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# Toward Regional Governance in Environmental Law

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# TOWARD REGIONAL GOVERNANCE IN ENVIRONMENTAL LAW

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Since the passage of major pollution control statutes in the early 1970s, including such iconic regulatory programs as the Clean Air Act ("CAA")[1] and the Clean Water Act ("CWA"),[2] we have learned quite a lot about environmental problems and how they may be addressed in

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1. 42 U.S.C. §§ 7401-7671q (1990).
2. 33 U.S.C. §§ 1251-1387 (1991).

effective and efficient ways. Of course, there is still much that we do not know, and much of what we think we know about environmental problems is mostly contingent and provisional: the things that seem clear to us now may be decidedly less clear in the future. Indeed, the provisional quality of our knowledge is one of the defining characteristics of our relationship to natural systems and environmental law: both are full of surprises and unexpected and unintended consequences.[3]

One thing that does seem clear, however, is that the iconic statutes of the 1970s are built on premises that no longer obtain. This is not to suggest that these statutory programs have not adapted to the changing character of environmental problems, nor that these programs have not performed tolerably well over the last forty years. A case can be made, despite their outmoded foundations, that our 1970s-vintage regulatory programs have been remarkably successful in addressing complex, difficult environmental problems.[4] But we can, and should, do better.

To nudge environmental law in the direction of smarter and more effective problem-solving, it would be wise to take a hard look at existing policies and regulatory tools. There is much good work that has been done on that front. Creative, innovative thinking and implementation have shown that careful use of market mechanisms, information sharing, and more traditional standard-setting tools can be used effectively to address environmental issues. Whether and under what circumstances these tools can effectively be deployed involve questions that have been, and continue to be, much debated. Contributions to the debate have been important and significant. At the same time, a singular focus on policy instruments and regulatory tools

3. *See generally* DANIEL B. BOTKIN, DISCORDANT HARMONIES: A NEW ECOLOGY FOR THE TWENTY-FIRST CENTURY (1990). For views of environmental law that emphasize the complexity, uncertainty, and unintended consequences of natural systems, see Craig Anthony Arnold, *Fourth-Generation Environmental Law: Integrationist and Multimodal*, 35 WM. & MARY ENVTL. L. & POL'Y REV. 771 (2011); Bradley C. Karkkainen, *Collaborative Ecosystem Governance: Scale, Complexity, and Dynamism*, 21 VA. ENVTL. L. J. 189 (2002); J. B. Ruhl, *Thinking of Environmental Law as a Complex Adaptive System: How to Clean Up the Environment By Making a Mess of Environmental Law*, 34 HOUS. L. REV. 933 (1997); Mary Jane Angelo, *Harnessing the Power of Science in Environmental Law: Why We Should, Why We Don't, and How We Can*, 86 TEX. L. REV. 1527 (2008); A. Dan Tarlock, *The Nonequilibrium Paradigm in Ecology and the Partial Unraveling of Environmental Law*, 27 LOY. L.A. L. REV. 1121 (1994); Jonathan Baert Wiener, *Law and the New Ecology: Evolution, Categories, and Consequences*, 22 ECOLOGY L.Q. 325 (1995).

4. For some indicators of the success of the CWA and CAA, see U.S. EPA, OFFICE OF AIR AND RADIATION, THE BENEFITS AND COSTS OF THE CLEAN AIR ACT FROM 1990 TO 2020, SUMMARY REPORT (Mar. 2011), *available at* http://www.epa.gov/air/sect812/feb11/summaryreport.pdf; William L. Andreen, *Water Quality Today – Has the Clean Water Act Been a Success?*, 55 ALA. L. REV. 537 (2004).

fails to address more fundamental issues. It is also important to critically examine the institutional arrangements that the regulatory programs have created and fostered. As Professors Freeman and Farber have argued, "although it is important to choose the right regulatory tools, it is equally crucial to design the optimal institutional arrangements for deploying them."[5] And here, too, there has been much innovative thinking and corresponding debate.

The focus of this article is on the latter, institutional side of environmental regulation and management. In what follows, I hope to stimulate serious discussion directed at re-imagining what effective institutions for environmental protection and management might look like. I have chosen to use the term "regional governance" as an organizing theme. At its core, a regional approach re-imagines how national and local interests interact, unfettered by notions of dual sovereignty and federalism that continue to plague our thinking about environmental governance. The regional approach I advocate here refuses to privilege the states as presumptively appropriate partners with the national government in managing the complex environmental problems we must address. Instead, environmental management should be viewed more as a means of giving voice, rather than authority, to shifting aggregations of sub-national interests and institutions.

This article will proceed in three parts. Part I provides a brief introduction to the structured institutional arrangements under the CAA and the CWA. I discuss how these programs have evolved in ways that depart from what may have been originally anticipated and how their structure poses impediments to effective environmental management. Part II provides a short summary of current thinking about the institutional architecture of our environmental programs, focusing primarily on the "environmental federalism" scholarship of recent years. I offer reasons for abandoning federalism as an appropriate institutional framework. Part III presents a conceptual, rather than tightly engineered, argument for regional governance institutions, which I call Regional Environmental Management Agencies ("REMAs"). I speculate about the benefits of such institutions and provide a rough architectural rendering of how such institutions might be structured and the powers they may exercise. The argument is provisional. I make no claim to have comprehensively identified the issues that may arise in restructuring institutions along regional lines, nor do I claim to have

5. Jody Freeman & Daniel A. Farber, *Modular Environmental Regulation*, 54 DUKE L.J. 795, 823 (2005).

fully grasped the range of costs, benefits, and difficulties that might result.

## I. COOPERATIVE FEDERALISM, INSTITUTIONAL DESIGN, AND PROBLEMS OF OVER-CENTRALIZATION AND DECENTRALIZATION: THE CLEAN AIR ACT AND CLEAN WATER ACT

The institutional arrangements under both the CAA and the CWA are experiments in cooperative federalism, creating partnerships between the states and the national government.[6] Although the respective programs differ in significant respects, both involve a sharing arrangement in which regulatory authority is divided between EPA and the states. These arrangements reflect both practical considerations and constitutional limits placed on Congress's authority to mandate state participation in federal regulatory programs.[7] They are also deeply steeped in a loose commitment to "dual sovereignty" or "dual federalism," in which program responsibilities are conceived in terms of distinct, yet integrated spheres of authority as between the national government and the states.[8] State roles are typically based on accepted,

6. *See, e.g.*, Bethlehem Steel Corp. v. Gorsuch, 742 F.2d 1028, 1036-37 (7th Cir. 1984) (describing the CAA as a "partnership between the states and the federal government" and as "an experiment in federalism"); Arkansas v. Oklahoma, 503 U.S. 91, 101 (1992) ("The Clean Water Act anticipates a partnership between the States and the Federal Government, animated by a shared objective: 'to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.'") (*quoting* 33 U.S.C. § 1251(a)); *see* Robert V. Percival, *Environmental Federalism: Historical Roots and Contemporary Models*, 54 MD. L. REV. 1147, 1174-76 (1995) (describing cooperative federalism model in environmental law).

7. For discussion, see Erin Ryan, *Federalism at the Cathedral: Property Rules, Liability Rules, and Inalienability Rules in Tenth Amendment Infrastructure*, 81 U. COLO. L. REV. 1 (2010); Philip J. Weiser, *Towards a Constitutional Architecture for Cooperative Federalism*, 79 N.C. L. REV. 663 (2001).

8. Robert Schapiro describes "dual federalism" as "the concept that the state and national governments enjoy exclusive and non-overlapping spheres of authority." Robert A. Schapiro, *Toward a Theory of Interactive Federalism*, 91 IOWA L. REV. 243, 246 (2005). As Professor Schapiro notes, however, dual federalism no longer provides an accurate portrait of how power is allocated in our nation. *Id.* Instead, as Professor Greve argues, "American federalism has become an administrative, 'cooperative federalism': state and local governments administer and implement federal programs." Michael S. Greve, *Against Cooperative Federalism*, 70 MISS. L.J. 557, 558 (2000). Nonetheless:

> the conceptual framework remains pervasive in theory and doctrine. Dual federalism defined the core issue of federalism as the separation of state and national power. The rigid boundary that dual federalism sought to erect has disappeared, but the basic conception of federalism continues to be a system of independent national and state governments that must be protected from each other. Federalism remains an exercise in line-drawing. . . . Dualist conceptions survive, even after dual federalism has withered away.

Schapiro,*supra* note 8, at 246. The structure of our major environmental programs, such as the

but ill-defined notions of functions deemed by tradition to "belong" to state and local governments, such as land use controls.[9] State participation in these programs is not, in theory, compelled by federal law; the states may choose to assume some responsibility for program administration or may leave that responsibility to EPA or other responsible federal agencies.[10] Accordingly, despite widespread State participation in the implementation of the CAA and CWA, these programs are of a distinctly national character.[11]

An important feature of both the CAA and CWA is that, in general, the federal standards promulgated under these programs are both national in scope and do not preempt state regulatory efforts entirely. At the national level, the CAA and CWA generally establish minimum standards, or "regulatory floors."[12] The states may choose to adopt more stringent standards,[13] but there are important exceptions.[14] A number of states have adopted more stringent regulatory standards,[15] but a few have

CAA and CWA, reflect this "dualist conception," and it is these vestigial remnants of dual federalism in our environmental programs that I argue need critical re-examination and reform.

9. For example, the Clean Water Act provides that "[i]t is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, [and] to plan the development and use . . . of land and water resources." 33 U.S.C. §1251(b) (2006). Similarly, the Clean Air Act provides: "that air pollution prevention . . . and air pollution control at its source is the primary responsibility of States and local governments . . . ." 42 U.S.C. § 7401(a)(3) (2006).

10. 42 U.S.C. § 7410 (1990).

11. The programs also contemplate shared enforcement responsibilities between state and federal authorities, supplemented by provisions for citizen enforcement. *See* Clean Air Act, 42 U.S.C. §§ 7410(a)(2)(C), 7413, 7604 (2006); Clean Water Act, 33 U.S.C. §§ 1319, 1342(b)(7), 1365 (1990).

12. On "regulatory floors," see William W. Buzbee, *Asymmetrical Regulation: Risk, Preemption, and the Floor/Ceiling Distinction*, N.Y.U. L. REV. 1547 (2007).

13. For the CAA, see, for example, Union Electric Co. v. EPA, 427 U.S. 246, 264-65 (1976) (states may adopt more protective air quality regulations so long as federal "minimum conditions" are met). On the CWA, see Pud No. 1 v. Wash. Dep't of Ecology, 511 U.S. 700, 705 (1994) (CWA "allows States to impose more stringent water quality controls"). The CAA and CWA include broad non-preemption provisions. *See* 42 U.S.C. § 7416 (1977); 33 U.S.C. § 1370 (1972).

14. The most important exception relates to regulation of motor vehicles. For a discussion of the CAA's intricate regulatory program for motor vehicles, see Patrick Schlesinger & Michael J. Horowitz, *Regulation of Mobile Sources: Motor Vehicles and Nonroad Engines*, *in* CLEAN AIR ACT HANDBOOK 279-80 (Robert J. Martineau, Jr. & David P. Novello eds., 1998); ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 517-51 (6th ed. 2009); Ann E. Carlson, *Iterative Federalism and Climate Change*, 103 NW. U. L. REV. 1097, 1108-27 (2009).

15. The most prominent example is California's efforts to impose more stringent emissions limitations on motor vehicles than are required by federal standards. *See, e.g.*, Kirsten H. Engel, *Harnessing the Benefits of Dynamic Federalism in Environmental Law*, 56 EMORY L.J. 159, 171-72 (2006). For general discussion of how states may produce more stringent environmental regulation, see DAVID VOGEL, TRADING UP: CONSUMER AND ENVIRONMENTAL REGULATION IN A GLOBAL ECONOMY (1995); Richard L. Revesz, *Federalism and Environmental Regulation: A Public Choice*

placed "regulatory ceilings" on state implementing agencies, precluding those agencies from adopting standards that are more stringent than the federal floors.[16] The non-preemption commitments in the CAA and CWA may provide space for a dynamic regulatory regime in which innovative techniques and policies can flow from the bottom up, rather than from the top down.[17] On the other hand, national standards may promote complacence; many states may adopt a singular focus on meeting national mandates, precluding critical evaluation of what may be best suited to address specific, and more local, environmental needs.

The experiences under the CAA and CWA, respectively, demonstrate that the division of regulatory labor as between the federal government and the states is neither static nor entirely predictable. As I will illustrate below, the experience under the CAA has been paradoxical. On the one hand, there has been a gradual, but ultimately dramatic, decline in the role states generally play in protecting local air resources. On the other hand, the states have played, and continue to play, a primary role in controlling interstate air pollution. Experience under the CWA has followed a similar, but distinct evolutionary path. States now play a rather marginalized role in determining how pollution from existing, local point sources should be controlled, but play a dominant role in ensuring that water quality is protected, even in interstate waters and in cases involving discharges from federally permitted projects. The latter roles of the states have now become central to the overall success of the CWA's regulatory program, representing a fairly dramatic shift from the underlying premises of the program. The large scale shifts in the respective responsibilities of the national and state governments under both the CWA and CAA support a careful reevaluation of the programs' institutional arrangements.

