Spring 2006

Regional Ocean Governance: The Perils of Multiple-Use Management and the Promise of Agency Diversity

Josh Eagle

REGIONAL OCEAN GOVERNANCE: THE PERILS OF MULTIPLE-USE MANAGEMENT AND THE PROMISE OF AGENCY DIVERSITY

JOSH EAGLE†

I. INTRODUCTION

Two high-level committees—the United States Commission on Ocean Policy ("U.S. Commission") and the Pew Oceans Commission ("Pew Commission")—have recently issued reports expressing grave concerns about the condition of America's oceans.[1] These committees

---

† Assistant Professor, University of South Carolina School of Law. I would like to express my gratitude to the staff of the Duke Environmental Law & Policy Forum, in particular Sarah Doverspike, Mark Hill, and Ingrid Nugent, for their invitation to, and outstanding organization of, the symposium. I appreciate the insights of the symposium's participants, including Steve Roady, Donna Christie, and Andy Rosenberg. Catherine Bryan, Sierra Jones, Michael Corley, and Callie Campbell contributed excellent research assistance to this project. My thanks go to colleagues who provided thoughtful feedback on various ideas, namely Buzz Thompson, Meg Caldwell, Jim Sanchirico, Steve Palumbi, Larry Crowder, Carl Safina, and Josie Brown. Generous support for this research was provided by the David and Lucile Packard Foundation and the University of South Carolina.

1. U.S. COMM'N ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY: FINAL REPORT OF THE U.S. COMMISSION ON OCEAN POLICY (2004) [hereinafter USCOP REPORT], *available at* http://www.oceancommission.gov/documents/full_color_rpt/000_ocean_full_report.pdf; PEW OCEANS COMM'N, AMERICA'S LIVING OCEANS: CHARTING A COURSE FOR SEA CHANGE (2003) [hereinafter PEW REPORT], *available at* http://www.pewtrusts.org/pdf/env_pew_oceans_final_report.pdf.

President Bush appointed members of the U.S. Commission on Ocean Policy early in his first term, pursuant to the Oceans Act of 2000, which authorized creation of the commission. Oceans Act of 2000, Pub. L. No. 106-256, 114 Stat. 644 (2000). The charge to the commission included the assessment of policies on living resources, nonliving resources, navigation, and national security. Members of the commission included: Admiral James D. Watkins (Ret.), Robert Ballard (professor of oceanography, University of Rhode Island), Ted A. Beattie (president and Chief Executive Officer ("CEO") of Shedd Aquarium), Lillian Borrone (chair of the board of Eno Transportation Foundation), James M. Coleman (professor of coastal studies, Louisiana State University), Ann D'Amato (chief of staff for Los Angeles City Attorney), Lawrence Dickerson (president of Diamond Offshore Drilling, Inc.), Vice Admiral Paul G. Gaffney, II (Ret.) (president of Monmouth University), Marc J. Hershman (professor of marine policy, University of Washington), Paul L. Kelly (senior vice-president of Rowan Companies, offshore drilling supplier), Christopher L. Koch (president and CEO of World Shipping Council), Frank Muller-Karger (professor of biological oceanography, University of South Florida), Edward B. Rasmuson (president of the Rasmuson Foundation), Andrew A. Rosenberg (professor, Univer-

identified the large number of "overfished" American fisheries as an important problem.[2] When a fishery is overfished and the size of the fish population is reduced to a suboptimal level, the result is economic harm to both fishermen and consumers.[3] Excessive fishing also results in harder-to-price damage to marine ecosystems. Both the U.S. and Pew Commissions note the declining health of the ocean en-

---

sity of New Hampshire), William D. Ruckelshaus (strategic director of the Madrona Venture Group and chairman of the board of the World Resources Institute), and Paul Sandifer (senior scientist for the National Oceanic and Atmospheric Administration's National Centers for Coastal Ocean Science).

The Pew Charitable Trusts formed and funded the Pew Oceans Commission in 2000. Members of the commission included: Christine Todd Whitman, Leon Panetta, John Adams (president of Natural Resources Defense Council), Eileen Claussen (president of Pew Center on Global Climate Change), Carlotta Leon Guerrero (co-director of the Ayuda Foundation, a nonprofit health care organization in Guam), Mike Hayden (Secretary of Kansas Department of Wildlife and Parks), Geoffrey Heal (professor of economics and finance, Columbia University), Charles Kennel (director of Scripps Institute for Oceanography), Tony Knowles (then-Governor of Alaska), Jane Lubchenco (professor of marine biology, Oregon State University), Julie Packard (founder and executive director of the Monterey Bay Aquarium and vice-chair of the David and Lucile Packard Foundation), Pietro Parravano (president of Pacific Coast Federation of Fishermen's Associations), George Pataki (Governor of New York), Joseph P. Riley, Jr. (Mayor of Charleston, South Carolina), David Rockefeller, Jr. (director of Rockefeller Co., Inc.), Vice Admiral Roger T. Rufe, Jr. (Ret.) (president and CEO of the Ocean Conservancy), Kathryn D. Sullivan (president and CEO of COSI, a hands-on science center), Marilyn Ware (chairman of the board of the American Water Works Company), and Patten D. White (CEO of the Maine Lobstermen's Association). The Pew Oceans Commission focused most of its attention on the status and management of the ocean's living environment. So, for example, it commissioned special reports on ocean pollution, fisheries management, aquaculture, and invasive species. These reports are available at www.pewtrusts.com (last visited Feb. 19, 2006).

2. USCOP REPORT, *supra* note 1, at 20, 40; PEW REPORT, *supra* note 1, at 2-9. *See* NAT'L OCEANIC & ATMOSPHERIC ADMIN., STATUS OF UNITED STATES FISHERIES (2004), *available at* www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm. That report indicates that in 2004, about twenty percent of major stocks in American federal waters—and twenty-eight percent of all stocks—could be classified as overfished. Major stocks are defined as those supporting more than 200,000 pounds of catches annually; combined, these represent about ninety-nine percent of all U.S. catches. *Id.*

3. Although a slight oversimplification, it is useful to conceptualize a population of wild fish as a capital asset. A "sustainable" rate of fishing "spends" only the interest generated by the asset, while "overfishing" mines the capital. While mining produces high revenues for a short time, it inevitably results in long-term catch levels that are lower than what could have been achieved by maintaining the capital at an optimal level. So, for example, a 1999 government study indicated that U.S. landings were at that time about thirty to forty percent less than could be produced, on a continuing basis, by healthy fisheries. NAT'L OCEANIC & ATMOSPHERIC ADMIN., OUR LIVING OCEANS 8 (1999).

Those fishermen who are active in the early, mining phase of a fishery will benefit financially from overfishing, but those who begin fishing after this period will not. Similarly, while consumers will benefit in the short-term from lower fish prices, over the long-term they will pay higher than needed prices and have fewer choices of affordable seafood. *See generally* SUZANNE IUDICELLO ET AL., FISH, MARKETS, AND FISHERMEN: THE ECONOMICS OF OVERFISHING (1999).

vironment, as measured in terms of stability, productivity, and diversity.[4] Recent studies show that the number of endangered species is increasing,[5] with long-term damage to ocean habitats,[6] dramatic shifts in the structure of marine food webs,[7] and a decrease in the capacity of fish populations to recover from historic overfishing.[8] While the economic costs of these impacts are more difficult to measure than the direct costs of overfishing, there is reason to believe they are significant.[9]

To their credit, the commissions do not place the blame for these two problems entirely on the fishing industry.[10] It is true that fishing is among the most significant factors in the decline of ocean ecosystems.[11] At the same time, fishing is a heavily regulated industry.[12] The

---

4. USCOP REPORT, *supra* note 1, at 32; PEW REPORT, *supra* note 1, at 41-44.

5. J.A. Musick et al., *Marine, Estuarine, and Diadromous Fish Stocks at Risk of Extinction in North America (Exclusive of Pacific Salmonids)*, 25 FISHERIES 6 (2000); Graeme C. Hays et al., *Endangered Species: Pan-Atlantic Leatherback Turtle Movements*, 429 NATURE 522 (2004).

6. Les Watling & Elliott A. Norse, *Effects of Mobile Fishing Gear on Marine Benthos*, 12 CONSERVATION BIOLOGY 1178 (1998); Les Watling & Elliott A. Norse, *Disturbance of the Seabed by Mobile Fishing Gear: A Comparison to Forest Clearcutting*, 12 CONSERVATION BIOLOGY 1180 (1998). *See generally* LANCE E. MORGAN & RATANA CHUENPAGDEE, SHIFTING GEARS: ADDRESSING THE COLLATERAL IMPACTS OF FISHING METHODS IN U.S. WATERS (2003).

7. NAT'L ACAD. OF SCIS., THE DECLINE OF THE STELLER SEA LION IN ALASKAN WATERS: UNTANGLING FOOD WEBS AND FISHING NETS (2003); Daniel Pauly et al., *Fishing Down Marine Food Webs*, 279 SCIENCE 860 (1998).

8. Jeffrey A. Hutchings & John D. Reynolds, *Marine Fish Population Collapses: Consequences for Recovery and Extinction Risk*, 54 BIOSCIENCE 297 (2004); Jeremy B.C. Jackson et al., *Historical Overfishing and the Recent Collapse of Coastal Ecosystems*, 293 SCIENCE 629 (2001); Jeffrey A. Hutchings, *Influence of Population Decline, Fishing, and Spawner Variability on the Recovery of Marine Fishes*, 59 J. FISH BIOLOGY 306 (2001); Jeffrey A. Hutchings, *Collapse and Recovery of Marine Fishes*, 406 NATURE 882 (2000).

9. MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: CURRENT STATE AND TRENDS 480-81 (2005); *see also* Andrew Balmford et al., *Economic Reasons for Conserving Wild Nature*, 297 SCIENCE 950 (2002); Robert Costanza et al., *Principles for Sustainable Governance of the Oceans*, 281 SCIENCE 198 (1998); Robert Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, 387 NATURE 253 (1997).

10. It would be accurate to describe fishermen as the sole culprits in fishery collapse if the "commons" was unregulated. Garrett Hardin, *Tragedy of the Commons*, 162 SCIENCE 1243 (1968). However, American fisheries—and the great majority of fisheries in developed countries—can no longer accurately be described as commons. All substantial American fisheries are subject to extensive regulation and, generally speaking, new participants cannot freely enter. *See generally* MICHAEL L. WEBER, FROM ABUNDANCE TO SCARCITY: A HISTORY OF U.S. MARINE FISHERIES POLICY (2002).

11. Jackson et al., *supra* note 8.

12. USCOP REPORT, *supra* note 1, at 20. Fisheries in American federal waters (three to two-hundred nautical miles from the coast) are regulated under the Magnuson-Stevens Fishery Conservation and Management Act by eight Regional Fishery Management Councils, operating under authority of the Secretary of Commerce. Magnuson-Stevens Fishery Conservation and Management Act § 302, 16 U.S.C. § 1852 (2000) (States have jurisdiction from zero to three

commissions thus recognize that the inadequacy of current institutions plays an important role in persistent overfishing and in the general deterioration of the United States' marine environment.[13]

Consistent with this conclusion, the commissions' reports contain a range of suggestions aimed at legislatively or administratively improving current management structures.[14] In this paper, I critique one of the major recommendations common to both reports, that is, the call for "regional ocean governance."[15] Although each commission's plan for implementing a regional approach is different, their rationales and design concepts are quite similar: After explaining that present institutions are too narrow in their geographic and substantive scope, the reports go on to advocate for the establishment of larger scale, more "comprehensive" management bodies.[16]

Part II of the paper summarizes the commissions' arguments for moving toward regional governance and their plans for reordering laws and institutions toward this end. I also highlight themes common to both commissions' proposals.

