The Silver Anniversary of the United States' Exclusive Economic Zone: Twenty-Five Years of Ocean Use and Abuse, and the Possibility of a Blue Water Public Trust Doctrine*

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Sustainably managing marine ecosystems has proved nearly impossible, with few success stories. Ecosystem management failures largely stem from the traditional sector-by-sector, issue-by-issue approach to managing ocean-borne activities—an approach that is fundamentally unable to keep pace with the dynamics of coupled human, ecological and oceanographic systems. In the United States today there are over twenty federal agencies and thirty-five coastal states and territories operating under dozens of statutory authorities shaping coastal and ocean policy. Among marine ecologists and policy experts there is an emerging consensus that a major overhaul in U.S. ocean governance is necessary. This Article suggests that the public trust doctrine—an ancient legal concept that is already incorporated in U.S. state coastal

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laws—can uniquely provide a unifying concept for U.S. federal ocean governance.

Though the public trust concept can be located in the legal systems of many countries, it robustly manifests in the United States, where it has historically protected the public's rights to fishing, navigation, and commerce in and over navigable waterways and tidal waters. In its most basic form, the doctrine obliges governments to manage common natural resources, the body of the trust, in the best interest of their citizens, the beneficiaries of the trust. Today the public trust doctrine is integral to the protection of coastal ecosystems and beach access in many states and has even made its way into state constitutions. It would be simple, and seemingly logical, to assume that the same fiduciary responsibility of states to protect public trust uses of their waters extends to all marine resources within the United States' 200-mile Exclusive Economic Zone (EEZ). However an artificial line has been drawn around state waters, and the legal authority and responsibility of the U.S. government to protect public trust resources in the vast space of its EEZ (the largest of any country on earth) have never been fully and expressly established. Securing the place of the public trust doctrine in U.S. federal oceans management would be valuable, given the immense pressure to exploit EEZ resources, the failure of the current regulatory approach, improved scientific understanding of the interconnected nature of ocean ecosystems, and the growing demand for sustainable management of ocean resources.

This Article will outline the development of states' public trust doctrines; discuss the expansion of U.S. sovereignty over its neighboring ocean waters during the twentieth century; analyze possible avenues for expanding the doctrine to federal waters; and consider how a federal public trust doctrine could clarify some specific emerging issues in U.S. oceans management. At the heart of our analysis lie three questions: (1) does a federal public trust doctrine exist; (2) if so, can we rightfully extend it to include the entirety of the U.S. ocean waters; and (3) could the doctrine provide the missing catalyst for federal agencies to manage the use of U.S. ocean resources in a coordinated, sustainable fashion?

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INTRODUCTION

> It is a fact, as singular as it was unexpected in the jurisprudence of our state, that the taking [of] a few bushels of oysters . . . should involve in it questions momentous in their nature, as well as in their magnitude . . . and embracing, in their investigation, the laws of nations and of England, the relative rights of sovereign and subjects, as well as the municipal regulations of our own country.[1]

U.S. ocean policy today is less than the sum of its parts.[2]

The United States and its coastal states exercise jurisdiction over more of the world's oceans than any other country.[3] Because of its vast coastlines and territorial holdings in the South Pacific and Caribbean, the U.S. Exclusive Economic Zone (EEZ) covers 4.4 million square miles, larger than the combined area of the fifty states.[4] That the United States is responsible for the management of such a large volume of the world's oceans and its resources is significant on a global scale—achieving effective oceans management is one of the central challenges to global sustainability. Oceans cover 71 percent of the earth's surface, and recent advances in marine and earth science highlight the crucial role oceans play in providing ecosystem services, including climate moderation.[5]

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1. Arnold v. Mundy, 6 N.J.L. 1, 79 (1821).

2. BILIANA CICIN-SAIN & ROBERT W. KNECHT, THE FUTURE OF U.S. OCEAN POLICY: CHOICES FOR THE NEW CENTURY 7 (2000).

3. U.S. COMM'N ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY: FINAL REPORT unnumbered introductory page (2004), *available at* http://www.oceancommission.gov/documents/full_color_rpt/000_ocean_full_report.pdf.

4. *Id.* Territorial holdings in the South Pacific include the Northern Mariana Islands, Guam, Wake Island, Midway Islands, Howland Island, Baker Island, American Samoa, Johnston Atoll, Palmyra Atoll, Kingman Reef, and Jarvis Island. *Id.* U.S. territories in the Caribbean include Navassa Island, Puerto Rico, and the U.S. Virgin Islands. *Id.*

5. Daniel Pauly & Jacqueline Alder, *Marine Fisheries*, in MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: CURRENT STATES AND TRENDS 479–81 (Rashid Hassan, Robert Scholes, & Neville Ash, eds. 2005), *available at* http://www.millenniumassessment.org/documents/document.356.aspx.pdf; *see also* KAREN L. MCLEOD ET AL., SCIENTIFIC CONSENSUS STATEMENT ON MARINE ECOSYSTEM-BASED MANAGEMENT 2 (2005), *available at* http://compassonline.org/pdf_files/EBM_Consensus_Statement_v12.pdf (Ecosystems are defined as "dynamic complex[es] of plants, animals, microbes, and physical environmental features that interact with one

The diversity of current and potential uses of U.S. coastal and ocean waters—fishing, aquaculture, oil and mineral exploitation, energy generation, shipping, defense, and recreation—is mirrored by the plethora of statutory authorities[6] and agencies[7] that regulate them. This endemic fragmentation of

another. Humans are an integral part of ecosystems, marine and terrestrial.") (emphasis omitted); *see also infra* notes 331–339 and accompanying text for explanation and examples of "ecosystem services."

6. According to the U.S. Commission on Ocean Policy, at least 140 federal laws shape coastal and ocean policy, including the following: Abandoned Shipwreck Act of 1987, 43 U.S.C. §§ 2101–2106 (2006); Act to Prevent Pollution from Ships of 1980, 33 U.S.C. §§ 1901–1912 (2006) (current version known as the Maritime Pollution Prevention Act of 2008); Atlantic Coastal Fisheries Cooperative Management Act of 1993, 16 U.S.C. §§ 5101–5108 (2006); Atlantic Striped Bass Conservation Act of 1984, 16 U.S.C. §§ 1551–5158 (2006); Clean Air Act, 42 U.S.C. §§ 7401–7671 (2006); Clean Vessel Act of 1972, 33 U.S.C. § 1322 (2006); Clean Water Act, 33 U.S.C. §§ 1251–1387 (2006); Coastal Barrier Resources Act of 1982, 16 U.S.C. §§ 3501–3510 (2006); Coastal Wetland Planning, Protection and Restoration Act of 1990, 16 U.S.C. §§ 3951–3956 (2006); Coastal Zone Management Act of 1972, 16 U.S.C. §§ 1451–1456 (2006); Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §§ 9601–9628 (2006); Coral Reef Conservation Act of 2000, 16 U.S.C. §§ 6401–6409 (2006); Deep Seabed Hard Mineral Resources Act of 1980, 30 U.S.C. §§ 1401–1473 (2006); Deep Water Royalty Relief Act of 1995, 42 U.S.C. § 1337 (2006); Deepwater Port Act of 1974, 33 U.S.C. §§ 1501–1524 (2006); Disaster Mitigation Act of 2000, Pub. L. No. 106-390, 114 Stat. 1552 (codified as amended in scattered sections of 42 U.S.C.); Endangered Species Act of 1973, 16 U.S.C. §§ 1531–1544 (2006); Estuary Restoration Act of 2000, 33 U.S.C. §§ 2901–2909 (2006); Food Security Act of 1985, 7 U.S.C. §§ 1631–1638 (2006); Food, Agriculture, Conservation, and Trade Act of 1990, Pub. L. No. 101–624, 104 Stat. 3359 (codified as amended in scattered sections of 7 U.S.C.); Federal Agriculture Improvement and Reform Act of 1996, Pub. L. No. 104-127, 110 Stat. 888 (codified as amended in scattered sections of 7 U.S.C.); Farm Security and Rural Investment Act of 2002, Pub. L. No. 107-171, 116 Stat. 134 (codified as amended in scattered sections of 7 U.S.C.); Magnuson-Stevens Fishery Conservation and Management Act of 1976, 16 U.S.C. §§ 1801–1891 (2006); Marine Mammal Protection Act of 1972, 16 U.S.C. §§ 1361–1423 (2006); Marine Protection, Research and Sanctuaries Act of 1972, Pub L. No. 92-532, 86 Stat. 1052 (codified as amended in scattered sections of 16 U.S.C. and 33 U.S.C.); Methane Hydrate Research and Development Act of 2002, 30 U.S.C. §§ 1901–1905 (2006); National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370 (2006); Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 and National Invasive Species Act of 1996, 16 U.S.C. §§ 4701–4751 (2006); National Oceanographic Partnership Program of 1997, 10 U.S.C. §§ 7901–7903 (2006); National Sea Grant College Program Act of 1966, 33 U.S.C. §§ 1121–1131 (2006); Ocean Thermal Energy Conversion Act of 1980, 42 U.S.C. §§ 9101–9168 (2006); Oil Pollution Act of 1990, 33 U.S.C. §§ 2701–2762 (2006); Outer Continental Shelf Lands Act and Submerged Lands Act of 1953, 43 U.S.C. §§ 1301–1356 (2006); Rivers and Harbors Act of 1899, 33 U.S.C. §§ 401–467 (2006); Water Resources Development Act of 1986, 33 U.S.C. §§ 2201–2348 (2006). U.S. COMM'N ON OCEAN POLICY, *supra* note 3, at D8–D14.

7. There are over twenty federal agencies and departments that oversee various coastal and ocean activities and uses. U.S. COMM'N ON OCEAN POLICY, *supra* note 3, at 78, 113, D5–D7. They include the National Oceanic and Atmospheric Administration, U.S. Geological Survey, U.S. Minerals Management Service, U.S. Fish and Wildlife Service, National Parks Service, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Navy, and other agencies within the Departments of Defense, Homeland Security, Agriculture, Energy, Health and Human Services, Justice, Labor, State, and Transportation, and the U.S. Agency for International Development. Many federal commissions, committees, and councils also play important roles in the creation and enforcement of coastal and ocean policies; they include: Aquatic Nuisance Species Task Force; Artic Research Commission, Atlantic States Marine Fisheries Commission, Coral Reef Task Force, Council on Environmental Quality, Estuary Habitat Restoration Council, Great Lakes Fishery Commission, Gulf States Marine Fisheries Commission, Joint Subcommittee on Aquaculture, Marine Mammal Commission, National Invasive Species Council, National Ocean Research Leadership Council, National Science and Technology Council, Pacific States Marine Fisheries Commission, and Regional

governance is not just use-based, but also place-based. The oceans of the United States comprise both state and federally regulated waters; the latter are divided into three separate regimes. States have jurisdiction over and regulate most activities within the submerged lands and waters that stretch from their coastlines out to 3 or 9 nautical miles (nm).[8] The federal government has authority over the territorial sea, which lies seaward of state water boundaries out to 12 nm,[9] and the EEZ, which spans the area between 12 and 200 nm off the coasts of the U.S. and its territories.[10] Within the EEZ is the contiguous zone, a thin belt of ocean positioned between 12 to 24 nm from U.S. shores, with respect to which the federal government has expanded rights as compared to the rest of the EEZ.[11] Underlying the differences in regulation, management, and jurisdiction among the various types of U.S. ocean waters are fundamental distinctions in ownership. State governments have title to submerged lands under their tidal waters, which they hold in a public trust for their citizens.[12] Over the territorial sea, the federal government has full sovereignty, while over the EEZ, it possesses "sovereign rights and jurisdiction," which impart something less than full sovereignty.[13]

This uneven and uncoordinated approach to ocean governance is not without consequences; inter alia, the ecosystem services provided by our oceans are at risk. High population growth and development in U.S. coastal areas have impeded responsible watershed management and coastal planning.[14] As a result, agricultural and urban runoff, stormwater and sewage overflows, discharges from wastewater treatment facilities, and atmospheric deposition of nutrients and toxic chemicals have degraded U.S. coastal waters, leading to beach closures, harmful algal blooms, the degradation of wetlands, and contamination of sediments and seafood species.[15] Inconsistent and inadequate

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Fishery Management Councils (Caribbean, Gulf of Mexico, Mid-Atlantic, New England, North Pacific, Pacific, South Atlantic, and Western Pacific).

8. The Submerged Lands Act of 1953 states that jurisdiction may "extend[] from the coast line [no] more than three geographical miles into the Atlantic Ocean or the Pacific Ocean, or [no] more than three marine leagues into the Gulf of Mexico." 43 U.S.C. § 1301(b) (2006). A marine league is equal to three nautical miles.

9. *See* Proclamation No. 5928, 54 Fed. Reg. 777 (Jan. 9, 1989).

10. *See* Proclamation No. 5030, 3 C.F.R. 22, 23 (1983); *see also* C. Fowler & E. Treml, *Building a Marine Cadastral Information System for the United States—A Case Study*, 25 COMPUTERS, ENV'T & URBAN SYS. 493, 497 (2001).

11. *See* Proclamation No. 7219, 64 Fed. Reg. 48,701 (Aug. 2, 1999) (declaring that within the contiguous zone, the United States reserves the rights to enforce its "customs, fiscal, immigration, [and] sanitary laws within its territory [and] territorial sea[s]").

12. *See* Shively v. Bowlby, 152 U.S. 1, 57 (1894); Phillips Petroleum Co. v. Mississippi, 484 U.S. 469, 475 (1988).

13. *See infra* Part II.B. *See also* Proclamation No. 5928, 54 Fed. Reg. 777; Proclamation No. 5030, 3 C.F.R. at 22.

14. *See generally* U.S. COMM'N ON OCEAN POLICY, *supra* note 3, at 38–42.

15. *See id.*; *see generally* Benjamin S. Halpern, et al., *Evaluating and Ranking the Vulnerability of Global Marine Ecosystems to Anthropogenic Threats*, 21 CONSERVATION BIOLOGY 1301 (2007) (analyzing "anthropogenic stressors" on marine ecosystems).

management has allowed overfishing and the destruction of coastal and ocean habitats, including wetlands, seagrass beds, mangroves, and kelp and coral reef ecosystems. In turn, these practices have caused declines in fish populations and the fisheries (and coastal communities) that depend on them.[16] Seismic and noise pollution, oil spills, and habitat damage have accompanied the exploration for and exploitation of oil, gas, minerals, sand, and gravel.[17] Finally, climate change brings additional complications to this quagmire: signs of sea level rise, acidification, and ocean warming, recurrent coral bleaching events, and changes in ocean ecosystem productivity and the ranges of marine animals are already apparent.[18]

The implications of climate change aside, of all the human impacts on the oceans, unsustainable fishing practices have been responsible for some of the most harmful effects on ocean ecosystems.[19] Globally, wild-capture fisheries have been declining since the late 1980s,[20] and, despite many attempts at sustainable regulation, U.S. fisheries have not proved immune to these trends. By the National Marine Fisheries Service's own yardstick, at the end of 2008, 26 percent of fish populations under its management were overfished.[21] These depleted populations include dinner-plate standbys, such as Atlantic Cod, Atlantic Halibut, and Red Snapper, as well as newly popular species like skates.[22] Also, a recent study found that for every ten fish captured in U.S. waters, three are thrown back; this discard rate is among the highest in world fisheries.[23] This unintentional capture and subsequent discard of often dead or

16. *See id.* at 1302.

17. *See id.* at 1304–06 tbls. 1, 2 (documenting the diversity of stressors).

18. *See generally* U.S. COMM'N ON OCEAN POLICY, *supra* note 3, at 43–44.

19. *See* Daniel Pauly, Reg Watson, & Jackie Alder, *Global Trends in World Fisheries: Impacts on Marine Ecosystems and Food Security*, 360 PHIL. TRANSACTIONS ROYAL SOC'Y B 5 (2005); Peter Ward & Ransom A. Myers, *Shifts in Open-Ocean Fish Communities Coinciding with the Commencement of Commercial Fishing*, 86 ECOLOGY 835 (2005). But note that climate change is also likely to have a major effect on fish populations and ocean ecosystems. *See, e.g.*, Allison L. Perry et al., *Climate Change and Distribution Shifts in Marine Fishes*, 308 SCIENCE 1912 (2005); GARY D. SHARP, FUTURE CLIMATE CHANGE AND REGIONAL FISHERIES: A COLLABORATIVE ANALYSIS (2003), *available at* http://www.fao.org/docrep/006/y5028e/y5028e00.htm.

20. *See* Daniel Pauly et al., *The Future for Fisheries*, 302 SCIENCE 1359 (2003).

21. NAT'L MARINE FISHERIES SERV., NAT'L OCEANIC & ATMOSPHERIC ADMIN., U.S. DEP'T OF COMMERCE, FISH STOCK SUSTAINABILITY INDEX: 2008 QUARTER 4 UPDATE THROUGH DECEMBER 31, 2008 (2008), *available at* http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm (that translates to 45 of the 173 federally managed fish stocks or stock complexes with known "overfished determinations"). In 2007, the status of 338 other fish stocks or stock complexes in regard to their overfished determinations was unknown. NAT'L MARINE FISHERIES SERV., NAT'L OCEANIC & ATMOSPHERIC ADMIN., U.S. DEP'T OF COMMERCE, 2007 STATUS OF U.S. FISHERIES 4 (2008), *available at* http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm.

22. *See* FISH STOCK SUSTAINABILITY INDEX: 2008 QUARTER 4 UPDATE THROUGH DECEMBER 31, 2008, *supra* note 21, at 4.

23. *See* Jennie M. Harrington, Ransom A. Myers, & Andrew A. Rosenberg, *Wasted Fishery Resources: Discarded By-catch in the USA*, 6 FISH & FISHERIES 350 (2005). The mortality rates for animals discarded by fisheries can be highly variable and range from near zero to one hundred percent. *See generally* Michael W. Davis, *Key Principles for Understanding Fish Bycatch Discard Mortality*, 59

injured animals in fisheries is considered to be a major conservation problem because its impact on fish populations is often unaccounted for, and because it often affects populations of threatened and endangered marine vertebrates.[24] Marine biodiversity and abundance loss due to overexploitation has been significant and is changing the structure and function of some ocean ecosystems.[25] To cite just one example, in U.S. and Canadian waters this trend has resulted in the switch of the Atlantic Cod and (the now extinct) Sea Mink-dominated Gulf of Maine ecosystem to a lobster and sea urchin-dominated ecosystem.[26]

Sustainable oceans management in the United States will either continue to be thwarted by a rigid, sectoral regulatory environment or made possible by the evolution of progressive legal and management tools. Spearheaded by the Pew Oceans Commission (2000–2003),[27] the U.S. Commission on Ocean Policy (2000–2004),[28] and the subsequent Joint Ocean Commission Initiative (2005–present),[29] the U.S. political arena has ripened to the prospect of an oceans management overhaul in this decade.[30] However, approaches thus far have been narrowly regulatory, and have not yet implemented comprehensive ocean governance reform. It is apparent that a unifying theme for oceans management remains elusive. We propose that the *public trust doctrine*, a

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CANADIAN J. FISHERIES & AQUATIC SCI. 1834 (2002); F.S. Chopin & T. Arimoto, *The Condition of Fish Escaping from Fish Gears—A Review*, 21 FISHERIES RES. 315 (1995).

24. *See* Harrington, Myers, & Rosenberg, *supra* note 23, at 350, 351.

25. *See* Daniel Pauly & Maria-Lourdes Palomares, *Fishing Down Marine Food Webs: It Is Far More Pervasive Than We Thought*, 76 BULL. MARINE SCI. 197 (2005); Daniel Pauly et al., *Fishing Down Marine Food Webs*, 279 SCI. 860 (1998); *but see* J. F. Caddy et al., *How Pervasive is "Fishing Down Marine Food Webs"?*, 282 SCIENCE 1383 (1998); Ray Hilborn, *Faith-based Fisheries*, 31 FISHERIES 554 (2006) (criticizing findings of widespread declines in fisheries and ocean ecosystems as possibly inaccurate).

26. *See* Jeremy B. C. Jackson et al., *Historical Overfishing and the Recent Collapse of Coastal Ecosystems*, 293 SCIENCE 629, 630 (2001); *see also* Kenneth T. Frank, Brian Petrie, Jae S. Choi, & William C. Leggett, *Trophic Cascades in A Formerly Cod-Dominated Ecosystem*, 308 SCIENCE 1621 (2005) (on the eastern Scotian Shelf, the formerly Atlantic Cod-dominated ecosystem is now nearly devoid of cod and dominated instead by Snow Crabs and shrimp).

27. PEW OCEANS COMM'N, AMERICA'S LIVING OCEANS: CHARTING A COURSE FOR SEA CHANGE (2003), *available at* http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/env_pew_oceans_final_report.pdf.

28. The commission, appointed by President Bush under the Oceans Act of 2000, 33 U.S.C. § 857-19 (2006), to provide "balanced and practical proposals for the establishment of a comprehensive and coordinated ocean policy," released its report in September 2004. U.S. COMM'N ON OCEAN POLICY, *supra* note 3, at vi.

29. *See* Joint Ocean Commission Initiative, http://www.jointoceancommission.org (last visited November 23, 2008).

30. At the close of the 110th Congress, there were several bills regarding coasts and oceans under consideration. *See* JOINT OCEAN COMM'N INITIATIVE, SUMMARY OF KEY OCEAN BILLS 1, 4–5, 7–10 (2008), *available at* http://www.joint.oceancommission.org/resource-center/6-Summary-of-Select-Ocean-Bills/2008-04_Summary_of_Key_Ocean_Bills.pdf. Also, in January 2007, President Bush signed the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, 16 U.S.C. §§ 1801–1891 (2006), which established strict guidelines for restoring U.S. fish populations.

sometimes ignored, sporadically controversial legal concept, can serve as the foundation for this reform.

Adopted from English common law, the public trust doctrine, in its most basic form, obliges states to hold certain lands and waters in trust for their citizenry.[31] The doctrine traditionally protects the public's rights to fishing, navigation, and commerce over and in these lands and waters. In the United States, today, these include submerged lands under tidal waters, the beds of navigable waterways, and the waters above both.[32] More recently, the doctrine has been applied to questions regarding everything from public beach access and wetlands destruction to water rights in the West.[33] As stated by the most famous proponent of a wide application of the doctrine, Professor Joseph L. Sax:

> [T]he idea of a public trusteeship rests upon three related principles. First, that certain interests—like the air and the sea—have such importance to the citizenry as a whole that it would be unwise to make them the subject of private ownership. Second, that they partake so much of the bounty of nature, rather than of individual enterprise, that they should be made freely available to the entire citizenry without regard to economic status. And, finally, that it is a principal purpose of government to promote the interests of the general public rather than to redistribute public goods from broad public uses to restricted private benefit . . . .[34]

The public trust doctrine has proved to be valuable in guiding natural resources decisions in various states, and has even made its way into many state constitutions.[35] However, despite the diversity of rights in state waters covered by the public trust doctrine, its application to the U.S. territorial sea and EEZ remains unresolved. Indeed, though the doctrine has more than two hundred years of history in the United States, no court has ever explicitly established a common law public trust doctrine either for federal lands or for the federal ocean.[36] Nor has Congress acted to create an explicit statutory federal trust duty for federal terrestrial or submerged lands, even though public trust duties and principles appear throughout federal environmental statutory language, agency mission statements, and national policy recommendations.[37] Reasons for this situation likely trace to an enduring historic perception that the seas are boundless and the development of comprehensive legal regimes are

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31. *See* Shively v. Bowlby, 152 U.S. 1, 57 (1894).