*Analysis*, 115 HARV. L. REV. 553, 585-614 (2001).

16. *See, e,g.*, Iowa Code § 459.311 (West 2013) (prohibiting Iowa Department of Natural Resources from adopting rules governing concentrated animal feeding operations that are more stringent than federal requirements). *See generally* Jerome M. Organ**,** *Limitations on State Agency Authority to Adopt Environmental Standards More Stringent Than Federal Standards: Policy Considerations and Interpretive Problems*, 54 MD. L. REV. 1373, 1387-90 (1995).

17. *See, e.g.*, William W. Buzbee, *Brownfields, Environmental Federalism, and Institutional Determinism*, 21 WM. & MARY ENVTL. L. & POL'Y REV. 1, 41 (1997) (describing how states, as "first innovators in efforts to rehabilitate Brownfield sites," influenced the shape of federal Brownfields policies). For a general discussion of how states may contribute to the shape of national policy, see Robert A. Schapiro, *Toward a Theory of Interactive Federalism*, 19 IOWA L. REV. 243, 288 (2005) ("The different governments can learn from each other. They can sharpen their understanding of how best to define and to implement important governmental safeguards.").

### *A. The Clean Air Act and the Paradox of State Authority*

The Clean Air Act's program of cooperative federalism is complex, but its core lies in the relation between Sections 109[18] and 110,[19] which provide for state implementation plans ("SIPs") to secure compliance with federally-promulgated national ambient air quality standards ("NAAQS"). The NAAQS govern "criteria" pollutants, which currently include ozone, particulate matter, sulfur dioxide, carbon monoxide, nitrogen dioxide, and lead.[20] The CAA directs EPA to promulgate NAAQS that are "requisite to protect the public health" and "public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant[s] in the ambient air."[21] The resulting standards are, in theory, national in scope and uniform.[22] In practice, however, this uniformity is tempered by two factors: (1) the applicable "attainment date" to which an area is subject; and (2) an anti-degradation program, known as the Prevention of Significant Deterioration ("PSD") program, that requires areas to maintain air quality that exceeds that required by the NAAQS.[23] The NAAQS must be reviewed by EPA, and revised if necessary, no less than every five years.[24]

As originally conceived, the role of the states in the NAAQS program was to select which existing sources of pollutants to regulate and how to regulate them.[25] Indeed, the CAA provides "that air pollution prevention . . . and air pollution control at its source is the primary responsibility of States and local governments."[26] That commitment is, however, hedged; "new sources" are subject to

18. 42 U.S.C. § 7409 (1977).

19. 42 U.S.C. § 7410 (1990).

20. For information on the NAAQS, see generally *Technology Transfer Network: National Ambient Air Quality Standards*, ENVTL. PROT. AGENCY, http://www.epa.gov/ttn/naaqs/ (last visited May 3, 2013).

21. 42 U.S.C. § 7409(b)(1)-(2) (1977); *see also* Whitman v. Am. Trucking Assns., 531 U.S. 457 (2001).

22. For criticism of the mandate for nationally uniform standards, see James Krier, *On the Topology of Uniform Environmental Standards in a Federal System – And Why it Matters*, 54 MD. L. REV. 1226 (1995).

23. *See* Douglas R. Williams, *Cooperative Federalism and the Clean Air Act: A Defense of Minimum Federal Standards*, 20 ST. LOUIS U. PUB. L. REV. 67, 76 (2001) [hereinafter Williams, *Cooperative Federalism*].

24. 42 U.S.C. § 7409(d)(1) (1977).

25. *See, e.g.*, Union Electric Co. v. E.P.A, 427 U.S. 246, 256 (1976) (recognizing that through SIP process, the CAA "place[s] the primary responsibility for formulating pollution control strategies on the States"); Train v. Natural Resources Def. Council, 421 U.S. 60, 79 (1975) ("[T]he State is at liberty to adopt whatever mix of emissions limitations it seems best suited to its particular situation.").

26. 42 U.S.C. § 7401(a)(3) (1990).

categorical, technology-based emissions standards promulgated by EPA[27] or, in some cases, more individualized technological limitations based on federal standards.[28] The states' selected control measures are set forth in SIPs for each of the NAAQS and the states must demonstrate to EPA that their choices will limit emissions sufficiently to attain the NAAQS within the time frames set forth in the statute.[29] Permitting the states to develop the SIPs, it was thought, might mitigate at least some of the more undesirable centralizing aspects of nationally uniform standards, while still providing a floor of public health and welfare protection.[30]

EPA is authorized to approve a state's SIP or to disapprove it in part or as a whole.[31] An approved SIP becomes enforceable by the State, by EPA, or in some circumstances by citizens.[32] In the event that a state fails to submit a required SIP or fails to correct deficiencies in a disapproved SIP, EPA is obligated to promulgate and implement a federal implementation plan, or FIP.[33] Thus, states that choose to opt out of the CAA's program of shared responsibilities will be subject to preemptive federal regulation, as well as possible loss of federal funding.[34] The development and approval process also applies to revisions to an existing SIP.[35]

27. 42 U.S.C. §7411 (1990).

28. *See* 42 U.S.C. 7475(a)(4) (2006) (new "major emitting facilities" in clean air areas must meet "best available control technology" limitations); 7503(a)(3) (new or modified stationary sources in nonattainment areas must comply with "the lowest achievable emission rate").

29. See 42 U.S.C. §7407(a) (1990) (describing state responsibilities).

30. For example, in Whitman v. American Trucking Associations, 531 U.S. 457, 493 (2001), Justice Breyer suggested that the SIP process may mitigate the statutorily-required "cost-blind" approach to establishing NAAQS. (Breyer, J., concurring) ("States may consider economic costs when they select the particular control devices used to meet the standards, and industries experiencing difficulty in reducing their emissions can seek an exemption or waiver from the state implementation plan."). The actual costs of program implementation may also be affected by the amount of "slippage" in achieving compliance with the NAAQS which is permitted or tolerated by the implementing agencies. *See* Daniel A. Farber, *Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law*, 23 HARV. ENVTL. L. REV. 297, 315-16 (1999) (noting that "standards may merely be the government's opening demand in negotiations, and the final bargain is likely to be more favorable to the other side"); Richard B. Stewart, *A New Generation of Environmental Regulation?*, 29 CAP. U. L. REV. 21, 57 (2001) (slippage between mandated standards and enforcement may "represent 'bottom up' efforts to improve the rationality of the command statutory system in light of practical experience with its implementation").

31. 42 U.S.C. § 7410(k) (1990).

32. 42 U.S.C. § 7410.

33. 42 U.S.C. § 7410(c).

34. *See* 42 U.S.C. § 7509 (1990).

35. *See* William F. Pedersen, *Why the Clean Air Act Works Badly*, 129 U. PA. L. REV. 1059, 1078-79 (1981) (describing the "double key" of state and federal procedural requirements governing SIP revisions). EPA regulations governing SIP requirements now run to 1700 pages. *See* 40 C.F.R.

The CAA's sharing arrangement between EPA and the states has proven to be a massively complex undertaking.[36] The delays in, and costs of, developing conforming SIPs and moving them through the federal approval process are extraordinarily high.[37] Moreover, the technical basis for determining whether the control measures selected by a state will lead to attainment of a NAAQS is subject to considerable uncertainties.[38] Limits on modeling techniques and uncertainties in predictions of future emissions growth, for example, often yield SIPs that have a shot-in-the-dark quality about them.

The complexity increases when one drills deeper down into the actual SIP development process. In some sense, the notion of a "state" implementation mischaracterizes the planning process in a significant number of instances. SIPs are not typically state-wide plans, though some components may have state-wide application.[39] Instead, SIPs are designed to attain the NAAQS in specific "air quality control regions" ("AQCR"),[40] which may include several local jurisdictions. In some cases, particularly those involving large metropolitan areas—AQCRs may straddle across state jurisdictional boundaries.[41] As a consequence, air quality planning and SIP development under the CAA is often inter-jurisdictional, both within the respective states (involving several local jurisdictions) and among states, with attendant coordination problems.[42]

The procedural and substantive complications that have historically characterized the SIP process provided space for EPA to approve,

§§ 51 & 52.

36. *See generally* Arnold W. Reitze, Jr., *Air Quality Protection Using State Implementation Plans – Thirty-Seven Years of Increasing Complexity*, 15 VILL. ENVTL. L.J. 209 (2004); John P. Dwyer, *The Practice of Federalism Under the Clean Air Act*, 54 MD. L. REV. 1183, 1193-94 (1995) (discussing complexity of SIPs).

37. *See generally* Pedersen, *supra* note 35, at 1072-93(describing complexities and high transaction costs of SIPs). For an extreme example of the delays that can attend the SIP development and approval process, see Texas v. E.P.A., 690 F.3d 670, 676 (5th Cir. 2012) (describing more than sixteen year process involving a revision to the state of Texas's SIP).

38. *See* Dave Owen, *Probabilities, Planning Failures, and Environmental Law*, 84 TUL. L. REV. 265, 280-87 (2009) (discussing uncertainties concerning adequacy of SIPs).

39. For an example of a SIP with both local and state-wide elements, see the Illinois State Implementation Plan, at *Region 5, Air and Radiation*, ENVTL. PROT. AGENCY http://yosemite.epa.gov/r5/r5ard.nsf/SIPs%20View%20By %20State%20Main%20View!OpenView&Start=1&Count=30&Expand=1#1 (last visited May 3, 2013).

40. *See* 42 U.S.C. § 7410(a) (1990) ("Each State shall . . . adopt . . . a plan which provides for implementation, maintenance, and enforcement of [the NAAQS] in each air quality control region (or portion thereof) within such State.").

41. *See* Arnold W. Reitze, Jr., *Federalism and the Inspection and Maintenance Program Under the Clean Air Act*, 27 PAC. L. J. 1461, 1466 (1966) (describing SIPs and ACQRs).

42. *See id.* at 1468.

without fear of judicial reversal, SIPs that had little prospect of attaining the NAAQS.[43] The EPA had powerful incentives to approve even highly dubious SIPs. Disapproval not only imposes more costs on states, souring the prospects of ongoing cooperative relations, it also imposes very high costs on EPA. The mandate to develop and implement FIPs when states are unwilling to develop and implement conforming SIPs diverts EPA resources from other tasks that the agency will often regard as far more important. Moreover, it is doubtful that EPA could effectively implement a FIP without significant support from relevant state actors.[44] These practical realities have served further to mitigate the centralizing aspects of the CAA's reliance on nationally uniform air quality standards.[45]

In fact, during the early years of the CAA's implementation, the complexities of the SIP development and approval process, the absence of nationally-mandated control measures, and EPA's limited resources combined to provide the states with considerable leverage over the shape of the regulatory program.[46] The result may be described as a form of negotiated federalism, in which state and national roles were somewhat fluid and dynamic.[47] Thus, under the original framework of the CAA, the states were given, and enjoyed in practice, a fairly wide measure of discretion in choosing which sources to regulate and how stringently to regulate them.

This discretion remains significant, but has become severely constrained as the CAA has evolved over time. The widespread inadequacy of SIPs left millions of American exposed to unhealthy levels of air pollution.[48] In 1977, Congress responded by imposing more detailed requirements for SIPs, including permitting programs for new

43. *See* Howard Latin, *Regulatory Failure, Administrative Incentives, and the New Clean Air Act*, 21 ENVTL. L. 1647, 1688-95 (describing failures of the SIP process).

44. *See* Erin Ryan, *Negotiating Federalism*, 52 BOSTON C. L. REV. 1, 79-80 (2011) ("participants understand that the programs of cooperative federalism on which the big federal environmental statutes depend would implode without the good faith participation of state environmental agencies") [hereinafter Ryan, *Negotiating Federalism*]; Dwyer, *supra* note 36, at 1216-19.

45. *See* Jessica Bulman-Pozen & Heather K. Gerken, *Uncooperative Federalism*, 118 YALE L.J. 1256, 1276-77 (2009) (noting that states can play the "trump card" of lax SIPs because they are "indispensable").

46. Ryan, *Negotiating Federalism*, *supra* note 44, at 78-79.

47. *See id.* at 79-80 (discussing how federal leverage is offset to some extent by "state capacity," often leading to negotiated arrangements under which "EPA is more likely to support failing state programs with additional funding and technical assistance than it is to assume control").