Part III of the paper argues that despite the intuitive appeal of "regional ecosystem councils," the creation of more comprehensive institutions is unlikely to improve the condition of the marine environment.[17] While it is true that, due to free-riders and transaction costs, transboundary environmental problems can be more difficult to

---

miles, although state action can in some cases be preempted by council action. Submerged Lands Act, 43 U.S.C. § 1301 (2000); Magnuson-Stevens Fishery Conservation and Management Act § 306). The Regional Fishery Management Councils write detailed plans and rules governing fishing activities within their respective jurisdictions. *See generally* JOSH EAGLE ET AL., TAKING STOCK OF THE REGIONAL FISHERY MANAGEMENT COUNCILS (2003).

13. USCOP REPORT, *supra* note 1, at 52-55; PEW REPORT, *supra* note 1, at 26-28. For an empirical study of the mechanics of regulatory failure, see Josh Eagle & Barton H. Thompson, Jr., *Answering Lord Perry's Question: Dissecting Regulatory Overfishing*, 46 OCEAN & COASTAL MGMT. 649 (2003). *See also* Timothy Hennessey & Michael Healey, *Ludwig's Ratchet and the Collapse of New England Groundfish Stocks*, 28 COASTAL MGMT. 187 (2000).

14. USCOP REPORT, *supra* note 1, at 472-522; PEW REPORT, *supra* note 1, at 102-16.

15. The chapters in the U.S. Commission's report focusing on regional governance are Chapter Five, "Advancing a Regional Approach," and Chapter Six, "Coordinating Management in U.S. Waters." USCOP REPORT, *supra* note 1, at 86-106. The relevant chapter in the Pew Commission's report is Chapter Two, "Governance for Sustainable Seas." PEW REPORT, *supra* note 1, at 26-34. Valuable information on the context of these recommendations can be gleaned from other chapters of the reports as well.

16. PEW REPORT, *supra* note 1, at 28. The word "comprehensive" appears more than 200 times in the U.S. Commission's report, or about once every third page.

17. The U.S. Commission calls its councils "Regional Ocean Councils," while the Pew Commission uses the term "Regional Ocean Ecosystem Councils." USCOP REPORT, *supra* note 1, at 90; PEW REPORT, *supra* note 1, at 103.

solve than problems contained within a single political or administrative division,[18] there is evidence that current ocean institutions are struggling to solve even intrajurisdictional problems.[19] Through the Magnuson-Stevens Act, for example, Congress has already delegated broad geographic and substantive regulatory authority to the eight Regional Fishery Management Councils ("FMCs").[20] Many, if not most, of the FMCs' numerous management failures have involved fisheries wholly within the bounds of a single council's legal jurisdiction.[21]

Furthermore, to the extent that the proposed councils are charged with balancing more uses and interests than current institutions, they will be less likely to achieve conservation goals. If one assumes, as I argue below, that the poor condition of the marine environment is in part a product of the multiple-use mandate under which agencies currently operate,[22] then it follows that broadening the mandate has the potential to exacerbate those problems.

---

18. *See, e.g.*, J.B. Ruhl et al., *Proposal for a Model State Watershed Management Act*, 33 ENVTL. L. 929, 934-35 (2003); Alistair M. Ulph, *Harmonization and Optimal Environmental Policy in a Federal System with Asymmetric Information*, 39 J. ENVTL. ECON. & MGMT. 224 (2000); JAMES SALZMAN & BARTON H. THOMPSON, JR., ENVIRONMENTAL LAW AND POLICY (2004).

19. As an example of a major management failure, the Pew Report cites the demise of the once economically important West Coast rockfish (*Sebastes* genus) fisheries. PEW REPORT, *supra* note 1, at 2. Fishing has reduced many of these species' populations to the point where they can no longer support any catch whatsoever. LOVE ET AL., THE ROCKFISHES OF THE NORTHEAST PACIFIC 71-91 (2002). Throughout their lives, rockfish migrate very little; their management is an intrajurisdictional challenge. LOVE ET AL., *supra*, at 51-56.

20. Magnuson-Stevens Fishery Conservation and Management Act § 302, 16 U.S.C. § 1852 (2000).

21. For a complete listing of overfished U.S. fisheries, see NAT'L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 2. The vast majority of overfished fisheries are managed by a single FMC, although a few are managed jointly by two FMCs. *Id.* In cases where fish migrate through state and federal waters, but most of the fishing activity occurs in federal waters, the FMCs manage the fishery. Magnuson-Stevens Fishery Conservation and Management Act § 306, 16 U.S.C. § 1856 (2000).

22. The Magnuson-Stevens Act is a multiple-use, balancing statute. "National Standard One," the first of ten national standards in the Act, for example, provides that "[c]onservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry." Magnuson-Stevens Fishery Conservation and Management Act § 301(a)(1), 16 U.S.C. § 1851(a)(1) (2000). At the same time, "National Standard Eight" states that:

> Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

Part IV of the paper offers an alternate approach to ocean governance—"agency diversity"—aimed at addressing the predictable failures of a multiple-use system. Under an agency diversity approach, multiple-use agencies are replaced by a set of "dominant-use" agencies.[23] Instead of delegating one multiple-use agency jurisdiction over an area of ocean space, the legislature would divide that area into use-priority zones instead. Each use-priority zone would then be managed by an agency whose statutory mission is to manage and promote one particular use. So, for example, a recreational fishing agency would be charged with ensuring that its recreational fishing areas were managed primarily for the benefit of recreational fishermen. Thus divided, a map of the ocean would look more like a map of the public lands, separated into recreation, conservation, and commercial areas, or of a city, divided into residential, commercial, and industrial zones.

Following two strands of legal thinking, one on municipal zoning and the other on institutional diversity, I argue that an agency diversity approach offers significant potential to improve marine conservation. Most obviously, it ensures that some parts of the ocean, that is, those parts entrusted by the legislature to dominant-use, conservation-first agencies, will actually be conserved.[24] More important, it would have significant benefits for the system as a whole. By providing leverage to currently underrepresented interests, agency diversity opens the door to more productive negotiations over ocean uses.[25] In

---

Id. § 301(a)(8).

In addition to requiring the managers and the Regional Fishery Management Councils to balance between conservation and the needs of the industry, the Magnuson-Stevens Act also mandates that the councils balance between the needs of various sectors of the fishing industry, such as commercial and recreational fishermen. *Id.* § 301(a)(4).

23. "Dominant-use" agencies are agencies that implement "dominant-use" statutes. A dominant-use statute is a law in which the legislature has given an agency explicit directions to presumptively or absolutely prioritize one use, or a small set of consistent uses, above all others. *See* Part III, *infra*.

24. For example, areas closed to fishing, known as marine reserves, provide significant ecological benefits. *See, e.g.*, T.R. McClanahan & B. Kaunda-Arara, *Fishery Recovery in a Coral-reef Marine Park and its Effect on the Adjacent Fishery*, 10 CONSERVATION BIOLOGY 1187 (1996); J. Alder, *Have Tropical Marine Protected Areas Worked? An Initial Analysis of their Success*, 24 COASTAL MANAGEMENT 97-114 (1996); L. Wantiez et al., *Effects of Marine Reserves on Coral Reef Fish Communities from Five Islands in New Caledonia*, 16 CORAL REEFS 215 (1997); S.J. Hall, *Closed Areas for Fisheries Management—The Case Consolidates*, 13 TRENDS ECOLOGY & EVOLUTION 297 (1998).

25. Karkkainen explains how municipal zoning, through the spatial distribution of political power across the urban landscape, serves a similar function. Bradley C. Karkkainen, *Zoning: A Reply to the Critics*, 10 J. LAND USE & ENVTL. L. 45 (1994). "Rather than conceiving of zoning

the agency diversity paradigm, dominant-use agencies would serve as proxies in these negotiations for the various interests.[26] It is in this context, as mediators in negotiations, that the regional governance institutions proposed by the U.S. and Pew Commissions could potentially serve an important role. Agency diversity divides interests, clarifying and legitimizing perspectives and concerns, to help those interests conquer their differences.[27]

The involvement of diverse agencies would produce better conservation results in a number of other ways. It would allow for the mitigation of risk through a portfolio of management strategies,[28] the ability to experiment with those strategies, and the generation of more and better information on the impact of fishing on the marine environment.[29]

Section IV ends with a discussion of some of the potential disadvantages of an agency diversity approach. For example, spatially fragmenting jurisdiction creates transaction costs that might inhibit the efficient management of cross-jurisdictional resources.[30] In other words, there is a risk that agencies might not join together in collaborative management. Anecdotal evidence from the public lands, however, suggests that agencies at least occasionally overcome these obstacles to negotiation.[31]

Section V concludes the paper.

---

as consisting of legislative-type rules, we should understand zoning as establishing mere presumptions or baseline rules that precipitate and provide a convenient substantive starting point for negotiations between developers and representatives of neighborhood interests." *Id*. at 81. *See also* Carol Rose, *Planning and Dealing: Piecemeal Land Controls as a Problem of Local Legitimacy*, 71 CAL. L. REV. 837 (1983); Eric H. Steele, *Participation and Rules—The Functions of Zoning*, 11 AM. B. FOUND. RES. J. 709, 713 (1986) ("[I]n giving voice to the community's interests and creating a forum in which the community's will is empowered and can appropriately influence policy affecting its environment, zoning has the effect of fostering both the implicit strengthening of the bonds of community and explicit community organizing.").

26. Karkkainen, *supra* note 25, at 81.

27. Put differently, agency diversity "tries to reduce the dangers of factionalism by disaggregating the polity." Heather K. Gerken, *Second-Order Diversity*, 118 HARV. L. REV. 1099, 1127 (2005).

28. *See generally* Harry M. Markowitz, *Foundation of Portfolio Theory*, 46 J. FIN. 469 (1991).

29. *See* Gerken, *supra* note 27.

30. Ruhl et al., *supra* note 18, at 934-35; SALZMAN & THOMPSON, *supra* note 18.

31. *See* Part IV, *infra*.

II. THE COMMISSIONS' VIEW OF GOVERNANCE PROBLEMS AND SOLUTIONS

A. *Problem One: Fractured-Use Jurisdiction*

Both commissions suggest that flaws in the current laws and institutions contribute to the poor environmental condition of the United States' oceans.[32] The reports highlight two structural problems.

