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CHECKING IN ON THE CHESAPEAKE: SOME QUESTIONS OF DESIGN

Jonathan Cannon *

INTRODUCTION

The Chesapeake Bay Program ("the CBP" or "Program") has been widely celebrated as a model of collaborative management for large multijurisdictional watersheds and for ecosystem management more generally.¹ In an article published six years ago, I joined in the celebration.² But recent events warrant consideration of whether restructuring of the program is called for. In this essay, I consider whether greater centralization of decisionmaking for the Bay would address recent criticisms of the Program and better protect the public interest.

After evaluating two alternative forms for the Program involving greater centralization, I conclude that major restructuring is not in order. The decentralized networked character of the Program carries with it the risk of failure, through inattention or misuse by its participants, but it also gives the Program an integrative capability particularly suited to the task of managing a complex and rapidly evolving human-natural system that is still only partially understood.

I. THE INITIAL ASSESSMENT

The Chesapeake Bay Program, as I will refer to it here, includes multiple components. Perhaps most importantly, the CBP

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1. Jon Cannon, *Choices and Institutions in Watershed Management*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 379, 394 & n.67 (2000).

2. *Id.* at 394.

is a series of agreements among Virginia, Maryland, Pennsylvania, the District of Columbia, the United States Environmental Protection Agency ("the EPA" or "the Agency"), and the Chesapeake Bay Commission (a body composed of state legislators, agency heads and citizen representatives), pledging their cooperation to protect and restore the Bay.³ These agreements contain mutual policy goals, objectives, and commitments. They also provide for Program governance, including the establishment of an Executive Council composed of the governors of the signatory states, the mayor of the District of Columbia, the Administrator of the EPA, and the chairperson of the Chesapeake Bay Commission. The Council meets every year. Its meetings are customarily attended by the principals themselves and produce joint policy statements and implementing directives to guide the signatories' exercise of their respective authorities, including legislative and regulatory actions.⁴ The Executive Council is linked to its watershed constituencies through an array of policy, technical, and citizen advisory committees. A permanent expert staff housed in the Chesapeake Bay Program Office works to coordinate among the parties, develop policy options, and monitor implementation.

In the earlier article, I relied on two main criteria to justify CBP's pre-eminence as an example of cooperative governance. The first of these criteria was institutional capacity. Over the twenty-three years of its existence, the agreements that anchor the Program have expressed progressively more detailed mutual goals, objectives, and commitments; fostered a broadly participatory structure reaching from presidential appointees and governors to local watershed associations and other non-governmental organizations; and sponsored ongoing investments in high quality scientific research, monitoring, and reporting that have informed decisionmaking. The Program's highly elaborated, networked form, I concluded, had the capacity to reduce significantly information and coordination costs and to moderate strategic behavior

3. The first of these was the 1983 Chesapeake Bay Agreement. CHESAPEAKE BAY PROGRAM, 1983 CHESAPEAKE BAY AGREEMENT (1983), <http://www.chesapeakebay.net/pubs/1983chesapeakebayagreement.pdf>. The most recent is Chesapeake 2000. CHESAPEAKE BAY PROGRAM, CHESAPEAKE 2000 (2000), <http://chesapeakebay.net/agreement.htm>.

4. See CHESAPEAKE BAY PROGRAM, 1987 Chesapeake Bay Agreement 6 (1987), <http://chesapeakebay.net/pubs/199.pdf>.

by stakeholders—collective action problems that can undermine cooperative management of large ecosystems.⁵

The second criterion was environmental effectiveness. The question was whether the CBP had brought us closer to saving the Bay than we would have come without it. In answering this question I focused on the issue that is widely understood to be the most important for the long-term health of the Bay's ecosystem: the reduction in nutrient loadings (nitrogen and phosphorous) to the Bay. At the time of that analysis, the Program represented itself as on track to achieve the parties' Year 2000 goal of reducing phosphorous loadings by forty percent while only narrowly missing the companion goal of reducing nitrogen loadings by the same percentage.⁶ Based in significant part on the Program's account of its progress in reducing nutrient loadings, I concluded that the CBP "should be credited with improvements over what might have occurred in its absence."⁷

An assortment of revelations and critical observations has since brought that assessment into doubt. These revelations and observations have appeared in Howard Ernst's book *Chesapeake Bay Blues*,⁸ in a report on the CBP by the Government Accountability Office ("the GAO"),⁹ and in comments by various Program participants and observers. I detail the most important of them below and then address their institutional implications for the CBP.

II. RECENT REVELATIONS AND CRITICISMS

A. *Environmental Progress*

Given the central importance of the nutrient reduction goals, perhaps the most troubling post-2000 revelation has been that the Program made less progress on its key project, nutrient re-

5. See Cannon, *supra* note 1, at 398–402.

6. See CHESAPEAKE 2000, *supra* note 3.

7. Cannon, *supra* note 1, at 406.

8. HOWARD R. ERNST, CHESAPEAKE BAY BLUES: SCIENCE, POLITICS, AND THE STRUGGLE TO SAVE THE BAY (2003).

9. U.S. GOV'T ACCOUNTABILITY OFFICE, PUBL'N NO. GAD-06-96, CHESAPEAKE BAY PROGRAM: IMPROVED STRATEGIES ARE NEEDED TO BETTER ASSESS, REPORT, AND MANAGE RESTORATION PROGRESS (2005) [hereinafter GAO REPORT].