32. State public trust waters generally extend to three nm seaward of the mean high tide line. *See infra* note 114 and accompanying text. Public trust language has also been applied to federal lands management, groundwater, and a number of other commonly held resources. *See infra* note 109.

33. *See generally infra* Part I.B.

34. JOSEPH L. SAX, DEFENDING THE ENVIRONMENT: A STRATEGY FOR CITIZEN ACTION 165 (1971).

35. *See generally infra* Part I.B.

36. *See generally infra* Part I.C and Part II.C. *See also* Hope M. Babcock, *Grotius, Ocean Fish Ranching, and the Public Trust Doctrine: Ride 'Em Charlie Tuna*, 26 STAN. ENVTL. L.J. 3, 54–64 (2007).

37. *See infra* Part I.C and Part II.C.

unnecessary,[38] and to the relative newness of extensive U.S. sovereignty over its adjacent continental shelf seabeds.[39] Thus, the nature of the rights that the federal government and citizenry enjoy over resources of the U.S. territorial sea and EEZ, as well as the duty to manage and protect those resources, remains ambiguous, and the question of a public trust doctrine that extends to the nation's federal ocean waters lingers.

Given the pressure to exploit EEZ resources, it would be valuable to secure the place of the public trust doctrine in governing the relationship between the federal government, federal ocean waters and the resources they contain, and the people of the United States. Though we draw heavily on the work of many commentators who have discussed the possibility of the public trust doctrine extending to the two hundred mile borders of the EEZ,[40] we believe that this Article is the first to analyze comprehensively the possibility of an enforceable public trust obligation for the federal government in the management of ocean resources. We conclude that the modern regulatory environment, ecological conditions, and governance problems justify the expansion of the public trust doctrine to federal ocean waters.

This Article will outline the development of states' public trust doctrines; discuss the recent expansion of U.S. jurisdiction over its neighboring ocean waters in the context of the global ocean enclosure movement of the twentieth century; analyze possible avenues for expanding the public trust doctrine to federal waters; and consider how a federal public trust doctrine could clarify some specific, looming issues in U.S. oceans management. For illustrative purposes, our focus is on fisheries. Fisheries are central to the national goal of ecosystem-based oceans management, and repeated regulatory attempts have failed to stem overfishing and habitat destruction in U.S. fisheries, indicating that federal fisheries management, in particular, could benefit from the application of public trust principles. At the heart of our analysis lie three questions: (1) does a federal public trust doctrine exist; (2) if so, can we rightfully extend it to include the entirety of the U.S. ocean waters; and (3) could the doctrine provide the missing catalyst for federal agencies to manage the use of U.S. ocean resources in a coordinated, sustainable fashion?

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38. *See infra* notes 392–393 and accompanying text.

39. *See infra* Part II.A.

40. *See, e.g.*, Casey Jarman, *The Public Trust Doctrine in the Exclusive Economic Zone*, 65 ORE. L. REV. 1, 2 (1986); Jack H. Archer & M. Casey Jarman, *Sovereign Rights and Responsibilities: Applying Public Trust Principles to the Management of EEZ Space and Resources*, 17 OCEAN & COASTAL MGMT. 253 (1992); Sarah G. Newkirk, *Property Rights in Fisheries*, 78 BULL. MARINE SCI. 563 (2006); Gail Osherenko, *New Discourses on Ocean Governance: Understanding Property Rights and the Public Trust*, 21 J. ENVTL. L. & LITIG. 317 (2006); Babcock, *supra* note 36.

I. THE PUBLIC TRUST DOCTRINE IN U.S. OCEAN WATERS

A. Tradition and Controversy

In its earliest incarnation in the United States, the public trust doctrine was invoked to protect the public's rights to fishing, navigation, and commerce in navigable waters, including rivers, the Great Lakes, and coastal waters.[41] This idea is not unique to the U.S. legal system, or to its originator, English common law; throughout history, disparate cultures and governments have independently arrived at and protected the common right of the people to the seashores and oceans. The Ch'in Dynasty in China (249–207 B.C.E.[42]) protected public access to water, as did ancient Islamic law, eleventh century regional French law, the Spanish thirteenth century code (*Las Siete Partidas*), and various Native American cultures.[43] Scholars generally trace the source of the public trust doctrine in English common law to the Roman Institutes of Justinian (533 C.E.),[44] although it is likely that their expression of public trust duties represented Justinian's idealized commentary, not actual legal doctrine.[45] The concept first appeared in England during the Middle Ages in the *Magna Carta* (1215) and the writings of Bracton.[46] Subsequently, in 1667, Lord Chief Justice Matthew Hale, in *De Jure Maris*, established the duty of the English Crown to hold all lands subject to the ebb and flow of the tide in trust

41. *See infra* notes 50–55 and accompanying text.

42. Before Common Era. The Common Era (C.E.) began in the year 1 A.D.

43. *See generally* Charles F. Wilkinson, *The Headwaters of the Public Trust: Some Thoughts on the Source and Scope of the Traditional Doctrine*, 19 ENVTL. L. 425, 428–30 (1989). *See also* Patrick Deveney, *Title, Jus Publicum, and the Public Trust: An Historical Analysis*, 1 SEA GRANT L.J. 13 (1976).

44. *See supra* note 42 (defining C.E.). THE INSTITUTES OF JUSTINIAN II.I.1–2 (535 C.E.), *reprinted in* 3 THE LIBRARY OF ORIGINAL SOURCES: THE ROMAN WORLD 100–166 (Oliver J. Thatcher ed., 1907), *available at* http://www.fordham.edu/halsall/basis/535institutes.html ("By the law of nature these things are common to mankind—the air, running water, the sea, and consequently the shores of the sea. . . . [T]he right of fishing in a port, or in rivers, is common to all men."); *see also* Deveney, *supra* note 43, at 26, 28 (finding that the category of "things common to all" is also in the writings of the "third-century jurist Marcian" and Genesis); Peter H. Sand, *Public Trusteeship for the Oceans*, *in* LAW OF THE SEA, ENVIRONMENTAL LAW AND SETTLEMENT OF DISPUTES: LIBER AMICORUM JUDGE THOMAS A. MENSAH 521 (R. Wolfrum & T.M. Ndiaye eds., 2007) (crediting Emperor Justinian's notions of the seashore commons to jurist Domitius Ulpianus (170–223 C.E.)).

45. *See* Deveney, *supra* note 43, at 17, 29 ("In reality, Roman law was innocent of the idea of trusts, had no idea at all of a 'public' (in the sense we use the term) as the beneficiary of such a trust, allowed no legal remedies whatever against state allotment of land, exploited by private monopolies everything (including the sea and the seashore) that was worth exploiting, and had a general idea of public rights that is quite alien to our own." Further, "the sea and the seashore were 'common to all' only insofar as they were not yet appropriated to the use of anyone or allocated by the state.") (citations and emphasis omitted). *See also* Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 634 (1986).

46. *See* Deveney, *supra* note 43, at 36–41 (Bracton included Roman law regarding the seas and seashores in his BRACTON ON THE LAWS AND CUSTOMS OF ENGLAND (G. Woodbine & S. Thorne ed., Belknap Press 1968) (circa 1256)).

for the English people and to protect them from private interests.[47] English common law was adopted by the original thirteen colonies, and, upon Independence from England, public lands and waters along with concomitant public trust duties became vested in the states.[48]

Much ink has been spilled recounting the controversial history and development of the public trust doctrine in the United States.[49] Several early landmark cases played roles in shaping the doctrine, including *Arnold v. Mundy*,[50] *Martin v. Lessee of Waddell*,[51] *Illinois Central Railroad Co. v. Illinois*,[52] and *Shively v. Bowlby*.[53] Nineteenth-century courts were generally

47. *See generally* LORD HALE, DE JURE MARIS, *in* STUART A. MOORE, HISTORY OF THE FORESHORE AND THE LAW RELATING THERETO 384–406 (3d ed. 1888).

48. The manner in which the public trust doctrine came to be adopted and applied by U.S. courts remains controversial. *See* Deveney, *supra* note 43; Lazarus, *supra* note 45; Joseph D. Kearney & Thomas W. Merrill, *The Origins of the American Public Trust Doctrine: What Really Happened in* Illinois Central, 71 U. CHI. L. REV. 799 (2004). Even the most famous proponent of the public trust doctrine, Joseph Sax, notes that "only the most manipulative of historical readers could extract much binding precedent from what happened a few centuries ago in England" and "neither Roman Law nor the English experience with lands underlying tidal waters is the place to search for the core of the trust idea." Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 485 (1970) [hereinafter Sax, *Effective Judicial Intervention*]; Joseph L. Sax, *Liberating the Public Trust Doctrine from Its Historical Shackles*, 14 U.C. DAVIS L. REV. 185, 186 (1980) [hereinafter Sax, *Liberating from Historical Shackles*].

49. For a more complete history, see Sax, *Effective Judicial Intervention*, *supra* note 48; Wilkinson, *supra* note 43. For thorough discussions of the contentious history of the public trust doctrine in the U.S., see Deveney, *supra* note 43; Lazarus, *supra* note 45; Kearney & Merrill, *supra* note 48. This Article will focus more on the application of the public trust doctrine to the oceans and less on its applications to regulating decisions involving land, wildlife, tidelands, and private property.

50. 6 N.J.L. 1, 12–13, 77 (1821) (determining that upon Independence, the State of New Jersey took over from the king trustee duties for the lands beneath navigable waters; finding that the state must protect common use rights to oyster harvesting from lands submerged by navigable waters, as well as to "navigation, fishing, fowling, sustenance and all the other uses of the water and its products" and that no grant by the state could divest citizens of these rights).

51. 41 U.S. (16 Pet.) 367, 410 (1842) ("For when the Revolution took place, the people of each state became themselves sovereign; and in that character hold the absolute right to all their navigable waters and the soils under them for their own common use, subject only to the rights since surrendered by the Constitution to the general government.").

52. 146 U.S. 387, 452–53 (1892) (When the Illinois Legislature granted the Chicago Harbor to the Illinois Central Railroad Company (and then later repealed the grant and was subsequently sued), the Supreme Court ruled to preserve the harbor for the people of Illinois. "That the State holds the title to the lands under the navigable waters of Lake Michigan . . . by the common law, we have already shown . . . . It is a title held in trust for the people of the State that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interference of private parties. The interest of the people in the navigation of the waters and in commerce over them may be improved in many instances by the erection of wharves, docks and piers therein, for which purpose the State may grant parcels of the submerged lands; and, so long as their disposition is made for such purpose, no valid objections can be made to the grants. . . . But that is a very different doctrine from the one which would sanction the abdication of the general control of the State over lands under the navigable waters of an entire harbor or bay, or of a sea or lake. Such abdication is not consistent with the exercise of that trust which requires the government of the State to preserve such waters for the use of the public."); *but see* Appleby v. City of New York, 271 U.S. 364, 399 (1926) (holding that states could convey tidelands to private interests free of any public trust duties and that if a state wanted to ensure the rights of the public it would have to buy back the lands). Some commentators suggest that *Appleby* substantially undercuts *Illinois Central*. *See, e.g.*, James L.

concerned with protecting common use rights to navigable waters, regulating interstate commerce, and ensuring that new states held the same rights to their shorelines, riverbanks, and submerged lands as the original thirteen states (under the "equal footing doctrine").[54] The courts also imparted protection for development: if states wished to transfer trust tidelands and submerged lands to private ownership to encourage the development of ports and docks, they could do so, provided that such grants were "subject to [the] trust and to the state's obligation to protect the public interest from any use that would substantially impair the trust."[55]

Though the core purpose of the public trust doctrine has endured two centuries of American jurisprudence, it has steadily evolved to fit the perceived needs of society.[56] In the nineteenth and early twentieth centuries, state and federal judges "consistently defined [the] public interest to be largely synonymous with . . . economic growth"[57] and the public trust doctrine was "as much a legal basis for economic expansion as for resource protection."[58] Consequently, by 1900, some states had broadened the reach of the doctrine to cover city streets and subsurface infrastructure, directing that they be preserved for common use.[59] In the late 1960s, moreover, public sentiment shifted towards valuing environmental, in addition to economic, sustainability, and the scope of the doctrine expanded accordingly.[60]

Huffman, *Speaking of Inconvenient Truths—A History of the Public Trust Doctrine*, 18 DUKE ENVTL. L. & POL'Y F. 1, 63–68 (2007).

53. 152 U.S. 1, 57 (1894) ("Lands under tide waters are incapable of cultivation or improvement in the manner of lands above high water mark. They are of great value to the public for the purposes of commerce, navigation and fishery. Their improvement by individuals, when permitted, is incidental or subordinate to the public use and right. Therefore the title and the control of them are vested in the sovereign for the benefit of the whole people.").

54. *See* Pollard's Lessee v. Hagan, 44 U.S. (3 How.) 212, 229 (1845) (establishing that new states must be entitled to the same sovereignty and jurisdiction over their territory as the original thirteen states). *See* JACK H. ARCHER ET AL., THE PUBLIC TRUST DOCTRINE AND THE MANAGEMENT OF AMERICA'S COASTS 3, 9 (1994). Protecting interstate commerce, which in the United States' early years heavily depended on rivers, the Great Lakes, and coastal waterways, was of critical interest to the federal government. *See, e.g.*, Gibbons v. Ogden 22 U.S. (9 Wheat.) 1, 190 (1824) (stating that "[t]he power over commerce, including navigation, was one of the primary objects for which the people of America adopted their government").

55. ARCHER ET AL., *supra* note 54, at 4.

56. *See generally* MOLLY SELVIN, THIS TENDER AND DELICATE BUSINESS: THE PUBLIC TRUST DOCTRINE IN AMERICAN LAW AND ECONOMIC POLICY 1789–1920 (1987).

57. *Id*. at 411.

58. Lazarus, *supra* note 45, at 641. However, there were instances in which the public trust doctrine was applied even when navigation or clear-cut economic motives were not concerned. For example, in early New England, ordinances protected "great ponds", which presumably did not carry navigation interests. Sax, *Effective Judicial Intervention*, *supra* note 48, at 484 n.44.

59. *See* SELVIN, *supra* note 56, at 417–18, 426–28.

60. *See* Alison Rieser, *Ecological Preservation as a Public Property Right: An Emerging Doctrine in Search of a Theory*, 15 HARV. ENVTL. L. REV. 393, 396 (1991) ("Awareness of the principles of ecology was among the major forces that shaped political decisions of the mid- to late 1960's [sic].") (footnote omitted).

Inspired by the use of the doctrine by states to protect their submerged lands and resources, in 1970, Professor Sax suggested that the public trust doctrine could be an effective tool with which the courts could address widespread environmental degradation and pollution.[61] His article, *The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention*, followed a decade that, along with social revolution, brought a reawakening of environmental concern and values. Rachel Carson is often credited with spawning this environmental movement through her book, *Silent Spring* (1962), which exposed the effects of pesticides on bird populations. In the years between *Silent Spring* and Professor Sax's landmark invocation of the public trust doctrine, the Wilderness Act[62] and National Environmental Policy Act[63] were enacted, and President Richard Nixon created the Environmental Protection Agency.[64] Despite these developments, public involvement in protecting and managing natural resources was limited. In 1970, it remained difficult for citizens to establish standing to bring suit against polluters.[65] Professor Sax believed the public trust doctrine could provide the requisite standing:

> Of all the concepts known to American law, only the public trust doctrine seems to have the breadth and substantive content which might make it useful as a tool of general application for citizens seeking to develop a comprehensive legal approach to resource management problems.[66]

Professor Sax had very specific goals in introducing the public trust doctrine to the debate on how best to protect natural resources. The public trust doctrine, he argued, would enable the courts to fix problems with democracy itself, which in his view was being corrupted by well-organized special interests: "[p]ublic trust problems . . . occur in a wide range of situations in

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61. *See* Sax, *Effective Judicial Intervention*, *supra* note 48.

62. Wilderness Act, Pub. L. No. 88-577, 78 Stat. 890 (1964) (codified as amended at 16 U.S.C. §§ 1131–1136 (2006)).

63. National Environmental Policy Act of 1969 § 101, 42 U.S.C. § 4331(a) (2006) ("[I]t is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.").

64. President's Special Message to the Congress about Reorganization Plans to Establish the Environmental Protection Agency and the National Oceanic and Atmospheric Administration, 1970 PUB. PAPERS 215 (July 9, 1970), *available at* http://www.nixonlibraryfoundation.org/clientuploads/directory/archive/1970_pdf_files/1970_0215.pdf.

65. Prior to the 1970s, a citizen could only bring suit if she could demonstrate injury to a narrowly defined legal interest. *See, e.g.*, Tenn. Elec. Power Co. v. Tenn. Valley Auth., 306 U.S. 119, 137 (1939) (finding that the legal right to bring suit particularly against a governmental agency had be "one of property, one arising out of contract, one protected against tortious invasion, or one founded on a statute which confers a privilege"). But, in the late 1960s and early 1970s, several Supreme Court rulings greatly liberalized standing requirements. *See infra* note 293; *see also* Kenneth E. Scott, *Standing in the Supreme Court—A Functional Analysis*, 86 HARV. L. REV. 645, 662–69 (1973).

66. Sax, *Effective Judicial Intervention*, *supra* note 48, at 474 (footnote omitted).

which diffuse public interests need protection against tightly organized groups with clear and immediate goals."[67] Professor Sax envisioned that the doctrine was applicable to conflicts over air pollution, pesticides, strip mining, the conversion of wetlands on private lands, and even to issues dealing with the poor and with consumer groups.[68] In 1980, he amended his goal for the public trust doctrine, determining that the "central idea" was to protect "public expectations against destabilizing changes, just as . . . private property" has long been protected.[69]

The effect of the 1970 Sax article was "[t]antamount to an academic call to legal arms on behalf of the natural environment,"[70] and, as Professor Richard J. Lazarus later declared, the public trust concept bore immediate "judicial fruit."[71] According to Professor Lazarus, these cases generally fell into three categories: "(1) private citizens suing the government for allegedly violating the doctrine; (2) private citizens suing other private parties for allegedly violating the doctrine; and (3) the government suing private parties for allegedly violating the doctrine."[72]

Professor Sax's *The Public Trust Doctrine in Natural Resources Law* remains a controversial work of legal environmental advocacy. Criticisms often focus on the question of whether the doctrine should be applied beyond its traditional scope—protecting rights to navigation, fishing, and commerce in navigable waterways. For example, according to Professor Lloyd R. Cohen, the public trust doctrine's journey over time "from the sea, up navigable streams, to unnavigable streams, its leap to inland ponds, and then like our amphibian ancestors its eventual emergence from the water and march across the land" is "radical" and "illegitimate."[73] Other commentators, especially those concerned

67. Sax, *Effective Judicial Intervention*, *supra* note 48, at 556; *see also id.* at 495–98, 557–61. This idea was expressly critiqued by subsequent scholars. *See, e.g.*, William D. Araiza, *Democracy, Distrust, and the Public Trust: Process-based Constitutional Theory, the Public Trust Doctrine, and the Search for a Substantive Environmental Value*, 45 UCLA L. REV. 385, 404 (1997); Carol M. Rose, *Takings, Public Trust, Unhappy Truths, and Helpless Giants: A Review of Professor Joseph Sax's Defense of the Environment Through Academic Scholarship: Joseph Sax and the Idea of the Public Trust*, 25 ECOLOGY L.Q. 351, 356–360 (1998).

68. *See* Sax, *Effective Judicial Intervention*, *supra* note 48, at 557 ("Only time will reveal the appropriate limits of the public trust doctrine as a useful judicial instrument."); *see also* SAX, *supra* note 34, at 172 (also advocating to expand the trust to cover congestion, noise, terrestrial natural areas, and radioactivity).

69. Sax, *Liberating from Historical Shackles*, *supra* note 48, at 188.

70. Lazarus, *supra* note 45, at 632.

71. *Id.* (footnote omitted). By the time Professor Lazarus published his article in 1986, more than one hundred judicial opinions in twenty-five states had invoked the doctrine. *Id.* at 644–45 (footnote omitted).

72. *Id*. at 645–46 (footnotes omitted). In *Center for Biological Diversity, Inc. v. FPL Group, Inc.*, the court recently determined that citizens may only enforce the terms of the trust against the governmental trustee and not the private party infringing on the trust. 83 Cal. Rptr. 3d 588, 602 (Cal. Ct. App. 2008). *See also infra* note 107.

73. Lloyd R. Cohen, *The Public Trust Doctrine: An Economic Perspective*, 29 CAL. W. L. REV. 239, 256 (1992). *See also* Kearney & Merrill, *supra* note 48, at 928 (stating that submerged lands under navigable waters are "a uniquely vexed resource, in the sense of one afflicted by an extraordinarily high

with protecting property rights, have challenged the historic origins of the public trust doctrine in U.S. and English law,[74] its ultimate utility as a basis for environmental suits,[75] and the potential for its use to be divisive and ultimately harmful to environmental causes.[76] At the same time, the doctrine has equally robust defenders; and, as Professor David B. Hunter argued, "[a] more desirable trend would be to switch the debate . . . from a discussion of the doctrine's historical roots to a discussion of the ecological values that should be protected in the public interest."[77]

This Article seeks only to explore the scope of the public trust doctrine as it applies to federal ocean waters; thus, we forthrightly skirt many criticisms concerning the legitimacy of the public trust doctrine's "march across the land."[78] Not only does our argument not breach the water's edge, but it also remains moored three to two hundred miles offshore, far from traditional private property interests (i.e., the rights inherent in fee simple owners of terrestrial lands). Be it by original intent or judicial interpretation, the public trust doctrine has persevered in the United States. We seek to extend the conversation seaward.

B. Uses of the Doctrine by the States and Its "Unique Potential"

> If it is once fully realized that the state is merely the custodian of the legal title, charged with the specific duty of protecting the trust estate and regulating its use, a clearer view can be had.[79]

The potential role for the public trust doctrine in the federal governance of activities in the territorial sea and EEZ can be illustrated by examining how the states have exercised their trust duties.[80] The public trust doctrine has provided a powerful authority to states to manage their trust lands for the benefit of the

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degree of legal uncertainty," and concluding that since "[i]t is not clear how many other resources are vexed in a similar way," the doctrine should not necessarily be extended to other resources).

74. According to Patrick Deveney and Glenn MacGrady, the U.S. public trust doctrine is based on misinterpretations of English Common Law and, therefore, comprises several acts of legal fiction. *See* Deveney, *supra* note 43; Glenn J. MacGrady, *The Navigability Concept in the Civil and Common Law: Historical Development, Current Importance, and Some Doctrines that Don't Hold Water*, 3 FLA. ST. U. L. REV. 511, 514–15 (1975). This argument has been cited extensively by others. *See, e.g.*, Huffman, *supra* note 52, at 8–13.