First, they note that the current regulatory regime is a fragmented "hodgepodge of individual laws"[33] implemented by "sector-based" agencies.[34] The kernel of the "fractured use jurisdiction" problem is that within any given area of ocean space, multiple agencies act independently from one another in managing specific groups of resources. For example, within the United States' Exclusive Economic Zone,[35] the National Oceanic and Atmospheric Administration's ("NOAA") Fisheries Service and the Regional Fishery Management Councils administer the Magnuson-Stevens Fishery Conservation and Management Act (fish);[36] NOAA's Office of Protected Resources applies the Marine Mammal Protection Act (marine mammals)[37] and the Endangered Species Act (endangered fish, mammals, and seabirds);[38] the Department of the Interior's Minerals Management Service implements the Outer Continental Shelf Lands Act (oil, gas, and seabed minerals);[39] and the Environmental Protection Agency enforces the Clean Water Act (sea water).[40]

---

32. USCOP REPORT, *supra* note 1, at 52-55; PEW REPORT, *supra* note 2, at 26-28.

33. PEW REPORT, *supra* note 1, at 26.

34. USCOP REPORT, *supra* note 1, at 86.

35. The concept of "Exclusive Economic Zones" originates in the United Nations Convention on the Law of the Sea. United Nations Convention on the Law of the Sea art. 55, Dec. 10, 1982, 1833 U.N.T.S. 397. These zones extend 200 nautical miles into ocean waters from the shores of coastal nations. *Id.* Under the Law of the Sea, coastal nations have certain rights and obligations in these waters, including the right to exclusive management authority over living marine resources. *Id.* art. 56. Although the United States is not a party to the Law of Sea treaty, it announced its claim to the equivalent of an Exclusive Economic Zone in 1976 in the original Fishery Conservation and Management Act, and again in 1983 in a presidential proclamation issued by President Ronald Reagan. Magnuson-Stevens Fishery Conservation and Management Act § 111, 16 U.S.C. § 1811 (2000); Proclamation No. 5030, 48 Fed. Reg. 10,605 (Mar. 10, 1983).

36. 16 U.S.C. §§ 1801-1883 (2000).

37. 16 U.S.C. §§ 1361-1421 (2000).

38. 16 U.S.C. §§ 1531-1544 (2000).

39. 43 U.S.C. §§ 1331-1356 (2000).

40. 33 U.S.C. §§ 1251-1387 (2000).

The U.S. Commission explains in its report why fractured-use jurisdiction is an obstacle to successful resource management.[41]

First, the involvement of multiple agencies renders public participation difficult by increasing the costs to interested citizens.[42] Where there are multiple agencies with overlapping responsibilities, members of the public are uncertain about which agencies they should contact regarding particular issues and which agencies should be held accountable for failures.[43] More agency processes translate to less *pro rata* participation: Members of the public are limited, by time or other resource constraints, in the number of regulatory processes in which they can participate.[44] While it is important in all contexts, robust public participation is crucial to successful natural resource management because resource owners' incentives are consistent with long-term sustainability.[45]

Second, when agencies themselves are not clear as to their responsibilities, the resource suffers.[46] Regulatory uncertainty causes delays while agencies decide whether or not to act, and it eliminates important institutional incentives.[47] The greater the number of responsible agencies, the easier it is for any one agency to deflect blame for conservation failures.[48]

Third, under the current system, no single agency is able to plan comprehensively. For example, the fisheries agency will have to plan the future location of fishing activities without knowing, or being able to control, the future location of oil drilling operations. Put differently, there is no mechanism for ensuring that particular places in the ocean are put to their most efficient use.

Finally, fractured-use jurisdiction leads to complex and opaque governance with multiple agencies regulating activities in the same

---

41. USCOP REPORT, *supra* note 1, at 86.

42. Wendy E. Wagner, *Restoring Polluted Waters with Public Values*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 429, 451-58 (2000); Mariano-Florentino Cuéllar, *Rethinking Regulatory Democracy*, 57 ADMIN. L. REV. 412, 423 (2005).

43. Wagner, *supra* note 42.

44. *Id.*

45. *See* Section IV, *infra*.

46. William W. Buzbee, *Recognizing the Regulatory Commons: A Theory of Regulatory Gaps*, 89 IOWA L. REV. 1 (2003).

47. *Id.* at 30-36. For an example of the effects of overlapping agency jurisdiction on regulation, see James R. Weiss & Martin L. Stern, *Serving Two Masters: The Dual Jurisdiction of the FCC and the Justice Department Over Telecommunications Transactions*, 6 COMM. L. CONSPECTUS 101 (1998).

48. Buzbee, *supra* note 46.

area.[49] Complexity and opacity have a deleterious effect on compliance by the regulated communities. Complicated rules are obviously more difficult to follow than simple ones.[50] Furthermore, the perception that rules are complex and opaque can potentially serve as a rationalization for noncompliance.[51] Both unintentional and intentional noncompliance undermine the ultimate success of resource conservation efforts.[52]

B. *Problem Two: Fractured-Authority*

The second problem with the current system, according to the commissions, is that sovereign and administrative jurisdictions do not correspond to the boundaries of marine ecosystems, especially when those systems are defined to include coastal watersheds. The U.S. Commission explains:

> The current political . . . delineation of jurisdictional boundaries makes it difficult to address complex issues that affect many parts of the ecosystem. Economic development in a coastal area may fall under the jurisdiction of several local governments, and natural resource management under the jurisdiction of one or more states . . . . Yet water, people, fish, marine mammals, and ships flow continually across these invisible institutional borders.[53]

As a result of the "fractured authority" or "mismatched scales" problem, no one state or federal agency has the power to comprehensively manage resources that migrate across boundaries. This problem is not limited to the marine environment. Scholars of environmental policy have long recognized that the involvement of multiple jurisdictions in governing parts or pieces of an environmental issue is problematic.[54] Each additional jurisdiction adds to negotiation costs, reducing the possibility of efficacious resolution.[55] Furthermore, the involvement of more than one jurisdiction creates the opportunity

---

49. *Id.*

50. J.B. Ruhl & James Salzman, *Mozart and the Red Queen: The Problem of Regulatory Accretion in the Administrative State*, 91 GEO. L.J. 757 (2003); Daniel A. Farber, *Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law*, 23 HARV. ENVTL. L. REV. 297 (1999).

51. Ruhl & Salzman, *supra* note 50.

52. *Id.*; *see also* Eagle & Thompson, *supra* note 13.

53. USCOP REPORT, *supra* note 1, at 1. *See also* Hanna J. Cortner et al., *Institutions Matter: The Need to Address the Institutional Challenges of Ecosystem Management*, 40 LANDSCAPE & URB. PLANNING 159, 162 (1998).

54. Ruhl et al., *supra* note 18, at 934-35; SALZMAN & THOMPSON, *supra* note 18.

55. *See generally* ROBERT H. MNOOKIN & LEE ROSS, BARRIERS TO CONFLICT RESOLUTION (1999).

and incentive for each jurisdiction to free-ride on the benefits of prescriptions applied by another.[56]

Salmon management in the Pacific Northwest provides a good example of the sheer number of jurisdictions that can be implicated in the conservation of a marine natural resource. In the Columbia River basin alone, the United States and Canadian governments, five states (Montana, Idaho, Washington, Nevada, and Oregon), two Canadian provinces (British Columbia and Alberta), numerous tribal authorities, and dozens of local governments each have the authority to regulate activities that affect the well-being of salmon populations.[57] According to the Pew Commission:

> The fragmentation of responsibility for planning, funding, and implementing; the failure to establish firm restoration goals; the lack of legal and institutional mechanisms to ensure that restoration goals are achieved; and the failure to bring all relevant parties to the negotiating table have been major obstacles to salmon restoration in the Columbia River Basin.[58]

C. *The U.S. Commission's Proposal*

In its report, the U.S. Commission elaborates on its vision of optimal ocean governance in the future. This is governance that is comprehensive, integrated, and holistic:

> Management boundaries correspond with ecosystem regions, and policies consider interactions among all ecosystem components. In the face of scientific uncertainty, managers balance competing considerations and proceed with caution. Ocean governance is effective, participatory, and well coordinated among government agencies, the private sector, and the public.[59]

In the commission's view, the best vehicles for moving toward its conception of optimal governance are what it calls "Regional Ocean Councils."[60] Councils would be formed on a voluntary basis by states and other governmental authorities concerned about marine conservation problems that transcend their individual jurisdictional realms. Each council would be formed according to some basic design principles. First, it should be "scale-matched" to the problem or problems it

---

56. *See* Susan Rose-Ackerman, *Risk Taking and Reelection: Does Federalism Promote Innovation?*, 9 J. LEGAL STUD. 593, 605, 605-06 (1980).

57. NAT'L ACAD. OF SCIS., MANAGING THE COLUMBIA RIVER: INSTREAM FLOWS, WATER WITHDRAWALS, AND SALMON SURVIVAL (2004).

58. PEW REPORT, *supra* note 1, at 28.

59. USCOP REPORT, *supra* note 1, at 4.

60. *Id.* at 90.

is set up to address: Its "boundaries should be based approximately on [a] Large Marine Ecosystem[61] or other appropriate ecosystem-based area."[62] The boundary of each regional council should "encompass the area from the inland extent of coastal watersheds to the offshore boundary of the nation's exclusive economic zone."[63] Each council should be set up as a broad, multiple-use agency: It "should address a wide range of ocean and coastal issues"[64] and manage by balancing "competing considerations."[65]

Membership on the U.S. Commission's regional ocean councils is meant to help mitigate the fractured-authority problem. Seats on each council would be held by representatives of governments with authority over resource management within the council's boundaries, including states and local governments.[66] Nongovernmental stakeholders, such as fishermen and environmentalists, would serve on advisory subcommittees.[67]

The U.S. Commission emphasizes that the regional councils would not have a regulatory function:

> The regional ocean councils are not intended to supplant any existing authorities, such as the [Regional Fishery Management Councils],[68] state agencies, and tribal governments. Rather, the councils will work with these authorities to further regional goals, providing a mechanism for coordination on myriad regional issues.[69]

At the same time, the U.S. Commission's ideal appears to be that regional councils would serve as the engine for more comprehensive management, where the number of agencies and jurisdictions involved is effectively reduced through collaboration and the develop-

---

61. The USCOP report provides:

> Since the 1960s, scientists have developed and refined the concept of "large marine ecosystems," ("LMEs"). These regions divide the ocean into large functional units based on shared bathymetry, hydrography, productivity, and populations. LMEs encompass areas from river basins and estuaries to the outer edges of continental shelves and seaward margins of coastal current systems.

Id. at 63.

62. *Id.* at 86.

63. *Id*.

64. *Id*.

65. *Id.* at 4.

66. *Id.* at 86.

67. *Id.*

68. *See supra* note 12 and accompanying text.

69. USCOP REPORT, *supra* note 1, at 90.

ment of joint management programs.[70] The U.S. Commission refers to the ultimate goal of "strong coordination" and "a more comprehensive governance structure" for the management of shared resources.[71]

While the U.S. commission walks lightly around the politically sensitive issue of creating a new "superagency" with authority to trump participating jurisdictions, the commission's proposal would make very little sense if the ultimate objective were not some form of joint management. There would be some value in simply sharing information or in creating a discussion forum; however, neither of these council "products" would likely merit the costs of creating, organizing, and running the councils. More important, neither information sharing nor discussion would by themselves solve the fractured-use and authority problems the commissions identify as obstacles to successful management. While there is a benefit to reducing the transaction costs of negotiations, the only logical reason for reducing costs is to facilitate a negotiated agreement.