duction, than it represented going into 2000. As it later acknowledged, based on its own modeling results, the Program did not achieve the Year 2000 reduction goals for either nitrogen or phosphorous.¹⁰ Moreover, the modeling results, which the Program used as the primary basis for assessing progress, appear to have systematically projected greater nutrient reductions than were actually achieved as shown by monitoring data. The Chesapeake Bay Commission pointed out this discrepancy in its 2001 report, noting that “[i]n 2001, water quality monitoring data from the Bay’s largest tributaries revealed no discernable trends in nutrient loads, despite modeling results showing a 15 percent reduction in the amount of nitrogen entering the Chesapeake Bay from 1985–2000.”¹¹ This discrepancy and the more fundamental issue of what progress, if any, the Program was making in nutrient reduction were addressed by Ernst in his 2003 book,¹² led to a flurry of critical press accounts,¹³ and sparked a congressional oversight hearing¹⁴ and the GAO report mentioned above.¹⁵

An accurate assessment of the Program’s progress in nutrient reduction is complicated by several factors, including limited monitoring data, uncertainties concerning the contribution of diffuse non-point sources of nitrogen and phosphorous, and the variability in amounts of these pollutants reaching the Bay dependent on the amount and timing of precipitation.¹⁶ The Program has made documented gains in reducing pollution from point sources, such as sewage treatment plants, and “[f]or a large part of the watershed drained by rivers monitored by the [United States Geological Survey], concentrations of nitrogen and phosphorous

10. CHESAPEAKE BAY PROGRAM, *THE STATE OF THE CHESAPEAKE BAY: A REPORT TO THE CITIZENS OF THE BAY REGION* 32 (2002).

11. CHESAPEAKE BAY COMMISSION, *SEEKING SOLUTIONS: ANNUAL REPORT 2001*, 34.

12. ERNST, *supra* note 8, at 63–68.

13. See, e.g., *A Distorted Picture of the Chesapeake Bay*, ROANOKE TIMES, July 25, 2004; *A Distorted Picture Chesapeake Bay: Officials Overstated Cleanup of Nutrient Run-off*, GREENWIRE, July 19, 2004; *Editorial, Rescuing Chesapeake Bay*, CHRISTIAN SCI. MONITOR, July 20, 2004, at 8; *Setback for the Chesapeake Bay*, USA TODAY, July 21, 2004, at 1D.

14. *A Model for Success? Monitoring, Measuring and Managing the Health of the Chesapeake Bay: Hearing Before the Comm. on Government Reform*, 108th Cong., (2004) [hereinafter *Oversight Hearings*].

15. GAO Report, *supra* note 9.

16. See *Oversight Hearings*, *supra* note 14, at 78, 80 (statement of Theresa Pierno, Vice President for Environmental Protection and Restoration, Chesapeake Bay Foundation); *id.* at 87 (statement of Donald F. Boesch, President, Center for Environmental Science, University of Maryland).

discharges have generally been declining, at least when adjusted . . . for river flow.”¹⁷ Because of high climactic variability, however, “the total amount of nutrients actually reaching the bay over the past 10 years or so is more or less the same as during the early benchmark of the years of the Chesapeake Bay Program.”¹⁸ Thus it is hard to disagree with Ernst’s broad conclusion that “the overall effort to improve the water quality of the Bay, so as to achieve a corresponding improvement in the abundance of the Bay’s living resources, has not succeeded.”¹⁹ In recognition of this, in 2003 the Program partners (the EPA and states) agreed to new goals of reducing nutrient loads by 2010 to no more than 175 million pounds of nitrogen (from current loadings of approximately 278 million pounds) and 12.8 million pounds of phosphorus (from current loadings of 19.5 million pounds).²⁰ This essay addresses whether the CBP, as currently structured, provides an optimal setting for pursuing that ambitious goal.

B. *Failures in Cooperative Action*

A related set of concerns centers on what I will call “cooperative failures”—failures of stakeholders to agree upon or to carry out implementing actions believed necessary to achieve the consensus goals of protecting and restoring the health of the Bay. “Cooperative failures” may be implicit in the failure of the Program to achieve policy goals that are in the interests of the Bay’s citizens. But, as we have seen, the state of the Bay may be affected by factors that are outside human control such as the weather. Focusing on the collective action dynamics of the CBP, separate from particular environmental outcomes, will assist our assessment of the CBP’s design.

Beginning with Hardin’s canonical *Tragedy of the Commons*, theorists have given us much reason to doubt the efficacy of an institution like the CBP, which depends so heavily on voluntary undertakings by a diverse multitude of players—from Congress and federal agencies to state governors and legislatures to local

17. *See id.*

18. *Id.*

19. ERNST, *supra*, note 8, at 67–68.

20. Chesapeake Bay Program, Setting Nutrient and Sediment Reduction Goals: New Nutrient Reduction Goals for Nitrogen and Phosphorus, <http://www.chesapeakebay.net/info/wqcriteria/pv/allocations.cfm> (last visited Apr. 7, 2006).

governments, citizen groups and individual landowners. A number of commentators have argued that the institutional arrangements embodied in the CBP have the capacity to overcome obstacles to successful collective action. However, in making these arguments, we have had to face the evidence that continues to surface of failures to reach collective solutions on critical issues.²¹ Ernst's *Chesapeake Bay Blues* upped the ante with a detailed account of cooperative failures on several important issues facing the Bay, including reducing nutrient loadings from agriculture and restoring blue crab populations.²² In Ernst's analysis, these and other failures are outgrowths of the "political context" in which the CBP must operate, a context that makes meaningful environmental progress difficult.²³ Ernst's image of Program failure is troubling:

The Bay's greatest danger is the emergence of a cozy political partnership that provides plenty of opportunities for "success," but that produces few tangible environmental accomplishments. In such a situation, well-intentioned policymakers take credit for producing a steady flow of agreements, reports and voluntary programs. Funding for environmental programs incrementally increases with each passing year. The scientific community is kept active researching and monitoring the health of the ecosystem. Collaborative programs provide countless opportunities for environmental groups and industry representatives to participate in the ongoing public policy debate. And occasionally, even hard-hitting regulatory actions make their way through the system. Collectively, the restoration effort is billed as the nation's premier watershed restoration program and is promoted as a model for estuarine restoration programs worldwide. All the while, decades pass and the Bay's most basic environmental indicators suggest little if any sustained improvement.²⁴

In this Chesapeake Bay version of a fool's paradise, rather than facilitating progress, the CBP sanctions the status quo. Even the scientists and environmentalists are co-opted. Part III addresses the centralization/decentralization issue that lurks in Ernst's image. Part IV offers some preliminary observations on the related issue of accountability.