48. Robert W. Adler, *Integrated Approaches to Water Pollution: Lessons from the Clean Air Act*, 23 HARV. ENVTL. L. REV. 203 (1999).

sources in both nonattainment and "clean air" areas.[49] Nonetheless, the nonattainment problem persisted, and when Congress amended the CAA in 1990, it radically restricted state choices and significantly cabined EPA's discretion.[50] The 1990 amendments demand SIP revisions and specify in extraordinary detail what kinds of control measures states must select and implement.[51] Of course, the dramatic increase in federally-prescribed SIP components limits the range of choices available to affected states. In addition, Congress severely restricted EPA's ability to extend the timeframes within which attainment was to be achieved by the states.[52] These restrictions on SIP program elements and attainment date extensions severely limited the ability of states to negotiate with EPA about the timing and extent of control measures.[53] Moreover, the 1990 amendments greatly expanded the scope of federally-prescribed source controls, including emissions limitations for hazardous air pollutants[54] and controls for pollutants that contribute to acid deposition.[55] In addition, these sources must now secure operating permits issued under programs administered by the respective states.[56]

Overall, and over time, the CAA's regulatory program has progressively narrowed the range of discretion states have in fashioning their own strategies to respond to air quality problems.[57] Congress's understandable impatience with the lack of demonstrable progress in securing more widespread attainment of the NAAQS has led to the displacement of a program under which EPA and the states enjoyed considerable discretion in favor of a much more prescriptive program under which the states' obligations have become much more ministerial in nature.[58] As Professor Reitze has concluded, the SIP process—long

49. The revised SIP requirements were codified at 42 U.S.C. §§ 7470-7479 (clean air areas) and §§7501-7505 (2006) (nonattainment areas). For a discussion of the 1977 permitting requirements, see Pedersen, *supra* note 35, at 1088-93.

50. *See* Whitman v. Am. Trucking Ass'ns, 531 U.S. 457, 481- 86 (2001).

51. See 42 U.S.C. § 7511a (1990).

52. *See* 42 U.S.C. § 7511 (1990); *see* Sierra Club v. EPA, 311 F.3d 853 (7th Cir. 2002).

53. *Sierra Club*, 311 F.3d at 865.

54. *See* 42 U.S.C. § 7412 (1999).

55. 42 U.S.C §§ 7651-7651o (1990).

56. The permitting program is established in Title V of the 1990 amendments. *See* 42 U.S.C. §§7661-7661f (2006). EPA regulations governing state operating permit programs are codified at 40 C.F.R. §§ 70.1 -.12.

57. *See* Robert L. Glicksman, *From Cooperative to Inoperative Federalism: The Perverse Mutation of Environmental Law and Policy*, 41 WAKE FOREST L. REV. 719, 747 n.158, (2006) ("Congress over time significantly scaled back the scope of state freedom to determine the appropriate mix of emission controls necessary to meet federal specified environmental objectives.").

58. Reitze, *Air Quality Protection*, *supra* note 36, at 365.

thought to be the primary repository of substantial state prerogatives under the CAA—has become largely "irrelevant" and "may have outlived its usefulness."[59]

The underlying premises of how state and federal relations under the CAA are structured have now been seriously eroded. The consequences are that much of the flexible tailoring for locally diverse conditions that was contemplated under the original amendments is now open to serious question. There is also very little room for adaptation and learning in light of actual experience. And, most importantly, the objectives of the CAA have been compromised by the institutional barriers to effective implementation.

Paradoxically, however, there is one area where state interests have traditionally been, and continue to be, protected under the CAA—control of interstate transport of air pollutants. It is paradoxical because it is universally recognized that when it comes to interstate pollution problems, federal interests should control over state interests.[60] The problem of interstate air pollution has assumed critical importance under the CAA; it has become apparent that, in the absence of effective limits on interstate transport of pollutants, many major metropolitan areas simply cannot attain the NAAQS, particularly for ozone and particulate matter, without adopting draconian local controls. Indeed, in some areas, transported pollution is so significant that even the most aggressive local control strategies will be insufficient to attain the NAAQS.

The 1977 amendments included "good neighbor" provisions for addressing interstate air pollution,[61] obligating all states to include source controls in their SIPs to ensure that in-state emissions would not "prevent attainment or maintenance" of the NAAQS by any other State.[62] States affected by another state's failure to abide by this obligation could petition EPA to enforce it.[63] But the 1977 good neighbor provisions were notoriously weak. EPA repeatedly refused to act on complaints from the states about the downwind effects from out-

59. *Id.*

60. *See infra* note 61 and accompanying text.

61. *See* Kay M. Crider, *Interstate Air Pollution: Over a Decade of Ineffective Regulation*, 64 CH-KENT L. REV. 619, 624 (1988); *see also* Thomas W. Merrill, *Golden Rules for Transboundary Pollution*, 46 DUKE L.J. 931, 959 (1997) (noting that "no state has secured relief under [the CAA] for pollution emanating in another state").

62. Crider, *supra* note 61, at 624.

63. For a discussion of the pre-1990 CAA provisions governing interstate air pollution and their implementation by EPA, see *id.* at 624-38.

of-state, upwind pollution sources.[64]

Congress moved to strengthen the good neighbor provisions and EPA's ability to address interstate transport of air pollution in the 1990 amendments to the CAA. Among other things, States must now include in their SIPs "adequate provisions . . . prohibiting . . . any source or other type of emissions activity within the State from emitting any air pollutants in amounts that will . . . contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any [NAAQS]."[65] In response, EPA embarked on a massive effort to address interstate pollution on a regional basis.[66] The first step in this effort was the so-called NOx SIP Call, which imposed mandates on twenty-two states and the District of Columbia to revise their respective SIPs to mitigate the interstate transport of ozone.[67] In an innovative interpretation of the 1990 CAA's interstate air pollution provisions, EPA measured a state's "significant contribution" to downwind nonattainment problems in part by reference to reductions achievable through the use of "highly cost-effective controls."[68] The agency also designed a regional emissions trading program into which the affected states could opt as a means of satisfying their good neighbor obligations.[69] The D.C. Circuit sustained this effort in *Michigan v. EPA*,[70] though the regional emissions trading program was not challenged.[71]

Since the $NO_X$ Sip Call, EPA's efforts to develop a regional solution to interstate ozone air pollution problems have been plagued by the cooperative federalism structure of the CAA. Paradoxically, while the overall direction of the CAA has been toward greater reliance on nationally-prescribed source controls, efforts to address interstate

64. *See, e.g.*, New York v. EPA, 852 F.2d 574 (D.C. Cir. 1988); Air Pollution Control Dist. of Jefferson Cnty. v. EPA, 739 F.2d 1071 (6th Cir. 1984); Conneticut v. EPA, 696 F.2d 147 (2nd Cir. 1982).

65. 42 U.S.C. §7410(a)(2)(D) (1990). For general discussion of the 1990 amendments governing interstate air pollution, see Thomas W. Merrill, *Golden Rules for Transboundary Pollution*, 46 DUKE. L.J. 931, 954-56 (1997); Richard Revesz, *Federalism and Interstate Environmental Externalities*, 144 U. PA. L. REV. 2341 (1996).

66. *Clean Air Interstate Rule (CAIR)*, ENVTL. PROT. AGENCY, http://epa.gov/airmarkets/progsregs/cair/index.html (last visited May 5, 2013).

67. *NOx State Implementation Plan (SIP) Call for the Mid-Atlantic States*, ENVTL. PROT. AGENCY, http://www.epa.gov/reg3artd/specprog/NOx/sip_call.htm (last visited May 3, 2013).

68. *See* Michigan v. EPA, 213 F.3d 663 (D.C. Cir. 2000). For a discussion of the NOx SIP Call, *see* Patricia Ross McCubbin, Michigan v. EPA*: Interstate Ozone Pollution and EPA's "NOx SIP Call"*, 20 ST. LOUIS U. PUB. L. REV. 47 (2001).

69. *See Michigan*, 213 F.3d at 663.

70. 213 F.3d 663.

71. *Id.*

transport of air pollutants has been increasingly stymied by the courts' insistence that EPA respect and preserve a primary role for the states in controlling stationary sources.

The first setback came with the D.C. Circuit's decision in *North Carolina v. EPA*.[72] As many metropolitan areas continued to struggle to meet the NAAQS, EPA promulgated the Clean Air Interstate Rule ("CAIR") to tighten up restrictions on interstate transport of ozone and particulate matter pollution.[73] As in the $NO_X$ Sip Call, EPA relied in part on reductions achievable through highly cost effective control technologies to determine which states contribute significantly to downwind nonattainment of the ozone and particulate matter NAAQS.[74] Like the $NO_X$ Sip Call, EPA created a regional emissions trading system into which consenting states could opt.[75]

This time, however, the D.C. Circuit rejected EPA's regional approach to interstate air pollution control.[76] EPA's approach in the CAIR was to employ a region-wide emissions trading program to determine whether upwind states collectively contributed significantly to nonattainment in downwind states; in this way, EPA reasoned, the aggregate levels of reductions needed for downwind states to achieve the NAAQS could be made in the most cost-effective manner.[77] The effect of this approach was that, at least in theory, sources in particular states could avoid making any reductions in their emissions, so long as they could secure through trading sufficient reductions from other sources within the region. Through the interstate trading mechanism, the collective "significant contribution" of upwind sources in the region could be eliminated, even if an individual state's contribution was not.[78] The court held, however, that the CAA does not permit EPA to act on a regional basis; instead, any effort by EPA to address the statute's requirement that SIPs include measures to ensure that sources "within the State" do not contribute significantly to downwind nonattainment must "actually require elimination of emissions from [such] sources."[79] On reconsideration, the court remanded to EPA, but declined to vacate

72. 531 F.3d 896 (D.C. Cir. 2008).

73. Rule To Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO[x] SIP Call, 70 Fed. Reg. 25,162 (May 12, 2005) (codified at 40 C.F.R. pt. 51, 72, 73, 74, 77, 78, 96).

74. *See North Carolina*, 531 F.3d at 903.

75. *See id.*

76. *See id.* at 907.

77. *See id.*

78. *See id.*

79. *Id.* at 908.

the CAIR.[80]

EPA attempted to respond to the remand by promulgating the Cross-State Air Pollution Rule, also known as the Transport Rule.[81] The rule purported to correct the deficiencies of the CAIR by allocating control requirements on more state-specific criteria.[82] Nonetheless, the methodology used by EPA could, in theory, require some states to reduce emissions to aggregate levels that were below the initial screening levels used to determine which states should be subject to the rule's emission reductions program.[83] That result was a consequence of EPA's reliance on "cost-effective controls" for determining what levels of emissions "significantly contribute" to downwind state nonattainment.[84] EPA also promulgated FIPs for the states covered by the Transport Rule, concluding that the covered states had failed to submit approvable SIPs to meet their good neighbor obligations under the CAA.[85]

The D.C. Circuit in *EME Homer City Generation, L.P. v. EPA*,[86] vacated and remanded the Transport Rule. The court concluded that the CAA imposes three sets of constraints on EPA's authority to control interstate air pollution spillovers.[87] First, the court held that only emissions "that travel beyond an upwind State's borders and end up in a downwind State's nonattainment area" may be restricted by EPA under its authority to enforce the good neighbor SIP requirements of the CAA.[88] Second, the court held that EPA must not only consider the amount of pollution a particular state sends to a downwind jurisdiction, but how those absolute amounts of pollution compare with the amounts sent by other upwind states—a kind of "equitable sharing of burdens" principle.[89] Finally, the court held that, "to conform to the text of the statute, EPA must also ensure that the combined obligations of the various upwind States, as aggregated, do not produce more than

80. *Id.*

81. Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals, 76 Fed. Reg. 48208 (Aug. 8, 2011).

82. *See id.* at 48, 211.

83. *See* EME Homer City Generation, L.P. v. EPA, 696 F.3d 7, 25 (D.C. Cir. 2012).

84. *See id.* at 24.

85. *Id.*

86. *Id.*

87. *Id.*

88. *Id.* at 20.

89. *Id.* The court concluded that "EPA may not require any upwind State to 'share the burden of reducing other upwind states' emissions. . . . In other words, the statutory text . . . contains not just an absolute component . . . but also a relative component . . . ." (quoting North Carolina v. EPC, 531 F.3d 896, 921 (D.C. Cir. 2008)).

necessary 'over-control' in the downwind States—that is, that the obligations do not go beyond what is necessary for the downwind States to achieve the NAAQS."[90] The end result is that the CAA requires that "the collective burden [of regional emissions that contribute to downwind nonattainment] must be allocated among the upwind States in proportion to the size of their contributions to the downwind State's nonattainment,"[91] and must ensure that mandated reductions do not "yield more downwind air quality benefits than necessary for downwind areas to attain the NAAQS."[92] Finding that the Transport Rule did not conform to these requirements, the D.C. Circuit vacated it and remanded the matter to EPA.[93]

In another important move, the court of appeals in *EME Homer City* held that despite the many years of inadequate commitments to control the export of pollution in the SIPs of upwind states, EPA may not impose FIPs unless and until the agency first specifies the amount of "significant contribution" each upwind state must eliminate, gives the states an opportunity to revise their SIPs to make the necessary reductions, and the states fail to take the necessary actions to so revise their respective SIPs.[94] Only then may EPA impose a FIP.[95] In other words, rather than placing the responsibility on the states in the first instance to determine if sources within their jurisdictions contribute significantly to downwind nonattainment, and to address such contributions in their SIPs, EPA must first demonstrate that sources within a state are contributing to downwind nonattainment and then precisely identify the extent to which that contribution is deemed to be significant. On this view, everything depends on EPA's willingness, and capacity, to make the first move.