75. *See, e.g.*, Lazarus, *supra* note 45, at 692–98.

76. *See, e.g.*, *id.*; *see also infra* notes 295–299 and accompanying text.

77. David B. Hunter, *An Ecological Perspective on Property: A Call for Judicial Protection of the Public's Interest in Environmentally Critical Resources*, 12 HARV. ENVTL. L. REV. 311, 378 (1988).

78. Cohen, *supra* note 73, at 256.

79. State v. Cleveland & Pittsburgh R.R., 113 N.E. 677, 682 (Ohio 1916).

80. Questions of coastal development and takings, as well as beach access, have featured most prominently in state jurisprudence and legislation that have invoked the public trust doctrine. However, these issues are largely without blue-water analogs and therefore will only be mentioned here. For takings cases, see *infra* note 84. For cases concerning public access to beaches, see, e.g., Borough of Neptune City v. Borough of Avon-by-the-Sea, 294 A.2d 47 (N.J. 1972); Concerned Citizens of Brunswick County Taxpayers Ass'n v. North Carolina *ex rel.* Rhodes, 404 S.E.2d 677 (N.C. 1991); Matthews v. Bay Head Improvement Ass'n, 471 A.2d 355 (N.J. 1984).

public interest.[81] According to commentator Jack H. Archer and his co-authors in their guide to using the public trust doctrine in coastal management, the unique potential of the doctrine lies in (1) its historical origin and use, which, unlike police power, is directly tied to the specific nature of coastal access;[82] (2) its very nature as a trust;[83] and (3) its capacity as a common law to adapt to the changing needs of society.[84] To understand the general utility of the public trust doctrine to states and its potential for expansion to federal ocean waters, it is constructive to look more closely at these attributes.

By providing authority to states that is supplemental to their police powers and their ability to enjoin public nuisance and eminent domain laws, the public trust doctrine provides states an additional tool with which to pursue progressive coastal management programs.[85] Though it is essential to the exercise of state regulatory authority, police power has proven limited in questions of coastal management.[86] The police power is too broad to provide a workable framework within which to address coastal problems, especially those regarding conflicting uses of coastal lands and resources.[87] It also is rooted in restricting harmful activities and cannot easily contribute to the development of affirmative management programs.[88]

The other powerful aspect of the public trust doctrine is that "at its root [is] the notion of a legally enforceable 'trust.'"[89] As a result, the nature of the public trust and the duties it imposes on state trustees can be elucidated by comparison to the well-developed body of law regarding private and charitable trusts.[90] This is especially important since only a few courts have explicitly

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81. *See* ARCHER ET AL., *supra* note 54, at 4.

82. *Id*.; *see also id.* at 3 ("The police power consists of those prerogatives of sovereignty and legislative power which are necessary for the protection of the health, safety, and welfare of state citizens and which the states did not surrender to the federal government when the United States Constitution was adopted.").

83. *Id.* at 4–5.

84. *Id.* at 4. Archer et al. included the ability of the public trust doctrine to fortify states against takings claims as also contributing to its unique potential. This attribute of the doctrine is important, but we have reserved most discussion of it to Part III.C. In coastal takings cases, courts have employed the public trust doctrine as a "background principle" in their rejections of takings claims. *See, e.g.*, Esplanade Props., LLC v. City of Seattle, 307 F.3d 978, 985 (9th Cir. 2002); McQueen v. S.C. Coastal Council, 580 S.E.2d 116 (S.C. 2003).

85. *See* ARCHER ET AL., *supra* note 54, at 3; *see also* Jan Stevens, *Foreword* to ARCHER ET AL., *supra* note 54, at vii (The public trust doctrine provides courts a "basis, independent of police power, for the limitation of uses to which [coastal] property may be subjected.").

86. *See, e.g.*, Nollan v. Cal. Coastal Comm'n, 483 U.S. 825 (1987).

87. *See* ARCHER ET AL., *supra* note 54, at 3.

88. *Id.*

89. *Id.* at 4–5.

90. *Id.* at 5, 30–44. However, the analogy to private and charitable trust law is not perfect: a major difficulty lies in identifying the trustee. The public trust doctrine vests trustee responsibilities in the sovereign, which is the people in the American system. The representative government is the embodiment of the people; therefore, state legislatures prove technically to be both the sovereign and the public, the trustee and the beneficiaries. Yet Jack Archer and co-authors conclude that in the end there is no "conceptual difficulty" because "another perfectly acceptable analogy is that the sovereign people

defined what it means for states to hold lands in trust for their citizens.[91] Thus, "[t]his analogous law," according to Jack Archer and co-authors, "is a valuable source of insight and precedent . . . ."[92]

Generally, "[a] trust may be defined as a fiduciary relationship in which one person holds a property interest, subject to an equitable obligation to keep or use that interest for the benefit of another."[93] According to the *Restatement (Third) of Trusts*,

> [i]n the strict, traditional sense, a trust involves three elements:
>
> (1) a trustee, who holds the trust property and is subject to duties to deal with it for the benefit of one or more others;
>
> (2) one or more beneficiaries, to whom and for whose benefit the trustee owes the duties with respect to the trust property; and
>
> (3) trust property, which is held by the trustee for the beneficiaries.[94]

Drawing insight from traditional trust law is particularly instructive because it details the responsibilities and obligations of the trustees.[95] For instance, the duty of loyalty mandates "the trustee [must] administer the trust solely in the interests of the beneficiaries and not act in its personal interest if such conduct might conflict with the interests of the beneficiaries."[96] In addition, trustees bear certain obligations to manage the corpus of the trust in the best interest of the beneficiaries; indeed, in multi-generational trust instruments this duty mandates that the needs of current beneficiaries must be

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have created the public trust for themselves as beneficiaries and their agent, the legislature [or its delegate, a coastal management agency, for example], as the trustee." *Id.* at 31 n.64 (citing RESTATEMENT (SECOND) OF TRUSTS §§ 114, 115(4), 127 (1959)). Charitable trusts are a superior analogy to public trusts than private trusts, because, like public trusts, they too benefit numerous and generally unidentified communities or citizenries and may be of indefinite durations. Private trust instruments, on the other hand, generally specify the beneficiaries and are of limited duration. *Id.* at 35, 41.

91. *But see* Slocum v. Borough of Belmar, 569 A.2d 312, 317 (N.J. Super. Ct. Law Div. 1989) (finding that "[a] public trustee is endowed with the same duties and obligations as an ordinary trustee); *see also* Nat'l Audubon Soc'y v. Superior Court, 658 P.2d 709 (Cal. 1983) (The California Supreme Court addressed the "authority and obligations of the state as administrator of the public trust" and concluded that "the dominant theme is the state's sovereign power and duty to exercise continued supervision over the trust.").

92. ARCHER ET AL., *supra* note 54, at 5.

93. GEORGE GLEASON BOGERT & GEORGE TAYLOR BOGERT, THE LAW OF TRUSTS AND TRUSTEES § 1 (rev. 2d ed. 1984) (emphasis and footnote omitted). Furthermore, "a fiduciary relation is one in which the law demands of one party an unusually high standard of ethical and moral conduct with reference to another." *Id.* (footnote omitted).

94. RESTATEMENT (THIRD) OF TRUSTS § 2 cmt. f (2003).

95. *See* ARCHER ET AL., *supra* note 54, at 34–41. *See also generally* RESTATEMENT (THIRD) OF TRUSTS (2007) (documenting the general duties and powers of trustees).

96. ARCHER ET AL., *supra* note 54, at 35. Other duties include the duty to not delegate, the duty to provide information, the duty to control trust property, and the duty to make trust property productive. *Id.* In addition, if the trustee uses trust property for its own benefit, it must fairly recompense the trust. *Id.*

balanced with those of future beneficiaries.[97] This idea is called "intergenerational equity," and, in short, it means that the trustee must ensure that the corpus of the trust is managed in a sustainable manner, such that the needs of current beneficiaries are met without sacrificing the ability of future beneficiaries to meet their needs.[98]

The duty to "deal impartially" with current and future beneficiaries provides guidance and justification to state agencies and courts seeking to resolve pressures to maximize current trust uses with countervailing needs to conserve future uses.[99] An example of this conflict lies in fisheries management. At first, catch limits, closed fishing seasons, and marine protected areas may seem to conflict with "undoubtedly the single most important public trust guarantee"[100]—access to submerged lands, tidal waters, and the resources within them. However, an equally important and essential use of public trust resources is preservation for future generations,[101] and states can lawfully assert authority under the public trust doctrine to "regulate present-day exploitation to ensure the reasonable preservation of resources for future use."[102]

In addition to the duty to deal impartially, trustees are also bound by a duty to preserve the trust property, which includes the obligation not only to maintain or repair the trust corpus but also to improve it.[103] In some states, courts have held that this duty obligates the state trustee or delegate agency to protect the trust from pollution or degradation by taking affirmative action against parties infringing on it.[104] Courts have recognized this duty: e.g., "[t]he State has not only has the right but also the affirmative fiduciary obligation to

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97. This is one of the most difficult aspects of managing a trust. *Id.* at 38–39 ("The current beneficiary has an interest in having the trustee [manage] the trust property to yield the highest current income. In contrast, the future beneficiary wants the trustee to exercise the utmost caution to preserve or expand [the trust]."). *See also* RESTATEMENT (THIRD) OF TRUSTS § 79 cmt. c (2007) (discussing the trustee's duty to balance competing interests of current and future beneficiaries).

98. This language closely mirrors a commonly used definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." WORLD COMM'N ON ENV'T & DEV., OUR COMMON FUTURE 43 (1987).

99. ARCHER ET AL., *supra* note 54, at 38–40.

100. Lazarus, *supra* note 45, at 711 (footnote omitted).

101. *See, e.g.*, W.J.F. Realty Corp. v. State, 672 N.Y.S.2d 1007, 1012 (N.Y. Sup. Ct. 1998) (concluding that the government was justified in enacting a law to protect groundwater because it was "merely discharging [its] obligation under the societal contract between 'Those who are dead, those who are living and those who are yet to be born'" (citing EDMUND BURKE, SELECTED WRITINGS AND SPEECHES OF EDMUND BURKE 318 (1949))).

102. *See* ARCHER ET AL., *supra* note 54, at 39–40.

103. *Id.* at 38–40.

104. *See, e.g.*, City of Milwaukee v. State, 214 N.W. 820, 830 (Wis. 1927) ("The trust reposed in the state is not a passive trust: it is governmental, active, and administrative . . . . [T]he trust, being both active and administrative, requires the law-making body to act in all cases where action is necessary, not only to preserve the trust, but to promote it."); Nat'l Audubon Soc'y v. Superior Court, 658 P.2d 709, 728 (Cal. 1983) ("The state has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible.") (footnote omitted).

ensure that the rights of the public to a viable marine environment are protected, and to seek compensation for any diminution in that trust corpus."[105] Furthermore, if a state trustee does not uphold the trust, the attorney general[106] or private parties[107] may have standing to seek judicial redress from the state.

A third characteristic of the public trust doctrine that imbues it with unique potential lies in its ability as a common law to evolve to meet the changing needs of society. Though it is difficult to generalize, a few landmark cases and state legislative acts elucidate how state public trust doctrines have evolved to cover uses of natural resources beyond the traditional triad of fishing, commerce, and navigation.[108] Key to the history of states' public trust doctrines is the theme of expansion, both in geographic scope and substance.

For instance, many states have broadened the scope of their public trust doctrines to protect a variety of resources and lands deemed "public."[109]

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105. State Dep't of Envtl. Prot. v. Jersey Cent. Power & Light Co., 308 A.2d 671, 674 (N.J. Super. Ct. Law Div. 1973), *aff'd*, 336 A.2d 750 (N.J. Super. Ct. App. Div. 1975), *rev'd on other grounds*, 351 A.2d 337 (N.J. 1976). *See also, e.g.*, Md. Dep't. of Nat. Res. v. Amerada Hess Corp., 350 F. Supp. 1060, 1067 (D. Md. 1972) (Ruling that "if the State is deemed to be the trustee of the waters, then, as trustee, the State must be empowered to bring suit to protect the corpus of the trust -- i.e., the waters -- for the beneficiaries of the trust -- i.e., the public.").

106. *See, e.g.*, Massachusetts v. EPA, 549 U.S. 497, 519 (2007) ("'One helpful indication in determining whether an alleged injury to the health and welfare of its citizens suffices to give the State standing to sue *parens patriae* is whether the injury is one that the State, if it could, would likely attempt to address through its sovereign lawmaking powers.'") (quoting Alfred L. Snapp & Son, Inc. v. Puerto Rico *ex rel.* Barez, 458 U.S. 592, 607 (1982)); *In re* Steuart Transp. Co., 495 F. Supp. 38, 40 (E.D. Va. 1980) ("[U]nder the doctrine of *parens patria*, the state acts to protect a quasi-sovereign interest where no individual cause of action would lie.") (citation omitted); *see also* Ryke Longest, *Massachusetts versus EPA:* Parens Patriae *Vindicated*, 18 DUKE ENVTL. L. & POL'Y F. 277 (2008); Allan Kanner, *The Public Trust Doctrine,* Parens Patriae*, and the Attorney General as the Guardian of the State's Natural Resources*, 16 DUKE ENVTL. L. & POL'Y F. 57 (2005).

107. *See, e.g.*, Ctr. for Biological Diversity, Inc. v. FPL Group, Inc., 83 Cal. Rptr. 3d 588, 600 (Cal. Ct. App. 2008) (noting that "'[a]ny member of the general public . . . has standing to raise a claim of harm to the public trust.'") (citing Nat'l Audubon Soc'y v. Superior Court, 658 P.2d 709, 716 n.11 (Cal. 1983)). Under this ruling, a private party can only sue the state trustee, not the party infringing on the trust. *See id.* at 602 ("Under traditional trust concepts, plaintiffs, viewed as beneficiaries of the public trust, are not entitled to bring an action against those whom they allege are harming trust property. . . . '[W]here a trustee cannot or will not enforce a valid cause of action that the trustee ought to bring against a third person, a trust beneficiary may seek judicial compulsion against the trustee.'") (citing Saks v. Damon Raike & Co., 7 Cal. App. 4th 419, 427 (1992)).

108. *See infra* notes 111–129 and accompanying text.

109. *See, e.g.*, Matthews v. Bay Head Improvement Ass'n, 471 A.2d 355 (N.J. 1984) (ruling that the public must be allowed to access to the dry sand beach to enjoy its rights to the tidal lands); Just v. Marinette County, 201 N.W.2d 761, 769 (Wis. 1972) (extending the doctrine to inland wetlands); Friends of Van Cortlandt Park v. City of New York, 750 N.E.2d 1050, 1055 (N.Y. 2001) (affirming that New York City's parks are "impressed with a public trust for the benefit of the people"); Mayor of Clifton v. Passaic Valley Water Comm'n, 539 A.2d 760, 765 (N.J. Super. Ct. Law Div. 1987) (applying the public trust doctrine to drinking water); *In re* Water Use Permit Applications, 9 P.3d 409, 445–447 (Haw. 2000) (holding that the public trust doctrine applies to all water in the state of Hawaii), *aff'd in part and vacated on unrelated grounds in part by In Re* Water Use Permit Applications, 105 Haw. 1 (2004); *In re* Wai'ola O Moloka'i, Inc., 83 P.3d 664, 692 (Haw. 2004); Wade v. Kramer, 459 N.E.2d 1025 (Ill. App. Ct. 1984) (applying the doctrine to archeological remains); Montana Coalition for Stream Access, Inc. v. Hildreth, 684 P.2d 1088, 1091 (Mont. 1984) (using the doctrine to protect stream

Initially, courts understood the reach of the public trust doctrine to encompass the submerged lands under navigable, tidal waters and the waters themselves.[110] The courts later expanded the definition of "navigable waters" to include inland rivers and lakes not influenced by the tides.[111] In 1988, the U.S. Supreme Court ruled in *Phillips Petroleum Company v. Mississippi* that non-navigable tidal lands were also vested in the states and that Mississippi's expansive definition of public tidelands was warranted due to the shared "'geographical, chemical, and environmental qualities' that make [all] lands beneath tidal waters unique."[112] The Court also affirmed that each state may determine the geographic limits of the land it holds in public trust.[113] State public trust lands now generally comprise (1) submerged lands under navigable waters, (2) lands subject to the ebb and flow of the tide, and (3) lands seaward of the mean high tide line out to 3 nm.[114] If these lands are conveyed to private parties, the lands carry with them a public trust burden.[115]

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access, including the right to portage over adjacent private land); Sierra Club v. U.S. Dep't of the Interior, 398 F. Supp. 284 (N.D. Cal. 1975) (applying the doctrine to protect areas surrounding redwood forests); *see also* Note, *Protecting the Public Interest in Art*, 91 YALE L.J. 121, 122 (1981) (arguing that the doctrine should be extended to cover artworks). *But see* Harrison C. Dunning, *The Public Trust: A Fundamental Doctrine of American Property Law*, 19 ENVTL. L. 515, 519 n.19 (1989) ("Exciting as extension of the public trust doctrine to these new frontiers may be to many, it would be well to acknowledge that the doctrine currently draws a great deal of strength and legitimacy directly from its long historical link with navigable water. Much remains to be done to make the public trust doctrine a truly effective tool to preserve public values in navigable water and associated natural resources; consequently it might be best at this time not to seek to extend the public trust doctrine to entirely new arenas.").

110. *See* Arnold v. Mundy, 6 N.J.L. 1, 12 (1821).

111. *See* Propeller Genesee Chief v. Fitzhugh, 53 U.S. (12 How.) 443, 454–457 (1851); Barney v. Keokuk, 94 U.S. 324, 338 (1877); Oregon *ex rel.* State Land Board v. Corvallis Sand & Gravel Co., 429 U.S. 363, 374 (1977).

112. *See* Phillips Petroleum Co. v. Mississippi, 484 U.S. 469, 481 (1988) (quoting Kaiser Etna v. United States, 444 U.S. 164, 183 (1979) (Blackmun, J., dissenting)).

113. *Id.* at 475 (citing Shively v. Bowlby, 152 U.S. 1, 26 (1894)).

114. Since 1953, when the Congress passed the Submerged Lands Act, "navigable waters" of coastal states have included the waters out to three nautical miles from their coastlines. State waters off Texas and the western coast of Florida extend to nine nm offshore due to these areas' origins under Spanish law. The act granted ownership of these submerged seabeds to the states by extending the definition of "navigable waters." Submerged Lands Act of 1953, 43 U.S.C. § 1301 (2006). *See also Phillips Petroleum Co*., 484 U.S. 469; *Shively*, 152 U.S. at 26.

115. The Mono Lake court concluded that public trust responsibilities inhered in the title to the affected properties: "[P]arties acquiring rights in trust property generally hold those rights subject to the trust, and can assert no vested right to use those rights in a manner harmful to the trust." Nat'l Audubon Soc'y v. Superior Court, 658 P.2d 709, 721 (Cal. 1983); *see also* City of Lost Angeles v. Venice Peninsula Props., 644 P.2d 792 (Cal. 1982); City of Berkeley v. Superior Court of Alameda County, 606 P.2d 362 (Cal. 1980) (both cases determined that tidelands, whether publicly or privately owned, carry public trust burdens); Marks v. Whitney, 491 P.2d 374, 379 (Cal. 1971) ("'The only practicable theory is to hold that all tide land is included, but that the public right was not intended to be divested or affected by a sale of tide lands under these general laws relating alike both to swamp land and tide lands. Our opinion is that . . . the buyer of land under these statutes receives the title to the soil, the *jus privatum*, subject to the public right of navigation, and in subordination to the right of the state to take possession and use and improve it for that purpose, as it may deem necessary. In this way the public right will be

The California Supreme Court pioneered the expansion of public trust responsibilities to include conservation. In 1970, the court prohibited a private owner from filling in and developing tidelands on his property because his title carried public trust burdens, which included the obligation of preservation:

> There is a growing public recognition that one of the most important public uses of the tidelands—a use encompassed within the tidelands trust—is the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area.[116]

In 1983, in the famed Mono Lake case, the California Supreme Court again upheld conservation as a legal public trust use:

> [T]he public trust is more than an affirmation of state power to use public property for public purposes. It is an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands, surrendering that right of protection only in rare cases when the abandonment of that right is consistent with the purposes of the trust.[117]

The right to recreation is also now part of many coastal states' public trust easements:

> Public trust easements . . . . have been held to include the right to fish, hunt, bathe, swim, to use for boating and general recreation purposes the navigable waters of the state, and to use the bottom of the navigable waters for anchoring, standing, or other purposes. The public has the same rights in and to tidelands.[118]

States have also applied the public trust doctrine to the management and conservation of wildlife, both aquatic[119] and terrestrial.[120] For instance, in *Smith v. Maryland*, the U.S. Supreme Court established:

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preserved and the private right of the purchaser will be given as full effect as the public interests will permit.'") (citing People v. California Fish Co., 138 P. 79, 87 (Cal. 1913)).

116. *Marks*, 491 P.2d at 380. *See also* Rieser, *supra* note 60, at 407 (noting that Marks v. Whitney did not cite a specific authority for the extension of the doctrine to ecological preservation).

117. *Nat'l Audubon Soc'y*, 658 P.2d at 724.

118. *Marks*, 491 P.2d at 380 (citations omitted); *see also* Forestier v. Johnson, 127 P. 156 (Cal. 1912); Bohn v. Albertson, 238 P.2d 128 (Cal. Ct. App. 1951); Proctor v. Wells, 103 Mass. 216 (1869); Nelson v. DeLong, 7 N.W.2d 342 (Minn. 1942); Borough of Neptune City v. Borough of Avon-by-the-Sea, 294 A.2d 47, 45–55 (N.J. 1972); Jackvony v. Powel, 21 A.2d 554 (R.I. 1941); Hillebrand v. Knapp, 274 N.W. 821 (S.D. 1937); Munninghoff v. Wis. Conservation Comm'n, 38 N.W.2d 712 (Wis. 1949). *See also* Mineral County v. State, 20 P.3d 800, 807 (Nev. 2001) (concurring opinion) (observing that the public trust doctrine has evolved in that state; "[a]lthough the original objectives of the public trust were to protect the public's rights in navigation, commerce, and fishing, the trust has evolved to encompass additional public values—including recreational and ecological uses").

119. *See, e.g.*, People v. Truckee Lumber Co., 48 P. 374 (Cal. 1897) (treating fish as public trust resources, regardless of whether they were found in navigable waters); *see also infra* note 121 and accompanying text, and note 126.