If we accept the creation of such agreements as an essential council function, the U.S. Commission's proposed solution is one that directly addresses both the fractured-use and fractured-authority problems. The councils are seen to be a means, albeit a "soft" means, for achieving "multiple-use, ecosystem-based" management:[72]

> These regional ocean councils would . . . serve as focal points for discussion, cooperation, and coordination. They would improve the nation's ability to respond to issues that cross jurisdictional boundaries and would help policy makers address the large-scale

---

70. Evidence of this commission's desire for "institutional melding" can be found in the guiding principles set out in a section of the commission's report entitled "Setting the Nation's Sights":

> Ecosystem-based Management: U.S. ocean and coastal resources should be managed to reflect the relationships among all ecosystem components, including humans and nonhuman species and the environments in which they live. Applying this principle will require *defining relevant geographic management areas based on ecosystem, rather than political, boundaries*.
>
> Multiple Use Management: The many potentially beneficial uses of ocean and coastal resources should be acknowledged and *managed in a way that balances competing uses* while preserving and protecting the overall integrity of the ocean and coastal environments.
>
> Understandable Laws and Clear Decisions: Laws governing uses of ocean and coastal resources should be clear, coordinated, and accessible to the nation's citizens to facilitate compliance. Policy decisions and the reasoning behind them should also be clear and available to all interested parties.

Id. at 6 (emphasis added).

71. *Id.* at 9.

72. *Id.* at 10.

> connections and conflicts among watershed, coastal, and offshore uses.[73]

D. *The Pew Commission's Proposal*

The Pew Commission also recommends a move toward comprehensive, scale-matched, regional ocean governance.[74] Unlike the U.S. Commission's councils ("U.S. Councils"), which would be formed voluntarily from the bottom up, under the Pew Commission's proposals, Congress would create the "Regional Ocean Ecosystem Councils" ("Pew Councils") through new federal legislation.[75] In this statute, which the Pew Commission calls the National Ocean Policy Act ("NOPA"), Congress would establish jurisdictional boundaries for each council, roughly based on the existing boundaries of the Regional Fishery Management Councils created by the Magnuson-Stevens Act.[76]

As in the case of the U.S. Councils, membership on each Pew Council would consist of "federal, state, and tribal authorities with jurisdiction over ocean space and resources in a region."[77] Stakeholders, such as fishermen and environmentalists, would provide input to decision processes through "a robust and influential advisory process."[78]

The Pew Councils would have more inherent power than the U.S. Councils. According to the commission's report:

> These councils should be charged with developing and overseeing implementation of enforceable regional ocean governance plans to carry out the national policy to protect, maintain, and restore marine ecosystems. To be enforceable, plans must include performance goals and indicators, [and] must be binding on all parties.[79]

However, like the U.S. Commission's plan, the Pew Commission's plan would not eliminate existing federal sector-based agencies:[80] NOPA would require that agency actions be consistent with

---

73. *Id.* at 8.

74. *See generally* PEW REPORT, *supra* note 1, at 26-34.

75. *Id.* at 33.

76. *Id.* at 103.

77. *Id*.

78. *Id*.

79. *Id.* at 33.

80. "Regional ocean councils should leave day-to-day management to the appropriate authorities. For example, federal fisheries management would remain the purview of the National Marine Fisheries Service [NOAA Fisheries] and the appropriate regional fishery management council." *Id.* at 104.

councils' regional ocean governance plans.[81] To minimize fractured-authority problems, NOPA would provide a range of incentives for state governments to conform their management actions to council plans.[82] Modeled on the Coastal Zone Management Act,[83] NOPA's "carrots" would include both cash grants and the right to object to federal actions outside state jurisdiction.[84]

While the mechanism employed is slightly different, the Pew Councils are meant to serve the same role as the U.S. Councils: effectively reducing the number of agencies and jurisdictions that can make decisions regarding the use of marine natural resources.

III. THE PERILS OF MULTIPLE-USE MANAGEMENT

The shift that both commissions want to make toward scale-matched, multiple-use institutions has rational bases.

First, comprehensive regional councils would function as "lead agencies," exercising jurisdiction over all resource uses within a defined ocean space. The simplified governance structure would enhance opportunities for public participation, improve regulatory compliance, and improve managers' incentives. Streamlined governance would reduce the costs of—and thus increase the opportunities for—public participation. The overall number of decision-making loci would be reduced, and interested citizens could more easily identify the appropriate place for participation.[85] Simpler rules and more transparent rulemaking processes represent critical steps toward improved compliance.[86] Finally, a sole agency, clearly in charge of managing "its" marine resources, should have fewer incentives to avoid or delay action and to "pass the buck" for failed management.[87]

The second rationale supporting the use of scale-matched, multiple-use institutions is that they better reflect the true nature of the marine environment, and in particular the interrelationships between

81. *Id.* at 105.

82. *Id*.

83. Coastal Zone Management Act of 1972, 16 U.S.C. § 1451 (2000).

84. PEW REPORT, *supra* note 1, at 105. Under the Coastal Zone Management Act of 1972, states can object to proposed activities in federal waters that are not "consistent to the maximum extent practicable with" coastal management plans that those states have developed for activities in state waters. 16 U.S.C. § 1456(c)(1)(A).

85. Wagner, *supra* note 42.

86. Farber, *supra* note 50, at 320-21.

87. Buzbee, *supra* note 46.

its component parts.[88] Thus, decisions can take into account impacts that are diverse, both in terms of where and how they occur. If, for example, an agency is charged with managing a migratory fish species, it makes sense to give that agency the power to regulate all of the many activities that affect the species throughout its life history, including fishing, pollution, offshore oil and gas drilling, etc., regardless of where they occur.[89]

A. *Problems With Balancing*

While appealing, these rationales fail to take into account the practical problems associated with balancing varied uses of natural resources. Agency balancing is a flawed concept for several reasons. First, many resource uses are truly incompatible and thus cannot be "balanced," in the common sense of the word. For example, it is impossible for a backcountry hiker to enjoy a wilderness experience in the middle of a forest clear-cut. An agency can "balance" these timber harvest and recreation uses only by distributing them across space, if available, or over time, given a long enough horizon.[90] In neither of those solutions is use of the specific resource, the clear-cut area itself, balanced. The particular parcel of land is razed, or not. This is a zero-sum game.

Other examples are more subtle. For instance, the principal goal of the Magnuson-Stevens Act is to keep fish populations at a level that produces the "maximum sustainable yield."[91] Scientists are not certain, though, about the population level where this "optimal reproduction" is achieved. Some biologists think it is in the neighborhood of forty percent of the pre-fishing population, while others think it is closer to seventy-five percent.[92] If conservation groups advocate for the latter definition, while the fishing industry prefers the former, and the scientific evidence is equivocal, how can "use" of a particular fish population be balanced? Does a goal of fifty-seven percent represent multiple-use management?

---

88. Cortner et al., *supra* note 53, at 161.

89. *See* Farber, *supra* note 50, at 317.

90. Jeffrey R. Vincent & Clark S. Binkley, *Efficient Multiple-Use Forestry May Require Land-Use Specialization*, 69 LAND ECON. 370 (1993).

91. Magnuson-Stevens Fishery Conservation and Management Act § 301(a)(1), 16 U.S.C. § 1851(a)(1) (2000); 16 U.S.C. § 1802(28).

92. *See, e.g.*, William G. Clark, *Groundfish Exploitation Rates Based On Life History Parameters*, 48 CAN. J. AQUATIC SCI. 734 (1991) (twenty to sixty percent); Joan Roughgarden, *How to Manage Fisheries*, 8 ECOLOGICAL APPLICATIONS 160 (1998) (seventy-five percent).

This last example highlights a second problem in multiple-use balancing. When information is uncertain, or when user groups have widely disparate views of how the resource ought to be used, agencies will naturally tend toward Solomonic averaging. Splitting the difference is "fair" only in an arbitrary way. A finding that fifty-seven percent of an unfished population produces the maximum sustainable yield is not based on science, nor does it represent a reasoned attempt to achieve equity. Averaging, however, presents even bigger problems. Where users are in conflict across an entire landscape or seascape, averaging leads to the uniform application of middle-of-the-road management strategies.

In the world of fisheries management, there is no better example of this than the case of *Natural Resources Defense Council v. Daley*.[93] In that case, the court decided a dispute between environmentalists and the fishing industry, ultimately interpreting the language, "management measures . . . shall prevent overfishing," to mean "management measures shall have at least a fifty-one percent chance of preventing overfishing."[94] Although environmental groups considered this a "win," given that the agency had earlier found an eighteen percent chance acceptable, it still left the success of U.S. fisheries management to a slightly weighted coin toss.[95] In this context, averaging provides an incentive for interest groups to seek scientific opinions further away from the mean, further polarizing debate: The testimony of a scientist who believes that a population produces maximum yield at thirty-seven percent of its unfished level could be worth millions of dollars.

---

93. 209 F.3d 747 (D.C. Cir. 2000).

94. The court found that:

> [T]he adopted quota guaranteed only an 18% probability of achieving the principal conservation goal of the summer flounder fishery management plan. The Service offered neither analysis nor data to support its claim that the two additional measures aside from the quota would increase that assurance beyond the at-least-50% likelihood required by statute and regulation.

Id. at 756. The "at-least-50%" requirement is implied by the court. The words are not in the Act.

95. In a 2000 online newsletter, the Pacific Marine Conservation Council claimed that "[a] recent decision by the US Court of Appeals (DC Circuit) . . . sets important precedents." *Victory for an Atlantic Flounder has Implications out West*, PMCC Q. (Pac. Marine Conservation Council, Arcata, Cal.), Aug. 2000, at 4, *available at* http://www.pmcc.org/newsletters/newsletter august.htm.

For diffuse, politically weak groups of users, averaging actually represents a best-case scenario.[96] It will often be the case that an agency's final decision is closer to the result advocated by the stronger, more concentrated interests. Strong groups will not only be able to afford "better" experts, but they will participate in agency decision-making processes with more frequency and intensity than weak groups.[97] One does not have to believe in agency capture theory[98] to be convinced that because of their enhanced participation, strong groups will, on average, have more influence on agency decisions than their adversaries.[99]

Take, for example, a decision about whether or not to permit the fishing industry to use a certain kinds of hooks to catch swordfish. Assume that these hooks, called "X" hooks, represent the most efficient

---

96. For an introduction to theories of concentrated and diffuse, or "latent" groups, see MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION ch. 1 (1971). Schroeder provides a good summary of Olson's theories:

> Arguing that most people would approach the decision to contribute or not by weighing the costs and benefits, Olson predicted that groups would be hard to organize when the group activity promised to produce benefits that were spread out among beneficiaries in amounts that are small compared to the costs of securing them. Each individual would see that her contribution to the group effort was not going to affect her own personal fortunes—either others would contribute enough so that she could free-ride on their efforts or others would not contribute and the minimal amount she was willing to contribute would not put the effort over the top. In either case, no benefits to her would be produced by her contribution, and hence it would be irrational to join in the group effort.
>
> Groups whose benefits were diffuse in this sense were labeled "latent" groups by Olson because the shared group benefit was likely to remain unrealized. In contrast, groups that contain members with more concentrated benefits would be more likely to organize, either because a single member has enough at stake in the benefit to underwrite individually the costs of securing the group benefit, or because a subgroup of members within the larger group is small enough so that they can effectively agree to pool sufficient resources to produce the benefit. Compared to latent groups, such groups as these have a comparative advantage with respect to their ability to organize to advance group interests.