21. See, e.g., Cannon, *supra* note 1, at 403-04.

22. ERNST, *supra* note 8, at 31-35.

23. *Id.*

24. *Id.* at 49.

III. SHOULD THE CHESAPEAKE BAY PROGRAM BE CENTRALIZED?

Should the revelations and observations outlined above cause us to move away from the comparatively protean, decentralized arrangement now in place toward a harder-ribbed, centralized model? Should we recast the Program as a top-down enterprise operating out of a federal agency or agencies with regulatory authority over activities significantly affecting the health of the Bay, from the operation of sewage treatment plants to harvesting blue crabs? Or should we create, by interstate compact, a regional body with regulatory authority of similar scope?

A. *Framing the Options*

In attempting to answer these questions, it is helpful to consider specific examples of these two broad alternatives of federalization and regionalization that have been used in related contexts. The first example represents federalization of decision-making in setting water quality standards that will drive permitting and enforcement actions to achieve pollutant reductions. The federal Clean Water Act ("the CWA") provides for the promulgation of water quality standards for the waters of each state.²⁵ Standards consist of designated uses for each water body or segment in the state and water quality criteria associated with each designated use. The statute authorizes the EPA to develop water quality criteria, but it gives the states the primary responsibility of setting water quality standards, including selecting the uses for which its waters will be designated and the criteria applicable to those designations. Water quality standards adopted by the states are subject to EPA approval, but diversity is tolerated, including state water quality criteria that differ substantially from the EPA's, and that diversity has been countenanced by the courts.²⁶

To assure the adoption and implementation of consistent standards necessary to achieve Bay-wide water quality goals, one might consider a more centralized model than that generally prevailing under the CWA. In this more centralized model, the EPA would promulgate a regulation establishing criteria for all waters

25. 33 U.S.C. § 1313 (2000).

26. See, e.g., *Natural Resources Defense Council v. EPA*, 16 F.3d 1395 (4th Cir. 1993).

of the Bay and giving directions to the states for incorporating those criteria in revised water quality standards and discharge permit limits. State standards would be rejected unless they were as protective as the federal rule.

Congress provided for just such an arrangement in setting water quality standards for the Great Lakes, an aquatic ecosystem comparable in size and importance to the Chesapeake Bay. In Section 118 of the CWA, Congress required the EPA to promulgate water quality guidance for the Great Lakes and gave the Great Lakes states two years from the date of the guidance to adopt water quality standards and discharge permit programs "consistent with" the guidance.²⁷ The EPA interpreted this provision as authorizing it to proceed by regulation, rather than by informal advisory guidance, resulting in "greater restriction of the states' flexibility to craft their own water quality programs."²⁸ On appeal, the United States Court of Appeals for the District of Columbia upheld the Agency's interpretation, citing Congress's intent "to create a uniform set of requirements for water pollution in the Great Lakes."²⁹

The second centralized option is a regional compact body. States are sovereign entities. One state may not bind another. Nor may the federal government bind states, except through exercise of the powers enumerated in the Constitution. Under the Compact Clause, however, states may enter into agreements whereby they bind themselves to the decisions of an interstate body, subject to ratification by the United States Congress.³⁰ Using the compact device, the Bay states could create a joint commission or agency with the power to issue regulations that would be binding on each of them and enforceable in their jurisdictions. The compact agency could be given authority over one aspect of the restoration effort, such as regulating fishery resources, or over the full range of the Bay's environmental concerns, including water quality.

States and Congress have established regional regulatory commissions in other watersheds, including the adjacent Dela-

27. 33 U.S.C. § 1268(c)(2)(C) (2000).

28. *Am. Iron & Steel Inst. v. EPA*, 115 F.3d 979, 987 (D.C. Cir. 1997).

29. *Id.* at 989.

30. U.S. CONST. art. I, § 10.

ware River basin.³¹ Commentators have advocated this option for the Chesapeake Bay,³² and Ernst offers a version of it in his proposal for a Bay-wide agency that would have authority to make rules for fisheries resource management.³³ Indeed, Ernst's proposal is modeled on an existing institution, the Potomac River Fisheries Commission, which was established by agreement of Maryland and Virginia and approved by Congress in the Potomac River Compact of 1958.³⁴ The Commission is composed of eight members, four each from Virginia and Maryland, appointed by their respective governors.³⁵ Within the tidewater portion of the Potomac, a tributary of the Bay, the Commission has the authority to regulate the taking of fish and shellfish. Thus, a significant portion of fishery resources of the Bay's tidal system are governed by a regional regulatory body. The question is whether this centralized model should be expanded, either in its geographic scope or in the subjects of its jurisdiction.

B. *Relationship of "Political Context" to Issues of Institutional Design*

Ernst identifies four features of the "political context" that complicate efforts to protect and restore the Bay and uses these four features in his analysis of Program failures in nutrient reduction and restoration of blue crab populations.³⁶ In this section, I consider what bearing, if any, these complicating factors have on the questions of institutional design posed above and, in particular, on the relative merits of the two centralized models. In order to keep the inquiry manageable, I have focused on the design of the Program as a discrete institutional arrangement and not on the design of the foundational political institutions, such as state electoral processes, within which it must function; I take the latter largely as given.