The efforts by EPA to address interstate air pollution dramatically illustrate the barriers that the cooperative federalism model places in the way of effective environmental management. The first barrier is that requiring that interstate-induced nonattainment problems be treated in highly fine-tuned, pair-wise upwind-downwind state terms dramatically limits EPA's ability to fashion efficient, cost-effective solutions to interstate pollution problems. This approach stands in marked contrast to the other authority EPA enjoys under the CAA to impose categorical

90. *Id*. at 22.
91. *Id.* at 21.
92. *Id.* at 22.
93. *Id*. at 37.
94. *Id.* at 18
95. *Id.* at 31.

emissions limitations on local sources, regardless whether such limits may, in theory, result in more emissions reductions than are necessary to attain the NAAQS. This result seems to turn federalism principles on their head, empowering national authority to regulate heavily in cases that seem to involve only local air quality problems, but tightly constraining national authority to address interstate air quality problems.

The second barrier to effective environmental management in the existing institutional arrangements relates to the procedural complexities associated with addressing interstate pollution problems. Initial SIP development occurs at the state level, in which affected out-of-state interests are not represented and have no effective voice. In theory, affected downwind interests may object to inadequate protection of their interests when EPA conducts rulemaking to review the SIPs submitted by upwind states. There is, however, a distinct set of problems associated with making these participation rights effective.

First, state SIPs are primarily focused on attaining the NAAQS in the AQCRs within the state. As a consequence, the air quality modeling used to demonstrate the SIP's adequacy will not necessarily, and typically does not, consider extra-jurisdictional effects. Indeed, the court's decision in *EME Homer City* strongly suggests that states simply have no obligation to consider such effects in the SIP development process unless and until EPA directs the state to reduce emissions from specific sources (or groups of sources) by a specific amount.[96] Accordingly, any downwind state's objection to a SIP before EPA will have to be supported by additional evidence demonstrating that the SIP does not adequately address the upwind state's "significant contribution" to downwind nonattainment.

Second, while EPA may in theory rely on evidence submitted in the SIP approval process to support an objection from downwind states, the agency will also have to quantify the reductions the state must achieve in order to satisfy the state's good neighbor obligations. This may work tolerably well if the interstate air quality problem is bi-lateral, involving only one upwind and one downwind state, respectively. But it is doubtful that there are many interstate air quality problems of this type; indeed, the recent evidence is that interstate air quality problems are multi-lateral and regional in scope, involving many upwind and downwind states. In these circumstances, under *North Carolina* and *EME Homer City*, the cleanup burdens associated with multi-state air quality problems must be allocated among the upwind states in an

96. *Id.*

equitable manner.[97] There will thus be the need for a separate rulemaking in which all affected states may participate. In short, in the absence of prior "significant contribution" findings by EPA, downwind states have no effective mechanism for challenging a particular state's proposed SIP. The procedural complexities and costs associated with addressing interstate air quality problems thus make effective air quality management extraordinarily difficult under current institutional arrangements.

### *B. The Clean Water Act and the Growth of State Authority*

Like the CAA, the CWA is modeled on a cooperative federalism basis, in which regulatory responsibilities are divided between EPA and the states. The heart of the CWA is section 301(a), which prohibits unpermitted discharges of pollutants from point sources into "navigable waters."[98] The CWA establishes two permitting systems. The National Pollutant Discharge Elimination System ("NPDES"), established under Section 402, applies to *all* point source discharges of *all* pollutants,[99] except "dredged and fill material." Point source discharges of dredged and fill material are subject to a separate program established under Section 404.[100] The NPDES is administered by EPA while the Section 404 program is jointly administered by EPA and the U.S. Army Corps of Engineers.[101]

EPA may delegate the administration of either or both of these permit programs to States with approved programs.[102] Delegations under Section 402 are often referred to as State Pollutant Discharge Elimination System ("SPDES") programs, and nearly all of the States have chosen to administer such programs.[103] Delegations under Section 404, by contrast, are much more limited in scope. Section 404(g)

97. *See* North Carolina v. EPA, 550 F.3d 1176 (D.C. Cir. 2008); *see also* EME Homer City Generation, L.P. v. EPA, 696 F.3d 7 (D.C. Cir. 2012).

98. 33 U.S.C. § 1311(a) (1995).

99. *See* Natural Resources Def. Council v. Costle, 568 F.2d 1369, 1377 (D.C. Cir. 1977) (holding that EPA lacks "authority to exempt categories of point sources from the permit requirements of § 402").

100. 33 U.S.C. § 1344 (1987).

101. *See* Douglas R. Williams & Kim Diana Connolly, *Federal Wetlands Regulation: An Overview in* WETLANDS LAW AND POLICY: UNDERSTANDING SECTION 404 8-9 (Kim Diana Connolly et al. eds. 2005); *see also Section 404 Permitting*, ENVTL. PROT. AGENCY, http://water.epa.gov/lawsregs/guidance/cwa/dredgdis (last visited May 3, 2013).

102. *See* 33 U.S.C. §§ 1342(b), 1344(g) (2000).

103. For a list of states with approved State NPDES programs, see http://cfpub.epa.gov/npdes/statestats.cfm.

reserves exclusive jurisdiction for the federal government over discharges of dredged and fill material into what are commonly known as "traditional navigable waters" and wetlands adjacent to such waters.[104] In part due to the limited scope of section 404 delegations, only two states, Michigan and New Jersey, administer permit programs approved under Section 404.[105]

Permits issued under the EPA-administered NPDES program or by a state-administered SPDES programs must incorporate technology-based effluent limitations.[106] These limitations are promulgated by EPA on a categorical, industry-wide basis and are subject to revision at five-year intervals.[107] As originally conceived, the technology-based standards were to be implemented in stages of increasing stringency, culminating in a requirement that all point sources be subject to effluent limitations based on the "best available technology."[108] The overall goal of the CWA was to eliminate point source discharges completely by 1985[109] through progressively more stringent technology-forcing federal regulations.[110]

The basic assumption of the original CWA was that strict, nationally-promulgated categorical limitations on all discharges from point sources would perform yeoman's work to the end of restoring and maintaining "the chemical, physical, and biological integrity of the Nation's waters."[111] Short of that, it was expected that the regulatory program for point sources would achieve an "interim goal" of "fishable/swimmable" water quality (i.e., "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water") by 1983.[112] Under these

104. R.von Oppenfeld, *State Roles in the Implementation of the Section 404 Program, in* WETLANDS LAW AND POLICY: UNDERSTANDING SECTION 404 322-25 (Kim Diane Connolly, et al. eds, 2005).

105. *See id.* at 322-25. More information on state assumption of Section 404 permitting authority is available at http://water.epa.gov/type/wetlands/outreach/fact23.cfm. For discussion of why few states have chosen to assume such responsibilities, see Oliver A. Houck & Michael Rolland, *Federalism in Wetlands Regulation: A Consideration of Delegation of Clean Water Act Section 404 and Related Programs to the States*, 54 MD. L. REV. 1242 (1995).

106. *See* 33 U.S.C. §§ 1342(a)(1), 1342(b)(1)(B) (2000). For an overview of the permitting process and its requirements, see *Office of Wastewater Management: Water Permitting 101*, ENVTL. PROT. AGENCY, http://www.epa.gov/npdes/pubs/101pape.pdf (last visited May 5, 2013).

107. 33 U.S.C. §1311 (1995); *see* E.I. Du Pont de Nemours & Co. Inc. v. Train, 430 U.S. 112, 115-116 (1977).

108. *See* Andreen, *supra* note 4, at 548.

109. 33 U.S.C. § 1251(a)(1) (1991).

110. *Id.*

111. *See* 33 U.S.C. § 1251(a) (1991) (stating objectives of CWA).

112. *See* 33 U.S.C. § 1251(a)(2) (1991).

assumptions, the role of states in the overall implementation of the CWA, while significant, was largely limited to implementing nationally-promulgated point source controls.

The CWA's confidence in the point source control program was, however, hedged. The CWA does include a "safety net" to backstop any shortcomings that may be experienced in the implementation of technology-based point source controls.[113] The Act requires that more stringent effluent limitations be fashioned if necessary to meet water quality standards.[114] This safety net was expected to perform a limited and interstitial role, plugging some leaks in the (expected) shortcomings of the more prescriptive regulatory program. Nonetheless, the reality now is that the water quality safety net drives the regulatory program.[115] Its role is neither occasional nor interstitial; it is pervasive and primary.

Implementation of the water quality standards is almost entirely dependent on the states. A brief overview explains why. First, the CWA relies on the states to establish water quality standards, subject to EPA oversight.[116] The standards may vary in stringency from one water segment to another and within the same segment as it flows from one jurisdiction into another.[117] The varying stringency is a function of the discretion states have over two required elements of water quality standards: "use designations" and "water quality criteria."[118] As to uses, the CWA does create a presumptive regulatory floor—the fishable/swimmable goal.[119] The floor may be lowered, however, in some circumstances—namely, a demonstration by the state that the presumptive floor cannot be attained without, among other things,

113. *See* E.P.A. v. CA ex rel. State Water Res. Control Bd., 426 U.S. 200, 205 n.12 (1976) (describing water quality standards as "a supplementary basis . . . to prevent water quality from falling below acceptable levels"). *See generally*, PERCIVAL, *supra* note 14, at 714-15 (describing water quality standards as "a 'safety net' to back up the technology-based controls on which the [CWA] primarily relies").

114. *See* 33 U.S.C. §1312(a) (1987).

115. *See* Robert L. Glicksman & Matthew R. Bezel, *Science, Politics, Law, and the Arc of the Clean Water Act: The Role of Assumptions in the Adoption of a Pollution Control Landmark*, 32 WASH. U. J. L. & POL'Y 99, 135 (2010) [hereinafter *Science, Politics, Law, and the Arc of the Clean Water Act*] *infra* note 132 (noting that the "[t]he statutory safety net—in the form of state water quality standards—has . . . taken on a larger role").

116. *See* 33 U.S.C. §§ 1313(a)-(b). The state role in establishing water quality standards is discussed in detail *in* Adler, *Integrated Approaches to Water Pollution*, *supra* note 48, 209-15.

117. *See* Adler, *Integrated Approaches to Water Pollution*, *supra* note 48, at 213 ("[T]he system of ambient standards established under the CWA is characterized by considerable variation among the states, even those in the same geographic region with similar or identical environmental conditions, and even those that share a single interstate water body.").

118. *See* 40 C.F.R. § 131.6 (1983).

119. *See id.* at § 1251(a)(2).

"substantial and widespread economic and social impact"[120]—a "feasibility-limited" approach that is noticeably absent from the ambient air quality floors established by the CAA.

The second constitutive element of water quality standards—water quality criteria—also vests in the states a large measure of flexibility. EPA does play a role here, but is limited to issuing non-binding guidelines and ensuring that the criteria chosen by the states are adequate to support designated uses.[121] Uncertainties in the relationship between ambient concentrations of particular pollutants and impacts on designated uses, particularly with respect to toxic water pollutants, open a very large space for state discretion.[122]

The CWA contemplated that state promulgated water quality standards would be implemented in a couple of different ways. Primarily, the act authorized EPA to tighten effluent limitations on point sources to meet the water quality standards, but this approach was not mandatory and EPA has ignored it.[123] The procedure for imposing more stringent water-quality-based limitations on point sources obligated EPA to examine the relationship between the costs and benefits of such heightened restrictions, a process that is both cumbersome and would be difficult for EPA to defend in court.[124] This approach to implementing water quality standards never took hold and, in fact, has been abandoned.[125]

The states' role in protecting water quality is underscored by the CWA's alternative mechanisms implementing, or at least respecting, state water quality standards. Section 401 of the CWA requires that applicants for federal permits or licenses (other than state-issued CWA

120. *See* 40 C.F.R. 131.10(g)(6) (1983). Allowable variances from the "fishable/swimmable" standard must be based on a "use attainability analysis." For discussion, see Missouri Coalition for the Env't v. Jackson, 853 F. Supp. 2d 903, 905 (W.D. Mo. 2012).

121. 33 U.S.C. § 1314(a) (2000).