Christopher H. Schroeder, *Rational Choice Versus Republican Moment—Explanations for Environmental Laws, 1969-73*, 9 DUKE ENVTL. L. & POL'Y F. 29, 33-34 (1998). Schroeder also provides a good synopsis of criticism of Olson's theories.

97. OLSON, *supra* note 96.

98. "Agency capture" theory suggests that a regulatory agency can be commandeered by the regulated community to serve its own purposes. *See* MARVER H. BERNSTEIN, REGULATING BUSINESS BY INDEPENDENT COMMISSION (1955).

99. *See, e.g.*, JOHN E. CHUBB, INTEREST GROUPS AND THE BUREAUCRACY 264 (1983) ("Notwithstanding the many changes in the structure and political environment of the bureaucracy, the energy agencies cooperated most with interest groups that had the expert personnel and the financial resources to contribute to these slow and technical policymaking processes."); Scott R. Furlong, *Political Influence on the Bureaucracy: The Bureaucracy Speaks*, 8 J. PUB. ADMIN. RES. & THEORY 39 (1998); Scott R. Furlong, *Interest Group Influence on Rule Making*, 29 ADMIN. & SOC. 213 (1997); MICHAEL D. REAGAN, THE POLITICS OF POLICY (1987); BARRY M. MITNICK, THE POLITICAL ECONOMY OF REGULATION (1980).

method of catching swordfish in terms of catch per unit of effort. Compared to the next most efficient technique, using what are called "Y" hooks, X hooks earn each fisherman an additional $5,000 per year. Assume that X hooks result in very high levels of sea turtle "by-catch," and that sea turtles are very rare. Compared to Y hooks, the X hooks catch—that is, cost—$5 million worth of additional turtles each year.[100]

If there were only 100 fishermen fishing per swordfish, the rational decision would be to prefer Y hooks over X hooks. The choice of Y hooks would result in a net gain to society of $4.5 million. Because the *per*-individual benefits of using X hooks are higher than the costs of attending hearings or writing comments, fishermen will have strong incentives to participate in agency decision-making processes. On the other hand, since the potential loss of $4.5 million is distributed across society, members of the general public are less likely to become involved.[101]

In the above example, the agency has rational—even superficially legitimate—reasons to permit X hooks to be used, even where the result is inefficient. As the "most interested" constituents, fishermen are the members of the public most likely to contact an agency's supervisors, that is, legislators, when they are unhappy with agency decisions.[102] Furthermore, an agency choosing to permit the use of X hooks can easily see itself as simply making a democratic decision: More of its constituents "voted," through the legitimate mechanism of participation, for X hooks than Y hooks.[103]

Empirical findings support the conclusion that this mechanism is operative, at least some of the time, in fisheries decision-making. In an earlier paper, Thompson and I examined decisions made by Regional Fishery Management Councils over a twenty-five year period.[104] In one of the fisheries we studied, scientists presented their advice on annual catch levels to the councils in the form of a range.

---

100. Without an actual market for endangered sea turtles, it is impossible to place an actual dollar value on the cost of taking each additional animal. Economists have developed a number of methods for measuring the value of these non-market commodities, most notably, "contingent valuation." *See, e.g.*, John B. Loomis & D.S. White, *Economic Benefits of Rare and Endangered Species: Summary and Meta-analysis*, 18 ECOLOGICAL. ECON. 197 (1996). While the amount may be difficult to determine, there is no question that they meet the criteria for having economic value: they are limited in quantity, and people enjoy them.

101. OLSON, *supra* note 96.

102. *Id.*

103. *Id.*

104. Eagle & Thompson, *supra* note 13.

Setting catch levels at the high end of the range meant choosing a high risk of overfishing and a low risk of unnecessarily depriving fishermen of revenue; setting catches at the low end meant the opposite. For obvious reasons, the fishing industry would prefer high catches, while conservationists would prefer a more cautious approach. Our data showed that the councils consistently chose to set catch levels above the mean of the range. Only once in fifteen years did the council choose a quota below the mean, while it chose quotas at or above the top end of the range six times.[105] This phenomenon has been documented in other fisheries as well.[106]

B. *Special Problems of Marine Conservation*

As Olson pointed out, the concentrated-diffuse dynamic is not unique to environmental issues; it exists in many regulatory conflicts. In the context of marine conservation, however, there are two reasons why it is especially problematic. First, marine conservation as a political interest is particularly weak, thus exaggerating the influence of the fishing industry.[107] Second, the concentrated-diffuse dynamic has tragic results, not just for the conservation groups who regularly lose in agency-sponsored balancing contests, but for the long-term health of the marine environment.

The weakness of marine conservation as a political interest derives from the fact that humans are a terrestrial species: It is difficult for us to interact with those parts of the ocean that lay beyond the

---

105. *Id.* at 657.

106. *See, e.g.*, CARL SAFINA, SONG FOR THE BLUE OCEAN 7-116 (1997); Hennessey & Healey, *supra* note 13.

107. In some regions of the country, other groups feel disenfranchised within the multiple-use process. Recreational fishermen, for example, perceive that their voices are often swamped by those of commercial fishermen. A recent story in the St. Petersburg Times illustrates:

> After months of debate and controversy, hundreds of thousands of recreational anglers will learn Wednesday when they can once again fish for red grouper in the Gulf of Mexico. But the story behind this historic meeting of the Gulf of Mexico Fishery Management Council is about much more than a cheap fish sandwich. It is a tale of power, money and old school politics. Since 1994, when Floridians voted overwhelmingly to ban nets from state waters, commercial fishermen and recreational anglers have battled for public opinion. The billion-dollar commercial industry says sport fishermen are nibbling away at their piece of the pie. But the $5-billion recreational sector, which thanks to the Internet is better organized than ever, says commercial fishermen are depleting fish stocks for generations to come. The federal government, charged with protecting the resource, now finds itself with the unenviable task of mediating between two warring factions. "We question the federal government's numbers," said Dennis O'Hern, spokesman for the Fishing Rights Alliance. "We also suspect [federal fishery managers] too often make decisions to benefit the [commercial] industry."

Terry Tomalin, *Great Grouper Debate Near End?*, ST. PETERSBURG TIMES, Nov. 14, 2005, at 1B.

low-tide line.[108] From the vantage point of the beach, the sea looks the same whether teeming with fish or not.[109] The physical inaccessibility of the ocean means that it is difficult for members of the public to develop any kind of emotional connection with marine wildlife.[110] This, in turn, reduces public interest in enhanced levels of marine conservation.[111]

Physical separation from the oceans, though, does more than diminish individuals' interest in participating in regulatory processes. It means that marine conservation, as a political movement, lacks natural, economically powerful political allies.[112] Compare the example of

---

108. The average depth of the world's oceans is about two and a half miles. ELLEN J. PRAGER & SYLVIA A. EARLE, THE OCEANS 90 (2000). The world depth record for scuba diving is less than one-quarter of a mile. Matthew Beard, *British Scuba Diver Sets New World Record with Depth of 313 Metres*, THE INDEPENDENT (LONDON), Dec. 22, 2003, at 7.

109. According to some early accounts, it may have once been the case that abundant marine life could be easily detected from the beach or the ocean's surface. Early explorers reported from Newfoundland, for example, that "the sea is covered with fish which are caught not merely with nets but with baskets, a stone being attached to make the baskets sink with the water." W.H. Lear, *History of Fisheries in the Northwest Atlantic: The 500-Year Perspective*, 23 J. NW. ATLANTIC FISHERY SCI. 41, 44 (1998) (quoting the explorer John Cabot).

110. As author and ocean advocate Carl Safina has noted:

> People have [an] intimate relationship with birds because you can hang a bird feeder out the window and you can admire birds. But you can't put a fish feeder outside your window and admire fish. You have no relationship with them. You see them only as a slab of meat. It's as though our whole relationship with birds was the experience of being in the poultry section of the supermarket.

Bill Moyers Reports: Earth on Edge (PBS television broadcast June 19, 2001). A transcript of the Carl Safina interview is available at http://www.pbs.org/earthonedge/program/safina2.html. *See also* Tatiana Brailovskaya, *Obstacles to Protecting Marine Biodiversity through Marine Wilderness Preservation: Examples from the New England Region*, 12 CONSERVATION BIOLOGY 1235 (1998). There have been efforts to determine the economic value individuals put on the simple existence of wildlife. Loomis & White, *supra* note 100. I have not been able to find even one study, however, where an economist attempted to determine if there is existence value in marine fish species.

111. When asked, "Which of the following do you think is the most important environmental problem facing this country?", only five percent of survey respondents named the ocean, while about one percent identified threats to coastal habitats. Vikki N. Spruill, *U.S. Public Attitudes Toward Marine Environmental Issues*, 10 OCEANOGRAPHY 149 (1997). More telling, only ten percent replied that they would be "almost certain to attend council or state legislative meetings on ocean issues." *Id.* at 151.

112. Some scholars have attempted to explain accomplishments of the environmental movement with what is known as the "Baptist-bootlegger" theory: While environmentalists provide a moral rationale for protecting the environment, the probabilities of their political success are enhanced when the cause is also supported by those who stand to gain financially from protective measures. Bruce Yandle & Stuart Buck, *Bootleggers, Baptists, and the Global Warming Battle*, 26 HARV. ENTL. L. REV. 177 (2002). Thus, for example, companies with large private-land timber holdings might support environmental laws restricting timber harvest on public land. Bruce Yandle, *Bootleggers and Baptists in Retrospect*, 22 REGULATION 5 (1999). While Yandle appears to regard the phenomenon as an undesirable distortion of the political process,

conservation on the public lands. The most conservation-friendly areas on the public lands are Wilderness Areas, the National Parks, and the National Wildlife Refuges.[113] Although environmental groups participated in lobbying Congress to establish these places, they were greatly aided in their efforts by powerful economic interests: the tourism industry and sporting goods manufacturers.[114] There are no analogous "umbrella" interests providing economic cover to marine conservation groups in the political process. There are more archers in America than scuba divers.[115]

Why does it matter that the fishing industry frequently wins multiple-use balancing contests? To answer this question, it is important to understand the role that a marine resources agency ideally ought to play in managing the commons. Hardin explained how the lack of well-defined property rights leads to inefficient use of commons resources,[116] and argued that efficiency could be achieved through private or public ownership of the resource.[117] Historically, governments

---

he also recognizes its value in explaining or predicting legislative outcomes. Yandle & Buck, *supra*, at 7.

113. These lands are governed, respectively, under the provisions of the Wilderness Act of 1964, 16 U.S.C. § 1131 (2000), the National Park Service Organic Act, 16 U.S.C. § 1 (2000), and the National Wildlife Refuge System Administration Act, 16 U.S.C. § 668dd (2000).

114. RONALD A. FORESTA, AMERICA'S NATIONAL PARKS AND THEIR KEEPERS 24 (1984); *see* ALFRED RUNTE, NATIONAL PARKS: THE AMERICAN EXPERIENCE 173 (University of Nebraska Press 1997) (1979); UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, RESTORING AMERICA'S WILDLIFE 1937-1987 1-16 (1987).

115. There are an estimated 2.3 million scuba divers in the United States, making it comparable in popularity to sports such as cross-country skiing. Professional Association of Diving Instructors, PADI Statistics, http://www.padi.com/english/common/padi/statistics/6.asp (last visited Dec. 1, 2005); by comparison, there are an estimated fifty-five million campers, thirty million hikers, nineteen million hunters, and thirty-eight million freshwater fishermen. U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: 2004-2005, at 774 (2005).

