufficient, and demonstrated a serious lack of concern for a balanced consideration of the total environmental impact of the regulations because "[l]ittle, if any, of the water which evaporates in [states such as Arizona and New Mexico] returns in the form of rain. Thus, any new use of water in these areas results in a net reduction in the water supply remaining available for other uses."¹¹⁹ The Fourth Circuit recognized regional differences in the area of water sciences and reasoned that the EPA should consider these differences in its regulatory rulemaking process.¹²⁰ Arguably, the EPA should also recognize differences in ecosystems in the arena of bacteria and water quality criteria and standards.

While the *Appalachian Power* holding seems promising, it applies only in the permitting arena. As alluded to earlier, if a state and the EPA do not see eye to eye on a water quality standard establishment issue, the state will have an uphill battle persuading the EPA to approve its standard, and it will likely lose the battle if it chooses to litigate the issue. Take for example, the Mississippi Commission on Natural Resources, which in 1980 sought a preliminary and permanent injunction against the enforcement of the EPA's water quality standard on the grounds that the EPA's rejection of the state standard and promulgation of a federal standard were arbitrary, capricious, and beyond EPA's authority.¹²¹ Mississippi set what it thought was an appropriate water quality standard for dissolved oxygen ("DO").¹²² The EPA notified the state that it questioned the adequacy of its DO standard.¹²³ The state sent the EPA a report justifying its standard as requested, but

116. *Id.* at 1358.

117. *Id.* at 1359.

118. *Id.* at 1369-70.

119. *Id.* at 1370.

120. *Id.* at 1369-70.

121. *Miss. Comm'n on Natural Res. v. Costle*, 625 F.2d 1269, 1271 (5th Cir. 1980).

122. *Id.* at 1273.

123. *Id.*

the EPA found Mississippi's justification unpersuasive.¹²⁴ Mississippi reconsidered its standard, decided the standard was in the public interest, and remained steadfast in its application.¹²⁵ EPA, finding this action insufficient, promulgated a replacement standard.¹²⁶ The court outlined the statutory framework and legislative history of the CWA, beginning in 1965 when "Congress gave the states primary authority to set water quality standards" because it was "[c]oncerned that federal promulgation would discourage state plans for water quality and 'would place in the hands of a single Federal official the power to establish zoning measures over—to control the use of—land within watershed areas' throughout the nation...."¹²⁷ Congress nonetheless stipulated that states submit standards and plans to the Federal Administrator to ensure their consistency with the CWA's provisions, and if a state did not adopt complying standards, the Administrator would promulgate the water quality uses and criteria.¹²⁸ The focus of the CWA at that time was on the "tolerable effects rather than the preventable causes of water pollution."¹²⁹ In an effort to strengthen the CWA's effectiveness in reaching the national goal of eliminating discharge of pollutants into water by 1985, Congress established the NPDES program, making it illegal to discharge pollutants without a CWA permit.¹³⁰ The Senate version of the amendments in section 302 of the CWA utilized water quality standards as a way to measure the NPDES permit program's effectiveness, while the House added section 303 to continue the use of state water quality standards.¹³¹ However, "[t]he Conference Committee adopted section 302 of the Senate bill after deleting all reference to state authority."¹³² The court, describing the procedure of the CWA as passed, noted: "states promulgate water quality standards, which are submitted to EPA for approval. EPA can promulgate standards if the state does not set standards consistent with the [CWA] or whenever EPA determines that another 'standard is necessary to meet the requirements of [the Act].'"¹³³ As a result, the Fifth Circuit Court of Appeals affirmed the District Court's finding that: (1) the EPA did not exceed its statutory authority in disapproving that state water quality standard; (2) it was within the scope of the Administrator's authority to promulgate a substitute standard; and (3) the EPA criteria was not a clear error in judgment and was not arbitrarily or

124. *Id.* at 1274.

125. *Id.*

126. *Id.*

127. *Id.* at 1272.

128. *Id.*

129. *Id.* (citing *EPA v. Cal. Water Res. Control Bd.*, 426 U.S. 200, 202 (1976)).