31. See Delaware River Basin Compact, Pub. L. No. 87-328, 75 Stat. 688 (1961).

32. E.g., Paul Barker, Jr., *The Chesapeake Bay Preservation Act: The Problem with State Land Regulation of Interstate Resources*, 31 WM. & MARY L. REV. 735, 768-71 (1990).

33. See ERNST, *supra* note 8, at 130-31.

34. Potomac River Compact of 1958, Pub. L. No. 87-783, 76 Stat. 797 (1962); MD. CODE ANN., NAT. RES. § 4-306 (LexisNexis 2005); VA. CODE ANN. § 28.2-1001 (2004).

35. VA. CODE ANN. § 28.2-1001, art. I, § 2 (2004).

36. See ERNST, *supra* note 8, at 33-34.

Ernst's four barriers to effective policy-making and implementation are: (1) The disproportionate influence of economic concerns in politics;³⁷ (2) Strategic behavior by industries, localities, and states to avoid shouldering their share of the costs of restoring the Bay: among states and localities, this phenomenon is often characterized as a regulatory "race to the bottom," discouraging jurisdictions from adopting or enforcing controls necessary to meet mutually beneficial goals;³⁸ (3) Collective action problems that put environmental interests at a political disadvantage vis-à-vis industry or business groups: broad-based interest groups, such as environmental organizations, are more susceptible to "free rider" problems than concentrated economic interests and thus have difficulty adequately representing their members' preferences;³⁹ and (4) Low salience of environmental issues in the post-problem stage of environmental consciousness: this assumes that environmental concerns have passed from a stage of intense public interest "into a prolonged limbo—a twilight realm of lesser attention or spasmodic recurrences of interest," triggered by public perceptions of crises.⁴⁰

While they may help to explain some of the failures the CBP has experienced, the first factor (disproportionate influence of economic concerns) and the fourth factor (low salience of environmental concerns) generally do not make a case for moving to a more centralized format for the Bay's restoration. These factors are not specific to any level of decisionmaking. There seems to be no reason to assume that the economy will dominate deliberations in a centralized forum any less than in state or local bodies. Similarly, there is no obvious basis for believing that the salience of concerns about the environment generally or about the Bay in particular would be greater in a more centralized decision structure; indeed there is some reason to assume the contrary—that is, that the CBP's decentralized and participatory structure lends itself to intensifying citizen preferences in support of the Program's goals.⁴¹

The third factor (greater susceptibility of environmental interests to free rider problems) and the second (divided government

37. ERNST, *supra* note 8, at 35.

38. *See id.* at 38–40.

39. *See id.* at 40–42.

40. *See id.* at 44–45 (quoting Anthony Downs, *Up and Down with Ecology—The "Issue-Attention Cycle,"* 28 PUB. INT. 38, 40 (1972)).

41. Cannon, *supra* note 1, at 422.

and race to the bottom), however, present more complex questions. I deal with them separately below.

1. Collective Action Problems

Some commentators have argued that the risks of under-representation of environmental interests are greater at the state level than at the federal level. Although free rider problems affect environmental organizations at all levels, they argue, efforts concentrated at the federal level are more likely to achieve a critical mass necessary for effective advocacy than efforts dispersed among state jurisdictions. These arguments are often made in general support for the federalization of environmental law.⁴²

Richard Revesz has challenged these contentions.⁴³ Indeed, he argues for the opposite proposition: that the under-representation of environmental interests is likely to be more serious at the federal level than in states.⁴⁴ Based on accepted principles of collective action theory, he contends, larger groups are more likely to be crippled by free riders than smaller groups, because in larger groups the benefits of participation by individual members are typically less direct or measurable, and it is also harder for the group to police free riders.⁴⁵ Thus, state environmental groups are more likely to be effective in their respective forums than national environmental groups seeking to influence federal policy.⁴⁶ Revesz rejects the notion that a "critical mass" would mark the difference between ineffectiveness and effectiveness of representation at any level, although he does acknowledge that environmental groups would enjoy economies of scale in operating in one federal forum rather than fifty state forums.⁴⁷ In his view, however, those economies of scale would not outweigh the increased

42. See FRANK R. BAUMGARTNER & BRYAN D. JONES, AGENDAS AND INSTABILITY IN AMERICAN POLITICS 222-23 (1993); Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570, 650 & n.302 (1996).

43. See Richard Revesz, *Federalism and Environmental Regulation: A Public Choice Analysis*, 115 HARV. L. REV. 553 (2001).

44. See *id.* at 557, 641.

45. See *id.* at 560-62.

46. See *id.* at 563, 565.

47. See *id.* at 565-67.

collective problems that environmental groups would face in a federal venue.⁴⁸

In the case of the Chesapeake Bay, regional environmental organizations have emerged in addition to the many state and local environmental groups focused on the Bay and its tributaries. The largest and most influential of these is the Chesapeake Bay Foundation ("the CBF"), which was organized in 1967.⁴⁹ The CBF helped bring about the first Chesapeake Bay Agreement in 1983,⁵⁰ and it and its fellow Bay-focused non-governmental organizations ("NGO's") are integral parts of the networked institutional arrangement that is the CBP. The Foundation currently has 140,000 members, raises roughly \$20 million in annual revenues, and spends over \$15 million each year in public education, lobbying and other efforts to shape public policy, and environmental protection and restoration services.⁵¹ Nevertheless, in 2003 Ernst found that the Foundation "does not employ a single full-time lobbyist, has no affiliated political action committee, has never contributed any money to political campaigns, and has no organized legal defense fund."⁵² Compared to their industry counterparts, which have a cadre of full-time lobbyists in state capitals and in Washington, D.C., a record of substantial political contributions, and lawyers dedicated to vindicating their interests in court, the CBF and other area environmental groups are at a marked political disadvantage. Since Ernst's book, the CBF and other groups have sought to strengthen their political and legal clout, for example, by creating a litigation Program within the CBF and increasing investments in "galvanizing public support."⁵³ Despite these changes, theorists predict that these groups will remain at a comparative disadvantage. The question is whether that disadvantage would be lessened if Bay decision making were more centralized, either in a federal agency or in a regional body with regulatory authority.