While recreational saltwater fishing is a popular activity (twelve million people reported fishing once during 2002, *id.*), the recreational fishing industry has not historically supported the agenda of marine conservation groups. Language on the website for the Recreational Fishing Alliance, one of the largest saltwater sportfishing groups in the United States, is typical:

> You can join the RFA and fight back, or you could just let the government, the industrial fishing fleets, environmentalists and the politicians decide for you. That is what most of us recreational anglers did in years past and they walked all over us.

Recreational Fishing Alliance, Join the RFA, http://www.joinrfa.org/join.asp (last visited Feb. 14, 2005).

116. Hardin, *supra* note 10, at 1244. Simply put, commons users have no incentive to sacrifice short-term gain for greater long-term benefit. While it might make sense, for example, to allow a fish to reproduce before catching it, the commons user will rationally choose not to wait: without a legally recognized right to the progeny, she has no assurance that she will have the opportunity to catch them.

117. Hardin, *supra* note 10, at 1245. *See also* PHILIP A. NEHER, NATURAL RESOURCE ECONOMICS: CONSERVATION AND EXPLOITATION 256 (1990).

have eschewed private ownership, opting almost exclusively for public ownership of fisheries: a "regulated commons."[118] Whether an owner succeeds in the goal of optimal management depends in large part on accurate information regarding the resource and its current and future value.[119] Successful management of a publicly owned, "regulated commons" further depends on the willingness of the managing agency to resist pressure from commons users, who often continue to have the same incentives as they had prior to the commencement of regulation.[120] If agencies do not resist, their decisions will differ dramatically, to the detriment of the long-term health of the resource, from choices that a private owner would make. The net result is a regulated system that mirrors the unregulated system: in other words, a "tragedy of the regulated commons."[121]

> The common pool problem begins with the simple idea that the efficient intertemporal allocation of resources requires that any decision on the current rate of use takes into account the entailments for future supplies. A "sole owner" (controller) of a resource who has perpetual tenure is motivated to do just that. He must live with the future consequences of his own current decisions. . . . There is no reason in principal why a state planning authority cannot mimic the responsible behavior of a privately motivated sole owner.

Id.

It should be noted that there is a line of scholarship questioning the need for sole ownership, arguing that communities, in particular cases, can organize to successfully manage common resources collectively. *See, e.g.*, ELINOR OSTROM, GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION (1990). One can easily make the case, however, that "community-based" management is simply a third form of sole ownership.

118. Two countries, Iceland and New Zealand, have implemented extensive "individual quota" programs that effectively privatize the total allowable catch of fish by dividing it into shares. Newell et al., *Fishing Quota Markets*, 49 J. ENVTL. ECON. & MGMT. 437 (2005). Fishermen can buy and sell these quota shares, subject to some restrictions. *Id.* There are only a few individual quota programs in use in the United States. *See* Katrina M. Wyman, *From Fur to Fish: Reconsidering the Evolution of Private Property*, 80 N.Y.U. L. REV. 117 (2005).

119. *See* Barton H. Thompson, Jr., *Tragically Difficult: The Obstacles to Governing The Commons*, 30 ENVTL. L. 241 (2000).

120. Fishermen's incentives remain the same because of the management tools chosen by regulators. The most common tool used to manage American fisheries is the annual limit on total catch, or "quota." Under an annual quota system, regulators set a cap on the amount of fish that can be caught each year. Fishermen compete with each other to catch these fish until the quota has been met, perpetually investing in better equipment to give themselves an advantage over others. Leonard J. Mirman & Daniel F. Spurber, *Fishery Regulation with Harvest Uncertainty*, 26 INT'L. ECON. REV. 731 (1985); James A. Crutchfield, *An Economic Evaluation of Alternative Methods of Fisheries Regulation*, 4 LAW & ECON. 131 (1961).

121. David Dana refers to this phenomenon as "the tragedy of the political commons." David A. Dana, *Overcoming the Political Tragedy of the Commons: Lessons Learned from the Reauthorization of the Magnuson Act*, 24 ECOLOGY L.Q. 833 (1997). Empirical evidence supports the hypothesis that current institutions are susceptible to this mechanism: The symptoms described by the two commissions (for example, overfishing) are identical to symptoms of the

IV. HOW AGENCY DIVERSITY CAN OPTIMIZE MARINE CONSERVATION

Why might use of an agency-diversity model avoid the conservation problems that arise from multiple-use balancing? In considering this question, it is useful to take a step back and examine the options available to legislators in designing laws for managing the use of natural resources. On one hand, legislators wishing to exercise some control over disposition of a resource can opt for a multiple-use statute.[122] Such statutes give resource-management agencies unlimited discretion in allocating resources among user groups.[123] For example, under a multiple-use law, the agency would have unfettered power to determine whether the catches in a fishery should be allocated to commercial fishermen or recreational fishermen.[124] On the other hand, legislators can choose to adopt a dominant-use law.[125] These laws give agencies specific directions in ordering the priority of allocations.[126]

"ordinary," unregulated tragedy of the commons. H. Scott Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 J. POL. ECON. 124 (1954).

122. Perhaps the best example of a "pure" multiple-use, balancing statute is the Federal Lands Policy and Management Act of 1976, 43 U.S.C. §§ 1701-1782 (2000) [hereinafter FLPMA].

123. The FLPMA, for example, provides that, in allocating land to uses, the Bureau of Land Management shall "use and observe the principles of multiple use and sustained yield set forth in this and other applicable law." *Id.* § 1711(c)(1). The statute defines "multiple use" to mean:

> [T]he management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.

Id. § 1702(c).

124. For an examination of the political reasons why a legislature might favor such grants of broad administrative discretion, see Matthew D. McCubbins, *The Legislative Design of Regulatory Structure*, 29 AM. J. POL. SCI. 721 (1985).

125. The three leading examples of dominant-use laws relating to the public lands are the Wilderness Act of 1964, 16 U.S.C. §§ 1131-1136 (2000), the National Park Service Organic Act, 16 U.S.C. §§ 1-20 (2000), and the National Wildlife Refuge System Improvement Act of 1997, 16 U.S.C. §§ 668dd-668ee (2000).

126. The Wilderness Act, for example, provides that:

> [E]ach agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wil-

These laws can be written in exclusive form, mandating that an agency only allow one particular use. They can also be written to create presumptions in favor of particular uses.[127] For example, a law might order that agencies allow recreational fishing, unless it can be shown that it will harm the resource, and prohibit commercial fishing, unless it can be shown that it will *not* harm the resource.[128]

If it is assumed that agencies respond in predictable ways to the concentrated-diffuse dynamic, it is easy to see how the choice of a multiple-use or a dominant-use statute will affect the outcome of agency decisions. Under a multiple-use regime, the agency will consistently favor the concentrated-user group. Under a dominant-use regime, the agency will consistently favor the group that the legislature has directed or encouraged it to favor.

However, if one also assumes that concentrated groups have the same amount of influence in legislative decisions that they do in agency decisions, then the ultimate result should be the same.[129]

There are good reasons to believe, however, that concentrated groups probably have less influence over legislators than they do over agency officials.[130] For one thing, legislators are directly accountable, through the election process, to members of the diffuse group. Fur-

---

> derness character. Except as otherwise provided in this chapter, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

16 U.S.C. § 1133(b).

127. Under the National Wildlife Refuge System Improvement Act, for example, those wishing to pursue an activity within a National Wildlife Refuge have the burden of proving that the proposed activity is "compatible" with the "major purposes" for which the refuge in question was established. 16 U.S.C. § 668dd(d)(1)(a)(1).

128. Land use laws, incorporating the concept of rules and variances, illustrate well the concept of a presumption-based approach to ordering uses. *See, e.g.*, S.C. CODE ANN. § 6-29-800 (1976) (revised 2004).

129. If this were true, the legislature would never enact multiple-use legislation at all. Instead, it would only pass dominant-use statutes favoring concentrated groups.

130. It has been posited that members of the public, including groups, have more input into agency processes than legislative processes. According to Peter Schuck, "the administrative agency is often the site where public participation in lawmaking is most accessible." Peter H. Schuck, *Delegation and Democracy: Comments on David Schoenbrod*, 20 CARDOZO L. REV. 775, 781 (1999). Elaborating, Schuck argues that:

> The administrative agency is often the most accessible site for public participation because the costs of participating in the rulemaking and more informal agency processes, where many of the most important policy choices are in fact made, are likely to be lower than the costs of lobbying or otherwise seeking to influence Congress. Moreover, the institutional culture of the administrative agency, despite its often daunting opacity, is probably more familiar to the average citizen, who deals with bureaucracies constantly and probably works in one, than the exotic, intricate, unruly (and "un-ruley"), insider's culture of Congress.

Id.

thermore, the legislative process features a large number of decision-makers with a wide range of interests and thus is more difficult to influence than a small group of agency officials.[131]

In the area of natural resource legislation, the empirical evidence supports the view that legislators are not, or do not wish to appear to be, overly beholden to concentrated interests. While Congress has designated nearly twenty percent of all public lands as dominant-use wilderness, available only to non-motorized recreation use, it has designated almost none as dominant-use "resource extraction areas."[132] While the petroleum industry lobby is one of the strongest lobbies in America,[133] there is only one place on the public lands where Congress has seen fit to give it statutory priority over all other possible users.[134]

Congress, in creating dominant-use lands, has focused its attention on the needs of less powerful user groups. This fact underlines a key point regarding the function that such statutes play in the overall management of natural resources: Dominant-use laws serve as a mechanism for protecting groups that do not thrive under multiple-use regimes.[135] These underpowered groups do not thrive under mul-

131. For two sides of this debate (in the antitrust context), see William H. Page, *Interest Groups, Antitrust, and State Regulation:* Parker v. Brown *in the Economic Theory of Legislation*, 1987 DUKE L.J. 618 (1987) (agencies more susceptible to capture) and John Shephard Wiley, Jr., *A Capture Theory of Antitrust Federalism: Reply to Professors Page and Spitzer*, 61 S. CAL. L. REV. 1327 (1988) (legislature more susceptible to capture).

132. Wilderness statistics are available at the website of the Wilderness Institute, www.wilderness.net (last visited Dec. 1, 2005). The nation's only National Petroleum Reserve, located on the North Slope of Alaska, is a 23 million acre tract of land originally set aside as Naval Petroleum Reserve, Number 4, by President Warren Harding in 1923. Exec. Order 3797-A (Feb. 27, 1923). Congress later enacted the reserve into law. 42 U.S.C. § 6502 (2000). As an interesting side note, Naval Petroleum Reserve, Number 3, was at the center of the "Teapot Dome" scandal that marred the Harding administration. BURL NOGGLE, TEAPOT DOME: OIL AND POLITICS IN THE 1920S 16 (1962).

133. The petroleum industry ranks as the eighth largest contributor to Congressional campaigns over the last 16 years. Opensecrets.org, Industry Totals: Oil and Gas, http://www.opensecrets.org/industries/indus.asp?Ind=E01 (last visited Dec. 1, 2005).

134. *See supra* note 132 and accompanying text.