120. *See, e.g.*, Ctr. for Biological Diversity, Inc. v. FPL Group, Inc., 83 Cal. Rptr. 3d 588, 591 (Cal. Ct. App. 2008) (holding that California's public trust includes wild birds, in addition to fish and submerged lands). For a more complete account of the early extension of public trust duties to wildlife, see Michael C. Blumm & Lucus Ritchie, *The Pioneer Spirit and the Public Trust: The American Rule of*

> Whatever soil below low-water mark is the subject of exclusive propriety and ownership, belongs to the State on whose maritime border, and within whose territory it lies . . . . *[T]his soil is held by the State, not only subject to, but in some sense in trust for, the enjoyment of certain public rights, among which is the common liberty of taking fish, as well shellfish as floating fish.* The State holds the propriety of this soil for the conservation of the public rights of fishery thereon, and may regulate the modes of that enjoyment so as to prevent the destruction of the fishery . . . . This power results from the ownership of the soil, from the legislative jurisdiction of the State over it, and from its *duty to preserve unimpaired those public uses for which the soil is held*.[121]

Subsequently in 1896, the U.S. Supreme Court, in *Geer v. Connecticut*, confirmed that "the power or control pledged in the State, resulting from [common ownership of wildlife], is to be exercised, like all other powers of government, as a trust for the benefit of the people."[122] In outlining the trust responsibilities of states over wildlife, the Court used ownership language[123] with which later Supreme Court Justices quarreled[124] and ultimately overturned in the Court's 1976 decision in *Hughes v. Oklahoma*.[125] Nevertheless, the trust

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Capture and State Ownership of Wildlife, 35 ENVTL. L. 655, 693–96 (2005). *See also infra* notes 122–127, 218–222.

121. 59 U.S. (18 How.) 71, 74–75 (1855) (citations excluded) (emphasis added). *See also* Dunham v. Lamphere, 69 Mass. (3 Gray) 268, 273–74 (1855) (arguing that by virtue of its authority to regulate "the use and enjoyment of public and common rights," a state could create and enforce laws to regulate fishing).

122. Geer v. Connecticut, 161 U.S. 519, 529 (1896); *see also id.* at 527–28 (finding a state's public trust includes wildlife and that the ability of state governments "to control the taking of animals *ferae naturae*, which was thus recognized and enforced by the common law of England, was vested in the colonial governments [upon Independence]").

123. *See, e.g.*, *id.* at 534 ("the authority of the State [is] derived from the common ownership of game and the trust for the benefit of its people which the State exercises in relation thereto"); Lacoste v. Dep't of Conservation, 263 U.S. 545, 549 (1924) ("The wild animals within its borders are, so far as capable of ownership, owned by the State in its sovereign capacity for the common benefit of all its people.").

124. *See* Hughes v. Oklahoma, 441 U.S. 322, 329 (1979) ("The erosion of *Geer* began only 15 years after it was decided."); *see also id.* at 334–35 ("'Neither the States nor the Federal Government, any more than a hopeful fisherman or hunter, has title to [wild fish, birds, or animals] until they are reduced to possession by skillful capture . . . .'") (quoting Douglas v. Seacoast Products, Inc., 431 U.S. 265, 284 (1977) (citing *Geer*, 161 U.S. at 539–40 (Field, J., dissenting))).

125. *See Hughes*, 441 U.S. at 335 (overturning *Geer* and ruling that "[t]he 'ownership' . . . must be understood as no more than a 19th-century legal fiction expressing 'the importance to its people that a State have power to preserve and regulate the exploitation of an important resource'") (quoting *Douglas*, 431 U.S. at 284 (citing Toomer v. Witsell, 334 U.S. 385, 402 (1948))). Justice Rehnquist and Chief Justice Burger dissented on the grounds that the *Geer v. Connecticut* did not actually concern interstate commerce, and argued that the *Geer* Court did not actually use the term "ownership" in a proprietary sense. Citing *Geer v. Connecticut*, 161 U.S. 519, 529 (1896), they stated: "The Court in *Geer* expressed the view derived from Roman law that the wild fish and game located within the territorial limits of a State are the common property of its citizens and that the State, as a kind of trustee, may exercise this common 'ownership' for the benefit of its citizens. Admittedly, a State does not 'own' the wild creatures within its borders in any conventional sense of the word. But the concept expressed by the 'ownership' doctrine is not obsolete. This Court long has recognized that the ownership language of *Geer* and similar cases is simply a shorthand way of describing a State's substantial interest in preserving and regulating

responsibilities of states over wildlife as mandated by *Geer* remain in place after *Hughes*.[126] For instance, a 2008 decision by the California Court of Appeals, citing Professor Gary Meyers, recently concluded:

> [W]hile the fiction of state ownership of wildlife is consigned to history, the state's responsibility to preserve the public's interest through preservation and wise use of natural resources is a current imperative. In essence, the public trust doctrine commands that the state not abdicate its duty to preserve and protect the public's interest in common natural resources. Thus, whatever its historical derivation, it is clear that the public trust doctrine encompasses the protection of undomesticated birds and wildlife.[127]

In addition to the crucial role the judiciary has served in protecting state waters and wildlife with the public trust doctrine, many state legislatures have incorporated public trust principles into their environmental management statutory authorities,[128] and many—including Alaska, Florida, Hawaii, Louisiana, and Pennsylvania—have gone so far as to codify public trust principles in their constitutions.[129] The use of public trust principles in different

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the exploitation of the fish and game and other natural resources within its boundaries for the benefit of its citizens." *Id.* at 341–42 (citations and footnote omitted).

126. *See, e.g.*, Clajon Produce Corp. v. Petera, 854 F. Supp. 843, 850–51 (D. Wyo. 1994) (finding that the *Hughes* ruling did not change states' responsibilities to wildlife) (citing Mountain States Legal Found. v. Hodel, 799 F.2d 1423, 1426–27); Kanner, *supra* note 106, at 73–74 ("*Hughes* preserved the trust responsibility set forth in *Geer*."). *See also* Pullen v. Ulmer, 923 P. 2d 54, 60 (Alaska 1996) (concluding that "the public trust responsibilities imposed on the state by the [Alaska state constitution] compel the conclusion that fish occurring in their natural state are property of the state for purposes of carrying out its trust responsibilities."); Owsichek v. State, 763 P.2d 488, 495 (Alaska 1988) (holding that the public trust doctrine "impose[s] upon the state a trust duty to manage the fish, wildlife and water resources of the state for the benefit of all the people") (footnote omitted).

127. Ctr. for Biological Diversity, Inc. v. FPL Group, Inc., 83 Cal. Rptr. 3d 588, 599 (Cal. Ct. App. 2008) (citing Gary D. Meyers, V*ariation on a Theme: Expanding the Public Trust Doctrine to Include Protection of Wildlife*, 19 ENVTL. L. 723, 734–35 (1989)).

128. *See* ARCHER ET AL., *supra* note 54, at 88–90 (citing several state statutes); North Carolina Coastal Area Management Act of 1974, N.C. GEN. STAT. § 113A-102(b)(4)(f) (2008) (One of the goals is "[t]he protection of present common-law and statutory public rights in the lands and waters of the coastal area."); 310 MASS. CODE REGS. 9.01(2)(a) (2008) (The Department of Environmental Protection must protect the "tidelands, Great Ponds, and on-tidal rivers and streams in accordance with the public trust doctrine, as established by common law and codified in the colonial Ordinances of 1641–47 and subsequent statutes and case law of Massachusetts."); LA. REV. STAT. ANN. § 56:640.3(A) (2004) (The state must hold its fisheries "in trust for the benefit of all its citizens."); *see also* New Jersey Water Pollution Control Act, N.J. STAT. ANN. § 58:10A-2 (West 2008) ("It is the policy of this State to restore, enhance and maintain the chemical, physical, and biological integrity of its waters, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial and other uses of water.").

129. At least forty-two state constitutions now either expressly mention public trust principles or contain some mention of environmental protection or natural resources. *See, e.g.*, ALASKA CONST. art. VIII, § 3 (The Alaska Constitution implies a public trust relationship among the state, the people, and fish: "[w]herever occurring in their natural state, fish, wildlife, and waters are reserved to the people for common use."); FLA. CONST. art. 10, § 11 ("The title to lands under navigable waters, within the boundaries of the state, which have not been alienated, including beaches below mean high water lines, is held by the state, by virtue of its sovereignty, in trust for all the people. Sale of such lands may be authorized by law, but only when in the public interest. Private use of portions of such land may be

areas of government is mutually reinforcing: "by integrating constitutional, statutory and regulatory standards into the public trust law of any particular state, the doctrine can work side by side with the statutory and regulatory framework to provide incentives to protect natural resources and the environment."[130] In her analysis of the interplay among case, statutory, and constitutional law uses of the public trust doctrine, Professor Alexandra Klass concluded that until the day comes when states' environmental regulations are truly robust, "public trust principles allow the courts to participate appropriately in the law of natural resources protection."[131]

In summary, it is widely recognized today that there is not one single, uniform public trust doctrine in the United States; instead, each state can, and does, define the scope and fabric of the doctrine to fit its needs.[132] However, commonalities among states' public trust doctrines are evident. As summarized by commentator Stephen E. Roady, each state generally:

> [(1)] [h]as public trust interests, rights and responsibilities in its navigable waters [and nonnavigable tidelands], the lands beneath these waters, and the living resources therein;

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authorized by law, but only when not contrary to the public interest."); HAW. CONST. art. XI, §§ 1, 6 ("For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation . . . . All public natural resources are held in trust by the State for the benefit of the people," including "the archipelagic waters of the state."); PA. CONST. art. I § 27 ("Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."); *see also* Pullen v. Ulmer, 923 P. 2d 54, 60 (Alaska 1996) (ruling that Article VIII of the Alaska Constitution imposes public trust duties on the state); CWC Fisheries, Inc. v. Bunker, 755 P.2d 1115, 1120 (Alaska 1988) (invoking Article VIII of the Alaska Constitution in determining that the public trust burden is preserved in tidal lands unless the statute explicitly states otherwise); *see generally* Alexandra B. Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, 82 NOTRE DAME L. REV. 699, 714 (2006) ("While some state constitutional provisions do no more than authorize the legislature to enact environmental laws (which it already has authority to do under its inherent police power), others codify the common law public trust doctrine or set out a constitutional policy to protect the environment. Yet others grant rights to all citizens for a 'clean and healthful environment' or place mandatory duties on the state to protect the environment.") (footnote omitted); Matthew Thor Kirsch, *Upholding the Public Trust in State Constitutions*, 46 DUKE L.J. 1169 (1997); ARCHER ET AL., *supra* note 54, at 86–88.

130. Klass, *supra* note 129, at 745. "[T]o the extent the common law public trust doctrine can provide support to or be supported by environmental policies in state statutes or constitutions, the doctrine will be in a position to play a more important role in state environmental protection efforts." *Id.* at 713–14. For example, the Montana Supreme Court has held that "under the public trust doctrine and the 1972 Montana Constitution, any surface waters that are capable of recreational use may be so used by the public without regard to streambed ownership or navigability for nonrecreational purposes." *See In re* Adjudication of the Existing Rights to the Use of All the Water, 55 P.3d 396, 397 (Mont. 2002).

131. Klass, *supra* note 129, at 748.

132. *See* Phillips Petroleum Co. v. Mississippi, 484 U.S. 469, 475 (1988) ("[I]t has long been established that the individual States have the authority to define the limits of the lands held in public trust and to recognize private rights in such lands as they see fit.") (citing Shively v. Bowlby, 152 U.S. 1, 26 (1894)).

> [(2)] [h]as the authority to define the boundary limits of the lands and waters held in public trust;
>
> [(3)] [h]as the authority to recognize and convey private proprietary rights (the *jus privatum*) in its trust lands, and thus diminish the public's rights therein, with the corollary responsibility not to substantially impair the public's use and enjoyment of the remaining trust lands, waters and living resources;
>
> [(4)] [h]as a trustee's duty and responsibility to preserve and continuously assure the public's ability to fully use and enjoy public trust lands and waters for certain trust uses; and
>
> [(5)] [d]oes not have the power to abdicate its role of trustee of the public's *jus publicum* rights, although in certain limited cases the State can terminate the *jus publicum* in small parcels of trust land.[133]

Though the public trust doctrine has not been without its detractors, it is now firmly established throughout states' environmental protection regimes. The role of the doctrine at the federal level, however, remains opaque. We now turn to waters further offshore and the potential for a federal public trust doctrine to inform the management of such waters.

C. A Public Trust Doctrine for Federal Waters

In 1983, by presidential proclamation, President Ronald Reagan created the U.S. EEZ, which today includes the band of seabed and waters from 12 to 200 nm off the coasts of the United States and its territorial holdings.[134] Whether an expansion of the public trust doctrine accompanied this extension of U.S. sovereignty and jurisdiction over its adjacent seas has never been expressly tested in the courts or established in law.

However, the unresolved possibility of a public trust doctrine for federal ocean waters has not prevented national studies, the U.S. Commission on Ocean Policy, and federal agencies from using public trust language to describe the federal government's duty to its citizens to steward resources in the EEZ. For example:

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133. Stephen E. Roady, *The Public Trust Doctrine*, *in* OCEAN AND COASTAL LAW AND POLICY 41–42 (Donald C. Baur, Tim Eichenberg, & Michael Sutton eds. 2008) (summarizing COASTAL STATE ORG., INC., PUTTING THE PUBLIC TRUST DOCTRINE TO WORK, 17–18 (2d ed. 1997) and clarifying that in English common law, "public trust land is vested with two titles: the *jus publicum*, the public's right to use and enjoy trust lands and waters for commerce, navigation, fishing, bathing and other related public purposes, and the *jus privatum*, or the private proprietary rights in the use and possession of trust lands").

134. In 1983 the territorial sea only extended to three nm from the shores of the United States, so President Reagan's initial proclamation established a 197-nm wide EEZ. But in 1988, he declared the extension of the territorial sea to twelve nm from shore. *See* Proclamation No. 5030, 3 C.F.R. 22, 23 (1983) *and* Proclamation No. 5928, 54 Fed. Reg. 777 (Jan. 9, 1989).

> Fisheries within federal waters are held in public trust for the people of the United States.—National Research Council[135]
>
> This Commission has a vision of how the health of our oceans and coasts can be restored and protected. It is a vision based on the principle that we must treat our oceans as a public trust to be managed for the common good.—Pew Oceans Commission[136]
>
> The U.S. government holds ocean and coastal resources in the public trust– a special responsibility that necessitates balancing different uses of those resources for the continued benefit of all Americans.—U.S. Commission on Ocean Policy[137]
>
> As a steward, NOAA Fisheries has an obligation to conserve, protect, and manage living marine resources in a way that ensures their continuation as functioning components of marine ecosystems, affords economic opportunities, and enhances the quality of life for the American public.—NOAA Fisheries "Vision" Statement[138]

Despite such widespread public trust language, the question as to whether a definite federal public trust responsibility for federal ocean waters exists remains unresolved. Thus, it is an open question whether the U.S. citizenry can, at present, demand the same rights to sustainable use and management of resources in federal ocean waters that state citizenries can expect with respect to resources in state public trust waters.

Under these circumstances, there is ample reason to explore the explicit extension of the public trust doctrine to federal ocean waters. The doctrine imposes affirmative duties on state governments to manage uses of the public trust for the benefit of their citizens, and state judiciaries are able to rely on the doctrine (expressed in common law, statutory authority and/or state constitutional provisions) to redress actions that impair the public trust. Likewise, a federal public trust doctrine that reached to the outer edges of the EEZ would impart an affirmative duty on federal oceans agencies to balance the needs of current and future citizens, and a means by which American citizenry could assert their interests in the preservation of the trust corpus.

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135. NAT'L RESEARCH COUNCIL, SHARING THE FISH: TOWARD A NATIONAL POLICY ON INDIVIDUAL FISHING QUOTAS 45 (1999), *available at* http://www.nap.edu/catalog.php?record_id=6335.

136. PEW OCEANS COMM'N, *supra* note 27, at 99. *See also id.* at x ("To achieve and maintain healthy ecosystems requires that we change our perspective and extend an ethic of stewardship and responsibility toward the oceans. Most importantly, we must treat our oceans as a public trust. The oceans are a vast public domain that is vitally important to our environmental and economic security as a nation. The public has entrusted the government with the stewardship of our oceans, and the government should exercise its authority with a broad sense of responsibility toward all citizens and their long-term interests.").

137. U.S. COMM'N ON OCEAN POLICY, *supra* note 3, at 6, 61, 472.

138. NOAA Fisheries: About National Marine Fisheries Service, http://www.nmfs.noaa.gov/what/mission.htm (last visited Nov. 18, 2008). NOAA Fisheries is often referred to as the National Marine Fisheries Service.

Under a federal public trust doctrine, federal ocean managers would become more than policymakers. They would become guardians of the public trust.

The territorial sea and the EEZ are rather complex constructions of governance, however. Before we explore potential avenues for enclosing them within a federal public trust doctrine, it is necessary to examine the history of the twentieth century ocean enclosure movement, sovereignty and the influence of international treaties and customary law,[139] and federal common law.

II. INTERNATIONAL AND DOMESTIC CONSIDERATIONS

A. The Twentieth Century Ocean Enclosure Movement

During the twentieth century, in concert with the rest of the world's coastal nations, the United States asserted increasing authority over the ocean waters and seabed adjacent to its shores.[140] Prior to this time, the U.S.'s territorial sea reached out only to 3 nm from its shores.[141] The next one hundred years saw significant changes in international ocean law, as coastal nations and their citizens increasingly sought to secure rights over the oil and gas, mineral, and fisheries resources within their adjacent seas. While a full history of the twentieth century ocean enclosure movement is beyond the scope of this Article, we note highlights as they apply to the current state of U.S. ocean governance.[142]

During the first century of the American republic, marine oil reserves had yet to be discovered off the U.S. coasts, and questions regarding rights to the resources of the seas were generally limited to oyster beds and the rights to access and profit from them.[143] The discovery of oil in the Gulf of Mexico in the early twentieth century initiated the development of a legal framework to facilitate its exploitation.[144] In 1945, President Truman issued two presidential proclamations about what were then considered the "high seas"—the waters seaward of the United States' 3-nm territorial sea. One proclamation declared exclusive jurisdiction and control over the oil, gas, and mineral resources of the continental shelf adjacent to the United States, and the other created federal

139. Customary international law "consists of norms that emerge from the actual practices of states undertaken with an understanding that the practice is required by law." Jon M. Van Dyke, *The Role of Customary International Law in Federal and State Court Litigation*, 26 U. HAW. L. REV. 361, 368 (2004).

140. *See* Lewis M. Alexander, *The Ocean Enclosure Movement: Inventory and Prospect*, 20 SAN DIEGO L. REV. 561, 561 (1983).

141. *See* United States v. California, 332 U.S. 19, 33 n.16, 42 (1947) (documenting the original claim of a three-mile territorial sea by Thomas Jefferson in 1793).

142. For a more complete history of the twentieth century ocean enclosure movement, see generally LAWRENCE JUDA, INTERNATIONAL LAW AND OCEAN USE MANAGEMENT: THE EVOLUTION OF OCEAN GOVERNANCE (1996); PHILIP E. STEINBERG, THE SOCIAL CONSTRUCTION OF THE OCEAN (2001).

143. *See generally* BONNIE J. MCCAY, OYSTER WATERS AND THE PUBLIC TRUST: PROPERTY, LAW AND ECOLOGY IN NEW JERSEY HISTORY (1998).

144. *See* Osherenko, *supra* note 40, at 346–47.

authority to regulate fisheries in the waters above the shelf.[145] Truman's unilateral and unprecedented assertions of control over the continental shelf were "almost certainly illegal at the time."[146] Nonetheless, they jump-started the modern global ocean enclosure movement, and a frantic assertion of authority by coastal nations followed.[147]

International law quickly evolved to accommodate the expansive claims of the United States and other nations to their adjoining seas and seabeds. In 1958, in an attempt to stem some of the more aggressive claims to the high seas, the United Nations (U.N.) convened the First Conference on the Law of the Sea.[148] The resulting treaties codified the sovereignty of coastal states over their internal waters and territorial seas; allowed for the creation of "contiguous zones" beyond nations' territorial seas; and, recognized the legal, sovereign rights of nations to the resources of their continental shelves and to regulate fisheries occurring in the high seas adjacent to their territorial seas.[149]

In 1960, the U.N. held the Second Conference on the Law of the Sea to resolve whether the maximum allowable breadth of states' territorial seas should be three nm or twelve nm.[150] At the time, some nations claimed twelve-mile territorial seas, and others went so far as to claim two hundred-mile exclusive fishing zones.[151] The delegates did not reach agreement, however, and the convention failed.[152] The United States and the Union of Soviet Socialist Republics (U.S.S.R.) were concerned that the "creeping jurisdiction" of coastal nations into the high seas would impair their navies' navigational

145. Proclamation No. 2667, 10 Fed. Reg. 12,303, 12,303 (Oct. 2, 1945) ("[T]he Government of the United States regards the natural resources of the subsoil and sea bed of the continental shelf beneath the high seas but contiguous to the coasts of the United States as appertaining to the United States, subject to its jurisdiction and control."); Proclamation No. 2668, 10 Fed. Reg. 12,304 (Oct. 2, 1945). This proclamation did not change the "high seas character" of the waters above the continental shelf: "The character as high seas of the waters above the continental shelf and the right to their free and unimpeded navigation are in no way thus affected." Proclamation No. 2667, 10 Fed. Reg. at 12,303.

146. *See* JOSEPH J. KALO, RICHARD G. HILDRETH, ALISON RIESER, & DONNA R. CHRISTIE, COASTAL AND OCEAN LAW: CASES AND MATERIALS 376 (3d ed. 2007).

147. *See* Alexander, *supra* note 140, at 566. By 1958, thirty-seven countries claimed 3-mile-, thirteen countries claimed 12-mile-, and three countries claimed 200-mile-territorial seas.

148. *Id.*

149. *See* Convention on the Territorial Sea and the Contiguous Zone, Apr. 29, 1958, 15 U.S.T.S 1606, 516 U.N.T.S. 205; Convention on the High Seas, Apr. 29, 1958, 13 U.S.T. 2312, 450 U.N.T.S. 82; Convention on the Continental Shelf, Apr. 29, 1958, 15 U.S.T. 471, 499 U.N.T.S. 311; Convention on Fishing and Conservation of the Living Resources of the High Seas, Apr. 29, 1958, 17 U.S.T. 138, 559 U.N.T.S. 285.

150. *See* ANN L. HOLLICK, U.S. FOREIGN POLICY AND THE LAW OF THE SEA 40 (1981); Alexander, *supra* note 140, at 567.

151. In 1945, 27 of 44 reporting nations (61 percent) claimed 3-mile territorial seas, 15 claimed between 4 and 12 miles, and 2 claimed 12 miles. By 1972, 25 out of 111 reporting nations (22 percent) claimed 3-mile territorial seas, 15 claimed between 3 and 12 miles, 56 claimed 12 miles, and 15 claimed more than 12 miles. Three nations (Chile, Nicaragua, and Peru) of this last set claimed 200-mile exclusive fishery zones. *See* Douglas M. Johnston & Edgar Gold, *Extended Jurisdiction: The Impact of UNCLOS III on Coastal State Practice*, *in* LAW OF THE SEA: STATE PRACTICE IN ZONES OF SPECIAL JURISDICTION 27–46 (Thomas A. Clingan, Jr. ed., 1982).