130. *Id.*

131. *Id.*

132. *Id.*

133. *Id.*

capriciously promulgated.¹³⁴ In so holding, the court reasoned that although Congress placed primary authority for establishing water quality standards with the states, the states do not have “unreviewable discretion to set water quality standards.”¹³⁵ Rather, EPA has the “final voice on the standard’s adequacy.”¹³⁶ The court rationalized its support of the trampling of states’ rights and the prospect of states as laboratories by noting:

Although the designation of uses and the setting of criteria are inter-relating chores, the specification of a waterway as one for fishing, swimming, or public water supply is closely tied to the zoning power Congress wanted left with the states. The criteria set for a specific use are more amendable to uniformity.¹³⁷

While the court may have had the best of intentions to ease the administration of such a large and cumbersome program in an effort to meet the lofty and admirable goals of the CWA, it speaks of uniformity as if the nation is a uniform body with uniform ecosystems and uniform waterways. Such talk does not allow for the reality that the ecosystems and waterways of this vast nation are diverse. As a result, the court’s interpretation of the CWA places the authority to decide what is an appropriate water quality standard and criteria in the hands of one federal administrator—the very thing that the original drafters of the CWA feared.

More recently, in 1993 the city of Albuquerque challenged the EPA’s approval power over water quality standards. In *City of Albuquerque v. Browner*, the city brought action under the APA and the Declaratory Judgment Act.¹³⁸ The City challenged EPA’s approval of water quality standards set by Isleta Pueblo, an Indian tribe recognized as a state under the CWA, on the grounds that (1) the EPA failed to follow the required procedures of the APA, and misinterpreted two provisions of the CWA in approving the standards, and that the approved standards were unconstitutional, (2) the EPA failed to provide a mechanism to resolve the unreasonable consequences arising when a state and a tribe impose different water quality standards on the same body of water, and (3) that the tribe’s water quality criteria were without any rational scientific basis and should not have been approved.¹³⁹ The District Court held that under the APA: (1) the EPA was not required to give public notice and provide for comment prior to approving water quality standards of the tribe; (2) the EPA properly implemented

134. *Id.* at 1277-78.

135. *Id.* at 1275.

136. *Id.*

137. *Id.* at 1276.

138. *City of Albuquerque v. Browner*, 865 F. Supp. 733, 736 (D. N.M. 1993).

139. *Id.*

the CWA section authorizing the EPA to treat Indian tribes as states when the EPA determined that the CWA's section preserving state's rights to impose standards or limits more stringent than those imposed by federal government applied to tribes as well as states; (3) EPA, in recognizing ceremonial use standards in connection with the approval of the tribe's water quality standards, did not violate the establishment clause; and (4) EPA's approval of water quality standards set by the tribe would be upheld, despite the City's claim that the standards were unattainable.¹⁴⁰ The Court of Appeals affirmed this holding on de novo review.¹⁴¹

The New Mexico District Court reasoned that "EPA provides states with substantial guidance in drafting water quality standards," pointing to section 304(a) of the CWA, which "requires EPA to develop criteria for water quality that reflect the latest scientific knowledge, and to provide those criteria to the states as guidance."¹⁴² The court further asserted that "the states are free to draw upon EPA's recommended water quality criteria, but are equally free to use other criteria for which they have sound scientific support."¹⁴³ If the EPA concludes that the state's water quality standards are inconsistent with the CWA, it must notify the state within ninety days specifying the necessary changes in order to bring the proposed standards into compliance.¹⁴⁴ If the state fails to adopt the recommended changes, EPA will propose a federal water quality standard under 33 U.S.C. § 1313(c)(4)(A).¹⁴⁵

While the court stated that the City raised "realistic technical concerns" to support its argument that the tribe's water quality standards were unattainable, it found that "[t]he EPA reviews proposed water quality standards only to determine if they are stringent enough to protect the proposed water quality standards," and that the agency "does not believe it is authorized to reject proposed standards because they are more stringent than background levels."¹⁴⁶ The court further upheld a finding that "EPA lacks the authority to reject stringent standards on the grounds of harsh economic or social effects."¹⁴⁷ The record reflected that the EPA had suggested to the tribe that they consider a relaxation of the standards during low flow periods.¹⁴⁸ The tribe responded that its people use the river more intensively for ceremonial purposes during low flows, and that those ceremonies involve con-

140. *Id.* at 739-42.