48. *See id.* at 568.

49. Chesapeake Bay Foundation, http://www.cbf.org/site/PageServer?pagename=about_index (last visited Apr. 7, 2006).

50. *See id.*; see 1983 Chesapeake Bay Agreement *supra* note 3.

51. Chesapeake Bay Foundation, *Preventing Loss, Ensuring Agency*, 2005 Annual Report, 1, 17, http://www.cbf.org/site/DocServer/CBF_2005_AR_.pdf?docID=4623 (hereinafter ANNUAL REPORT).

52. ERNST, *supra*, note 8 at 43.

53. ANNUAL REPORT, *supra* note 51, at 4.

a. Federal Regulation

If regulatory authority over the Bay were centralized in a federal agency, it is unlikely that the CBF and other regional NGOs would be significantly more influential. In fact, their influence could be more diluted. The EPA's rulemaking to set water quality guidelines for the Great Lakes was overseen by EPA's national Office of Water. Although it concerned only the Great Lakes, the regulation had potential significance as a precedent for EPA policy on water quality issues elsewhere. There were widespread expectations that the rule would "serve as a model for [EPA] changes to the national water quality program for all states."⁵⁴ The EPA received over six thousand comments on the proposed rule,⁵⁵ including states' comments from outside the Great Lakes Basin, national trade associations, and national environmental groups.⁵⁶ Although the EPA consulted with representatives of the Great Lakes states, municipalities, industry, environmental groups, and academia during the rulemaking process, the final decision was the EPA administrator's alone.

If this were the process for developing water quality standards for the Chesapeake Bay, the CBF and other environmental groups would not have to focus on decisionmakers in multiple jurisdictions, as is currently the case, but could achieve economies of scale in concentrating their limited resources on the sole decision-maker. However, the CBF could also expect that an EPA rulemaking, even if limited to the Bay, would attract the attention of powerful interests with policy concerns outside the region, as was the case with the Great Lakes rulemaking. This tendency to attract outside players could dilute the influence of regional groups like the CBF. Although the outside players would likely include national environmental groups who would ally with the CBF, they would also represent economic interests from the agricultural, industrial, or municipal wastewater treatment sectors.

54. Karen M. Wardzinski, *Final Great Lakes Water Quality Rule Sets the Stage for Important New Changes in Water Quality Permitting*, WATER WATCH 67 (Autumn 1995).

55. Final Water Quality Guidance for the Great Lakes System, 60 Fed. Reg. 15,366, 15,366 (Mar. 23, 1995).

56. See, e.g., Final Rule to Amend the Final Water Quality Guidance for the Great Lakes System to Prohibit Mixing Zones for Bioaccumulative Chemicals of Concern, 65 Fed. Reg. 67,638, 67,644 (Nov. 13, 2000) (responding to a commenter from California expressing concerns about costs of treatment in California assuming application of the EPA's approach in the Great Lakes rule).

Accepting Revesz's account, we would predict that not only would these economic interests be more successful in influencing the rulemaking process than their environmental counterparts, but they could also be relatively more successful at the federal level rather than at the state level, because any economies of scale that environmental groups may realize at the federal level are likely to be more than offset by their increased collective action problems.⁵⁷

It is instructive in this regard to compare the EPA's Great Lakes rulemaking with the EPA's recent adoption of water quality criteria and habitat descriptions (or designated uses) for the Chesapeake Bay.⁵⁸ Adopted in 2003 pursuant to the undertaking of the parties in the Chesapeake 2000 agreement, the EPA's Region III issued these criteria as non-binding guidance, representing the "EPA's recommendations to the Chesapeake Bay states for use in establishing their water quality standards."⁵⁹ The criteria were "the product of a collaborative effort among the Chesapeake Bay Program partners" and represented "a scientific consensus based on the best available scientific and technical findings defining water quality conditions necessary."⁶⁰ In this action, the EPA used its criteria-setting authority to stimulate and coordinate consistent Bay-wide water quality standards and implementing actions by the states. Perhaps in part because of their relative informality and collaborative aspect, the Bay criteria did not attract the same attention from interests outside the region as did the Great Lakes rulemaking.⁶¹ Bay jurisdictions (Mary-

57. Revesz, *supra* note 43, at 567.

58. *Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and Its Tidal Tributaries* (April 2003), <http://www.epa.gov/Region3/chesapeake/baycriteria.htm> (last visited Apr. 7, 2006).

59. *Id.*, <http://www.epa.gov/Region3/chesapeake/baycriteria/chapter1.pdf> (last visited Apr. 7, 2006).

60. *Id.* at 3.