152. *See* ANN L. HOLLICK, *supra* note 150, at 40; Alexander, *supra* note 140, at 567.

freedoms and lobbied for a third convention.[153] Meanwhile, the prospect of a few nations benefiting from commercial mining in the high seas troubled developing and landlocked nations.[154] In 1973, the U.N. assembled the Third Conference on the Law of the Sea (UNCLOS III).[155] This conference would not conclude until 1982.[156]

Entering the UNCLOS III proceedings, the U.S. delegation hoped to restrict expansive jurisdictional claims and preserve freedoms of navigation and overflight and the right to mine for minerals in the high seas.[157] In 1976, however, domestic concerns over foreign fishing vessels operating off U.S. coasts motivated Congress to vote to expand U.S. authority over continental shelves.[158] With the 1976 Fishery Conservation and Management Act (which later came to be called the "Magnuson-Stevens Act"), Congress codified the second 1945 Truman Proclamation and declared waters three to two hundred nm off the shores of the United States and U.S. territorial possessions to be exclusively under federal jurisdiction as "fishery conservation zones."[159]

The enactment of the Magnuson-Stevens Act led to another claim-and-response period among coastal nations.[160] The articles of the treaty that resulted from UNCLOS III, typically referred to as the U.N. Convention on the Law of the Sea (hereinafter the Law of the Sea treaty), incorporated the enhanced level of authority nations now claimed over their adjacent ocean waters and denominated the expanded jurisdictional areas, "Exclusive Economic Zones" or EEZs.[161] To these areas, nations gained the legal authority to assert sovereign rights to the resources within the waters and seabed of their adjacent continental shelves. According to Article 56 of the treaty,

> [i]n the [EEZ], the coastal State has:
>
> (a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;
>
> (b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:

153. *See generally* KALO ET AL., *supra* note 146, at 382–84.
154. *See id.*
155. *Id.* at 384.
156. *Id.*
157. *Id.* at 385–86.
158. *Id.* at 382–90.
159. Fishery Conservation and Management Act of 1976 §§ 101–102, Pub. L. No. 94-265, 90 Stat. 331, 336.
160. KALO ET AL., *supra* note 146, at 387.
161. *Id.* at 390.

(i) the establishment and use of artificial islands, installations and structures;

(ii) marine scientific research;

(iii) the protection and preservation of the marine environment;

(c) other rights and duties provided for in this Convention.[162]

UNCLOS III came to a close in 1982, but the treaty did not go into effect until November 16, 1994, one year after the 60th country ratified it.[163] Even though the United States was instrumental in convening UNCLOS III, to date, it has refused to ratify the treaty largely due to concerns on the part of a few senators that the treaty infringes upon national sovereignty and that its deep-sea mining provisions limit free enterprise.[164]

Despite non-ratification, the Reagan Administration acted in full accord with the Law of the Sea treaty in 1983 when it created the U.S. EEZ.[165] Overnight, the United States secured "sovereign rights" and jurisdiction to the largest EEZ in the world, which stretched seaward out to 200 nm from the U.S. mainland, Hawaii and Alaska, and U.S. island territories in the Atlantic and Pacific. A subsequent proclamation in 1988 extended the boundaries of the territorial sea from 3 to 12 nm seaward of the coastlines of the United States and its territories.[166] President Reagan claimed full sovereignty to the 12-nm territorial sea, from the sub-surface seabed to the above airspace.[167] The last adjustment to U.S. ocean governance boundaries came in 1999 when President Clinton established the contiguous zone, which reaches from 12 to 24 nm from U.S. and territorial coastlines.[168] Each of the three proclamations was in

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162. United Nations Convention on the Law of the Sea, art. 56, ¶ 1, Dec. 10, 1982, 1833 U.N.T.S. 3, *available at* http://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm.

163. KALO ET AL., *supra* note 146, at 388.

164. In 1994, under pressure from the United States, the Convention articles regarding deep-sea mining were amended. *See* S. COMM. ON FOREIGN RELATIONS, 110TH CONG., REPORT ON CONVENTION ON THE LAW OF THE SEA, S. EXEC. REP. No. 110-9, at 2 (Comm. Print 2007). As a result, the Clinton Administration asked the Senate to ratify the treaty, but the bill died in committee, due to opposition from Senator Jesse Helms (R.-N.C.). *See id.* at 3. Currently, however, there is considerable support for acceding to the Law of the Sea from the U.S. Navy and Coast Guard, the Defense, State, and Commerce Departments, the oil and shipping industries, fisheries groups, as well as the Joint Oceans Commission Initiative. *See id.* at 8–9; *see also* Barack Obama's Answers to the Top 14 Science Questions Facing America (August 30, 2008), http://www.sciencedebate2008.com/www/index.php?id=40 ("The oceans are a global resource and a global responsibility for which the U.S. can and should take a more active role. I will work actively to ensure that the U.S. ratifies the Law of the Sea Convention—an agreement supported by more than 150 countries that will protect our economic and security interests while providing an important international collaboration to protect the oceans and its resources.").

165. *See* Proclamation No. 5030, 3 C.F.R. 22, 23 (1983) ("The United States will exercise these sovereign rights and jurisdiction in accordance with the rules of international law.").

166. *See* Proclamation No. 5928, 54 Fed. Reg. 777 (Jan. 9, 1989).

167. *Id*. ("The territorial sea of the United States is a maritime zone extending beyond the land territory and internal waters of the United States over which the United States exercises sovereignty and jurisdiction, a sovereignty and jurisdiction that extends to the airspace over the territorial sea, as well as to its bed and subsoil.").

168. *See* Proclamation No. 7219, 64 Fed. Reg. 48,701 (Aug. 2, 1999).

accordance with the Law of the Sea treaty, which the United States has accepted as a matter of international customary law.[169]

At the end of the twentieth century, the global community had established that coastal nations have full sovereignty over their internal waters and territorial seas (zero to 12 nm seaward); sovereign rights and jurisdiction over the waters, seabed, and resources of their EEZs (12 to 200 nm);[170] and increased jurisdiction to regulate activities within their contiguous zones (12 to 24 nm).[171] In the United States, state waters offer an additional layer of complexity: to the waters and seabeds from zero to 3 or 9 nm seaward, states possess ownership and full sovereignty subject only to the paramount rights of the federal government.[172]

B. Sovereignty, Sovereign Rights, and Jurisdiction

> While speculation as to the exact meaning of "sovereign rights" is perhaps best left to the political philosophers and to the lawyers, it appears that the EEZ notion of sovereign rights brings with it the idea of more responsibility for the common property resources found in the ocean—an increased role of public or common stewardship.[173]

To understand whether the suite of rights the United States asserted over ocean waters in the twentieth century is sufficient to support asserting public trust duties and responsibilities over the resources within those waters necessitates a closer look at the twentieth century presidential proclamations, judicial opinions, and legislation concerning sovereignty in the oceans. What are the necessary pre-conditions for the existence of the public trust? Is ownership required or is sovereignty over resources sufficient to support the public trust doctrine? In England, the public trust doctrine was based on the Crown's absolute sovereignty over tidal waters.[174] Must the U.S. government

169. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 514 cmt. a. (1987) ("Recent practice of states, supported by the broad consensus achieved at the Third United Nations Conference on the Law of the Sea, has effectively established as customary law the concept of the exclusive economic zone, the width of the zone (up to two hundred nautical miles), and the basic rules governing it. These are binding, therefore, on states generally even before the LOS Convention comes into effect and thereafter even as to states not party to the Convention."); *see also* The Paquete Habana, 175 U.S. 677, 700 (1900) (stating that in the absence of executive or legislative action, customary international law substitutes for U.S. domestic law); Roper v. Simmons, 543 U.S. 551, 575 (2005) (stating that "[t]he [United States Supreme] Court has referred to the laws of other countries and to international authorities as instructive for its interpretation of [its laws]").

170. *See* United Nations Convention on the Law of the Sea, *supra* note 162, at arts. 3, 57.

171. *See* Proclamation No. 7219, 64 Fed. Reg. 48,701 (Aug. 2, 1999) ("[T]he United States may exercise the control necessary to prevent infringement of its customs, fiscal, immigration, or sanitary laws and regulations within its territory or territorial sea . . . ."); *see also* United Nations Convention on the Law of the Sea, *supra* note 162, art. 33.

172. *See infra* notes 180–183 and accompanying text.

173. Biliana Cicin-Sain & Robert W. Knecht, *The Problem of Governance of U.S. Ocean Resources and the New Exclusive Economic Zone*, 15 OCEAN DEV. & INT'L L. 289, 307 (1985).

174. *See, e.g.*, Arnold v. Mundy, 6 N.J.L. 1, 12 (1821) ("[T]he navigable rivers, where the tide ebbs and flows, the ports, the bays, the coasts of the sea, including both the water and the land under the

also enjoy absolute sovereignty over the seabed and waters of the EEZ for it to be invested with public trust doctrine protections?

Crucial to this discussion is an understanding of "sovereignty." Fundamental to international law, sovereignty refers to the legal right of a nation to exercise power over its territory.[175] Sovereignty is "a modern notion of political authority . . . . The state is the political institution in which sovereignty is embodied."[176] International law provides that nations possess "permanent sovereignty" over their natural resources.[177] This principle arose in the context of decolonization in the 1950s. Today, permanent sovereignty over natural resources is considered to be a "basic constituent of the right [of nations] to self-determination,"[178] and, therefore, essential to a nation's economic sovereignty and development.[179]

In the United States, coastal states have sovereignty over their nearshore ocean waters.[180] Congress granted this sovereignty in 1953 with the Submerged Lands Act, which extended the sovereignty of states over their "lands beneath navigable waters" to include the ocean seabed out to 3 nm off the coastlines of Atlantic and Pacific states and nine nm off the shores of Texas and Florida's west coast.[181] It then granted states "title to and ownership of the lands beneath navigable waters within [their] boundaries . . . and the natural resources within such lands and waters."[182] The sovereign rights states enjoy to resources in and under their waters are subject only to the paramount rights retained by the

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water . . . vests in the sovereign, but it vests in him for the sake of order and protection, and not for his own use, but for the use of the citizen . . . .").

175. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 206 cmt. b (1987) ("'Sovereignty' is a term used in many senses and is much abused. As used here, it implies a [nation's] lawful control over its territory generally to the exclusion of other states, authority to govern in that territory, and authority to apply law there.").

176. *Sovereignty*, *in* STANFORD ENCYCLOPEDIA OF PHILOSOPHY (2003), *available at* http://plato.stanford.edu/entries/sovereignty/.

177. G.A. Res. 1803, U.N. GAOR, 17th Sess., Supp. No. 17, U.N. Doc. A/5217 (Dec. 14, 1962) (declaring that the "right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development and of the well-being of the people of the State concerned").

178. *See* Franz Xaver Perrez, *The Relationship Between "Permanent Sovereignty" and the Obligation Not to Cause Transboundary Environmental Damage*, 26 ENVTL. L. 1187, 1190 (1996) (quoting INT'L LAW ASS'N, REPORT OF THE SIXTIETH CONFERENCE, MONTREAL 196 (1982)); MILAN BULAJIĆ, PRINCIPLES OF INTERNATIONAL DEVELOPMENT LAW: PROGRESSIVE DEVELOPMENT OF THE PRINCIPLES OF INTERNATIONAL LAW RELATING TO THE NEW INTERNATIONAL ECONOMIC ORDER 82, 263, 284 (2d rev. ed. 1993); *see also* Ian Brownlie, *Legal Status of Natural Resources in International Law*, 162 RECUEIL DES COURS 245, 255 (1979).

179. *See* Perrez, *supra* note 178, at 1190 ("The principle of permanent sovereignty over natural resources is 'a fundamental principle of contemporary international law.'") (quoting Kamal Hossain, *Introduction*, *in* PERMANENT SOVEREIGNTY OVER NATURAL RESOURCES IN INTERNATIONAL LAW i, ix (Kamal Hossain & Subrata Roy Chowdhury eds., 1984)).

180. *See* Submerged Lands Act of 1953, 43 U.S.C. § 1301(a).

181. *See id.* § 1301(b).

182. *See id.* § 1311(a)(1).

federal government in matters of interstate commerce and navigation, international affairs, and national defense.[183]

Waters of the territorial sea, as well as the submerged lands beneath them, are subject to the full sovereignty of the U.S. federal government.[184] Language in the several treaties that shaped the twentieth century ocean enclosure movement indicates that the U.N. intended for a nation's sovereignty over its territorial sea to be as absolute as that which it has over its land territory and internal waters.[185] On the other hand, in its contiguous zone, the United States does not enjoy full sovereign authority. Instead, it exercises a level of rights that is essentially the same as that which it exercises in its EEZ—sovereign rights and jurisdiction. The only difference is that in the contiguous zone, the United States enjoys the power to enforce certain of its laws to "prevent infringement of its customs, fiscal, immigration, or sanitary laws and regulations within its territory or territorial sea."[186] The contiguous zone, therefore, serves as a buffer to protect the sovereignty of the United States and other nations within their territories and territorial seas.

The "sovereign rights and jurisdiction" that the U.S. possesses over its EEZ are not as complete as the rights characteristic of full sovereignty.[187] The

183. *See id.* § 1314(a) ("The United States retains all its navigational servitude and rights in and powers of regulation and control of said lands and navigable waters for the constitutional purposes of commerce, navigation, national defense, and international affairs, all of which shall be paramount to, but shall not be deemed to include, proprietary rights of ownership, or the rights of management, administration, leasing, use, and development of the lands and natural resources which are specifically . . . vested in and assigned to the respective States . . . .").

184. *See* Legal Issues Raised by Proposed Presidential Proclamation To Extend the Territorial Sea, 12 Op. Off. Legal Counsel 238, 240 (1988) ("Indeed, a nation has the same sovereignty over the territorial sea as it has over its land territory.") (citations omitted); *see also*, Proclamation No. 5928, 54 Fed. Reg. 777 (Jan. 9, 1989) (defining the territorial sea of the United States as "a maritime zone . . . over which the United States exercises sovereignty and jurisdiction, a sovereignty and jurisdiction that extends to the airspace over the territorial sea, as well as to its bed and subsoil"). *But, c.f.*, Administration of Coral Reef Resources in the Northwest Hawaiian Islands, 2000 O.L.C. LEXIS 30 (2000) [hereinafter Administration of Coral Reef Resources], at *7–13, *available at* http://www.usdoj.gov/olc/coralreef.htm (discussing the various executive, legislative and judicial opinions on whether Proclamation 5928 alone extended sovereignty to the 12-nm limit, and concluding that "the proclamation, acting alone, does not extend the reach of a statute unless Congress intended that the statute be linked to the extent of the territorial sea as that area may be defined at any given time"); Proclamation No. 5928, 54 Fed. Reg. 777 (Jan. 9, 1989) ("Nothing in this Proclamation . . . extends or otherwise alters existing Federal or State law or any jurisdiction, rights, legal interests, or obligations derived therefrom . . . .").

185. *See, e.g.*, United Nations Convention on the Territorial Seas and the Contiguous Zone, art. 1, ¶ 1, Apr. 29, 1958, 516 U.N.T.S. 205 ("The sovereignty of a State extends, beyond its land territory and its internal waters, to a belt of sea adjacent to its coast, described as the territorial sea."), cited nearly word for word in the United Nations Convention on the Law of the Sea, *supra* note 162, at art. 2.

186. Proclamation No. 7219, 64 Fed. Reg. 48,701 (Aug. 2, 1999); *see id.* ("Extension of the contiguous zone of the United States to the limits permitted by international law will advance the law enforcement and public health interests of the United States."); *see also* United Nations Convention on the Law of the Sea, *supra* note 162, at art. 33, ¶ 1(a).

187. *See* Administration of Coral Reef Resources, *supra* note 184, at *30–31 ("Comments to the Restatement explain that although coastal [nations] do not have sovereignty over the EEZ, they do

Law of the Sea treaty placed clear limitations on the rights of coastal nations to the seabeds and waters of their EEZs.[188] It stipulated that nations must grant other nations the freedom of navigation and overflight, and the right to lay submarine cables and pipelines in their EEZs, which President Reagan's Proclamation fully acknowledged.[189] Both international and domestic law have since considered the EEZ to be an area in which a nation possesses sovereign rights over the natural resources but which is "beyond [its] territory and territorial sea."[190] In 1986, a U.N. study of global EEZ-related legislation concluded:

> The [EEZ] is subject to a "specific régime." The régime is specific in the sense that the legal régime of the [EEZ] is different from both the territorial sea and the high seas. It is a zone which partakes of some of the characteristics of both régimes but belongs to neither.[191]

Nonetheless, it is clear that the nature of the "sovereign rights" of the United States to the resources of its EEZ is wide-ranging. Pursuant to the Law of the Sea treaty, nations have authority to exploit, manage, and conserve the living and non-living resources of their EEZs.[192] In 2000, Assistant Attorney General Randolph Moss concluded, "The United States, in sum, exerts greater restraining and directing influence over the EEZ than any other sovereign entity, and that influence, as an overall matter, is extensive."[193]

Though the Law of the Sea treaty and associated customary international law make no express mention of property rights,[194] it is evident that certain

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possess sovereign rights for specific purposes.") (citing RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 514 cmt. c (1987)).

188. *See* United Nations Convention on the Law of the Sea, *supra* note 162, at art. 58, ¶ 1.

189. *See id.*; *see* Proclamation No. 5030, 3 C.F.R. 22, 23 (1983); *but see* Jon M. Van Dyke, *The Disappearing Right to Navigational Freedom in the Exclusive Economic Zone*, 29 MARINE POL'Y 107, 121 (2005) (In recent years, nations have prevented ships carrying hazardous nuclear cargoes and single-hulled oil tankers from traveling through their EEZs; fishing vessels traveling through many countries' EEZs must declare their intentions to prevent possible seizure. "A new norm of customary international law appears to have emerged that allows coastal states to regulate navigation through their EEZ based on the nature of the ship and its cargo.").

190. *See* Proclamation No. 5030, 3 C.F.R. at 23; United Nations Convention on the Law of the Sea, *supra* note 162, at art. 55.

191. OFFICE OF THE SPECIAL REPRESENTATIVE OF THE SEC'Y-GEN. FOR THE LAW OF THE SEA, THE LAW OF THE SEA: NATIONAL LEGISLATION ON THE EXCLUSIVE ECONOMIC ZONE, THE ECONOMIC ZONE, AND THE EXCLUSIVE FISHERY ZONE iv (1986).

192. *But cf.* United Nations Convention on the Law of the Sea, *supra* note 162, at art. 62, ¶ 2 (stating that should a nation not be able to fully utilize the living resources within its EEZ, it "shall . . . give other States access to the surplus of the allowable catch"). The prospect of fishery surpluses seems quaint, given declines of fish populations worldwide. *See, e.g.*, U.N. ENV'T PROGRAMME, IN DEAD WATER: MERGING OF CLIMATE CHANGE WITH POLLUTION, OVER-HARVEST, AND INFESTATIONS IN THE WORLD'S FISHING GROUNDS 10 (Christian Nellemann et al. eds., 2008).

193. Administration of Coral Reef Resources, *supra* note 184, at *36.

194. Property rights are often likened to a bundle of sticks, which connotes the many aspects of "property." *See* Oran R. Young, *Rights, Rules, and Common Pools: Solving Problems Arising in Human/Environmental Relations*, 47 NAT. RESOURCES J. 1, 6 (2007) ("[S]tructures of property rights are made up of bundles of rights that can be and often are separated or combined in complex ways. At a minimum, these bundles include possessory rights or the entitlements of ownership per se, usufructuary

property rights accompanied the extension of nations' sovereignty over their neighboring seas.[195] In the United States, the legal framework that initially created these rights reaches back to the 1953 Outer Continental Shelf Lands Act (OCSLA).[196] The OCSLA established a procedure for the sale of five-year leases for oil and gas development that carried exclusionary rights and provided companies with extensive security of investment.[197] Today, the United States and other nations exercise use, possessory, and, to a large degree, disposition and exclusionary rights to the pelagic and benthic resources and seabeds of their territorial seas and EEZs.[198] The United States exercises (as well as conveys) these property rights to marine resources by granting rights to private interests (e.g., fishing permits to fishermen and leases to oil companies) to use areas and resources of the EEZ (*use*); collecting rents from these private interests in exchange for the right to use EEZ resources (*possessory*); permitting fishermen to sell or exchange Individual Fishing Quotas and leases (*disposition*); and, excluding other nations' fishing boats from accessing fish resources in the U.S. EEZ, as well as granting private interests exclusive rights to resources or areas of the seabed (*exclusionary*).[199]

Though nations have often "behaved as owners of the seabed" by leasing tracts of the seabed for oil and gas exploration and exploitation to private firms, Professor Gail Osherenko concludes that in doing so, nations are "actually [just] exercising [their] sovereign rights to regulate exploration and production."[200] Two Ninth Circuit appellate court cases, *Native Village of Eyak v. Trawler Diane Marie*[201] and *Commonwealth of Northern Mariana Islands v.*

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rights or rights to make use of property in specified ways, exclusion rights or rights to prevent others from using property without permission, and disposition rights or rights to dispose of property according to the wishes of the owner.").

195. *See* Osherenko, *supra* note 40, at 330–34.

196. *See* Outer Continental Shelf Lands Act of 1953, Pub. L. No. 83-212, 67 Stat. 462, 462 (codified as amended in 43 U.S.C. §§ 1301–1356a (2006)).

197. *See id.* (stating the purpose of the Act is "[t]o provide for the jurisdiction of the United States over the submerged lands of the outer Continental Shelf, and to authorize the Secretary of the Interior to lease such lands for certain purposes"); *see also id.* §§ 1335(a)(10), 1337 (b)(2) (stating that leases should last no longer than five years unless the Secretary finds that a longer period is necessary); *see also* MINERALS MGMT. SERV., U.S. DEP'T OF THE INTERIOR, STRATEGIC PLAN 2007–2012, at 6 (2007) (In 2006, the MMS managed 8140 leases on the continental shelf.); *see also* Osherenko, *supra* note 40, at 340–41 ("Exploring, exploiting, and activities such as production of energy . . . usually require ownership or property rights. Economic investments normally are not undertaken without secure rights to recoup and even profit from the investment.").

198. *See* Osherenko, *supra* note 40, at 330–34.

199. *See id.* at 332–33.

200. *Id.* at 341. *See also id.* at 361 (A lease issued pursuant to the OCSLA "does convey a property interest enforceable against the Government, of course, but it is an interest lacking many of the attributes of private property.") (footnote omitted).

201. 154 F.3d 1090 (9th Cir. 1998) (holding that Alaskan native villages' aboriginal rights to fish populations and minerals within their traditional use area—now in the U.S. territorial sea and EEZ—are subordinate to the U.S. federal government's paramount rights to all resources and lands in federal waters).

United States,[202] recently affirmed that the rights of all parties in the U.S. EEZ are incident to the paramount sovereign rights—not ownership—of the federal government over the seabed and marine resources.[203] The holdings in both decisions cited *United States v. Texas*, wherein the U.S. Supreme Court determined "this is an instance where property interests are so subordinated to the rights of sovereignty as to follow sovereignty."[204]

However, the question of property rights in federal waters does not stray far from discussions of sovereignty, and disentangling the two remains difficult.[205] Gail Osherenko contends that "[t]he Supreme Court and Congress have on occasion blurred the distinction between sovereignty (authority) and ownership (property rights)."[206] Notwithstanding some language of the courts to the contrary,[207] she concludes that the United States did not gain fee simple

202. 399 F.3d 1057, 1066 (9th Cir. 2005) (holding that the declaration of ownership of submerged lands, implied by the Commonwealth of Northern Mariana Islands' Submerged Lands Act and Marine Sovereignty Act of 1980, "is directly contrary to [U.S.] federal law").