141. *City of Albuquerque v. Browner*, 97 F.3d 415 (10th Cir. 1996).

142. *City of Albuquerque*, 865 F. Supp. at 738 (citing 33 U.S.C. §1314(a)).

143. *Id.* at 738 (citing 48 Fed.Reg. 51,400, 51,411 (1983)).

144. *Id.* at 739.

145. *Id.*

146. *Id.* at 741.

147. *Id.* (citing *Homestake Mining Co. v. EPA*, 477 F. Supp. 1279, 1283 (D. S.D. 1979)).

148. *Id.*

sumption of the water necessitating stringent standards, and as a result “it would be particularly inappropriate to relax standards at those times.”¹⁴⁹

In upholding the EPA’s decision, the court noted that the City raised “some very troubling issues” because the EPA appears inconsistent in its position regarding water quality standards of downstream states. The court stated that:

EPA will impose this stringent limit on the City despite the fact that arsenic occurs naturally in Albuquerque’s ground water at relatively high levels and is not discharged to the water by industrial polluters. If pure water is discharged at the City’s outfall, it is possible that the arsenic levels in water flowing through the Pueblo will remain relatively high.¹⁵⁰

This is the very issue raised by scientists in Hawaii to support their position that use of enterococci as an indicator bacteria is inappropriate for tropical environments because enterococci is naturally occurring in the soils just like arsenic occurs naturally in Albuquerque’s ground water.¹⁵¹ As a result, enterococci as an indicator bacteria for tropical environments does not accurately measure the health threat posed by sewage present in water, just as the stringent arsenic standard may be unattainable and not accurately reflect arsenic discharge into the river by the City. The District Court in *City of Albuquerque v. Browner* recognized this quandary regarding the application of rigid standards, but did nothing to reconcile the issue, nor did it instruct EPA to do so. The Tenth Circuit Court of Appeals did not discuss his issue on appeal.

The EPA’s role in formulating water quality standards is purportedly limited—the states are primarily responsible for establishing water quality standards under section 303 of the CWA. When states enact water quality standards, they must also submit them to EPA’s Regional Administrator to determine whether the new standard is consistent with the CWA.¹⁵² This understanding is reflective of the Tenth Circuit Court of Appeals’ 1996 determination that “EPA’s sole function, in this respect, is to review those standards for approval,” as “Congress clearly intended the EPA to have a limited, non-rulemaking role in the establishment of water quality standards by states....”¹⁵³ In 1976, the Fourth Circuit cited this appreciation for the need of malleability in the regulatory process when it explained, in *Appalachian Power*, that variances are appropriate particularly for “regulations hav-

149. *Id.*

150. *Id.* at 742.

151. See Fujijoka, *supra* note 22.

152. See 33 U.S.C. § 1313(c)(2)(A) (2000).

153. *City of Albuquerque v. Browner*, 97 F.3d 415, 425 (10th Cir. 1996).