61. Telephone conference with Richard Batiuk, Deputy Director, Chesapeake Bay Program Office (Feb. 8, 2006) (on file with author). The CBF was not satisfied that the EPA's 2003 criteria went far enough to ensure adequate measures by the states, and in December of that year, it petitioned the EPA "to issue, amend, or repeal rules and take corrective action relating to the regulation, control, and permitting of point source discharges of nutrients . . . in the Chesapeake Bay watershed." The Program partners agreed to a joint permitting approach that satisfied the CBF and led to the withdrawal of the rulemaking petition. See note 63 *infra* and accompanying text. Petition of the Chesapeake Bay Foundation to the United States Environmental Protection Agency to Amend, Issue or Repeal Rules and Take Corrective Action to Address Nutrient Pollution from Significant Point Sources in the Chesapeake Bay Watershed (Dec. 1, 2003), reprinted in *Oversight Hearings*, *supra* note 14, at 146 (footnote omitted).

land, Virginia, Delaware, and the District of Columbia) have incorporated these consensus criteria in revised water quality standards, which are now driving investments in nutrient and sediment reduction across the watershed.⁶² Based on the revised standards, watershed jurisdictions and EPA have also agreed to a basin-wide permitting approach to establish new limitations on significant dischargers of nutrients and sediments.⁶³

b. Regional Regulation

A regional compact, centralizing regulatory authority in a new regional body, might allow the CBF and other environmental groups to do more with their limited resources while avoiding the diluting tendencies of a federal regulatory forum. Thus, for example, if regulatory authority over the Bay's fishery resources were concentrated in a regional body patterned after the Potomac River Fisheries Commission ("the PRFC"), the CBF could concentrate its efforts on influencing this one body, rather than having to field campaigns in all participating jurisdictions. Moreover, because the jurisdiction of this body would be limited to the region, its actions would be unlikely to attract attention from national groups, including industry trade associations and other lobbying groups, whose members had no interests directly at stake. Thus, assuming their total resources remained the same, the CBF and others could achieve economies of scale and at the same time avoid attracting extraneous opposition associated with the federal forum.

This assumes that the regional commission truly operated as an institution of regional governance rather than merely as a forum for further negotiations by the parties. Experience suggests, however, that despite their nominal rulemaking authority, regional compact agencies do not act as independent decisionmakers representing a regional polity. Representatives to these agen-

62. See e-mail from Richard Batiuk, Associate Director for Science, Chesapeake Bay Program Office to author (Mar. 16, 2006); MD. CODE ANN. ENVIR. § 9-1605.2 (West Supp. 2005) (Bay Restoration Fund); VA. CODE ANN. § 10.1-2128 (Cum. Supp. 2005) (Virginia Water Quality Improvement Fund); 12 PA. CONS. STAT. ANN. § 3906 (Supp. 2005) (Water Supply and Wastewater Treatment Fund).

63. E-mail from Richard Batiuk, *supra* note 62; see NPDES Permitting Approach for discharges of Nutrients into the Chesapeake Bay Watershed (Dec. 2004), http://www.dep.state.pa.us/dep/subject/adv coun/chesbay/2005/FINAL%20CB_Permitting_Approach_12_29_04.pdf.

cies, typically appointed by state or federal officials rather than elected themselves, tend to represent "the interests of their respective jurisdictions" rather than the regional interest.⁶⁴ As Helen Ingram remarked about such institutions, "decisions are going to be made by a process of negotiating and consent-building, not by the fiat of a regional agency."⁶⁵ Thus, despite the form of a regional governing structure, it might be necessary for the CPB and other groups to continue to expend resources in all member jurisdictions in order to compete effectively with their adversaries.

2. Interstate Externalities and the Race to the Bottom

The final and perhaps most telling arguments against the decentralized or polycentric arrangement of the CBP are what Ernst collectively labels "divided government and the race to the bottom."⁶⁶ In its classic formulation, race to the bottom theory hypothesizes that, even in the absence of interjurisdictional environmental externalities, competing jurisdictions will moderate environmental controls strategically to attract and keep job-creating economic activity, resulting in less than optimal environmental quality across jurisdictions. Richard Revesz and others have rejected the theoretical basis for the race to the bottom and argue instead that competition among jurisdictions, at both the state and local levels, will facilitate the optimal balance between economic development and environmental quality.⁶⁷ But even Revesz acknowledges that where activities within a jurisdiction generate significant environmental impacts on neighboring jurisdictions, the originating jurisdiction cannot be relied upon to adopt appropriate regulations. Because the jurisdiction cannot be expected to take the externalized costs into account in deciding the appropriate level of controls, its regulations will be too lenient, and thus some form of centralized decisionmaking will be called for.

64. Cannon, *supra* note 1, at 392.

65. Helen M. Ingram, *The Political Economy of Regional Watershed Institutions*, 55 AM. J. AGRIC. ECON. 10, 17 (1973).

66. ERNST, *supra* note 8, at 38.

67. See, e.g., Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the "Race-to-the-Bottom" Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. REV. 1210, 1210-12 (1992).

Economists capture this insight in the matching or subsidiarity principle, which states that regulations should be adopted by the smallest jurisdiction that encompasses all significant costs and benefits of the regulation.⁶⁸ Significant interjurisdictional externalities exist within the Chesapeake Bay Watershed. For example, agricultural runoff from Pennsylvania has a major impact on the quality of Bay waters in Maryland and Virginia.⁶⁹ harvesting egg-bearing crabs in Virginia's portion of the Bay reduces crab populations in Maryland waters.⁷⁰ The recognition of these externalities and the need for centralized management led to the creation of the CBP; however, the Program has no regulatory authority of its own. Authority to regulate agricultural run-off or to restrict taking of she-crabs rests with the states of Pennsylvania and Virginia, respectively, not with the Program.⁷¹ The matching principle suggests the desirability of a centralized regulatory authority that would encompass the entire watershed of the Bay.