203. The federal "paramountcy doctrine" is derived from four Supreme Court cases in which coastal states and the federal government clashed over rights of authority and ownership to the resources and seabed of the territorial sea. *See* United States v. Louisiana, 339 U.S. 699, 704 (1950) ("As we pointed out in *United States v. California*, the issue in this class of litigation does not turn on title or ownership in the conventional sense. . . . Protection and control of the area are indeed functions of national external sovereignty. The marginal sea is a national, not a state concern. National interests, national responsibilities, national concerns are involved. The problems of commerce, national defense, relations with other powers, war and peace focus there. National rights must therefore be paramount in that area." (citing United States v. California, 332 U.S. 19, 31–34 (1947))); United States v. Texas, 339 U.S. 707 (1950), *superseded by statute*, Submerged Lands Act of 1953, Pub. L. No. 83-31, 67 Stat. 29, *as recognized in* United States v. Louisiana, 394 U.S. 11, 15 n.2 (1969); United States v. Maine, 420 U.S. 515, 524–28 (1975) (holding that the paramount rights of the federal government to the continental shelf seabed were not only pursuant to the Constitution but were also confirmed by the Submerged Lands Act and the Outer Continental Shelf Lands Act, both of 1953).

204. Native Village of Eyak v. Daley 154 F.3d 1090, 1093 (1998) (citing *United States v. Texas*, 339 U.S. at 719); *N. Mariana Islands*, 399 F.3d at 1061 (citing *United States v. Texas*, 339 U.S. at 719); *see also* Osherenko, *supra* note 40, at 359–60.

205. One commentator has concluded that differentiating between the two is "at least in part, a semantic problem: 'property' and 'sovereignty' are seldom more than conclusory ciphers loaded with ideological baggage." Dale D. Goble, *Three Cases/Four Tales: Commons, Capture, the Public Trust, and Property in Land,* 35 ENVTL. L. 807, 852 (2005).

206. Osherenko, *supra* note 40, at 330. In 1953, the Congress passed the Outer Continental Shelf Lands Act, which declared that "the subsoil and seabed of the outer Continental Shelf appertain to the United States and are subject to its jurisdiction, control, and power of disposition as provided." 43 U.S.C. § 1332(a)(1) (2006). Though "appertain" can be interpreted to mean "belong," "a more apt meaning . . . is that the [O]uter [C]ontinental [S]helf is connected to the United States geographically, geologically, and functionally." Osherenko, *supra* note 40, at 354 (footnote omitted).

207. *See, e.g.*, *N. Mariana Islands*, 399 F.3d at 1063 ("[D]espite the national concerns underlying the paramountcy doctrine, Congress can transfer ownership of submerged lands to the states or other entities. Congress has done so in the past [with the Submerged Lands Act].") (citations omitted); *id.* at 1064 ("A strong presumption of national authority over seaward submerged lands runs throughout the paramountcy doctrine cases, and we extend that same presumption to the case at hand. Absent express indication to the contrary, the ownership of seaward submerged lands accompanies United States sovereignty.") (footnote omitted); Alabama v. Texas, 347 U.S. 272, 273–74 (1954) (finding that Congress "not only has legislative power over the public domain [which includes the continental shelf seabed], but it also exercises the powers of the proprietor therein. Congress may deal with such lands precisely as a private individual may deal with his farming property. It may sell or withhold them from

ownership over the continental shelf seabed with the Outer Continental Shelf Lands Act and the Law of the Sea treaty.[208] Her argument is consistent with current interpretations of international law that the rights of nations over their territorial seas and EEZs extend not from proprietorship but from sovereignty[209] and with language of the National Oceanic and Atmospheric Administration's General Counsel, stating that the United States does not own the EEZ "in the traditional property sense."[210]

Staying away from the complicated nature of property rights in U.S. waters, is the combined exercise of sovereignty in the territorial sea and "sovereign rights" in the EEZ sufficient to support a federal public trust doctrine? Many commentators, including judges, have asserted that it is:

> A State may care for its own in utilizing the bounties of nature within her borders because it has technical ownership of such bounties or, when ownership is in no one, because the State may for the common good exercise all the authority that technical ownership ordinarily confers.—Justices Felix Frankfurter and Robert H. Jackson[211]
>
> The formal establishment of sovereign rights [over the resources of the EEZ] arguably carries with it an increased role of public stewardship over these resources.—Professor Casey Jarman[212]
>
> In my judgment, the public trust doctrine naturally extended from navigable waters and the territorial sea to the EEZ with the expansion of U.S. sovereign rights over this area.—Professor Gail Osherenko[213]
>
> The message is simple: The sovereign rights of nation-states over certain environmental resources are not proprietary, but fiduciary.—Professor Peter Sand[214]

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sale."). *But cf.* United States v. California, 332 U.S. 19, 22 (1947) (in which the federal government argued that the U.S. "is the owner in fee simple of, *or* possessed of paramount rights in and powers over, the lands, minerals and other things of value underlying the Pacific Ocean [in the territorial sea]") (emphasis added), *superseded by statute as stated in* People v. Weeren, 607 P.2d 1279, 1282 (Cal. 1980); United States v. Maine, 420 U.S. 515, 520–21 (1975) (in discussing questions of authority over the continental shelf seabed, the Court reiterated that "'this class of litigation does not turn on title or ownership in the conventional sense'") (quoting United States v. Louisiana, 339 U.S. 669, 704 (1950)). *See generally* Osherenko, *supra* note 40, at 336–62 for a more complete treatment of property rights in the seas under domestic and international law.

208. *See* Osherenko, *supra* note 40, at 362 ("In the oceans, the federal government . . . has authority to grant limited property rights that fall short of ownership through leases, easements, concessions, or other instruments. But government does not have the authority to transfer ownership of ocean space to private entities.") (footnote omitted).

209. *See generally* United Nations Convention on the Law of the Sea, *supra* note 162; Peter H. Sand, *Sovereignty Bounded: Public Trusteeship for Common Pool Resources?*, 4 GLOBAL ENVTL. POL. 47, 48 (2004) [hereinafter Sand, *Sovereignty Bounded*].

210. Administration of Coral Reef Resources, *supra* note 184, at *39 (citing Letter from James Dorskind, Gen. Counsel, Nat'l Oceanic & Atmospheric Admin. to Randolph Moss, Acting Assistant Attorney Gen., Office of Legal Counsel (July 24, 2000)).

211. Toomer v. Witsell, 334 U.S. 385, 408 (1948) (concurring opinion).

212. Jarman, *supra* note 40, at 2.

213. Osherenko, *supra* note 40, at 370.

214. *See* Sand, *Sovereignty Bounded*, *supra* note 209, at 48–49.

Jurisprudence concerning the public trust doctrine also reveals that it is possible to discern public trust duties solely from rights of sovereignty. The first case to apply the public trust doctrine to navigable waters, *Arnold v. Mundy* (1821), established that the "right of fishery" was "one of the incidents of sovereignty vested in the people [of New Jersey]" upon Independence.[215] In *Martin v. Lessee of Waddell* (1842), the court agreed that "[w]hen the Revolution took place, the people of each state became themselves sovereign; and in that character hold the absolute right to all their navigable waters and the soils under them . . . ."[216] Later, in *Illinois Central Railroad Co. v. Illinois* (1892), the U.S. Supreme Court concurred that public trust lands are held "by the people in trust for their common use and of common right as an incident of their sovereignty."[217]

Wildlife jurisprudence also supports this argument; in U.S. wildlife law, ownership of a wild animal is impossible until capture.[218] Therefore, sovereignty, not ownership, provides the necessary degree of rights to manage wildlife in the interest of the public trust.[219] In the U.S. Supreme Court case, *Baldwin v. Montana Fish & Game Commission*, Chief Justice Burger clarified in his concurring opinion:

> The doctrine that a State "owns" the wildlife within its borders as trustee for its citizens is admittedly a legal anachronism . . . . But . . . the doctrine is not completely obsolete. It manifests the State's special interest in regulating and preserving wildlife for the benefit of its citizens. Whether we describe this interest as proprietary or otherwise is not significant.[220]

A similar holding was reached in the U.S. District Court decision of *In re Steuart Transportation*, whereby the court stated "the state certainly has a sovereign interest in preserving wildlife resources,"[221] and "[s]uch right does not derive from ownership of the resources but from a duty owing to the people."[222]

U.S. policy makers recognize that sovereign rights over marine resources oblige the United States to protect those resources. Assistant Attorney General Moss discussed these rights in his considerations preceding the establishment of the Northwest Hawaiian Islands National Monument, and stated that

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215. 6 N.J.L. 1, 4–5 (1821).

216. 41 U.S. (16 Pet.) 367, 410 (1842).

217. 146 U.S. 387, 459–60 (1892).

218. *See* Hughes v. Oklahoma, 441 U.S. 322, 335–36 (1979), *overruling* Geer v. Connecticut, 161 U.S. 519 (1896) (overruling *Geer* on the grounds that ownership of wildlife is impossible until it is reduced to capture but noting that "the general rule we adopt in this case makes ample allowance for preserving, in ways not inconsistent with the Commerce Clause, the legitimate state concerns for conservation and protection of wild animals underlying the 19th-century legal fiction of state ownership").

219. *See id.*

220. 436 U.S. 371, 392 (1978).

221. *In re* Steuart Transp. Co., 495 F. Supp. 38, 40 (E.D. Va. 1980).

222. *Id.*

"although [nations] do not have [full] sovereignty over the EEZ, they do possess sovereign rights for specific purposes. One of these purposes is the conservation of the 'natural resources of the sea-bed and subsoil of the superjacent waters.'"[223]

Though the United States clearly possesses an ample degree of sovereignty to regulate resource use in its territorial sea and EEZ, the question arises whether the international community would support an extension of the U.S. public trust doctrine over those resources. In this regard, it is notable that many international treaties treat marine environmental protection as having paramount importance.[224] For instance, the Law of the Sea treaty intimates that its root purpose is to enhance stewardship of global marine resources through the recognition of nations' rights to the resources of their adjacent oceans.[225] Since the drafting of the treaty, customary international law has evolved to afford coastal nations greater ability to regulate activities in their EEZs to protect their marine resources.[226] Many coastal nations now regulate traffic through their EEZs based on the type of ship, the cargo, and the potential for damage to marine ecosystems.[227] A case could therefore be made that today's customary international maritime law expects countries to serve as better stewards of their marine resources. Assistant Attorney General Moss concurs:

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223. Administration of Coral Reef Resources, *supra* note 184, at *30–31 (citing RESTATEMENT (THIRD) FOREIGN RELATIONS LAW § 514(1)(a), cmt. c (1987)). *See also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 514 cmt. f (1987) ("The coastal state is obligated to ensure, through proper conservation and management measures, that living resources in the exclusive economic zone are not endangered by over-exploitation.").

224. *See, e.g.*, International Convention for the Regulation of Whaling, Dec. 2, 1946, 4 Bevans 248, 161 U.N.T.S. 2124; Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (Ramsar), Feb. 2 1971, T.I.A.S. No. 11084, 996 U.N.T.S. 14583 (1971); United Nations Convention on the Human Environment, 21st Plenary Meeting, Stockholm, June 16, 1972, *Declaration on the Human Environment*; Convention for the Conservation of Antarctic Marine Living Resources, Sept. 11, 1980, T.I.A.S. 10240, 1329 U.N.T.S. 22301; United Nations Convention on the Law of the Sea, *supra* note 162; Convention on Biological Diversity, *opened for signature* June 5, 1992, S. Treaty Doc. 103-20, 1760 U.N.T.S. 79 (1992) (entered into force Dec. 29, 1993); Convention for the Protection of the Marine Environment in the North-East Atlantic, Sept. 22, 1992, 32 I.L.M. 1072.

225. The preamble establishes that the Convention seeks to create "a legal order for the seas and oceans which will . . . promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment." United Nations Convention on the Law of the Sea, *supra* note 162, at preamble. The Law of the Sea Convention also clearly unites sovereign rights to exploit marine resources with an obligation to do so sustainably: "States have the sovereign right to exploit their natural resources pursuant to their environmental policies and *in accordance with their duty to protect and preserve the marine environment*." *Id.* at art. 193 (emphasis added). *See also, e.g.*, *id.* at art. 61, ¶ 2 ("The coastal State . . . shall ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-exploitation."); *id.* at art. 192 ("States have the obligation to protect and preserve the marine environment."); *id.* at art. 194, ¶ 5 (dictating that coastal nations shall take actions "necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life").

226. *See generally* Van Dyke, *supra* note 189.

227. For example, the International Maritime Organization has recently upheld the efforts of countries to ban ships carrying nuclear waste from their EEZs. *Id.* at 108–12.

> [T]he United States possesses substantial authority under international law to regulate the EEZ for the purpose of protecting the marine environment. This is true under customary international law . . . which appears not only to allow the United States to take action to protect marine resources, but also to require some such actions.[228]

The language of the Law of the Sea treaty and the trend of international law to prioritize environmental protection support an extension of the public trust doctrine to the outer borders of the U.S. EEZ. As an internal mechanism to fulfill treaty (as well as domestic) obligations, an explicit extension of the public trust doctrine to the resources of the U.S. territorial sea and EEZ could be established on the basis of sovereignty—not ownership—and, thus, would not likely be contested by the international community.

C. The Question of a Federal Public Trust Doctrine

Though we have established that sovereignty (3 to 12 nm) and sovereign rights (12 to 200 nm) bestow an adequate degree of authority to extend the U.S. public trust doctrine to the resources of federally managed ocean waters, there remains yet another unresolved issue. A federal, as opposed to a state, public trust doctrine has never been explicitly created. While it is clear that the state governments assumed public trust duties upon Independence from England,[229] there is an open question whether the federal government also inherited a separate public trust obligation to manage federal lands and resources for the benefit of the U.S. citizenry.[230]

Many commentators have pointed to *Illinois Central Railroad Co. v. Illinois* for evidence that the early judiciary believed there to be a federal version of the public trust doctrine.[231] In the 1890s, the Illinois Legislature sold roughly two square miles of submerged lands along the Chicago waterfront to

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228. Administration of Coral Reef Resources, *supra* note 184, at *36–37 (citing RESTATEMENT (THIRD) FOREIGN RELATIONS LAW § 514(b)(iii) (1987)).

229. *See* Martin v. Lessee of Waddell, 41 U.S. (16 Pet.) 367, 416 (1842) ("[W]hen the people of New Jersey took possession of the reins of government [after the American Revolution], and took into their own hands the power of sovereignty, the prerogatives and regalities which before belonged either to the crown or the Parliament, became immediately and rightfully vested in the State.").

230. *See* Roady, *supra* note 133, at 41. Commentator Mark Dowie has suggested that the fact that the Supreme Court has not had occasion to declare the public trust doctrine a federal common law "doesn't mean that [it] is not federal; it just means it has never been established as such." Mark Dowie, *Salmon and the Caesar: Will a Doctrine from the Roman Empire Sink Ocean Aquaculture?*, LEGAL AFF., Sept./Oct. 2004, *available at* http://www.legalaffairs.org/issues/September-October-2004/termsofart_sepoct04.msp.

231. *See, e.g.*, Wilkinson, *supra* note 43, at 453 n.118 ("The wide variety of law argued in brief by the attorneys indicates the inconsequential role played by the law of Illinois in the analysis of the case.") (citing Briefs of Appellant Illinois Cent. R.R., Briefs of the City of Chicago, and Briefs of Illinois, Illinois Cent. R.R. v. Illinois, 146 U.S. 387 (1892)); *id.* at 454 ("The *Illinois Central* opinion itself leaves little doubt that the Court conceived of a general trust that applied to all states. . . . In describing the trust, the Court made it clear that the trust derives from federal law and is binding on all states . . . ."); *infra* note 235 and accompanying text.

the Illinois Central Railroad Company.[232] A few years later, the legislature rescinded the sale, and the railroad sued to quiet its title to the land.[233] The court case that ensued quickly moved through the lower courts to the U.S. Supreme Court, which ruled that the sale was void because the Illinois Legislature had never possessed the power to abdicate public trust lands in the first place.[234] After taking a close look at the historical context of *Illinois Central*, commentators Joseph Kearney and Thomas Merrill concluded that the prospect of the early Court interpreting the public trust doctrine as being grounded in federal law was, at the very least, "not frivolous":

> All parties and courts had acknowledged that the federal government had ultimate control over navigation in the Chicago harbor, and the desire to preserve free navigation was the root policy underlying the public trust doctrine. The federal government had filed three lawsuits that played a critical role in the evolution of the controversy, and a federal regulator had made the decision that precipitated the litigation that finally reached the Supreme Court. Whether any of these facts, or all in combination, might justify a federal rule of decision is a topic for another day. But they surely suggest that the possibility is not frivolous—at least if the doctrine is confined to the controversies over lands beneath navigable waters.[235]

Two federal district court cases decided in the 1980s, *In re Complaint of Steuart Transportation Co.*[236] and *United States v. 1.58 Acres of Land*,[237] also intimated that a federal public trust doctrine exists. In *In re Steuart*, the state of Virginia and the federal government both sought to recover monetary damages for harm to migratory birds killed when an oil barge spilled thousands of gallons of crude oil into the Chesapeake Bay.[238] Concluding that both levels of government possessed public trust responsibilities, the court held that "[u]nder the public trust doctrine, the State of Virginia *and the United States* have the right and the duty to protect and preserve the public's interest in natural wildlife resources."[239]

In *United States v. 1.58 Acres of Land*, the federal government sought to condemn waterfront property in Boston Harbor for use by the U.S. Coast Guard.[240] The Commonwealth of Massachusetts argued that the federal

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232. *See* Kearney & Merrill, *supra* note 48, at 800.

233. *See id.* at 801.

234. *Illinois Cent.*, 146 U.S. at 453 ("A grant of all the lands under the navigable waters of a State has never been adjudged to be within the legislative power; and any attempted grant of the kind would be held, if not absolutely void on its face, as subject to revocation.").

235. Kearney & Merrill, *supra* note 48, at 929.

236. 495 F. Supp. 38 (E.D. Va. 1980).

237. 523 F. Supp. 120 (D. Mass. 1981).

238. 495 F. Supp. at 38.

239. *Id.* at 40 (emphasis added); *see also* United States v. Burlington N.R.R., 710 F. Supp. 1286, 1287 (D. Neb. 1989) (concluding that the federal government could recover damages to a wildfowl production area under *parens patriae* and that the public trust doctrine, though "traditionally . . . asserted by the States," applies to the federal government).

240. 523 F. Supp. at 124.

government could not condemn the lands, because doing so would vitiate the public trust inherent in the adjacent submerged lands. The court disagreed, holding that the federal government could acquire the lands for "full fee simple"—which included the inalienable public trust burden, the *jus publicum*, in addition to the transferable *jus privatum* (i.e., private property rights).[241]

An additional court has tackled (or, rather, expressly avoided) the issue of a federal public trust doctrine. In *District of Columbia v. Air Florida* the District sought on appeal to recover damages from the crash of an Air Florida plane into the Potomac River in 1982.[242] Claiming that the U.S. Congress had delegated its federal public trust duties for the Potomac River to the District, the District argued that "Air Florida owed the city a duty of care regarding the river which was breached by the crash."[243] The court declined to rule whether a federal common law public trust doctrine applied, given that the District had raised the argument for the first time on appeal. Explaining that the issue of a federal public trust doctrine was complex, the court deferred judgment:

> [T]he argument that public trust duties pertain to federal navigable waters . . . raises a number of very difficult issues concerning the rights and obligations of the United States . . . [and] the creation of federal common law . . . . [W]e therefore leave the resolution of these issues to another day and another case.[244]

Thus, the *Air Florida* decision dodged the threshold question: wherein does the federal public trust doctrine invoked in *Illinois Central*, *In re Steuart*, and *1.58 Acres* originate? Commentators have located a federal public trust doctrine in constitutional provisions,[245] as well as in various statutes[246] and federal common law arguments.[247] We believe that a fundamental source for a federal public trust doctrine is the U.S. Constitution.

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241. *Id.* at 125 ("[T]he federal government is as restricted as the [state] in its ability to abdicate to private individuals its sovereign jus publicum in the land.").

242. District of Columbia v. Air Florida, Inc., 750 F.2d 1077, 1077–78 (D.C. Cir. 1984).

243. *Id*. at 1078.

244. *Id*. at 1078–79.

245. *See infra* notes 248–255 and accompanying text. In addition to the arguments mentioned in the text, Professors George Smith and Michael Sweeney have argued that a federal public trust doctrine extends from the Ninth and Tenth Amendments, which reserve in the people all powers and rights that are not expressly given to the government. *See* U.S. CONST. amend. IX ("The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people."); U.S. CONST. amend. X ("The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people."); *see also* George P. Smith II & Michael W. Sweeney, *The Public Trust Doctrine and Natural Law: Emanations Within a Penumbra*, 33 B.C. ENVTL. AFF. L. REV. 307, 317 (2006) ("[T]he language of the Ninth and Tenth Amendments refers to rights and powers that are retained by the 'people,' such as the fundamental right of the populace to preserve natural resources. The end result is a Constitution that not only emphasizes individual property rights, but also recognizes the right of 'sovereign people' to collectively 'determine the highest and best use of land and natural resources.'") (citing Victor John Yannacone, Jr., *Agricultural Lands, Fertile Soils, Popular Sovereignty, the Trust Doctrine, Environmental Impact Assessment and the Natural Law*, 51 N.D. L. REV. 615, 618 (1975)).

246. *See infra* note 262.

247. *See infra* notes 268–280 and accompanying text.

Constitutional theories find root most centrally in the Commerce Clause, which provides authority to the federal government to regulate interstate and foreign commerce in navigable waterways.[248] The U.S. Supreme Court first articulated this authority in the 1824 *Gibbons v. Ogden* decision.[249] In the 1960s, the Court affirmed that:

> [t]he Commerce Clause confers a unique position upon the Government in connection with navigable waters. 'The power to regulate commerce comprehends the control for that purpose, and to the extent necessary, of all the navigable waters of the United States . . . . For this purpose they are the public property of the nation, and subject to all the requisite legislation by Congress.'[250]

Professor Charles Wilkinson has argued that the public trust doctrine lies "parallel and complementary" to the navigation servitude:

> [T]he public trust doctrine prevents the substantial impairment of public rights in navigable waterways . . . while the navigation servitude prevents the acquisition of compensable private interest in navigable waterways . . . . [G]iven implied state ownership [of submerged lands beneath navigable waterways], the most sensible reconciliation of federal and states' rights under the Constitution recognizes both the public trust servitude and the navigation servitude as federal prerogatives encompassed by the commerce clause.[251]

An additional constitutional basis for a federal public trust doctrine is found in the Property Clause.[252] The Property Clause provides a basis for the "paramountcy doctrine," first established in *United States v. California*, in which the U.S. Supreme Court ruled that the federal government possessed "paramount rights in and powers over" the then 3-nm territorial sea.[253]

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248. *See* U.S. CONST. art. I, § 8, cls. 1, 3 ("The Congress shall have Power . . . To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes.").