135. Dominant-use agencies serve in effect as proxies for previously under-represented groups. Narrow legislative mandates characterizing dominant-use agencies make them responsive to their constituencies in at least two ways. First, the mandate itself forces the agency to conform to its mission. Second, the narrow mandate would make it easier for members of the "represented" constituency to seek relief in court. Courts are understandably very reluctant to make judgments regarding the legitimacy of multiple-use decisions. *See, e.g.*, Norton v. S. Utah Wilderness Alliance, 542 U.S. 55, 55-58 (2004) (describing multiple-use management as "a deceptively simple term that describes the enormously complicated task of striking a balance among the many competing uses to which land can be put, 'including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and [uses serving] natural scenic, sci-

tiple-use regimes because they do not have the wherewithal to compete in the agency forum with other, more powerful user groups.

This view of agency diversity is consistent with theories of municipal zoning and other forms of civic organization. Steele, for example, identifies the role that zoning can play in empowering residents to negotiate proposed changes to their neighborhoods.[136] In a world without zoning, individuals with greater resources are able to purchase and use land without concern for the sentiments of residents. Through variance and special exception processes, and armed with a statutory presumption against nonconforming uses, residents have the opportunity and power to shape change.[137] Notably, residents do not use these tools to prevent all change, but to allow for the tempered evolution of their neighborhoods. Steele's study of Evanston, Illinois found that "over one-third of [zoning board] applications resulted in neither complete grants nor denials but in a partial grant or a grant with conditions imposed."[138]

In a recent article on civic organization,[139] Gerken examines the potential benefits of diverse, "disaggregated" institutions in promoting healthier conflict resolution. Institutions such as minority-dominated voting districts can improve the quality of negotiations between groups of unequal power in several ways. By giving weak groups the opportunity to shape decisions within one jurisdiction,[140] diverse institutions force strong groups to engage on more equal terms,[141] while at the same time helping weak groups grow stronger. This process accelerates as weak groups develop necessary leadership and use institutions they control to promote their views to the broader public.[142]

---

entific and historical values.'") Courts should "avoid . . . entanglement in abstract policy disagreements which [they] lack both expertise and information to resolve." *Id.* at 66.

136. Steele, *supra* note 25.

137. *Id.* at 713.

138. *Id.* at 724.

139. Gerken, *supra* note 27.

140. *Id.* at 1122. In at-large voting districts, the voice of minority voters is swamped by the voice of the majority. Minority districts, on the other hand, ensure that minorities will at least sometimes have "the power to decide, a power usually enjoyed solely by members of the majority." *Id.* at 1126.

141. *See id.* at 1145-46, 1162; Robin Martin, *Minority Influence and Argument Generation*, 35 BRITISH J. SOC. PSYCHOL. 91 (1996); Charlan J. Nemeth, *Differential Contributions of Majority and Minority Influence*, 93 AM. PSYCHOL. REV. 23 (1986).

142. Gerken, *supra* note 27, at 1126, 1161; *see also* Charlan J. Nemeth & John Rogers, *Dissent and the Search for Information*, 35 BRITISH J. SOC. PSYCHOL. 67 (1996).

In addition, diverse kinds of institutions are likely to order their decision-making in different ways.[143] These differences, taken together, represent an experiment in institutional design and thus provide valuable information on what works and what does not.[144] Beyond their experimental value, the range of institutions constitutes "a diverse portfolio of decision-making bodies" that can reduce risk *per* benefit in the same way that "money managers . . . maximize returns on investments in an unpredictable world."[145]

A. *Agency Diversity*

The current system of ocean governance is one of overlaid multiple-use institutions, the equivalent of at-large voting districts or unzoned cities. An application of zoning and disaggregation,[146] in the form of dominant-use natural resources agencies and use-prioritized jurisdictions, will set the stage for a healthier political dialogue between various groups interested in ocean resources.[147]

While it would be new to the oceans, this approach is not new elsewhere. Congress has applied an agency-diversity approach to managing uses on the public lands for more than 130 years.[148] National Parks are dominant-use recreation areas, where recreation is priori-

143. Gerken, *supra* note 27, at 1171-73.

144. *Id.* at 1172.

145. *Id.* at 1173-74.

146. It would also be possible to apply zoning, but not disaggregation, to the management of ocean space. In this model, all zones would be managed by the same agency. While this approach would improve the bargaining position of conservationists, it would not produce many of the other benefits described by Gerken. Under either model, it is critical that zones be determined by the legislature. A model wherein the legislature delegates zoning power to a multiple-use agency is likely to meet the same fate as other forms of multiple-use management.

147. One interesting question is whether it is necessary to give "powerful" interests such as the fishing industry or the petroleum industry "their own" ocean space. On the one hand, powerful groups do not need the same protection that weak groups need from the multiple-use forum. On the other hand, the creation of such areas may render the entire agency-diversity "project" more politically feasible. If powerful groups see some benefit for themselves in the new system, they may offer less opposition to the idea. The increased certainty that would go along with the creation of a "Fishing Area" might provide the industry with some reason to support the entire project. The alternative would be to simply create conservation areas (and agencies), while leaving the rest of the ocean under a multiple-use regime. This is the approach Congress has taken with the public lands, where about thirty-five percent are managed under the FLPMA. Bureau of Land Management, BLM Facts, www.blm.gov/nhp/facts/index.htm (last visited Dec. 1, 2005).

148. *See generally* CHARLES F. WILKINSON ET AL., FEDERAL PUBLIC LAND AND RESOURCES LAW (5th ed. 2002).

tized over all other uses.[149] National Wildlife Refuges focus on the enhancement of wildlife, mostly for use in waterfowl hunting, but also for other reasons.[150] The National Forests are, or were originally, intended primarily to aid in the development of a sustainable commercial timber industry and to protect valuable water supplies.[151] Some of the public lands retain multiple-use status. On these lands, the Bureau of Land Management has discretion to allocate between competitors.[152]

B. *Benefits of Agency Diversity*

1. Benefits for the Conservation "Community"

Currently, all of the United States' oceans are the legal equivalent of Bureau of Land Management lands. Under an agency-diversity approach, where some parts of the ocean are managed by an agency whose prime mandate is conservation, there would be multiple benefits for marine conservationists. Most obvious, conservation areas would represent places where conservation values were certain to triumph. No longer would conservation interests be merely balanced with the needs of the more powerful and vocal fishing industry; they would intermittently prevail in undiluted form. Following Gerken, conservation victories—even if they directly affected only some parts of the ocean—would likely energize the marine conserva-

---

149. National Park Service Organic Act, 16 U.S.C. § 1131 (2000). Conflicts that persist over management of the parks have arisen as interests that once "occupied" a single interest group of consistent uses (recreation and conservation) have, owing to increases in population and changes in recreation technologies, come into conflict with one another. *See generally* JOSEPH SAX, MOUNTAINS WITHOUT HANDRAILS (1980).

150. Improvement Act of 1997, 16 U.S.C. § 668dd (2000).

151. The National Forest Service Organic Act of 1897, 16 U.S.C. § 475 (2000), provides in part that:

> No public forest reservation [national forest] shall be established, except to improve and protect the forest within the boundaries [national forest] or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States.

The National Forest Management Act requires the Forest Service to develop forest management plans that make allowance for other uses in the National Forests, including recreation, grazing, and wildlife. National Forest Management Act of 1976, 16 U.S.C. § 1604(g)(3). Broadening the original purpose of these lands, the Act changed the system into more of a multiple-use system than had originally pertained. A good case can be made that this broadening was the catalyst for an extraordinary amount of political and legal wrangling, "highlighted" by disputes over the Northern Spotted Owl on National Forest lands in the Pacific Northwest. *See* Jeb Boyt, *Struggling to Protect Ecosystems and Biodiversity Under NEPA and NFMA: The Ancient Forests of the Pacific Northwest and the Northern Spotted Owl*, 10 PACE ENVTL. L. REV. 1009 (1993).

152. *See supra* note 123 and accompanying text.

tion community, encouraging greater participation and attracting new members.[153]

The National Parks represent an example of how symbols can help energize conservation communities and increase concern among members of the general public. Runte wrote that, soon after creation of the first national parks, "scenic preservation was now in fact a movement. Initially only a scattering of individuals and interest groups supported the national parks . . . . By 1910, however, nearly twenty distinct organizations directly advocated scenic protection."[154]

2. Benefits for the Environment

The existence of dominant-use ocean agencies would improve the health of the oceans in several ways. Areas within the jurisdiction of conservation-first agencies would be preserved as high quality examples of the marine environment, in the same way that our parks and wilderness areas allow some parts of the public lands to remain in relatively pristine condition.[155]

In addition, agency diversity would produce systemic benefits. In dividing and equalizing interests, the agency diversity approach sets the stage for more well-balanced negotiations between those interests. "Power theory . . . provides the foundation to hypothesize that an asymmetrical distribution of group power will produce asymmetrical negotiations, with the powerful member dominating the bargaining."[156] Symmetrical power, on the other hand, results in more even results. These more even results are particularly important in the con-

---

153. Gerken, *supra* note 27, at 1145-48; *see also* Susan A. Banducci et al., *Minority Representation, Empowerment, and Participation*, 6 J. POL. 534 (2004); Lawrence Bobo & Franklin D. Gilliam, Jr., *Race, Sociopolitical Participation, and Black Empowerment*, 84 AM. POL. SCI. REV. 377 (1990). As noted above, the public's interest in participating is currently quite low. Spruill, *supra* note 111.

154. RUNTE, *supra* note 114, at 84-85.

155. These areas provide ecological benefits to the enclosed area and to surrounding areas. Maurya B. Falkner & Thomas J. Stohlgren, *Evaluating the Contribution of Small National Park Areas to Regional Biodiversity*, 17 NAT. AREAS J. 324 (1997).

> Large national parks such as Yellowstone play a significant role in conserving intact ecosystems, large mammal populations, and natural processes that occur at large spatial scales. Persistence of native biodiversity probably is greater in large reserves than it is in small reserves. However, we have demonstrated that smaller units also play a major role in the preservation of regional biodiversity.

Id. at 329-30.

156. F. Robert Dwyer & Orville C. Walker, Jr., *Bargaining in an Asymmetrical Power Structure*, 45 J. MARKETING 104, 106 (1981). *See also* Karen S. Cook & Richard M. Emerson, *Power, Equity, and Commitment in Exchange Networks*, 43 AM. SOC. REV. 721 (1978).

text of marine conservation where the voice of long-term sustainability is key to attaining successful management outcomes.[157]

There would be other systemic benefits as well. As Gerken argues, diverse institutions allow and encourage experimentation in management strategies.[158] Where the ocean is managed uniformly, opportunities for experimentation are limited. Where, however, it is managed by a diverse set of agencies, each agency would have the opportunity to experiment. On the public lands, for example, each federal land management agency—the Fish and Wildlife Service, the National Park Service, the U.S. Forest Service, and the Bureau of Land Management—implements its own strategies for conserving wildlife and managing Wilderness Areas within its respective jurisdiction.[159] Experimentation is safer when carried out on parts of the system and may lead to new knowledge supporting improved management in other jurisdictions.