To the extent that the Bay states are individually too small, the national government provides the obvious alternative. We could expect all significant costs and benefits of regulating nutrient pollution and harvesting of oysters and crabs in the Bay to be encompassed in federal regulatory action. The problem is that because the federal jurisdiction is much larger than necessary to capture all the significant benefits and costs, federal decision-makers might discount or ignore relevant local conditions, allowing extraneous political concerns to influence the outcome, and produce a less than optimal result. This possibility of centralization failure is apparent from our earlier example of water quality regulations for the Great Lakes, which despite their overtly regional focus, attracted attention from far beyond the Great Lakes. This is not to suggest that the regulations adopted by the EPA were not good for the Great Lakes community, but simply that the influence of interests extraneous to the Great Lakes made such an outcome less assured.

68. See, e.g., Peter Widulski, *Bakke, Grutter, and the Principle of Subsidiarity*, 32 HASTINGS CONST. L.Q. 847, 847-48 (2005) (providing a definition and discussion of the subsidiarity principle).

69. ERNST, *supra* note 8, at 71.

70. *Id.* at 101.

71. See, e.g., VA. CODE ANN. § 28.2-203.1 (2004); VA. CODE ANN. §§ 2.2-215, -218 (2005); 25 PA. CODE §§ 83.101, 63.18, 57.1.

A related feature of the federal model is that it is subject to the vagaries of national politics, as played out among Congress, the White House, and agencies such as the EPA. Members of Congress and the White House might be interested in an EPA rule-making on water quality in the Chesapeake Bay for reasons other than the welfare of the Bay's citizens. For example, an administration committed to limiting environmental regulation to please a national constituency interested in easing restraints on business might adopt a less demanding regulation than would otherwise be called for. Similarly, an administration dedicated to adopting more prescriptive regulations to please a national environmental constituency might adopt a more costly regulation than required.

b. Regional Regulation

This analysis suggests that the optimal jurisdiction for Bay regulations is one whose geographical scope is coterminous with the watershed—the jurisdiction that would be large enough to capture all significant costs and benefits of a rule but no larger. Although such a jurisdiction does not now exist, one could be created through an interstate commission like the PRFC. The danger with such an arrangement, as discussed previously, is that the commission would lack independent legitimacy and that appointed commission members would simply represent the interests of their principals. Thus, an interstate commission may offer no more protection against strategic or parochial behavior by watershed jurisdictions than the existing arrangement. Indeed, the operation of a regulatory commission could undermine the importance of the high level negotiating forum now provided by the Executive Council, diminishing opportunities for breakthroughs afforded by face-to-face encounters by the governors of key states and the EPA.

IV. THE QUESTION OF ACCOUNTABILITY

We have focused on the scalar dimensions of the CBP and concluded that the current collaborative design fares well by comparison to more centralized alternatives. The Program sometimes uses centralized tools, as in the case of EPA's water quality criteria for the Bay, but it does so by agreement of the affected subor-

dinate jurisdictions. It also relies on localized tools, such as local land use authorities to protect critical areas of the Bay's watershed, but is guided by the collective views of superior jurisdictions (the states and the EPA). In a sense, the CBP avoids the centralization/decentralization dilemma by not making a commitment to either and instead employing both centralized and decentralized modes as necessary for its policy purposes. The working assumption is that this form of coordinated, agreement-based management can effectively engage authorities that are dispersed both vertically and horizontally in order to achieve common goals.

Questions remain whether a networked organization such as this is accountable and how.⁷² These questions are closely related to the centralization-decentralization issue, and I offer a few preliminary observations on them below.

Accountability is concerned with the misuse of power "for private or partial interests contrary to the interests of the public."⁷³ Accountability mechanisms limit and constrain such misuses of power.⁷⁴ In analyzing the availability and likely effectiveness of accountability mechanisms for the CBP, it is useful to distinguish the accountability of the Executive Council, the Program's senior policymaking body, and the Program more generally, which functions to support and guide the Council in formulating, implementing, monitoring, and evaluating policy.

A. Accountability of the Council

One member of the Executive Council, the Administrator of the EPA, is appointed by and serves at the pleasure of the President. Four of the Council members are elected officials, and the final member, the chairperson of the Chesapeake Bay Commission, represents a body that includes elected officials (state legislators). None of the members is separately elected or appointed to the

72. See generally Jody Freeman & Daniel A. Farber, *Modular Environmental Regulation*, 54 DUKE L.J. 795, 904–09 (2005); Richard B. Stewart, *Administrative Law in the Twenty-First Century*, 78 N.Y.U. L. REV. 437, 451–52 (2005); Anne-Marie Slaughter, *The Accountability of Government Networks*, 8 IND. J. GLOBAL LEGAL STUD. 347, 360–66 (2001).

73. Ruth W. Grant and Robert O. Keohane, *Accountability and Abuses of Power in World Politics*, 99 AM. POL. SCI. REV. 29, 34 (2005). To similar effect, see Anne-Marie Slaughter, *supra*, at 349.

74. *Id.* at 29–30.

Council.⁷⁵ They are, in the case of the governors and the mayor of Washington, D.C., answerable to the voters of their respective jurisdictions rather than to a watershed polity. Thus, although there is a significant degree of democratic accountability among Council members, it is not clear that it is sufficient to protect the interests of the Bay public as a whole, rather than parochial interests of the members' respective constituencies.

Moreover, judicial mechanisms of accountability are not available. The Chesapeake Bay Agreements have not been understood to be legally binding on the Council or its member jurisdictions, nor have the decisions of the Council, as distinct from the implementing actions of the jurisdictions, been subjected to judicial review.