249. Gibbons v. Ogden, 22 U.S. (9 Wheat.) 1 (1824).

250. United States v. Rands, 389 U.S. 121, 122–23 (1967) (quoting Gilman v. Philadelphia, 70 U.S. (3 Wall.) 713, 724-25 (1866)).

251. Wilkinson, *supra* note 43, at 459 n.138. *See also id.* at 425 (noting there are fifty-one public trust doctrines, with the fifty-first resting in the Commerce Clause); *id.* at 459 ("For more than 150 years, the Supreme Court has consistently given a constitutional cast to state and federal prerogatives and obligations with regard to waters navigable for title, due ultimately to the key role of these watercourses in the country's commerce and society and in the formation of the national government. Thus . . . the fairest and most principled conclusion is that the public trust doctrine is rooted in the commerce clause and became binding on new states at statehood.").

252. *See* U.S. CONST. art. IV, § 3, cl. 2 (Congress has the authority "to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States."); *see also* United States v. Ruby Co., 588 F.2d 697, 704–05 (9th Cir. 1978) (calling the government the "constitutional trustee," the court cited the property clause when it proclaimed that "public lands are held in trust by the federal government").

253. United States v. California, 332 U.S. 19, 22, 38–39 (1947) ("[T]he Federal Government rather than the state has paramount rights in and power over that belt, an incident to which is full dominion over the resources of the soil under that water area, including oil."), *superseded by statute*, 43 U.S.C. §§ 1301–15 (2006). The "paramountcy doctrine" is analogous to the federal navigation servitude over

According to Assistant Attorney General Moss, sovereignty and sovereign rights provide sufficient authority over the territorial sea and EEZ, respectively, for Congress to regulate them under the Property Clause:

> Congress's power under the Property Clause is not limited to making rules and regulations to govern property that the Government owns in fee simple. The Property Clause authorizes Congress to take actions to protect and govern some lesser property interests as well . . . . [W]e believe that the significant amount of control and sovereign rights that the United States possesses over the EEZ are sufficient to authorize Congress to make rules and regulations governing the EEZ, at least with respect to protecting marine resources.[254]

Similarly, language in U.S. Department of the Interior regulations supports the notion that the right of the federal government to govern submerged lands in national parks is constitutional in nature:

> In some park areas, the United States holds title to the submerged lands under navigable water. In other park areas, the United States does not hold title to the submerged lands beneath navigable waters within the boundaries of the park; federal authority to regulate within the ordinary reach of these waters is based on the commerce and property clauses of the U.S. Constitution, not ownership.[255]

Thus, there is constitutional support for federal authority over submerged lands not regulated by the states. But, does this authority (or "sovereignty") inexorably beget trusteeship duties? Two historical authorities, *Arnold v. Mundy*[256] and *Illinois Central Railroad v. Illinois*,[257] provide support for the notion that the trust responsibilities of government are inextricable from the sovereign authority of government. In *Arnold*, the New Jersey Supreme Court declared:

> [T]his power, which may be thus exercised by the sovereignty of the state, is nothing more than . . . the right of regulating, improving, and securing for the common benefit of every individual citizen. The sovereign power itself, therefore, cannot, consistently with the principles of the law of nature and the constitution of a well ordered society, make a direct and absolute grant of the waters of the state, divesting all the citizens of their common right.[258]

In *Illinois Central R.R. v. Illinois*, the U.S. Supreme Court held that public trust duties necessarily follow governmental authority:

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inland navigable waters. *See* United States v. 1.58 Acres of Land, 523 F. Supp. 120, 123–24 (D. Mass. 1981). *See also supra* note 203.

254. Administration of Coral Reef Resources, *supra* note 184, at *39–40.

255. General Regulations for Areas Administered by the National Park Service and National Park System Units in Alaska, 61 Fed Reg. 35,133, 35,134 (July 5, 1996) (to be codified at 36 C.F.R. pts. 1, 13).

256. 6 N.J.L. 1 (1821).

257. 146 U.S. 387 (1892).

258. *Arnold*, 6 N.J.L. at 78.

> The control of the State for the purposes of the trust can never be lost . . . . The State can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them . . . than it can abdicate its police powers in the administration of government and the preservation of the peace.[259]

In the United States, the sovereign authority to govern is shared between the states and the federal government. We suggest, therefore, that a dual trusteeship of U.S. public trust resources follows this co-sovereign system; and, it is in this context that a federal public trust doctrine is best located. If state public trust duties accompany the sovereign authority of state governments to govern, then it follows that a federal public trust burden also conveys with the sovereign authority of the federal government to govern. This idea follows language in *United States v. 1.58 Acres of Land*, in which the court recognized this bifurcation of trusteeship duties between state and federal governments:

> This formulation recognizes the division of sovereignty between the state and federal governments those aspects of the public interest in the tideland and the land below the low water mark that relate to the commerce and other powers delegated to the federal government are administered by Congress in its capacity as trustee of the jus publicum, while those aspects of the public interest in this property that relate to nonpreempted subjects reserved to local regulation by the states are administered by state legislatures in their capacity as co-trustee of the jus publicum.[260]

Other support for this formulation exists. Federal courts have played an important role in interpreting public trust principles, supervising state trustees, and preventing state agencies from conveying trust lands free of public trust obligations.[261] Federal statutory authorities contain language also evocative of a co-trusteeship formulation.[262] The counterfactual, according to Professor

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259. *Illinois Cent.*, 146 U.S. at 453.

260. United States v. 1.58 Acres of Land, 523 F. Supp. 120, 123 (D. Mass. 1981).

261. *See* ARCHER ET AL., *supra* note 54, at 154–61.

262. *See, e.g.*, Outer Continental Shelf Lands Act of 1953, Pub. L. No. 83-212, 43 U.S.C. § 1332 (declaring that the continental shelf is to be "held by the Federal Government for the public"); Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, 16 U.S.C. §§ 1801–1891 (2006); American Pelagic Fishing Co. v. United States, 379 F.3d 1363, 1379 (Fed. Cir. 2004) ("Pursuant to the [1986 Amendments of the] Magnuson Act, the 'conservation and management of the EEZ' belongs to the sovereign . . . ."). In addition, some federal statutory authorities pertaining to public terrestrial lands contain language suggestive of a federal public trust doctrine. *See, e.g.*, Federal Land Policy and Management Act, 43 U.S.C. § 1713(a)(3) (2006) (allowing sale of public domain lands only when the "disposal of such tract will serve important public objectives"); *see also* Susan D. Baer, *The Public Trust Doctrine – A Tool to Make Federal Administrative Agencies Increase Protection of Public Land and Its Resources*, 15 B.C. ENVTL. AFF. L. REV. 385 (1988) (discussing the various federal lands statutes that intimate federal trust duties); Cathy J. Lewis, *The Timid Approach of the Federal Courts to the Public Trust Doctrine: Justified Reluctance or Dereliction of Duty?* 19 PUB. LAND & RESOURCES L. REV. 51, 69 (1998) (arguing that the court should be able to assemble a trust duty for federal agencies from the language of the National Environmental Policy Act); Babcock, *supra* note 36, at 55–59 (discussing federal lands statutes and the courts that have used public trust language to interpret them). *See also* Clean Water Act, 33 U.S.C. § 1321(f)(5) (2006) ("The President, or the authorized representative of any State, shall act on behalf of the public as trustee of the natural resources to recover

Wilkinson, is illustrative: "[i]t does not make sense that a state could abdicate . . . [the] trust completely."[263] This logic, thus, implies that the public trust doctrine is both federal and constitutional:

> The standards for the trust, then, are best understood as having very broad parameters set as a matter of federal mandate . . . ; [and], the constitutional [basis for the public trust doctrine] is more consonant with the whole body of law. The traditional trust allows the states wide latitude, but the states are federally prohibited from abrogating the public trust entirely.[264]

This authority of the federal government to assert public trust responsibilities derives from the constitutional bifurcation of sovereignty between it and the states. Furthermore, there is ample support that public trusteeship duties are inextricable from sovereign authority. We believe that the public trust duties already inhering in the federal government as a result of its sovereignty can be used to construct a public trust doctrine for federal ocean resources. However, implementing federal public trust responsibilities in the territorial sea and EEZ will likely require developing a combination of new federal common law, statutory authorities, and executive branch initiatives.

D. Common Law or Statutory Authority; Principles or Doctrine?

Judicial interpretation, federal statute, or executive action could establish a public trust doctrine that extends to the borders of federally controlled ocean waters.[265] Traditionally, the judiciary has set the scope and substance of states' public trust doctrines; thus, the question of federal common law is material to any discussion about a federal public trust doctrine.[266] In addition, many states have codified public trust doctrine principles in state statutes and in their constitutions. These states—whose common law public trust doctrines are

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for the costs of replacing or restoring such resources. Sums recovered shall be used to restore, rehabilitate, or acquire the equivalent of such natural resources by the appropriate agencies of the Federal government, or the State government.").

263. *See* Wilkinson, *supra* note 43, at 461.

264. *See id.* at 464. Federal courts have "define[d] and limit[ed] the scope of state action pursuant to the public trust doctrine, principally through the supremacy and commerce clauses of the United States Constitution and the doctrine of preemption." ARCHER ET AL., *supra* note 54, at 154 n.81.

265. This Part focuses on the possibility of creating a federal common law through common law or statutory law. However, executive action—through executive order or presidential proclamation—is another possible route. There is precedent for the use of executive orders to further conservation goals. Examples include President George W. Bush's Executive Order that agencies engage in "cooperative conservation" (Executive Order No. 13,352, 69 Fed. Reg. 52,989 (Aug. 30, 2004)) and President Clinton's Executive Orders to develop a national system of marine protected areas (Exec. Order No. 13,158, 65 Fed. Reg. 34,909 (May 31, 2000)) and protect migratory birds (Exec. Order No. 13,186, 66 Fed. Reg. 3,853 (Jan. 17, 2001)). President Bush also issued three proclamations establishing the Papahanaumokuakea (Pres. Proc. 8031; June 15, 2006), Marianas Trench (Pres. Proc. 8335; Jan. 6, 2009), Pacific Remote Islands (Pres. Proc. 8336; Jan. 6, 2009), and Rose Atoll (Pres. Proc. 8337; Jan. 6, 2009) Marine National Monuments to protect marine ecosystems of high conservation concern in the U.S. Pacific EEZ.

266. For a complete discussion of federal common law, see Martha A. Field, *Sources of Law: The Scope of Federal Common Law*, 99 HARV. L. REV. 881 (1986).

supported by statutory or constitutional standards—have generally been best equipped to seek remedies for public trust infringements.[267] Therefore, we will consider the potential establishment of a federal public trust doctrine through common law, and discuss particularly how federal statutory authority would greatly strengthen the ability of citizens and the judiciary to enforce public trust duties.

The public trust doctrine has customarily been a matter of common law. The early U.S. Supreme Court extolled the benefits of a common law public trust doctrine able to adapt to the changing needs of American society: "[The governing of the public trust] must vary with varying circumstances. The legislation which may be needed one day for the [waterway in question] may be different from the legislation that may be required at another day."[268] As stated more recently by the Hawaii Supreme Court, "[t]he public trust, by its very nature, does not remain fixed for all time, but must conform to changing needs and circumstances."[269] The strength inherent in the mutability of the public trust doctrine is clear. Pursuant to scientific discovery of the interconnected and delicate nature of coastal ecosystems and increased societal appreciation of their recreation and scenic value, the courts have been able to expand the public trust doctrine from its traditional coverage to protecting non-navigable tidal wetlands.[270]

However, depending solely on the judiciary to interpret federal public trust duties could prove problematic. Reliance on federal common law has been in disfavor since the 1938 U.S. Supreme Court decision *Erie Railroad v. Tompkins*, in which the Court held that there is "no federal general common law."[271] But, the Court has since determined that the judiciary may invoke federal common law if "Congress has not spoken to a particular issue."[272] In *City of Milwaukee v. Illinois* (1981), the Court determined that until new federal laws and regulations "'pre-empt the field of federal common law of nuisance,'" federal courts can rightfully engage in settling questions of alleged public nuisance by water pollution.[273] The Court concluded, "when Congress

267. *See* Klass, *supra* note 129, at 745; *see also supra* notes 130–131 and accompanying text.

268. Illinois Cent. R.R. v. Illinois, 146 U.S. 387, 460 (1892).

269. *In re* Water Use Permit Applications, 9 P.3d 409, 447 (Haw. 2000), *aff'd in part and vacated in part by In Re* Water Use Permit Applications, 105 Haw. 1 (2004); *see also* Nat'l Audubon Soc'y v. Superior Court, 658 P.2d 709, 719 (Cal. 1983) ("In administering the trust the state is not burdened with an outmoded classification favoring one mode of utilization over another.") (quoting Marks v. Whitney, 491 P.2d 374, 380 (Cal. 1971)).

270. *See* Phillips Petroleum Co. v. Mississippi, 484 U.S. 469, 484–85 (1988); Rieser, *supra* note 60, at 406 ("The [*Phillips Petroleum*] opinion implicitly recognized that ecological boundaries have replaced navigability tests in defining the doctrine's geographic scope.") (footnote omitted); *see also* Mineral County v. State, 20 P.3d 800, 807–08 (Nev. 2001) (concurring opinion) ("[T]he [public] trust doctrine has evolved to encompass additional public values" beyond navigation, fishing, and commerce, including recreation and ecological uses.).

271. 304 U.S. 64, 78 (1938).

272. City of Milwaukee v. Illinois, 451 U.S. 304, 313 (1981).

273. *Id.* at 310 (citation omitted).

addresses a question previously governed by a decision rested on federal common law the need for such an unusual exercise of lawmaking by federal courts disappears."[274]

Later in the same term, the Court decided *Texas Industries, Inc. v. Radcliff Materials, Inc.*, in which it detailed the "'few and restricted'" instances in which federal courts may create federal law.[275] These "fall into essentially two categories: those in which a federal rule of decision is 'necessary to protect uniquely federal interests,'[276] and those in which Congress has given the courts the power to develop substantive law."[277] Courts looking to invoke a federal common law must demonstrate that state law cannot resolve the issue "either because the authority and duties of the United States as sovereign are intimately involved or because the interstate or international nature of the controversy makes it inappropriate for state law to control."[278]

Virtually all of the key prerequisites set out in *Texas Industries* for the creation of a federal common law public trust doctrine are present in the unique governance regime of the EEZ.[279] First, such law is necessary to protect uniquely federal interests—the federal government alone (not the states) asserts authority in the EEZ.[280] Second, U.S. duties as sovereign are intimately

274. *Id.* at 314. *But see id.* at 333–34 (Stevens, J., dissenting) ("The Court's analysis of federal common-law displacement rests, I am convinced, on a faulty assumption. In contrasting congressional displacement of the common law with federal pre-emption of state law, the Court assumes that as soon as Congress 'addresses a question previously governed' by federal common law, 'the need for such an unusual exercise of lawmaking by federal courts disappears.' This 'automatic displacement' approach is inadequate in two respects. It fails to reflect the unique role federal common law plays in resolving disputes between one State and the citizens or government of another. In addition, it ignores this Court's frequent recognition that federal common law may complement congressional action in the fulfillment of federal policies." (citing *id.* at 314) (footnote omitted)).

275. Texas Indus., Inc. v. Radcliff Materials, Inc., 451 U.S. 630, 640 (1981) (citing Wheeldin v. Wheeler, 373 U.S. 647, 651 (1963)).

276. *Id.* (citing Banco Nacional de Cuba v. Sabbatino, 376 U.S. 398, 426 (1964)). The *Banco Nacional* Court identified two interests that are uniquely federal: 1) "uniformity of dealings with foreign nations" and 2) "a desire to give matters of international significance to the jurisdiction of federal institutions." *Banco Nacional*, 376 U.S. at 427, n.25 (1964). One could argue that both of these situations are relevant to the U.S. EEZ.

277. *Id.* (citing *Wheeldin*, 373 U.S. at 652).

278. *Texas Indus.*, 415 U.S. at 641.

279. The only exception is that Congress has not expressly "given the courts the power to develop substantive law." *Id.* at 640 (citing *Wheeldin*, 373 U.S. at 652).

280. Pursuant to the Coastal Zone Management Act, the states have some authority to affect federal activity in the EEZ if it is inconsistent with their coastal zone management plans. *See* Coastal Zone Management Act of 1972, 16 U.S.C. § 1456 (2006). States also retain some extraterritorial authority over fisheries operating in the EEZ in instances where there is no preemptive federal regulation (e.g., Fishery Management Plan) or when federal regulations are consistent with state regulations. *See* Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, 16 U.S.C. § 1856(a)(3)(A); *see also* Babcock, *supra* note 36, at 65–68 (summarizing both sources of state authority over activities in the EEZ and suggesting that they may be used to extend the public trust doctrine to the EEZ); ARCHER ET AL., *supra* note 54, at 151 (stating that "[i]f public trust principles are incorporated into state coastal management programs, then both federal agency activities and federally permitted projects affecting coastal or trust lands and resources must be consistent with those principles" (footnote omitted)).

involved—the interstate and international nature of issues in the EEZ makes state law inapposite. Therefore, it is appropriate to invoke federal common law as a means of establishing the public trust doctrine in the EEZ.

Relying on federal common law, however, may not be sufficient to ensure the full exercise of the public trust doctrine in the EEZ. There is evidence that the public trust doctrine works best to protect trust resources when courts can rely on a variety of authorities, including statutes and constitutional provisions.[281] In some instances, courts have declined to enforce public trust duties in the absence of statutory authority, even if a state has codified the public trust doctrine in its constitution.[282] In other instances, courts have declined to apply the public trust doctrine if it is not embedded in constitutional authority.[283] Another problem with developing a public trust doctrine through common law alone, according to Professor Klass, is that "the common law tends to operate retrospectively rather than prospectively; it is sporadic and case-specific; . . . it must abide by common law burdens of proof and is administered by judges who often lack specialized or scientific expertise in the area."[284] Though her analysis focused at the state level, her contention that the public trust doctrine is most effective when reinforced by other authorities is germane to the discussion of making the doctrine fully effective at the federal level.

Thus, we suggest that the most robust federal public trust doctrine for ocean resources would be established through a combination of judicial recognition of a federal public trust doctrine, statutory codification of a strong suite of public trust principles, and executive action. The establishment of mutually reinforcing judicial public trust opinions, statutory laws, and executive orders would enable citizens, federal ocean agencies, and courts to best apply the public trust doctrine to the long-term stewardship of ocean resources.

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281. *See* Klass, *supra* note 129, at 745 ("[B]y integrating constitutional, statutory and regulatory standards into the public trust law of any particular state, the doctrine can work side by side with the statutory and regulatory framework to provide incentives to protect natural resources and the environment."); *see also* Erin Ryan, *Public Trust and Distrust: The Theoretical Implications of the Public Trust Doctrine for Natural Resource Management*, 31 ENVTL. L. 477, 481, 496 (2001) (concluding that "the modern trend of constitutionalization may propel the doctrine beyond the theoretical constraints of its common law roots" and "the fact that the public trust is *in* the common law hardly requires that it be *of* the common law").

282. *See* Klass, *supra* note 129, at 717–19. *See also, e.g.*, Rettkowski v. Dep't of Ecology, 858 P.2d 232, 232 (Wash. 1993) (determining that "the duty imposed by the public trust doctrine devolves upon the State, not any particular agency thereof. Nowhere in [the Department of] Ecology's enabling statue is it given the statutory authority to assume the State's public trust duties and regulate in order to protect the public trust."); State v. Deetz, 224 N.W.2d 407, 412 (Wis. 1974) (concluding that the "doctrine merely gives the state standing as trustee to vindicate any rights that are infringed upon by existing law").

283. *See, e.g.*, Gwathmey v. State, 464 S.E.2d 674, 684 (N.C. 1995) ("In the absence of a constitutional basis for the public trust doctrine, it cannot be used to invalidate acts of the legislature which are not proscribed by our Constitution.").

284. Klass, *supra* note 129, at 713 (footnote omitted).

Indeed, at time of this writing, legislation currently pending in Congress, the Ocean Conservation, Education, and National Strategy for the 21st Century Act, [285] includes language evocative of federal public trust responsibilities in the EEZ. For instance, the bill directs, "[o]cean waters, coastal waters, and ocean resources should be managed to meet the needs of the present generation without compromising the ability of future generations to meet their needs."[286] The purpose statement is another example of such language:

> The purpose of this Act is to secure, for present and future generations of people of the United States, the full range of ecological, economic, education, social, cultural, nutritional, and recreational benefits of healthy marine ecosystems by . . . promoting ecologically sustainable ocean resource use and management by strengthening and empowering ocean governance on regional and Federal levels . . . .[287]

Though the prospects for this particular bill are uncertain, the clamor for ocean management reform persists, and it remains important that Congress implement public trust principles in future federal oceans legislation.

III. A PUBLIC TRUST DOCTRINE FOR THE EXCLUSIVE ECONOMIC ZONE: MODERN JUSTIFICATIONS

A. Regulatory Realism and the Optimism of the Green Dissent

> [T]he day of "final reckoning" for the doctrine is here, or soon will be, and reliance upon it is no longer in order.[288]

In 1986, Professor Richard Lazarus published *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, his landmark rebuttal to Professor Sax's public trust doctrine thesis.[289] Much had changed on the U.S. environmental regulatory landscape since Professor Sax's first call to arms. During the 1970s, Congress passed a remarkable amount of environmental legislation, addressing water pollution,

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285. H.R. 21, 111th Cong. (as referred to H. Subcomm. on Ins. Affairs, Oceans and Wildlife and H. Subcomm. on Energy and Env. by H. Nat. Resources and H. Sci. and Tech. 2009).

286. *Id.* § 101 2(b); *see also id.* § 202(a) (defining the function of the Administrator of NOAA as carrying out the mission of the NOAA in "a coordinated, integrated, and ecosystem-based manner *for the benefit of the Nation*" (emphasis added)). It is worth noting that a previous draft of the bill contained more explicit public trust language, prescribing a unified oceans policy "to better enable the various levels of government with authority over coastal and ocean waters, habitats, and resources, and ocean resources to fulfill their public trust responsibilities . . . ." *Id.* § 2(14); *see also*, *id.* § 2(5) ("[The Congress finds the following] . . . [t]hese oceans resources are the property of the people of the United States, are held in trust for them by Federal, State, local, and tribal governments, and should be managed to preserve the full range of their benefits for present and future generations.").

287. *Id.* at § 3; *see also id.* § 101(a) ("It is the policy of the United States to protect, maintain, and restore the health of marine ecosystems in order to fulfill the ecological, economic, educational, social, cultural, nutritional, recreational, and other requirements of current and future generations of Americans.").