Disaggregated agencies also represent a way to manage risk across the entire system by incorporating a portfolio approach to management.[160] While multiple-use areas place "all the eggs in one basket" through balancing, the application of a range of approaches across the seascape lessens chances of system-wide failure. This kind of diversified approach is particularly valuable where scientific information is sparse and uncertainty is high.[161] Because of the daunting physical attributes of the marine environment, namely its scale and

157. *See supra* note 117 and accompanying text; *see also* Michael S. Chwe, *Minority Voting Rights Can Maximize Majority Welfare*, 93 AM. POL. SCI. REV. 85 (1999).

158. Gerken, *supra* note 27, at 1172.

159. Wilderness Areas are "overlay" designations. That is, they exist as parts of other "primary" types of public land, such as National Forests or National Parks. Bureau of Land Management wilderness regulations can be found at 43 C.F.R. § 6300 (2005). Forest Service wilderness regulations are located throughout the agency's regulations. *See, e.g.*, 36 C.F.R § 251.114 (2005) (ingress and egress to private holdings across wilderness areas). The Park Service has issued park-specific regulations for wilderness areas within individual parks. *See, e.g.*, 36 C.F.R 7.45 (2005) (Everglades National Park). Each agency has also issued "wilderness policies," generally located in their agency manuals. Wilderness.net, http://www.wilderness.net/index.cfm?fuse=NWPS&sec=legisPolicy (last visited Dec. 1, 2005).

160. *See* Markowitz, *supra* note 28.

161. Some have already made this argument in support of the creation of marine reserves. Donna Christie argues that "[t]he inherent uncertainty in science and variability in ecosystems necessitates measures to insure the intergenerational rights in regard to the diversity and quality of, and access to, marine living resources. Marine reserves can provide that 'insurance policy' for future generations." Donna R. Christie, *Marine Reserves, the Public Trust Doctrine and Intergenerational Equity*, 19 J. LAND USE & ENVTL. L. 427, 434 (2004). *See also* Jane Lubchenco et al., *Plugging a Hole in the Ocean: The Emerging Science of Marine Reserves*, 13 ECOLOGICAL APPLICATIONS S-3 (2003).

difficult working conditions, marine science is characterized by extremely high levels of uncertainty.[162]

An energized and expanded marine conservation community is likely to improve the level of public debate regarding the oceans in general. If dominant-use mandates are structured as presumptions rather than as simple exclusions, members of concentrated groups would have an incentive to engage in productive public debates about conservation.[163] Presumptions also have great potential to aid in generating better scientific information about the marine environment and economic uses of its resources. To the extent, for example, that fishing groups must meet a high burden of proof before being permitted to fish within a conservation-first area, they will have every incentive to invest in information gathering and analysis. Because—unlike the conservation community—they will earn money from their ocean use, the fishing industry is in better position to make these investments.[164]

3. Disadvantages

Although agency diversity offers some potential benefits as a governance strategy, there are some potential costs and drawbacks as well. While the system could be implemented without creation of any new federal or state agencies—Congress or state legislatures could

---

162. Marc Mangel, *Irreducible Uncertainties, Sustainable Fisheries and Marine Reserves*, 2 EVOLUTIONARY ECOLOGY RES. 547 (2000).

163. Healthier negotiations would reduce conflicts and the costs associated with conflicts. According to a 2002 study by the National Academy for Public Administration, the number of lawsuits filed by interest groups against the National Oceanic and Atmospheric Administration increased by several hundred percent between 1990 and 2002. NAT'L. ACAD. OF PUB. ADMIN., COURTS, CONGRESS, AND CONSTITUENCIES: MANAGING FISHERIES BY DEFAULT (2002).

164. The example of oil drilling on public land illustrates how "turning the tables," as Gerken puts it, can generate new information. Gerken, *supra* note 27, at 1142-46. Currently, the Bureau of Land Management has leased, or offers for leasing, over 200 million acres of western public lands to private firms for oil and gas production. These 200 million acres represent a significant percentage of all BLM lands and a significant percentage of all federal public lands in the United States. Moreover, many of the areas offered for drilling are located near population centers, such as Los Angeles, Denver, Portland, and Seattle. However, these leases and leasing offers are rarely mentioned in the media or elsewhere in public debate. *See* Environmental Working Group, Who Owns the West?, http://www.ewg.org/oil_and_gas/execsumm.php (last visited Dec. 1, 2005). Compare the Arctic National Wildlife Refuge, where the total area proposed for exploration totals about 1.5 million acres. Artic National Wildlife Refuge, http://www.anwr.org/backgrnd/where.htm (last visited Feb. 20, 2006). Searching the phrase "Arctic National Wildlife Refuge" in a database of newspaper articles published in the United States *in the first eleven months* of 2005 returned more the 3,000 "hits." In the case of the Arctic refuge, the powerful group (oil and gas) has been forced to generate information about the ecological impacts of its activities by the strong legal presumption against drilling in the refuge.

simply expand the jurisdictions of existing land management agencies to include ocean areas—management agencies would need to expand their size and institutional capacities to serve their new functions. This would require additional funding. More important, the new system would not address, and would perhaps temporarily exacerbate, the fractured-authority problem identified by both ocean commissions as an obstacle to good management. Under the agency-diversity model, the ocean would be further divided into a larger number of "jurisdictional pieces." This kind of division is inconsistent with the ecosystem management concept of holism.[165]

The ultimate goal of agency diversity, though, is that the agencies representing various interests will ultimately negotiate a solution to their differences. While there is some risk that this reconciliation may never occur, there is also some anecdotal evidence from the public lands context that it can. In the Greater Yellowstone Ecosystem, there are a number of natural resources and uses that flow or migrate across the jurisdictional boundaries of land management agencies. Grizzly bears, for example, traverse lands managed by three different federal agencies: the Park Service, the Forest Service, and the U.S. Fish and Wildlife Service.[166] To deal with issues such as grizzly bear management, the three agencies established the Greater Yellowstone Coordinating Committee ("GYCC"), which serves to facilitate negotiated agreements.[167] Results from these negotiations appear to support predictions of the extra-jurisdictional benefit of disaggregated institutions. While the proposed reintroduction of grizzly bears onto

165. Cortner et al., *supra* note 53, at 160-61.

166. L. Eberhart & R. Knight, *How Many Grizzlies in Yellowstone?*, 60 J. WILDLIFE MGMT. 416 (1996).

167. According to its website:

> The Greater Yellowstone Coordinating Committee (GYCC) was formed between the National Park Service and US Forest Service in 1964 through a signed Memorandum of Understanding (MOU). The MOU provides for mutual cooperation and coordination in the management of core federal lands in the Greater Yellowstone area. The MOU was again revised in 2002 to reflect the inclusion of the US Fish and Wildlife Service on the Coordinating Committee. The committee consists of the National Park Service Rocky Mountain Regional Director, the National Forest Service Intermountain Regional Forester, and the U.S. Fish and Wildlife Service Mountain Prairie Regional Director; Park Superintendents from Yellowstone and Grand Teton National Parks; Forest Supervisors from the Beaverhead-Deerlodge, Bridger-Teton, Caribou-Targhee, Custer, Gallatin, and Shoshone National Forests; Refuge Manager from the National Elk Refuge (also represents the interests of Red Rock Lakes National Wildlife Refuge).

The Greater Yellowstone Coordinating Committee, The GYCC-Who We Are, http://mpin.nbii.org/gycc/aboutus/index.html (last visited Dec. 1, 2005). In addition to grizzly bears, the committee works together on a wide range of other cross-cutting issues, including air and water quality, the spread of wildlife diseases, recreation trails, and forest fires.

Forest Service lands elsewhere has experienced lengthy delays,[168] the Forest Service agreed, through a GYCC process, to manage National Forest lands surrounding Yellowstone National Park for the benefit of grizzlies.[169] During this period of interagency cooperation, bear populations in the greater Yellowstone area have increased by 300%, and the U.S. Fish and Wildlife Service is considering removing the Yellowstone population from its list of endangered species.[170] Although this is but one story, it indicates that dominant-use agencies have the potential to influence decisions made by their multiple-use neighbors for the betterment of their "neighborhood."

V. CONCLUSION

Although the Pew and U.S. Commissions accurately identify current laws and institutions as one of the primary causes of the degraded marine environment, their solutions do not account for the fact that institutional failure is due in large part to problems inherent in multiple-use management. More comprehensive agencies, charged with balancing more interests, are not only unlikely to address this problem, but they are likely to exacerbate it.

An agency diversity model, which incorporates mandatory representation of diffuse public interests, is a solution that fits the specific problem of marine conservation.[171] Although there are some potential

---

168. In the late 1990s, the U.S. Fish and Wildlife Service, supported by environmental groups, pushed for the reintroduction of grizzlies into the Selway-Bitterroot and Frank Church-River of No Return Wilderness areas on Forest Service land in Idaho. A plan was initially approved. Sherry Devlin, *Grizzlies Invited Back to the Bitterroot*, HIGH COUNTRY NEWS, Dec. 4, 2000. However, based on opposition from, among others, then-head of the U.S. Forest Service Dale Bosworth, Secretary of the Interior Gale Norton decided not to go forward with the reintroductions. Environmental News Service, *Grizzly Bears Will Not Be Reintroduced into U.S. West*, June 21, 2001, http://ens-newswire.com/ens/jun2001/2001-06-21-03.asp.

169. INTERAGENCY GRIZZLY BEAR COMMITTEE, YELLOWSTONE ECOSYSTEM SUBCOMMITTEE, FIVE-YEAR WORKPLAN, http://www.fs.fed.us/r1/wildlife/igbc/Subcommittee/yes/YES_5-year.pdf (last visited Dec. 1, 2005) (Forest Service agrees to "to incorporate the Conservation Strategy habitat and monitoring requirements into . . . 6 Forest Plans.").

170. Juliet Eilperin, *Grizzlies May Lose Status as "Threatened"*, WASH. POST, Nov. 15, 2005, at A3.

171. A recent news report illustrates the application of dominant-use zoning as a tool for resolving environmental conflicts. Clifford Krauss, *Canada to Shield 5 Million Forest Acres*, N.Y. TIMES, Feb. 7, 2006, at A6. To resolve long-standing disputes over logging in the Great Bear Rain Forest, "an improbable assemblage of officials from the . . . government, coastal Native Canadian nations, logging companies and environmental groups" agreed to put five million acres "off-limits to loggers." In exchange, the loggers "will be guaranteed the right to work in 10 million acres of forest . . . but they will be obliged to cut selectively: away from critical watersheds, bear dens and fish spawning grounds." *Id.*

drawbacks to this approach, it also promises a wide range of compelling benefits. Congress should consider these benefits seriously if and when it takes on the issue of ocean-governance reform.

In the legislative process, Congress will have to work out difficult problems regarding the initial allocation of ocean space to uses.[172] Although a formidable task, it could be accomplished with the help of an ocean planning commission charged with recommending initial, spatial allocations. Congress' effort to limit the amount of American oceans dedicated to multiple-use would be rewarded with a healthier marine environment benefiting the fishing industry, consumers, and future generations of Americans.

172. The initial allocation of ocean space to the range of uses would be challenging, but not impossible. The most useful analogy for purposes of thinking about this enterprise is the municipal zoning model, in which, after gathering information about the area to be zoned, a planning commission makes recommendations to the local government body about where various kinds of zones ought to be located. JOSEPH WILLIAM SINGER, INTRODUCTION TO PROPERTY 637-40 (2d ed. 2005).