ing presumptive applicability throughout the nation.”¹⁵⁴ The *Appalachian Power* court reasoned that when the EPA seeks to implement a policy of strict application of its regulations, it should consider non-water quality environmental impacts such as technological difficulties and economics.¹⁵⁵ However, the Fifth Circuit in 1980 ignored the wisdom of the *Appalachian Power* decision—that diversity in regulatory programs is necessary and appropriate—rather, the Fifth Circuit stated that water quality criteria set for a specific use are “more amendable to uniformity.”¹⁵⁶ In so concluding, it upheld EPA’s authority to promulgate a federal water quality standard in place of a standard promulgated by the state when the Administrator finds the state standard inconsistent with the CWA and the state’s justification for the standard unpersuasive.¹⁵⁷ Ironically, the court ordered the decision after detailing the legislative history of the CWA. The court noted that Congress gave the states primary authority to set water quality standards because Congress was “[c]oncerned that federal promulgation...‘would place in the hands of a single Federal official the power to...control the use of...land within watershed areas’....”¹⁵⁸ The Fifth Circuit ignored their own recitation of the CWA’s history, pointing to the fact that the Conference Committee, in adopting amendments providing for the NPDES permit program, deleted reference to state authority in the water quality standard adoption scheme.¹⁵⁹ In 1993, the New Mexico District Court noted that “[s]tates are free to draw upon EPA’s recommended water quality criteria, but are equally free to use other criteria for which they have sound scientific support.”¹⁶⁰ In upholding the EPA’s approval of an Indian tribe’s very stringent standard against challenges by the City of Albuquerque, the court acknowledged a dilemma in the application of rigid standards that raised “technical concerns” of attainability, but neither acted to reconcile the issue nor instructed the EPA to do so.¹⁶¹ Without reconciling issues of attainability, the Tenth Circuit Court of Appeals affirmed that “EPA’s sole function, in this respect, is to review those standards for approval,” as “Congress clearly intended the EPA to have a limited, non-rulemaking role in the establishment of water quality standards by states.”¹⁶² This position appears to conflict with the Fifth Circuit Court of Appeals’ interpretation of the CWA, but supports the Fourth Circuit’s interpretation that the role of establishing water quality standards is a function of the state. As

154. *Appalachian Power Co. v. Train*, 545 F.2d 1351, 1358-59 (4th Cir. 1976).

155. *Id.* at 1359.

156. *Miss. Comm’n on Natural Res. v. Costle*, 625 F.2d 1269, 1276 (5th Cir. 1980).

157. *Id.* at 1274.

158. *Id.* at 1272.

159. *Id.*

160. *City of Albuquerque v. Browner*, 865 F.Supp. 733, 738 (D.N.M. 1993).

161. *Id.* at 741-42.

162. *City of Albuquerque v. Browner*, 97 F.3d 415, 425 (10th Cir. 1996).

a result, a state seeking to promulgate a water quality standard that the EPA resists may succeed under the Fourth and Tenth Circuits' reading of the EPA's authority under the CWA, given the legislative intent for states to have authority in water quality standard adoption.

IV. CONCLUSION

Water quality standards set the basis of nearly *all* CWA programs. These programs include active public involvement in their execution and implementation, with water quality standards serving as the core basis of these programs. These standards determine what constitutes a pollution problem and what constitutes a health impact. Although the EPA may desire to be the sole determiner of this critical element, it is not.

There are many opportunities to challenge EPA's authority. The use of the public comment period is an effective tool to challenge the EPA during the rulemaking process, but may not lead to the actual change or result sought because the Agency is only legally obligated to hear the public's comment on its regulations and acknowledge receipt of these comments. It is not obligated to implement any of the public's suggestions, regardless of how scientifically sound or reasonable they may be. As a result, using public comment and participation to challenge the Agency's selection of water quality standards and influence change looks bleak and very prone to the political ebb and flow of the Administration. Nonetheless, it is important for stakeholders to use this opportunity to begin a dialogue with the Agency for the following reasons: (1) it is the cheapest, most direct means to challenge EPA and, if successful, the easiest way to facilitate change; (2) even if comments are met with resistance and ignored by the Agency, the stakeholder has established a record that it can use in court to challenge the Agency. Litigation is costly, time consuming, and the least amicable means to facilitate change, but it is an option. If a court hears the case, it will look over the rulemaking process and likely pay special attention to the dialogue of the parties during the comment and response to comment periods.