122. *See* Natural Resources Def. Council v. EPA, 16 F.3d 1395, 1401 (4th Cir. 1993) (upholding deferential EPA review of state water quality criteria).

123. *See* Kenneth M. Murchison, *Learning From More than Five-and-a-Half Decades of Federal Water Pollution Control Legislation: Twenty lessons for the Future*, 32 B.C. ENVTL. AFF. L. REV. 527, 551-52 (2005).

124. *See id.* (describing procedures to impose more stringent water-quality-based standards on point sources); Robert L. Glicksman, & Matthew R. Batzel, *Science, Politics, and Law, and the Arc of the Clean Water Act: The Role of Assumptions in the Adoption of a Pollution Control Landmark*, 32 WASH. U. J. L. & POL'Y 99, 119-20 (2010) (noting that "[w]ater quality standards . . . often cannot be translated into effluent limitations that are defendable in court tests").

125. *See* Stewart, *A New Generation of Environmental Regulation*?, *supra* note 30, at 55 (concluding that "EPA has entirely failed to implement Section 302 of CWA, providing for point-source effluent limitations beyond those required to meet federal technology-based requirements and state water quality standards, rendering it a dead letter").

discharge permits) that may result in jurisdictional discharges obtain a certification from the appropriate state that the discharge will not, among other things, violate applicable water quality standards.[126] The certifying state may impose specific measures to ensure that state water quality standards are not violated by the federally-permitted activity and these measures become a condition to be included in the federal permit or license.[127] Absent such certification, or a state's waiver of certification, federal agencies must deny the requested permit or license.[128]

In contrast to the procedure for imposing more stringent water-quality-based effluent limitations on point sources in CWA discharge permits, the water quality certification procedures for other federal permits and licenses have been in some cases aggressively enforced by the states.[129] Moreover, the certification operates like a reverse "preemption" mechanism, in which federal permitting authorities must abide by state certification decisions, with no effective *federal* forum available to the agency or the permit applicant to challenge certification decisions deemed to be unreasonable or otherwise unlawful.[130]

The role for the states in the CWA's regulatory program is most evident, and most ineffective, when the forms of water pollution that currently present the largest threat to achieving water quality objectives are considered. By now, it is widely accepted that "non-point source pollution has evolved into the largest single obstacle to improving water quality."[131] Indeed, non-point source pollution is estimated to be the principal culprit in over three-quarters of all lakes and rivers that fail to meet water quality standards.[132] Although EPA has some indirect influence on control of non-point source pollution by virtue of the Section 303(d) "total maximum daily loads" program,[133] it lacks any ability to directly regulate most forms of this water quality

126. 33 U.S.C. § 1341(a) (1977).

127. *Id.* § 1341(d).

128. *Id.* § 1341(a).

129. *See, e.g.*, PUD No. 1 v. Wash. Dept. of Ecology, 511 U.S. 700 (1994).

130. *See* Lake Carriers Ass'n v. E.P.A., 652 F.3d 1, 10 (D.C. Cir. 2011) (federal agency does not have authority to challenge or alter conditions imposed by certifying state; challenge to such conditions may be had in state court); Am. Rivers v. FERC, 129 F.3d 99 (2d Cir. 1997).

131. *See* Andreen, *supra* note 4.

132. *See* Glicksman & Batzel, *Science, Politics, Law, and the Arc of the Clean Water Act*, *supra* note 115, at 132.

133. *See* Pronsolino v. Nastri, 291 F.3d 1123 (9th Cir. 2002); *Guidelines for Reviewing TMDLs Under Existing Regulations Issued in 1992*, ENVTL. PROT. AGENCY, http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/final52002.cfm (last visited May 5, 2013).

impairment.[134] Non-point source pollution is principally the result of land use practices, such as urbanization and agricultural, silvicultural, and mining practices that are traditionally governed by state and local law. These practices are currently beyond the reach of direct national regulatory authority under the CWA. The CWA addresses non-point source pollution primarily through planning requirements supported by federal funding, but is largely limited to whatever measures the states may choose to adopt.[135] EPA has authority to approve or disapprove these plans, but has no authority to promulgate a plan of its own when states refuse to submit a plan or submit one that fails to meet statutory requirements.[136] Most states have not imposed enforceable controls on non-point source pollution, but instead have relied on voluntary measures and local government authority.[137]

General assessments of the performance of the CWA conclude that the structural limitations of the CWA, particularly the absence of effective authority to control non-point source pollution, remain the greatest obstacle to achieving the legislation's goal of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters."[138] There is, moreover, widespread recognition that effective measures to improve water quality will require planning and assessment at the watershed, rather than water segment, level.[139] The state-centered approach of the CWA to water quality improvements hampers effective watershed management by deferring to a patchwork of inconsistent, and often inadequate, standards and management techniques.[140]

134. *See* Adler, *Integrated Approaches to Water Pollution*, *supra* note 48, at 226-30.

135. *See* OLIVER A. HOUCK, THE CLEAN WATER ACT TMDL PROGRAM: LAW, POLICY, AND IMPLEMENTATION 30-31 (2nd ed. 2002); *see also* Douglas R. Williams, *When Voluntary, Incentive-Based Controls Fail: Structuring a Regulatory Response to Agricultural Non-Point Source Water Pollution*, 9 WASH. U. J. L. & POL'Y 21, 67-78 (discussing CWA planning requirements for non-point source pollution) [hereinafter Williams, *When Voluntary Controls Fail*].

136. *See* Williams, *When Voluntary Controls Fail*, *supra* note 135, at 74.

137. *See id.* at 72-73.

138. *See, e.g.*, Williams F. Pedersen, *Turning the Tide on Water Quality*, 15 ECOLOGY L.Q. 69, 94 (1988) (noting that "[n]onpoint and water quality control authorities . . . are absent from the Clean Water Act"); Robert Adler, *Resilience, Restoration and Sustainability: Revisiting the Fundamental Principles of the Clean Water Act*, 32 WASH. U. J. L. & POL'Y 139, 159-162 (2010) (discussing the CWA's ineffective regulation of non-point source pollution); Andreen, *supra* note 4, 592-93 (discussing problem of non-point source pollution).

139. *See A Watershed Approach*, ENVTL. PROT. AGENCY, www.epa.gov/type/watersheds/approach.cfm (last visited May 5, 2013); *see also* Robert W. Adler, *Addressing Barriers to Watershed Protection*, 25 ENVTL. L. 973 (1995).

140. *See* Adler, *Addressing Barriers*, *supra* note 140, at 991-95; *see also* Murchison, *supra* note 123, 594-96.

### *C. Problems of Coordination, Disruption, and Resiliency Under the CAA and CWA*

In addition to the problems discussed above, the cooperative federalism model of the CAA and CWA also suffers from more general problems of coordination, disruption, and lack of resiliency. State responsibilities under the respective programs are often dependent on first moves by EPA, as the *EME Homer City* decision highlights.[141] Yet, in many cases, EPA's program responsibilities are fragmented in ways that make overall coordination difficult. Consider the CAA. In addition to SIP requirements, attainment or maintenance of the NAAQS may be significantly affected by federally-promulgated emissions limitations on a variety of mobile and stationary sources and, most significantly, by revisions to the NAAQS themselves. In a very real sense, the SIP planning process may be directed at a moving target. As a consequence, EPA faces serious problems in coordinating its rulemaking responsibilities under the CAA's various air quality programs to ensure that the SIP process does not break down or become subject to excessive delays and high transaction costs.

The experience of EPA's efforts to address interstate air pollution highlight just how difficult and complex this coordination problem can be. Downwind states that are dependent on EPA's efforts to restrict emissions from upwind sources may find themselves left with inadequate SIPs when EPA's efforts fail, and thus may face an obligation to revise their SIPs to include very costly and unpopular control measures that are needed to address continuing threats to public health and welfare. Many states may simply balk at making such revisions and will likely receive a sympathetic hearing before EPA.[142] Upwind states, likewise, may be understandably reluctant to undertake SIP revisions for fear that EPA may promulgate rules that alter regulatory requirements. The serious "moving target" quality about the EPA-SIP revision process at the least adds significant transactions costs to the regulatory program and diverts resources from more meaningful regulatory efforts.

The coordination problem becomes considerably more pronounced when the field is enlarged to consider the program responsibilities of

141. EME Homer City Generation, L.P. v. EPA, 696 F.3d 7, 25 (D.C. Cir. 2012).

142. For some examples of such sympathy by EPA, see Williams, *Cooperative Federalism*, *supra* note 23, at 91-95.

EPA that are scattered throughout the CAA. Consider a straightforward example. EPA revisions to an existing NAAQS trigger the states' obligation to develop and submit revised SIPs. During the same period, EPA may also be conducting or considering other rulemakings. These parallel rulemakings may directly affect the requirements to which the SIPs must conform or indirectly affect the pollution control strategies from which the states may choose. For example, EPA may promulgate or be in the process of promulgating rules imposing stricter emissions limitations on new motor vehicles, or rules requiring significant reductions in emissions of hazardous air pollutants—many of which are precursors of or contributors to ambient levels of criteria pollutants such as ozone or particulate matter. The new rules may significantly alter the amount of emissions reductions states may have to eke out of other, existing sources, often at very high costs, to demonstrate that their SIP measures will attain the revised NAAQS. Alternatively, the new rules may be the necessary, critical piece in an overall control strategy that can be demonstrated to push an area into attainment. The EPA's ability to manage the timing of its rulemaking responsibilities clearly may dramatically impact the timing and content of state SIP revisions.

Another, often under-appreciated factor that complicates the CAA's institutional structure is also highlighted by the *EME Homer City* decision.[143] That factor is the disruptive effect on program development and implementation occasioned by the provision for judicial review.[144] Judicial reversal or remand of EPA rules can have a substantial, program-wide effect on existing SIPs and the need for SIP revisions. In some cases, of course, a judicial remand may simply require EPA to take minor corrective action that can be completed within reasonably short periods of time.[145] In other cases, however, the basis for a judicial remand may require the agency to rethink its entire approach to a particular rulemaking task or to abandon it completely.[146] The affected states may again become obligated to revise their SIP, exposing the States and EPA to another round of expensive, time-consuming rulemakings. In addition, many of EPA's rulemaking responsibilities are non-discretionary in character and may be enforced by the courts at

143. *EME Homer City Generation*, 696 F.3d at 25 (dissent).

144. *See* Paul S. Weiland & Robert O. Vos, *Reforming EPA's Organizational Structure: Establishing an Adaptable Agency Through Eco-Regions*, 42 NAT. RES. J. 91, 107-09 (2002) (discussing effect of litigation on EPA's implementation of environmental laws).

145. *See* Robert L. Glicksman, *The Value of Agency-Forcing Citizens Suits to Enforce Non-Discretionary Duties*, 10 WIDENER L. REV. 358 (2004).

146. *Id.*

the behest of interested citizens.[147] These judicial mandates may divert EPA resources from other responsibilities, some of which may be related to SIP requirements or the SIP approval process.[148]

Along with the disruption to overall programmatic objectives, judicial reversal also highlights the lack of resiliency in the cooperative federalism structure of our major environmental programs. Of course, judicial review may disrupt program implementation regardless whether the program is modeled under a cooperative federalism approach or otherwise. Nonetheless, the disruptive effect of judicial review under the cooperative federalism model may be much more pronounced, at least in terms of national programmatic effects, because of the interdependence of the working parts of the program. Put another way, the cooperative federalism model lacks resiliency in the face of major program disruptions like judicial reversal of EPA rules.

## II. TO CENTRALIZE OR DECENTRALIZE: WHY FEDERALISM IS NOT THE APPROPRIATE FRAME

From the very beginnings of the environmental movement, there has been considerable interest in large structural issues pertaining to the institutional design of regulatory programs. This is particularly true with respect to issues concerning how regulatory authority for environmental protection should be allocated in our federal system of government. Indeed, the sub-field of "environmental federalism" has generated volumes of work and spawned numerous conferences and symposia. In the legal scholarly literature, for years the issue was, and to some extent still is, dominated by a constrained set of structural choices. Doubtless due to the constitutional status of the states and the national government, the choices seemed to be limited to a highly centralized national regulatory program or a decentralized and diverse set of programs administered by the states, or some admixture of the two. In short, "federalism" and the ghost of dual sovereignty have had a profound and ubiquitous effect on our thinking about the appropriate shape of our environmental laws.

Richard Stewart significantly shaped the terms of debate,

147. Citizen initiated litigation has had dramatic effects on the shape of our environmental programs. For an overview, see Glicksman, *The Value of Agency*, *supra* note 146; *see also* Barton H. Thomson, Jr., *Innovations in Environmental Policy: The Continuing Innovation in Citizen Enforcement*, 2000 U. ILL. L. REV. 185 (2000).