Despite these limitations, there are several means by which the Council might be held to account for achieving restoration goals. The first depends on the extent to which people in the watershed identify with regional goals and participate politically as members of a regional public. If there is enough shared interest in restoration of the Bay among the various constituencies of the Council members, and enough public information about how well the Program is achieving its goals, members may be constrained through existing electoral processes to advance those regional goals. To the extent that the Program itself strengthens the formation of a regional constituency, it enhances this form of democratic accountability. Although anecdotal, there is some evidence that public opinion in the Bay states does have the capacity to hold state officials accountable for meeting *regional* commitments.⁷⁶

Other potential accountability mechanisms are peer response and public reputation. Repeated interactions and a tradition of cooperative behavior among members of the Council create an expectation of future cooperation in furtherance of the Program's goals. Members that do not meet this expectation risk losing the good opinion of their fellow members, in addition to being subject to retaliation for their uncooperative behavior. In addition, even if

75. Chesapeake Bay Program, 1983 Chesapeake Bay Agreement, <http://chesapeakebay.net/pubs/1983ChesapeakeBayAgreement.pdf> (last visited Apr. 7, 2006) (stating that the Executive Council was created by the 1983 Chesapeake Bay Agreement).

76. See Cannon, *supra* note 1, at 400–01 (discussing public pressure to fulfill regional commitments as driving Virginia wetlands legislation).

they do not suffer in an electoral setting, members that are seen as impeding the success of the Program may suffer a loss of public reputation. This risk of loss is greatest within the Program's immediate constituency, including groups such as the CBF, which are largely committed to the success of the restoration effort and closely monitor policy making and implementation. But risks to reputation may extend also to the general public, particularly if concerns attract media attention.

B. *Accountability of the Program*

The accountability of the Program as a whole presents more complicated questions. In its broadest sense, the Program includes the Council; the Commission; the Program Office; the Program's policy, technical, and citizen advisory committees; participating federal and state agencies and local governments; and NGOs.⁷⁷ One might conceptualize the relationship of the Council to the rest of the Program as that of principal to agent: the Council makes policy which is to be implemented and monitored by the Program's other components. In that model, accountability would be supplied through the Council's supervision of its diverse programmatic agents.

That model, however, does not fit the realities of the Program. First, although the Council does make Bay-wide policy, it does not meet frequently and thus is not in a position to oversee the day-to-day operations of the Program. Second, many of the Program's participants are not directly answerable to the Council as a whole but to individual Council members or to none at all. For example, state environmental regulatory agencies are subject to direction by their respective governors, not by the Council; NGOs are not subject to supervision or control by any of the Council. Finally, the relationship between the Council and its ancillary forums is reciprocal; power is diffused through the network.⁷⁸ The Council both empowers and constrains groups operating within the Program's ambit, but those groups may act to constrain the

77. Robert W. Adler et al., *Lessons from Large Watershed Programs: A Comparison of the Colorado River Basin Salinity Control Program with the San Francisco Bay-Delta Program, Central and South Florida and the Chesapeake Bay Program*, NAT'L ACAD. OF PUB. ADMIN., Research Paper No. 10, at 85 (2000), http://www.napawash.org/pc_economy_environment/epafile10.pdf; ERNST, *supra* note 8, at 15.

78. Cannon, *supra* note 1, at 400; Freeman and Farber, *supra* note 72, at 904.

Council as well. For all of these reasons, it is difficult to cast the Council as consistently or effectively "supervising" the rest of the Program.

There are other possible avenues of program accountability. The Program is not a legally accountable entity, but implementing actions of program participants, including state and federal agencies, are subject to procedural and substantive review by the courts of their respective jurisdictions. These same participants may also be subject to executive and legislative oversight. However, these mechanisms will not offer reliable protection from parochial behavior on the part of the implementing agencies unless the laws and policies of their respective jurisdictions reflect agreed-upon Bay-wide policies.

Another, perhaps more promising source of accountability is the networked structure of the Program itself. Jody Freeman and Daniel Farber describe a dynamic of "horizontal accountability" in such structures.⁷⁹ Placed in horizontal relation to each other and to other constituencies, agencies of participating jurisdictions "must respond more often and to more players than they would in a traditional principal-agent relationship."⁸⁰ In this setting of enhanced interchange, Freeman and Farber argue, it is more difficult for any party to engage in self-serving or partial behavior that would undermine collective goals. This model of accountability requires further development and raises several concerns, including the difficulty of assigning ultimate responsibility for actions (or non-actions) within networked structures and the balancing of interests among stakeholders invited to participate.⁸¹ However, it offers a reason for hope against Ernst's scenario of program failure: rather than operating as a "cozy political partnership" that hides non-performance, the Program's collaborative form could help ensure progress toward its restoration goals.

V. CONCLUSION

The strengths of networked, information-driven structures like the CBP are flexibility, responsiveness to emerging information,

79. Freeman & Farber, *supra* note 72, at 905.

80. *Id.* at 906.

81. *Id.* at 906-07.

and the ability to select and employ authorities and resources necessary to achieve particular outcomes.⁸² The Program requires a continual flow of high quality information that enjoys credibility with its members. The Program requires the ongoing attention of senior elected and appointed officials to provide policy direction, secure resources, and take regulatory action. The major question is accountability. Assuming that the majority of the Bay's citizens want the watershed restored and are willing to bear the costs, does the system provide sufficient constraints on the Program and its participants to implement that preference? This is perhaps just another version of the question with which we began: does the Program have the capacity to overcome the collective action problems inherent in a largely decentralized, cooperative undertaking? Recent evidence, in the form of coordinated, substantial regulatory and resource commitments by the states and the EPA suggests that it is working. But the ultimate test of this or any other institution developed to achieve a particular goal is whether it does so. Success in that ultimate sense is not assured.

82. See, e.g., Freeman & Farber, *supra* note 72, at 888–89.