The Constitution is another tool with which to challenge the Agency's authority to establish nationwide standards by referring to the role of federalism and states as social laboratories. While it is clear by the language of the CWA that Congress intended to preempt states' exercise of police power over water quality in an effort to protect the nation's waters, it is also clear that by requiring federal permits for development, the CWA usurps local land use development discretion. Congress enacted the water quality standards portion of the CWA largely to protect public health and the environment, not to regulate economic activity:

It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of states to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter.¹⁶³

However, under the CWA the federal government regulates “waters of the United States” in an effort to protect the navigability of and interstate commerce on the nation’s waters.¹⁶⁴ Under the *Lopez* categories of interstate commerce,¹⁶⁵ regulation of water quality affects the channels of interstate commerce and substantially affects interstate commerce by ensuring the nation’s waters are fishable and swimmable. Both fishing and swimming can be characterized as economic in nature and impacting interstate commerce—from the basic sale of fish for consumption to tourism related to recreational activities. Additionally pollution, by its nature, often flows interstate and as a result “[t]he general problem of environmental harm is often not susceptible of a local solution.”¹⁶⁶

Furthermore, when the federal water quality standards are evaluated under the *Chevron* doctrine of administrative deference, the provisions again are well within the Constitution limits. It is clear by the language of the CWA that Congress intended to preempt the state’s exercise of police power over water quality in an effort to protect the nation’s waters.

Several Supreme Court decisions upholding environmental laws against Commerce Clause challengers support the conclusion that the CWA is immune from these types of challenges.¹⁶⁷ In these opinions, the Court provided necessary “guidance regarding the nature and extent of Congress’s power to regulate pollution that has interstate effects.”¹⁶⁸ The Court specifically stated in *Hodel* that “the power conferred [on Congress] by the Commerce Clause [is] broad enough to permit congressional regulation of activities causing air or water pollution, or other environmental hazards that may have effects in more than one State.”¹⁶⁹ Since water pollution creates environmental and health threats that are not confined to the discharging state, these discharges may interfere with the channels of commerce. In light of the

163. 33 U.S.C. § 1251(b) (2000).

164. 33 U.S.C. § 1251(a)(6).

165. *U.S. v. Lopez*, 514 U.S. 549, 554-59 (1995).

166. *Johnson*, *supra* note 61, at 44 (quoting *Pennsylvania v. Union Gas Co.*, 491 U.S. 1, 20 (1989)).

167. *See New York v. U.S.*, 505 U.S. 144 (1992); *Hodel v. Virginia Surface Mining & Reclamation Ass’n*, 452 U.S. 264 (1981).

168. *Johnson*, *supra* note 61, at 60.

169. *Hodel*, 452 U.S. at 282.

stare decisis precedential effect of *Hodel* and the *Philadelphia* line of cases, *Lopez* may have little effect on the constitutionality of the federal water quality standards established under the CWA. As a result, using the Commerce Clause to challenge the constitutionality of section 303 of the CWA is not likely to succeed.

The application of *stare decisis* is probably the most efficient yet uncertain way to challenge the Agency in its effort to apply nationwide water quality standards. The body of case law has not addressed the larger constitutional issues and arguments. Instead, it has directly challenged specific EPA decisions regarding the approval or disapproval of a water quality standard or variance. This appears to indicate that "EPA's sole function, in this respect, is to review those standards [proposed by the states] for approval," as "Congress clearly intended the EPA to have a limited, non-rulemaking role in the establishment of water quality standards by states...."¹⁷⁰ While the Fifth Circuit Court of Appeals does not appear to support this interpretation of the CWA, the Fourth and Tenth Circuits have held that the role of establishing water quality standards is a function of the state. As a result, a state seeking to promulgate a water quality criterion or standard that is met with resistance by EPA may succeed under the Fourth and Tenth Circuits' reading of EPA's authority under the CWA given the legislative intent for states to be given authority in adoption of water quality standards. Such states can supplement their legal position with a persuasive policy argument supporting states as social laboratories. Inherent in the goals of the CWA is the protection of biodiversity and the general health of the nation's waters. At times, the CWA recognizes the uniqueness and diversity of the nation's ecosystems and waterways, such as in the implementation of its TMDL program. This program recognizes that no two water bodies have the same flow rates, biota, or uses. However, the goal of uniform water quality criteria and standards for the nation's waters unfortunately overlooks these varying ecological factors.

170. *City of Albuquerque v. Browner*, 97 F.3d 415, 425 (10th Cir. 1996).