148. On the manner in which litigation disrupts and reorients EPA's priorities, see generally ROSEMARY O'LEARY, ENVIRONMENTAL CHANGE: FEDERAL COURTS AND THE EPA (1993); SKIP MELNICK, REGULATION AND THE COURTS: THE CASE OF THE CLEAN AIR ACT (1983).

explaining with care why it is necessary to have some mix of federal and state regulatory authority to address the diverse character of environmental problems and politics.[149] Stewart observed that our political traditions have presumed a principle of subsidiarity; highly decentralized, state-centered allocation of regulatory authority for environmental protection is the presumptive norm.[150] Departures from that norm—in the form of exertions of national regulatory power—require some measure of justification.[151]

The bases for this presumption are by now familiar. There is the argument from utilitarianism: decentralized decision-making is more likely than nationally uniform regulation to regulate in ways that reflect "geographical variations in preferences for collective goods like environmental quality."[152] Moreover, even when there is widespread agreement on the environmental objectives to be pursued, decentralized decision-making is likely to be more cost-effective because it can account for local environmental conditions and harness local knowledge in ways that centralized decision-making cannot.[153] Then there is the argument from innovation and adaptive learning: decentralized regulatory structures may serve as policy laboratories, experimenting with varying degrees of environmental quality and ways to achieve them, resulting in a richly diverse national portfolio of policies and environments, as well as transferable technical and social knowledge.[154]

149. Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196 (1977) [hereinafter Stewart, *Pyramids of Sacrifice?*]. On the significance of Professor Stewart's contributions, see David E. Adelman & Kirsten H. Engel, *Adaptive Federalism: The Case Against Reallocating Environmental Regulatory Authority*, 92 MINN. L. REV. 1796, 1803 (2008) [hereinafter Adelman & Engel, *Adaptive Federalism*] ("Early scholarship followed a framework set forth by Richard Stewart.").

150. *See* Stewart, *Pyramids of Sacrifice?*, *supra* note 149, at 1211. On the principle of subsidiarity in environmental governance, see also Jonathan H. Adler, *Jurisdictional Mismatch in Environmental Federalism*, 14 N.Y.U. ENVTL. L. J. 130, 134-35 (2005).

151. Stewart, *Pyramids of Sacrifice?*, *supra* note 149, at 1211.

152. *Id.* at 1210.

153. *See* Adler, *Jurisdictional Mismatch*, *supra* note 150, at 136-37.

154. *See* Stewart, *Pyramids of Sacrifice?*, *supra* note 149, at 1211. For the classic statement of how the states can serve as "laboratories" for policy development, see 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."). *See also* Gregory v. Ashcroft, 501 U.S. 452, 458 (1991) (noting that federalism "allows for more innovation and experimentation in government"). For a classic theoretical account casting doubt on the thesis that federalism promotes experimentation and innovation, see Susan Rose-Ackerman, *Risk Taking and Reelection: Does Federalism Promote Innovation?*, 9 J. LEGAL STUD. 593, 594 (1980). For a more recent skeptical view of the thesis, see Brian Galle & Joseph Leahy, *Laboratories of Democracy? Policy Innovation in Decentralized Governments*, 58 EMORY L.J. 1333 (2009).

Finally, there is the argument from democracy and community that decentralized structures promote greater measures of active civic engagement and democratic accountability.[155]

Stewart also provided a menu of factors that alone or in combination warrant departures from the presumptive norm.[156] First, decentralization, and the diversity of policies it fosters, may introduce a dynamic of competition among jurisdictions seeking to retain or attract mobile capital investment.[157] This dynamic may bear the structure of a classic prisoners' dilemma game, or a "tragedy of the commons," in which the individually rational actions of each jurisdiction yield a collectively irrational result.[158] The result is a "race-to-the-bottom," in which competing states will enforce only lax environmental standards in an effort to attract and retain mobile capital investment.[159] The logic and empirical verification of the "race" remain hotly contested.[160]

National approaches to environmental management may also be warranted when they yield important economies of scale for some critical regulatory tasks, particularly those involving "recurring, technically complex, issues."[161] While diverse local conditions can stymie desirable environmental outcomes when excessively uniform regulatory measures are employed, there are nonetheless basic questions the answers to which are not entirely dependent on local conditions. Providing a more centralized authority for developing and disseminating transferable information and technologies can significantly reduce the costs of environmental regulation by eliminating duplicative, redundant

155. *See* Stewart, *Pyramids of Sacrifice?*, *supra* note 149, at 1210.

156. *Id.* at 1211.

157. *Id.* at 1211-12.

158. *Id.* at 1211-12.

159. The "race-to-the bottom" rationale for federal regulation finds voice in several Supreme Court decisions involving the scope of national power. *See, e.g.*,United States v. Darby, 312 U.S. 100 (1941).

160. Richard Revesz, for example, concludes that there is no theoretical basis for concluding that competition among jurisdictions will take on the structure of a prisoners' dilemma game instead of more standard models of competition that yield an equilibrium state in which social welfare is maximized. *See* Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the "Race-to-the Bottom" Rationale for Federal Environmental Regulation*, 67 N.Y.U.L.REV.1210, 1242 (1992) [hereinafter Revesz, *Rehabilitating Interstate Competition*]. For additional criticism of the race-to-the-the-bottom theory, see Frank B. Cross, *The Folly of Federalism*, 24 CARDOZO L. REV. 1, 12-18 (2002). Professor Engel, by contrast, has argued that the available empirical evidence, while not conclusive, supports the application of game theoretic models, which predict a race-to-the problem. *See* Kirsten H. Engel, *State Environmental Standard-Setting: Is There a Race" and Is It "to-the-Bottom"?*, 48 HASTINGS L.J. 271, 351 (1997).

161. *See* Revesz, *Rehabilitating Interstate Competition*, *supra* note 161, at 1212.

analysis.[162]

Other collective action problems, particularly the high transaction costs that hamper effective representation of environmental interests at the state and local levels, may explain local willingness to sacrifice environmental quality to retain or attract investment, and may also warrant departures from a broadly decentralized structure of regulatory authority.[163] Like the predicted race-to-the-bottom, the theory that decentralized policy-making is more likely than centralized policy-making to be distorted by collective action problems is more a point for argument than proven insight.

Stewart also suggested that national regulation may be preferable to more decentralized regulatory options because it may be more conducive to securing popular commitment to positive environmental change in the face of significant costs.[164] Stewart posited that "[n]ational mechanisms for determining environmental policies facilitate, to a greater degree than their state and local counterparts, the achievement of commitments entailing material sacrifice. . . . Communities no less than individuals may be far more willing to undertake sacrifices for a common ideal if there are effective assurances that others are making sacrifices too."[165] The vast literature on norm formation and enforcement, through both informal and formal mechanisms, however, shows that pride of "place," as much as abstract commitments to national ideals, can often drive positive environmental change. That is not to say that Stewart got it wrong. Instead, counterexamples simply demonstrate that shared commitments to pursue environmental objectives in the face of personal sacrifice are dependent on a host of variables such as context, effective leadership, and the particular issues to be addressed. These variables may favor decentralized regulatory structures in some cases and more centralized structures in others.

There is little disagreement, however, that Professor Stewart got it right when he argued that national regulation is warranted in the face of interstate "spillovers" or externalities.[166] As Professors Adelman and Engel explain, the argument for federal regulation in the presence of interstate spillovers "begins with a simple insight: regulation would be inefficient if its costs and benefits were not fully internalized by the

162. *See* Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570, 614-15 (1996); *see also* Adler, *Integrated Approaches to Water Pollution*, *supra* note 48, at 145-50.

163. *See* Stewart, *Pyramids of Sacrifice?*, *supra* note 149, at 1213-15.

164. *Id.* at 1214-15.

165. *Id.* at 1217.

166. *Id*.

regulating authority."[167] The apparent agreement on principle has, however, spawned robust debate on application.

The idea that jurisdictional authority should align geographically with the scope of environmental problems has become known as the "Matching Principle."[168] This principle, coined by Professors Butler and Macey, can be stated simply: "the size of the geographic area affected by a specific pollution source should determine the appropriate governmental level for responding to the pollution. There is no need for the regulating jurisdiction to be larger than the regulated activity."[169] Where federal regulation addresses activities that have only local effects, there is a "jurisdictional mismatch."[170] Most of the advocates of the mismatch theory invoke federalism principles as a basis for favoring state over national regulatory authority for most environmental problems.[171]

More recent environmental federalism scholarship has extolled the virtues of cooperative federalism and its opportunities for overlapping regulatory authority, noting that it can foster greater possibilities for "dynamic" or "adaptive" regulatory systems, in which allocations of authority are more fluid and responsive to larger contextual circumstances.[172] As Professor Buzbee puts it: "Not only are state and federal interactions dynamic at any point in time, with regulators interacting in myriad ways, but they each will change in response to the actions of the other, to changing environmental circumstances and, especially, to the ever-changing political climate."[173] This dynamism can lead to important innovations that may bubble up from the bottom rather than trickle down from the top.[174] Others have advocated for "multi-scalar"[175] or "modal"[176] institutional arrangements in which federal and state power is exercised at different levels or scales and/or in a variety of collaborative forms.

167. Adelman & Engel, *Adaptive Federalism*, *supra* note 149, at 1803.

168. Henry N. Butler & Jonathan R. Macey, *Externalities and the Matching Principle: The Case for Reallocating Regulatory Authority*, 14 YALE L. & POL'Y REV. 23, 25 (1996).

169. Henry N. Butler & Jonathan R. Macey, *Externalities and the Matching Principle: The Case for Reallocating Regulatory Authority*, 14 YALE L. & POL'Y REV. 23, 25 (1996).

170. Adler, *Jurisdictional Mismatch*, *supra* note 150,, at 130.

171. *See id.* at 132; *see also* Butler & Macey, *supra* note 169, at 27-28.

172. William W. Buzbee, *Contextual Environmental Federalism*, 14 N.Y.U. ENVTL. L.J. 108, 112 (2005).

173. *Id.*

174. *Id.*

175. *See, e.g.*, Hari M. Ososfksy, *Is Climate Change "International"? Litigation's Diagonal Regulatory Role*, 49 VA. J. INT'L L. 585 (2009).

176. *See* Freeman & Farber, *supra* note 5.

The "matching principle" scholarship and "dynamic" or "adaptive" federalism scholarship share a basic commitment to federalism as an organizing principle. Yet, aside from some basic constitutional and historical arrangements, it is not at all apparent why federalism should be either the starting or ending point for discussions of appropriate institutional arrangements. Indeed, arguments for a greater state or national presence in particular areas of environmental management, or in environmental law generally, tend to posed within an artificially constrained set of institutional choices. The federalism debate is poised in a landscape of false choices: nationally uniform regulation or diverse state-centered regulation, or some mixture of the two.

The false choices posed by federalism-dominated discussions of appropriate institutional arrangements are based on the failure to recognize a distinction between decentralized regulatory authority and federalism. [177] Concerns about "jurisdictional mismatch" or institutional scale are not really so much about federalism, but instead are arguments about the appropriate degree of centralization of regulatory functions. However, "decentralization" may be understood more simply as "a managerial concept; it refers to the delegation of centralized authority to subordinate units of either a geographic or functional character. . . ."[178] The appropriate degree of decentralization is not, or not necessarily, a question about respecting constitutional allocations of authority, but instead a question about how to "achieve effective management."[179] Decentralization may promote effective management because a subordinate agent, "who is relatively close to the subject matter will be more knowledgeable, more responsive, and more involved than a higher ranking person ensconced in some distant central office."[180]

The traditional idea of federalism, by contrast, is not in principle about managerial choice concerning the most effective way to achieve particular policy goals; rather, federalism is about the constitutional scope of managerial authority, or put in different terms, about the scope of the states' rights of "exit" (i.e., the right of states to resist federal policy choices and put in place policies more to their own liking).[181] On

177. *See* Cross, *The Folly of Federalism*, *supra* note 161, at 18 ("The most serious flaw in federalism scholarship . . . is the false conflation of federalism with decentralization."); *see also* Edward L. Rubin & Malcolm Feeley, *Federalism: Some Notes on a National Neurosis*, 41 UCLA L. REV. 903, 910 (1994) (noting a need to "distinguish federalism from decentralization").

178. Rubin & Feely, supra note 178, at 910.

179. *Id. See also* ALBERT O. HIRSCHMAN, EXIT, VOICE, AND LOYALTY: RESPONSES TO THE DECLINE IN FIRMS, ORGANIZATIONS, AND STATES (1970).

180. Rubin & Feeley, *supra* note 177, at 910.

181. *See* Heather K. Gerken, *The Supreme Court 2009 Term – Foreword: Federalism All the*

this view, the instrumental benefits of the decentralization that federalism provides, while welcome, are largely beside the point; when acting within its protected sphere of autonomy, a state may make even atrociously bad policy judgments—however defined—without fear of federal interference. A federalism-based system of environmental regulation would, accordingly, involve judgments not about the appropriate degree of centralization, such as those advanced under the "jurisdictional mismatch" thesis. Nor would it involve discussion about the myriad ways in which states could contribute to overall program effectiveness, such as those found in the "adaptive" or "dynamic" federalism literature. Less still would it concern itself with various sorts of collective action problems that may hamper the voices of diverse and important constituencies or stakeholders. Instead, it would involve discussion about the points of exit that the states, by virtue of their constitutional status, enjoy—the points at which the states "may make policy in accord with their own preferences, separate and apart from the center," or national authority.[182]

I do not mean to suggest that the predominate forms of a weaker notion of "federalism" —ones that endorse "institutional arrangements [that] promote voice, not exit; integration, not autonomy; interdependence, not independence"[183]—should be abandoned or ignored. To the contrary, to the extent that this kind of "federalism" promotes values associated with decentralization, they should serve as appropriate points of discussion about overall institutional arrangements for environmental management. For example, regardless of the degree to which national authority is decentralized, it may still be worthwhile to provide opportunities for states to regulate environmental conditions concurrently with the national government by limiting the circumstances in which federal law will be deemed to preempt state law.[184] By the same token, one should not let the "ghost of sovereignty" that pervades and often informs these weaker versions of federalism stand in the way of securing the values that other forms of decentralization may better

*Way Down*, 124 HARV. L. REV. 4, 12 (2010) (describing traditional views of federalism as based on sovereignty "which formally guarantees a state's power to rule without interference over a policymaking domain of its own") [hereinafter, Gerken, *Federalism All the Way Down*]; *see also* Bulman-Pozen & Gerken, *Uncooperative Federalism*, *supra* note 45, at 1258 (describing views of federalism).

182. *Id.* at 7.

183. Gerken, *Federalism All the Way Down*, *supra* note 181, at 7.

184. *See* Adelman & Engel, *Adaptive Federalism*, *supra* note 149, at 1832-49 (arguing that presumptions against preemption will promote dynamic and adaptive forms of environmental regulation).

promote.[185] It is also important not to let the presumptive decentralization that federalism by definition promotes cloud our thinking about the kind of decentralization that will promote effective environmental management.

Viewed from this perspective, the cooperative federalism model that has been so heavily relied upon by Congress in the design of our major environmental programs, such as the CAA and CWA, should be assessed not in terms of federalism principles, but instead as a managerial decision about the appropriate degree of centralization and decentralization in our environmental programs. After all, it is doubtful that the degree to which federalism infects current environmental law is constitutionally compelled. In the case of the CAA and CWA, in particular, nearly all the elements of these statutory programs may be implemented directly by the federal government should the states fail to act. As such, these programs should be open to criticism for their failures to advance the very values that pivot around assessments of overall program design—values such as effectiveness and efficiency in achieving overall program objectives, overcoming collective action problems that may stymie robust participation in program implementation by affected stakeholders, and overall responsiveness to public preferences. In my view, the shortcomings in our current environmental programs along these vectors argue powerfully for thinking about alternative institutional arrangements—ones that give appropriate consideration to federalism values but are not slavishly yoked to those values.

From a managerial perspective, there is no reason to believe that the federalism-based form of decentralization that shapes our environmental laws enhances the overall effectiveness of those laws. The scope of environmental problems rarely, if ever, coincides neatly with the otherwise arbitrary lines on the map that demarcate the jurisdictional limits of state authority. Nor is there any reason to believe that the variable local conditions that might support variation in overall program policies and priorities can be mapped along state jurisdictional boundaries.[186] In fact, the intra-national variation experienced in our current, federalism-based approach seems to be more the product of the respective states' inclination to favor economic investment over environmental protection; variation in local environmental conditions

185. *See* Gerken, *Federalism All the Way Down*, *supra* note 181, at 11-33 (discussing how the "ghost of sovereignty" haunts thinking about federalism and institutional arrangements).

186. *See* Karkkainen, *supra* note 3, at 216 (concluding that "the states are not ideally matched to the task [of ecosystem management] either territorially or in terms of institutional capacities").

seems to have little or no influence on the extent or shape of this variation.[187]

Stewart pragmatically understood that the federal government's dependence on the states had severely compromised the effectiveness of our environmental laws.[188] He pointedly argued that the problems associated with that dependence "could be alleviated if federal officials were empowered to require or induce local officials" to adhere more strictly to federal requirements.[189]

Before more effective forms of decentralization can be imagined, one must first move beyond federalism-based forms of decentralization. One promising alternative that may overcome this federalism-based dependence, little explored in the scholarly literature, is to situate environmental management within semi-autonomous regional entities, rather than in states. Of course, regional environmental management is not itself a new idea; there are numerous examples of it currently in place.[190] For the most part, however, these institutions take the form of interstate compacts or advisory entities with little or no authority to make policy with binding legal effect and virtually no authority that extends beyond a particular environmental medium, such as a nationally significant body of water like Lake Tahoe[191] or the Chesapeake Bay.[192] Similarly, the scale of these institutions is often based on a specific environmental target, such as water quality, and is not likely suitable for addressing multi-media environmental problems.

What I am suggesting is fundamentally different. I propose that federal regulatory authority be allocated to relatively autonomous regional institutions—call them "Regional Environmental Management Agencies" ("REMAs"), vested with regulatory authority roughly

187. *See* Weiland & Vos, *supra* note 144, at 129 (noting that "when states make policy alone, they are generally more in tune with economic investment than with environmental protection").

188. Stewart, *Pyramids of Sacrifice?*, *supra* note 149, at 1196.

189. *Id.*

190. For some prominent examples, see Jon Cannon, *Choices and Institutions in Watershed Management*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 379 (2000) [hereinafter Cannon, *Choices and Institutions in Watershed Management*] (discussing the Chesapeake Bay Program, a collaborative, three-state regional program to improve water quality in the Chesapeake Bay); Kirsten H. Engel, *Mitigating Global Climate Change in the United States: A Regional Approach*, 14 N.Y.U. ENVTL. L. J. 54 (2005) (discussing regional climate change programs, such as the Regional Greenhouse Gas Initiative, which involves seven states in the Northeast and Mid-Atlantic regions); Matthew McKinney et al., *Regionalism in the West: An Inventory and Assessment*, 23 PUB. LAND & RESOURCES L. REV. 101 (2002) (listing regional arrangements in the western United States).

191. *See* Mark T. Imperial & Derek Kauneckis, *Moving from Conflict to Collaboration: Watershed Governance in Lake Tahoe*, 43 NAT. RES. J. 1009 (2003).

192. *See* Cannon, *Choices and Institutions in Watershed Management*, *supra* note 191.

equivalent to, but in important ways more extensive than, the authority currently exercised by EPA. This robust regional authority would, however, be limited in scope to, and appropriately tailored for, distinct sub-national geographic regions.[193] These REMAs would be federal agencies vested with delegated national power, but constrained within sub-national, regionally-defined jurisdictional limits.

The idea that national power may be divided and allocated among regionally-based agencies seems not to have entered conversations concerning "environmental federalism" in any significant way.[194] To be sure, there have been discussions about "hybrid regional institutions," that draw upon and utilize the pre-existing regulatory authority of the states and national government,[195] but these institutions have been ad hoc and unstable, and therefore lack clear regulatory authority and program continuity. Likewise, there are occasional references in the scholarly literature to the desirability of regional approaches to environmental management, but little in the way of actual proposals for regionally- based regulatory authority.[196] I believe it is time to give regional governance a more concrete and stable institutional foundation. In the next section, I begin to sketch out the basic institutional arrangements underlying a regional approach to environmental management and why these arrangements may yield significant improvements in our ability to manage environmental problems in a responsive, effective, and efficient manner.

## III. TOWARD REGIONAL ENVIRONMENTAL GOVERNANCE.

As described in Section I of this article, the current institutional arrangements under the CAA and CWA hamper effective environmental regulation in a number of ways, and do not yield productive policy variation that one may expect from an appropriately decentralized regulatory system. In terms of the CAA, the SIP process no longer delivers in any significant way the benefits of decentralized regulatory

193. The regional approach I endorse in this article bears a family resemblance to the "new regionalism" approaches that have been proposed to deal with problems associated with the fragmentation of regulatory authority in major metropolitan areas, but operates at a larger geographic scale. For a critical evaluation of the "new regionalism," see Lisa T. Alexander, *The Promise and Perils of "New Regionalist" Approaches to Sustainable Communities*, 38 FORDHAM URBAN L.J. 629 (2011).

194. For a notable exception, see Weiland & Vos, *supra* note 144.

195. *See, e.g*, Karkkainen, *supra* note 3, at 217-22.

196. *See, e.g.*, Adler, *Integrated Approaches to Water Pollution*, *supra* note 48, at 141 (recognizing desirability of "regional solutions, such as the creation of regional entities or interstate compact" to address certain kinds of interstate environmental problems).

decision-making that it originally promised. By contrast, the division of regulatory authority between the national and state governments under the CWA has generated a large, indeed excessive, degree of decentralization, resulting in ineffective environmental management. The overall goals of the CWA have, in consequence, been severely compromised.

A regional approach, by contrast, could be effectively tailored to reap the benefits of decentralized environmental management, while preserving the benefits of national authority. My endorsement of REMAs is intended to explore these possibilities. In what follows, I offer some preliminary architectural renderings of how REMAs may be structured, the scope of their responsibilities, and a general assessment of how they may increase the overall effectiveness of our environmental laws. I will focus particularly on the CWA and the CAA, but offer some speculation about how the authority of REMAs might be expanded over time to promote a more holistic, integrated approach to environmental management that spans across other federal environmental laws.

### *A. Demarcating Regional Boundaries: A Provisional Approach*

The regional approach I suggest here is not intended to be an exercise in applying any specific version of the Matching Principle. While the scale of many of our existing environmental problems may, from a geographic perspective, fit nicely within or coincide with regionally-based institutions, I agree with Professors Adelman and Engel that "[t]he matching principle fails because no systematic way exists to bound most environmental problems, and thus to ensure that all of the costs and benefits are internalized by the regulating entity."[197] Nonetheless, any attempt to establish regionally-based institutions must cope with the problem of demarcating the "regions" within which the institutions are to operate. The scope and character of environmental problems, while not determinative of jurisdictional boundaries, must be taken as a primary consideration.

A starting point is the current structure of the Environmental Protection Agency, which includes regional components—namely EPA's ten regional offices.[198] The current configuration and geographical boundaries of these existing EPA regions may promote suitable variation in environmental policy, but the present configuration

197. *See* Adelman & Engel, *Adaptive Federalism*, *supra* note 149, at 1817.

198. *See About EPA*, ENVTL. PROT. AGENCY, http://www.epa.gov/aboutepa/index.html (last visited May 5, 2013).

could be fine-tuned to better reflect the nature and scope of extant environmental issues and the diversity of preferences among affected communities.

Paul Weiland and Robert Vos have usefully suggested that EPA's regional offices be organized along "eco-regions," which they describe as "blend[ing] a respect for natural features of the land with an understanding of how humans already live with natural systems in terms of economic production and cultural identification."[199] One of the basic commitments of this approach to locating jurisdictional boundaries, which I share, is that it promises a greater connection between regulatory institutions and the "places that people relate to."[200] In this way, institutional arrangements can better reflect shared cultural and historical values, as well as common lived experience with particular environmental problems. Of course, any effort to draw jurisdictional lines on a map will involve large amounts of guess-work, even arbitrariness. I do believe, however, that any problems with the initial drawing of boundaries may be mitigated by adjustments over time, through broadly participatory processes.

### *B. The Scope of Regional Authority: Limiting Reach While Expanding the RegulatoryToolkit*

Drawing again upon the existing structure of EPA, it is important to recognize that EPA's regional offices already enjoy some limited measure of autonomy and are likely to be more knowledgeable of local conditions and the ways in which existing approaches to environmental problems are succeeding and failing in their respective regions. For example, under the CAA, EPA's regional offices are responsible for reviewing and negotiating the terms of SIPs in the first instance, subject to ultimate approval by EPA headquarters.[201] In addition, these regional offices review permits issued by approved state programs under the CAA and CWA, and in the absence of approved state programs, issue such permits themselves.[202] They are in frequent and repeated contact with major stakeholders and state agency personnel within their regions. Through these responsibilities, the regional offices have much greater knowledge of local cultural and environmental conditions than does EPA headquarters.

199. Weiland & Vos, *supra* note 144, at 116.
200. *Id.*
201. *See* 40 C.F.R. § 51.103 (2007).
202. *See* 40 C.F.R. §§ 122.21-37.

To capitalize on this knowledge and experience, we should refashion our major environmental programs to devolve greater authority on these sub-national regional agencies, rebranding them as REMAs. Each REMA would be headed by presidentially-appointed administrator. Importantly, each REMA would have independent budget lines and the attendant discretion to allocate funding according to the REMA's basic program and policy priorities. This is not to suggest that EPA should be abolished. Many of the current functions performed centrally by the agency should be retained. In the context of CAA, for example, EPA would continue to be responsible for regulating most mobile sources, such as new motor vehicles, through nationally uniform emissions limitations, with suitable allowance for state variation under the California waiver process.[203] It would also be responsible for responding to inter-regional spillovers, such as air pollution transport. More generally, EPA would continue to fund and support basic and applied scientific and technology research, maintain and augment existing information clearinghouses, and to develop and support innovative policy tools.

In terms of more specific program responsibilities under the CAA, I will here only highlight some of the more important institutional reforms. First, REMAs should be given authority to promulgate regional ambient air quality standards to replace the existing NAAQS, subject to a regulatory "floor." The floor would be the more stringent of either the existing NAAQS or existing air quality. These floors would form a public health or anti-degradation baseline for new regional air quality standards. For some regions, however, the existing NAAQS should be a "soft" floor. Following the CWA's approach to the "fishable/swimmable" floor for state water quality standards, REMAs should be given limited authority to promulgate time-limited, below-the-floor regional standards in those circumstances in which attainment of the existing NAAQS is economically infeasible within a specified period of years. This approach would displace the existing program that relies on extensions of attainment dates to accommodate the most severe and intractable air quality problems experienced in some nonattainment areas. The more tailored and decentralized regional ambient air quality standards would also allow for the retirement of some existing CAA programs that seek to prevent significant deterioration in air quality in those areas that have attained the existing NAAQS.

203. *See Transportation and Air Quality: California Waivers and Authorizations*, ENVTL. PROT. AGENCY www.epa.gov/omswww/cafr.htm (last visited May 5, 2013).

REMAs would also be given primary responsibilities that EPA currently does not possess. Most importantly, REMAs would be charged with developing regional implementation plans ("RIPs") to attain the regional ambient air quality standards. The existing, and highly dysfunctional, SIP development and approval process would be scrapped in its entirety, though, of course, existing SIP elements could provisionally be incorporated in the RIPs, as appropriate, to provide for a smoother transition of regulatory authority. RIPs would be developed through a broadly participatory rulemaking process in which interested local and state jurisdictions and private stakeholders would be consulted. The regional scope of the planning effort may make greater use of such policy innovations as emissions trading programs more practical and effective, permitting more cost-effective reductions in emissions from larger stationary sources of the more common, "criteria" pollutants and their precursors. Existing state operating permit programs would be retained, subject to continuing oversight by the REMAs. REMAs would also be responsible for updating existing federal emissions limitations on new and existing stationary sources.

As with the proposed reforms to the CAA, many of the responsibilities of EPA and the states under the existing CWA would be shifted to the REMAs. Existing state permitting programs ("SPDES") would be retained, but would be funded by permit fees like the current Title V permitting program under the CAA.[204] As with the CAA proposal, REMAs would gain authority that EPA currently does not enjoy. REMAs, not states, would be responsible for promulgating water quality standards and water management plans, many of which would incorporate existing state water quality standards, with revisions as deemed appropriate by the respective REMAs. In addition, REMAs would be responsible for promulgating regional total maximum daily loads ("TMDLS") for impaired water segments that do not currently meet the applicable water quality standards. These TMDLs would include federally enforceable load allocations to non-point sources of pollution, based primarily on reductions achievable through best management practices. Again, the regional scope of REMAs' authority may make watershed approaches to water quality management more practical and effective. Such watershed approaches may also promote greater innovation, such as more effective use of effluent trading

204. *See* 42 U.S.C. § 7661a(b)(3) (1990) (requiring that state permit programs charge fees "sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program requirements of this subchapter").

programs in which non-point and point sources could participate. More generally, REMAs would be given authority to impose direct restrictions on non-point sources of water pollutants, requiring best management practices and implemented through individual and general permits, modeled loosely along the lines of the current Section 404 permit program governing discharges of dredged and fill material into wetlands and other environmentally sensitive aquatic environments. This would finally put in place limited federal authority for monitoring and regulating land uses that are impairing the nation's water resources, replacing the uncoordinated and ineffective control of such uses currently vested in the states. There is little doubt that an appropriately limited program governing such land use practices could survive constitutional scrutiny, as precedent under the Section 404 permitting program demonstrates.[205]

### *C. The Benefits of Regional Environmental Government: A Summary Speculative Evaluation*

The rough sketch of the scope and authority of REMAs provided above is intended only to address some of the most problematic program elements of the existing CAA and CWA regulatory programs. Yet, once established, REMAs could serve as basic institutional building blocks for more lasting and important reforms of our existing environmental laws. The most fundamental change is to decouple the obvious need for decentralized environmental management from the federalism-infused approach embraced by our current institutional structure. In this way, we can distance ourselves from a system that uses state political boundaries as presumptively appropriate measures of decentralization and move toward more environmentally relevant criteria, such as air sheds and watersheds and the varieties of ways in which ecosystems and citizens interact.

The decentralization provided by the establishment of REMAs should deliver many of the benefits typically associated with federalism,

205. While the Court's decisions in Solid Waste Agency v. Army Corps of Engineers, 531 U.S. 159 (2001) and Rapanos v. United States, 547 U.S. 715 (2006) might preclude the extension of land use controls to protect water quality in remote and isolated waters, neither decision casts constitutional doubt on Congress's authority to control land use practices that adversely affect "navigable waters." However, the scope of that term might ultimately be defined. I do not mean to suggest that the limitations imposed by *Solid Waste Agency* and *Rapanos* do not make effective federal watershed management more difficult; they undoubtedly do. Nonetheless, the kind of land use practices that may be reached by expanded federal regulatory authority will clearly make an appreciable difference in watershed management.

but which our current federalism-based approach has failed to deliver. For starters, the establishment of semi-autonomous REMAs will bring to our environmental law a greater sensitivity to regional variations in environmental conditions and preferences for environmental quality. REMAs can be expected to be responsive to regional preferences to a much greater extent than is currently possible for EPA and the states, respectively. This will permit scarce regulatory resources to be allocated in ways to meet the environmental challenges deemed to be of the highest priority within the respective regions.

Moreover, reallocating power to REMAs and away from the states and EPA may tend to give local communities, such as cities and other political subdivisions, a much more muscular voice in the shape of environmental programs. Freed from the necessity to rely excessively on the states to implement federal standards, REMAs may be able to forge greater working relations with cities, counties, and special purpose agencies and districts.[206] When local governmental units are given a voice separate and apart from the voice of the "state" in the shape and content of national environmental programs, one may expect the national authority to be more responsive to those local concerns. Concretely, REMAs may be able to target grants and program resources more directly to the local governmental units that need them than is currently practical under our cooperative federalism model.

REMAs may also serve as laboratories in which innovative and creative policies can be tested on a provisional and more limited basis than is currently practicable under existing institutional arrangements. No doubt, some of these policy innovations may fail, but some may succeed, yielding transferable knowledge and experience upon which other REMAs may build.

REMAs can also be expected to be much more nimble, flexible and adaptive to changing conditions than our existing system, which yokes together a central national agency and the states in an often uncomfortable, if not conflictual, relationship that makes effective coordination costly and difficult. States have resisted many of EPA's efforts to adapt our current programs to meet persistent environmental problems, making change difficult, and in some cases, legally

206. As Frank Cross has argued, "State governments do not form the sort of integrated communities appropriate to uniform policymaking. Given the 'size of state government' it is 'difficult to credit the traditional belief that local self-determination could genuinely be achieved by state autonomy.'" Cross, *The Folly of Federalism*, *supr*a note 160, at 21 (quoting Cass R. Sunstein, *Constitutionalism After the New Deal*, 101 HARV. L. REV. 421, 425 (1987)).

impossible.[207] By giving REMAs primary authority for developing regional implementation plans for air and water quality standards, this friction can be eliminated, allowing for more responsive and effective adaptations. This responsiveness and adaptability will likely grow in importance as the effects of global climate change become more visible and pronounced. Likewise, the disruptive effect of litigation may be limited under a national environmental management system of linked, but semi-autonomous REMAs because an adverse judicial decision against one REMA's actions will not be applicable to, or binding on, other REMAs.[208] As a consequence, the environmental program as a whole will be much more resilient than the existing institutional arrangements.

REMAs may also enhance local participation in the development of environmental regulation. Under the current institutional arrangements, EPA rulemaking processes are dominated by a relatively small number of repeat players, many of which lack knowledge of or sensitivity to more local environmental conditions.[209] National rulemakings are often so broad in scope that local interests and stakeholders may find it difficult to assess how particular regulatory proposals may affect them, raising the costs of and creating disincentives for active participation. In a regionally-based rulemaking, by contrast, the local effects of regulatory proposals should be more salient, creating greater opportunities for effective organizing among citizens and greater incentives for participation.[210] Moreover, regionally-based rulemaking proceedings are much more likely than national rulemakings to attract environmental advocacy groups that are formed to protect particular

207. *See, e.,g.*, Virginia v. EPA, 108 F.3d 1397 (D.C. Cir. 1997) (holding that EPA may not require states in ozone transport region to revise their SIPs to include a "California" vehicle emissions program).

208. Promoting better legal decisions by the courts is an additional benefit of a regionally-based environmental management system. The current system relies extensively on the Court of Appeals for the D.C. Circuit as the court of choice for reviewing nationally applicable regulations promulgated by EPA under the CAA and CWA. The CAA in particular makes the D.C. Circuit the exclusive forum for review of "nationally applicable regulations promulgated, or final actions taken, by" EPA. 42 U.S.C. §7607(b)(1) (1990). Review of decisions by REMAs could be lodged in the court of appeals for the circuit that most closely aligns with the jurisdictional limits of the REMA. By creating a greater diversity of reviewing courts, the REMA-based program may promote differing views on recurring legal issues, enhancing the prospects of more carefully reasoned and thoroughly considered legal doctrine. Thanks to Sam Jordan for this suggestion.

209. McGarity & Thomas, *Some Thoughts on Deossifying the Rulemaking Process*, 41 DUKE L.J. 1385 (1991-1992).

210. *See* Weiland & Vos, *supra* note 144, at 122-23 (arguing that under regional management approaches citizen "participation might be amplified").

resources or address particular regional environmental problems.[211]

More generally, REMAs may be capable of fostering cooperative arrangements with local and state agencies and private stakeholders to a much greater extent than is possible under current institutional arrangements. Being in more consistent contact with such stakeholders than is practicable under current arrangements, REMAs would be more likely to gather meaningful information about particular environmental problems and monitor the effectiveness of the responses that are made to them. This may foster a form of adaptive management in which environmental improvement is made through an iterative process of trial, monitoring, and response. The closer working relationships that REMAs may be able to foster with local stakeholders may also result from the added leverage provided by the REMAs' primary role in developing enforceable implementation plan components for both air and water resources. Through this leverage, REMAs may induce otherwise reluctant stakeholders to participate in cooperative ventures to improve environmental quality. A useful analogy of how such leverage can yield policy innovations is the Fish and Wildlife Service's invocation of the take prohabition in the Endangered Species Act ("ESA") to fashion collaborative, large-scale habitat conservation planning under the ESA's incidental take permit program.[212]

Over time, REMAs can also be expected to provide greater opportunities to integrate various programs in ways that more effectively address cross-media effects of various activities.[213] By directing regulatory resources to regional, rather than national problems, it is likely that REMAs will be able to monitor cross-media effects more closely and to respond to them more effectively. In the longer term, one may expect REMAs to play an increasingly important role in larger scale infrastructure planning and implementation, including the sitting of energy-producing facilities, transportation networks, and water development projects. The result may be a more holistic approach to environmental management and a more sustainable and resilient network of "eco-regions."[214]

211. *See* Jonathan Cannon, *Checking In on the Chesapeake: Some Questions of Design*, 40 U. RICH. L. REV. 1131, 1142-45 (2006) (discussing how more locally-based advocacy groups may be more likely to participate in regional management programs than national rulemakings).

212. *See* J.B. Ruhl, *Who Needs Congress? An Agenda for Administrative Reform of the Endangered Species Act*, 6 N.Y.U. ENVTL. L. J. 367 (1998).

213. *See* Weiland & Vos, *supra* note 144, at 118.

214. *See id.* at 118-119.

## IV. CONCLUSION

Our existing environmental laws rely extensively on a model of cooperative federalism in which authority is divided among the national and state governments. This approach to environmental management is becoming strained and ineffective. The promised benefits of this form of decentralized policymaking have not been realized, yet it is clear that some degree of decentralization is necessary to ensure a sustainable, adaptable and resilient regulatory system that effectively responds to persistent and changing environmental problems. Decentralizing national power along regional lines may provide a way to secure these important objectives. Regional Environmental Management Agencies, properly scaled and vested with appropriate regulatory authority, are a promising alternative to our now outdated, 1970s-vintage regulatory programs.