288. Lazarus, *supra* note 45, at 658 (footnote omitted).

289. *Id.* at 631.

pesticides, coastal zone management, fisheries, the need for marine sanctuaries, and the protection of marine mammals and endangered species.[290] Also, public nuisance law[291] was no longer quite so "encrusted" with strict conditions for standing.[292] A 1970 decision by the U.S. Supreme Court had greatly liberalized standing requirements, enabling citizens to bring suit against the government and private companies on the basis of any "injury in fact, economic or otherwise" and for reasons including aesthetic, conservation and recreational concerns.[293]

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290. In 1970 and 1977, Congress enacted amendments to the Clean Air Act. Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676 (codified as amended in sections of 42 U.S.C.); Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (codified as amended in sections of 42 U.S.C.). Also, in 1970, President Nixon signed the National Environmental Policy Act of 1969, Pub. L. No. 91–190, 83 Stat. 852, and created the Environmental Protection Agency. *See* President's Special Message, *supra* note 64. In 1972, Congress passed the Federal Water Pollution Control Act Amendments, Pub. L. No. 92-500, 86 Stat. 816 (codified at 33 U.S.C. §§ 1251 (2006)), the Federal Environmental Pesticide Control Act, Pub. L. No. 92-516, 86 Stat. 973 (codified as amended at 7 U.S.C. § 136 (2006)), the Marine Protection, Research and Sanctuaries Act, 92 Pub. L. No. 92-532, 86 Stat. 1052 (codified at 33 U.S.C. §§ 1401–55 (2006)), and the Marine Mammal Protection Act, Pub. L. No. 92–522, 86 Stat. 1027 (codified as amended in scattered sections of 16 U.S.C.), as well as the Coastal Zone Management Act of 1972, Pub. L. No. 92-583, 86 Stat. 1280 (codified at 16 U.S.C. §§ 1451 (2006)). Following were the Endangered Species Act of 1973, Pub. L. No. 93–205, 87 Stat. 884, the Safe Drinking Water Act of 1974, Pub. L. No. 93-523, 88 Stat. 1660 (codified at 42 U.S.C. § 300 (2006)), the Magnuson-Stevens Fishery Conservation and Management Act of 1976, 16 U.S.C. §§ 1801–1891 (2006), the Toxic Substances Control Act of 1976, Pub. L. No. 94-469, 90 Stat. 2003 (codified at 15 U.S.C. §§ 2601–2692 (2006)), the Resource Conservation and Recovery Act of 1976 (RCRA), Pub. L. No. 94-580, 90 Stat. 2795 (codified as amended at 42 U.S.C. §§ 6901–6992 (2006)), and the Water Pollution Control Act Amendments of 1977 (later known as the Clean Water Act), Pub. L. No. 95-217, 91 Stat. 556. Finally, the 1980s began with the enactment of the Comprehensive Environmental Response, Compensation, and Liability Act, also known as the Superfund Act, 42 U.S.C. §§ 9601–9675 (2006).

291. According to the RESTATEMENT (SECOND) OF TORTS, public nuisance is defined as "unreasonable interference with a right common to the general public." RESTATEMENT (SECOND) OF TORTS § 821B(1) (1979); *see also* WILLIAM H. RODGERS, JR., HANDBOOK ON ENVIRONMENTAL LAW § 2.16(a) (1977) ("For the most part, public nuisance is the inland version of the public trust doctrine although, not surprisingly, history records public trust theory being applied in the classical nuisance context, nuisance theory being applied in the classical public trust context, and both theories being applied together.") (footnotes omitted).

292. *See* Sax, *Effective Judicial Intervention*, *supra* note 48, at 485 n.45.

293. Ass'n of Data Processing Serv. Orgs., Inc. v. Camp, 397 U.S. 150, 152 (1970). The Court ruled that standing is established when the plaintiff can demonstrate an "injury in fact, economic or otherwise" and that "[t]hat interest, at times, may reflect 'aesthetic, conservational, and recreational' as well as economic values." *Id.* at 152, 154 (quoting Scenic Hudson Pres. Conference v. FPC, 354 F.2d 608, 616 (2nd Cir. 1965)). Several subsequent cases have both restricted and relaxed standing requirements. *See* Sierra Club v. Morton, 405 U.S. 727, 734–35 (1972) (denying standing to the Sierra Club because "the 'injury in fact' test [for determining standing] requires more than an injury to a cognizable interest. It requires that the party seeking review be himself among the injured."); United States v. Students Challenging Regulatory Agency Procedures (SCRAP), 412 U.S. 669, 688 (1973) (granting standing to students who alleged that certain railroad freight surcharges would harm them and their interest in the environment by making the use of recycled goods less likely); Lujan v. Defenders of Wildlife, 504 U.S. 555, 562–63 (1992) (acknowledging that "the desire to use or observe an animal species, even for purely esthetic [sic] purposes, is undeniably a cognizable interest for purpose of standing," but nonetheless applying *Sierra Club v. Morton*'s "injury in fact" test); Friends of the Earth, Inc. v. Laidlaw Envtl. Servs., Inc., 528 U.S. 167, 183 (2000) (finding that "environmental plaintiffs

Professor Lazarus was a member of what Professor Erin Ryan later termed the "Green Dissent," an assortment of environmental law and property scholars who argued that the public trust doctrine was a conservative, and ultimately impotent, approach to comprehensive environmental reform.[294] Professor Lazarus believed that the copious environmental legislation and liberalized standing requirements of the 1970s rendered the public trust doctrine unnecessary and argued against its use from a number of perspectives.[295] He believed that the doctrine was inflexible, especially compared to other tools available for natural resources protection, such as the police power.[296] He also feared that using the public trust doctrine to reach environmental ends would pit environmental causes against property rights and ultimately prevent the realization of environmental goals.[297] He also argued that Professor Sax was

adequately allege injury in fact when they aver that they use the affected area and are persons 'for whom the aesthetic and recreational values of the area will be lessened' by the challenged activity") (citing *Sierra Club*, 405 U.S. at 735); Summers v. Earth Island Inst., 129 U.S. 1142, 1151 (2009) (requiring plaintiff organizations "to make specific allegations establishing that at least one identified member had suffered or would suffer harm" by the Forest Service's actions).

294. *See* Ryan, *supra* note 281, at 477. Examples of Green Dissent articles include: Richard Delgado, *Our Better Natures: A Revisionist View of Joseph Sax's Public Trust Theory of Environmental Protection, and Some Dark Thoughts on the Possibility of Law Reform*, 44 VAND. L. REV. 1209, 1211 (1991) (The "public trust doctrine is a wrong—or, at least, a seriously flawed—solution to our environmental crisis. Its oversimplified answer—to regard the nation's environmental resources as goods held in trust—forestalled more searching reconsideration of our environmental predicament and postponed, perhaps indefinitely, the moment when society would come to terms with environmental problems in a serious and far-reaching way."); Barton H. Thompson, Jr., *The Public Trust Doctrine: A Conservative Reconstruction and Defense,* 15 S.E. ENVTL. L.J. 47, 70 (2006) (arguing "[b]y restricting the public trust doctrine to traditional trust assets, the reconstructed doctrine avoids the danger that courts might use the doctrine as a roving mechanism to uphold a broader set of governmental regulations. . . . A reconstructed public trust doctrine can not only reduce conservative fears but can serve as an exemplar of common law decision-making"); Barton H. Thompson, Jr., *Environmental Policy and State Constitutions: The Potential Role of Substantive Guidance*, 27 RUTGERS L.J. 863, 866–67 (1996) (concerned that expanding the doctrine beyond its traditional coverage of navigable and tidal waters would cause backlash even in those traditional arenas).

295. *See* Lazarus, *supra* note 45, at 658–60.

296. This inflexibility, Professor Lazarus thought, restricted the doctrine to protecting only the traditional triad of public trust rights: fishing, commerce, and navigation over public trust lands. *See id.* at 710–11; *see also* J.B. Ruhl & James Salzman, *Ecosystem Services and the Public Trust Doctrine: Working Change from Within*, 15 SE. ENVTL. L.J. 223, 228 (2006) ("In short, Lazarus argued that because of its utilitarian purposes, the public trust doctrine was not well suited to strengthening environmental protection law . . . [and because of] the development of vast statutory regimes for environmental protection . . . the doctrine was not needed. [He] even declared that the 'doctrine simply has no place in this emerging scheme.'") (citing Lazarus, *supra* note 45, at 701).

297. Lazarus, *supra* note 45, at 692; *see also* Ryan, *supra* note 281, at 484 ("The most prominent concern is the relationship between the doctrine and theoretical constructions of property law. From the right hail the vindicators of private property rights, who argue that the doctrine, in whatever form, is incompatible with the liberal theories of property that undergird civil society. And from the left come the more unlikely green dissenters, who, like Professor Lazarus, fear that the canonization of the public trust doctrine as the preeminent framework of natural resource allocation analysis has robbed civil society of the opportunity to nurture a better framework.") (footnotes omitted); Terry W. Frazier, *The Green Alternative to Classical Liberal Property Theory*, 20 VT. L. REV. 299, 300–01 (1995) (arguing that the public trust doctrine's basis in traditional classical liberal property theory disables its ability to combat environmental degradation effectively).

naive to assume that the judicial bias towards environmental conservation in the 1970s would persist,[298] and that other, more stable mechanisms would be better suited for protecting the public's interest in natural resources in the long term.[299]

More than two decades after publication of the article by Professor Lazarus, the legal landscape has again changed. Various courts have endeavored to limit the doctrine of standing.[300] And, the federal environmental statutory scheme enacted in the 1970s and early 1980s has not proven uniformly adept at protecting the environment. As Professor Klass attested, "the environmental regulatory state that has been building since the 1970s often seems unable to even begin to address current issues of global warming, energy needs, water pollution, and preservation of species and open space."[301]

Indeed, following the development and implementation of one of the most rigorous fisheries management regimes in the world, the 1976 Magnuson-Stevens Act,[302] many fish populations in the U.S. EEZ experienced steep declines. U.S. fisheries crises since 1976 include the collapse of the New England groundfish fishery in the 1980s and early 1990s,[303] the mortality of sea turtles in Gulf of Mexico, South Atlantic shrimp fisheries,[304] and in Hawaiian swordfish longline fisheries,[305] and drastic declines of large sharks and bluefin tuna.[306] An environmental group has estimated that instances of

298. *See* Lazarus, *supra* note 45, at 712. And, indeed, Professor Sax's view was not supported by later events. In the 1980s, the Supreme Court turned hostile to environmental concerns. The landmark case of this turning tide was *Chevron v. NRDC*, 467 U.S. 837 (1984), which, by requiring courts to give "strong deference" to agency decisions, "devastated the ability of environmental plaintiffs to challenge agency decisions that discount natural resource values in favor of property rights and commercial interests." Ryan, *supra* note 281, at 491–92. *See also* Richard J. Lazarus, *Restoring What's Environmental about Environmental Law in the Supreme Court*, 47 UCLA L. REV. 703, 703 (2000) (documenting the Supreme Court's "apparent apathy or antipathy towards environmental law").

299. For instance, Professor Lazarus believed that police power and administrative law were more promising. *See* Lazarus, *supra* note 45, at 665, 679.

300. *See supra* note 293.

301. Klass, *supra* note 129, at 701. The regulatory system has also failed miserably to protect U.S. ecosystems from invasive species. *See* Andrea J. Fowler, David M. Lodge, & Jennifer F. Hsia, *Failure of the Lacey Act to Protect US Ecosystems Against Animal Invasions*, 5 FRONTIERS ECOLOGY & ENV'T 353 (2007).

302. 16 U.S.C. §§ 1801–1891 (2006).

303. *See*, *e.g.*, Andrew A. Rosenberg, Jill H. Swasey, & Margaret Bowman, *Rebuilding US Fisheries: Progress and Problems*, 4 FRONTIERS ECOLOGY & ENV'T 303, 307 (2006).

304. *See generally* SHERYAN EPPERLY, NAT'L OCEANIC & ATMOSPHERIC ADMIN. NMFS-SEFSC-490, ANALYSIS OF SEA TURTLE BYCATCH IN THE COMMERCIAL SHRIMP FISHERIES OF THE SE. U.S. WATERS & THE GULF OF MEX. (2002), *available at* http://www.sefsc.noaa.gov/PDFdocs/TM_490_Epperly_etal.pdf.

305. *See generally* Rebecca L. Lewison, Sloan A. Freeman, & Larry B. Crowder, *Quantifying the Effects of Fisheries on Threatened Species: The Impact of Pelagic Longlines on Loggerhead and Leatherback Sea Turtles*, 7 ECOLOGY LETTERS 221 (2004).

306. *See*, *e.g.*, Julia K. Baum, Ransom A. Myers, Daniel G. Kehler, Boris Worm, Shelton J. Harley, & Penny A. Doherty, *Collapse and Conservation of Shark Populations in the Northwest Atlantic*, 299 SCIENCE 389 (2003); Carl Safina & Dane H. Klinger, *Collapse of Bluefin Tuna in the Western Atlantic*, 22 CONSERVATION BIOLOGY 243 (2008).

federal fisheries mismanagement from 1994 to 2004 cost taxpayers $520 million in disaster assistance to fishermen, fishing vessel and permit buyback plans, and habitat restoration efforts.[307] In the early 1990s, two federal fisheries scientists concluded that lost revenues due to fish and shellfish depletions totaled $8 billion and three hundred thousand jobs annually.[308]

The collapse of cod populations in New England helped to prompt the Sustainable Fisheries Act (SFA), the 1996 amendments to the Magnuson-Stevens Act.[309] The SFA required regional fishery management councils to develop plans to end all overfishing and rebuild overexploited populations.[310] Further, the SFA obliged managers to base fishery management plans on the recommendations of fishery scientists and to specify rebuilding timeframes, which could not exceed ten years, except in special circumstances.[311] The SFA incorporated feedback mechanisms, namely that all recovery plans must be approved by the Secretary of Commerce and that the Secretary (through the federal fisheries management agency, the National Marine Fisheries Service) must evaluate the status of all managed fish populations annually and the

307. MARINE FISH CONSERVATION NETWORK, THE COST OF FISHERIES MISMANAGEMENT TO TAXPAYERS AND PROPOSED MANAGEMENT SOLUTIONS (n.d.), *available at* http://www.oceana.org/fileadmin/oceana/uploads/dirty_fishing/Cost_of_Mismanagement_Table.pdf.

308. Michael P. Sissenwine & Andrew A. Rosenberg, *Marine Fisheries at a Critical Juncture*, 18 FISHERIES 6, 10 (1993); *see also* 142 Cong. Rec. H11418 (daily ed. Sept. 27, 1996) (statement of Rep. Studds) ("Despite numerous efforts to improve the [Magnuson-Stevens Act] over the past two decades, the sad reality [was] that the act did not prevent the current crisis in . . . groundfish stocks, a crisis for the conservation of both fish stocks and fishing families."); NAT'L ACAD. OF PUB. ADMIN., COURTS, CONGRESS, AND CONSTITUENCIES: MANAGING FISHERIES BY DEFAULT ix (2002), *available at* http://71.4.192.38/NAPA/NAPAPubs.nsf/9172a14f9dd0c36685256967006510cd/a04705cd1a32a13c85256c0200653434/$FILE/FINAL+NMFS+July+2002.pdf ("It has turned out that the bounty of the sea was more readily harvested than conserved, and the fisheries management system was forced to transition from allocating surpluses to rationing scarcity."). *See also* U. Rashid Sumaila & Elizabeth Suatoni, *Fish Economics: The Benefits of Rebuilding U.S. Ocean Fish Populations*, University of British Columbia Fisheries Centre Working Paper #2006-04, The University of British Columbia, Vancouver, B.C., Canada (2006), *available at* http://www.fisheries.ubc.ca/publications/working/.

309. *See* Rosenberg et al., *supra* note 303, at 304; Sustainable Fisheries Act of 1996, Pub. L. No. 104-297, 110 Stat. 3559 (codified as amended in various sections of 16 U.S.C.).

310. Sustainable Fisheries Act of 1996, Pub. L. No. 104-297, 110 Stat. 3559 (codified as amended in various sections of 16 U.S.C.) §§ 106(b)(8), 301(a), 1851(a); 304(e), 1854(e). Fisheries benchmarks—that is when a stock is overfished or is undergoing overfishing—have specific meanings and are calculated quantitatively. *See id.* § 102(29). In fisheries science, an overfished state occurs when due to overfishing the biomass of a population drops beneath the level needed to maintain "maximum sustainable yield." *Id.* Overfishing, a better measure of current fishing mortality levels, occurs when a fishery is taking too many individuals out of a population for the population to maintain a stable biomass. *Id.*

311. Sustainable Fisheries Act of 1996 § 109, 16 U.S.C. § 1854(e) (2006). *See also* Carl Safina, Andrew A. Rosenberg, Ransom A. Myers, Terrance J. Quinn II, & Jeremy S. Collie, *U.S. Ocean Fish Recovery: Staying the Course*, 309 SCIENCE 707, 707 (2005) ("Ten years (twice the time the majority of populations require for rebuilding) was chosen to avoid Draconian mandates; to help ensure that managers actually commence rebuilding; to increase chances for success; and to minimize future ecological, social, and economic costs.").

progress of all rebuilding plans biannually.[312] By all accounts, the SFA should have provided a very powerful mandate to end overfishing.[313]

But, by 2006, ten years after the SFA was enacted, only five percent of 67 overfished fish and shellfish populations had fully rebounded.[314] Fifty-five stocks or stock complexes were still undergoing overfishing or were overexploited.[315] Nine remaining stocks were no longer undergoing overfishing nor were they overexploited, but they had not yet rebounded to the target population size set by managers.[316] This problematic performance by the National Marine Fisheries Service (NMFS) to rebuild depleted fish and shellfish populations resulted from a consistent failure to end overfishing due to changes it allowed to original rebuilding plans, which often set timeframes longer than ten years, and to the lack of consistent monitoring and revision of failing plans.[317]

However, that the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act, signed into law in January 2007, stipulates that fishery management councils must set annual catch limits and accountability measures by 2010–2011 that are designed to eliminate all overfishing.[318] While this act provides a stronger mandate to manage fisheries sustainably than the previous Sustainable Fisheries Act, not enough time has passed to judge its effectiveness.

The failure of the 1976 Magnuson-Stevens Act and 1996 Sustainable Fisheries Act to ensure sustainable fisheries management in the United States can be traced, at least in part, to the lack of a firm public trust responsibilities in federal ocean waters. Both of these statutory authorities developed to govern sustainable fisheries management neglected to incorporate explicit public trust principles.[319] As a result, NMFS has lacked a clear public trust authority, which

312. Sustainable Fisheries Act, §§ 108–109, 16 U.S.C §§ 1854(e)(1), (7) (2006).

313. *See* Rosenberg et al., *supra* note 303.

314. *See id.* at 305. "Full recovery" means that the population size has reached a level capable of producing maximum sustainable yield. *Id.* at 305 fig.1(b). Three stocks met this criterion by 2006: Atlantic sea scallop, Pacific whiting, and Pacific lingcod. *Id.* at 304. *See also* NE. FISHERIES SCI. CTR., PUB. NO. 08-15, ASSESSMENT OF 19 NORTHEAST GROUNDFISH STOCKS THROUGH 2007 vii (2008), *available at* http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0815 (concluding that fully thirteen of the nineteen regulated groundfish populations remained overfished). This report is the most recent assessment of the status of groundfish populations in New England.

315. *See* Rosenberg et al., *supra* note 303, at 305 fig.1(a).

316. The lack of success could be attributed to a consistent failure to end overfishing: nine years after the SFA went into effect overfishing was still occurring in thirty individual, or, 45 percent of, managed fisheries. *See id.*; Safina et al., *supra* note 311, at 708 ("In sum, the longer managers allow overfishing, the more depletion undermines subpopulations' diversity, resilience, and adaptability; risks ecosystem structure and functioning; reduces chances for eventual recovery; and raises social and economic costs.").

317. *See* Rosenberg et al., *supra* note 303, at 307.

318. *See* 16 U.S.C. §§ 1853(a)(15),1853(a) note (2006).

319. Commentator Sarah Newkirk posited that this was a conscious decision: "[o]ne of the main goals of the [1976 Magnuson-Stevens Act] was to encourage fishing by American entities, and a

would have provided an organizing mission—to manage fisheries resources in the best interest of current and future citizens—as well as a valuable backstop when setting catch limits and other fishing regulations. According to a study on improving federal fisheries management in New England, political interference with fisheries management council decisions "has been a big problem in New England because the congressional delegation views fisheries as a constituent issue, rather than an economic or resource issue."[320]

In addition, it is likely that the lack of functioning feedback mechanisms among the general public, fishermen, and fisheries managers has prevented public action to enforce sustainable fisheries management.[321] In introducing the public trust doctrine as a mechanism for environmental protection, Professor Sax had hoped that it would enable the judiciary to rein in "rather dubious projects" that "clear all the legislative and administrative hurdles which have been set up to protect the public interest."[322] However, when the Magnuson-Stevens and the Sustainable Fisheries Acts failed to impose a clear public trust burden on NMFS, they short-circuited the ability of courts to participate in ensuring U.S. fisheries management was sustainable. As a result, the judiciary has tended to override federal fishery management decisions in only the most egregious situations.[323]

The public trust doctrine could enhance courts' ability to review the natural resource management decisions of federal agencies without the

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statutory assertion of public ownership [of fish and shellfish resources] would probably not have promoted rapid development of the American fleet." Newkirk, *supra* note 40, at 572.

320. H. JOHN HEINZ III CTR. FOR SCI., ECON., & ENV'T, IMPROVING FEDERAL FISHERIES MANAGEMENT IN THE NEW ENGLAND REGION 17 (2000), *available at* http://www.heinzctr.org/publications/PDF/New%20England.PDF.

321. Economists and policy analysts who have researched the causes of dysfunction in fisheries management often point to the lack of efficiently operating feedback mechanisms that "send signals of resource scarcity and enable effective adaptive responses" to that scarcity. Susan S. Hanna, *Strengthening Governance of Ocean Fishery Resources*, 31 ECOLOGICAL ECON. 275, 278 (1999) (Fisheries governance "must incorporate multiple objectives representing both conservation and use. It must bring the short-term time horizons of private individuals into line with the intergenerational time horizons of society. It must send signals of resource scarcity, and enable effective adaptive responses in the face of uncertainty.").

322. Sax, *Effective Judicial Intervention*, *supra* note 48, at 496.

323. One memorable example of effective judicial oversight was *NRDC v. Daley*, in which NRDC contested the total allowable catch limit (TAC) the National Marine Fisheries Service had set that year for the Mid-Atlantic population of summer flounder. 209 F.3d 747, 751–52 (D.C. Cir. 2000). The TAC was set so high that the population had less than a 20 percent chance of rebuilding to a sustainable level. *Id.* at 751. The court sided with the plaintiffs, declaring that "only in Superman Comics' Bizarro world, where reality is turned upside down, could the [National Marine Fisheries] Service reasonably conclude that a measure that is at least four times as likely to fail as to succeed" in rebuilding the summer flounder population would comply with the Sustainable Fisheries Act. *Id.* at 754. The court ruled that any TAC must have, at a minimum, a 50 percent chance of rebuilding the affected population. *Id.*; *see also* Pac. Marine Conservation Council, Inc. v. Evans, 200 F. Supp. 2d 1194, 1203 (N.D. Cal. 2002) (concluding that the "[National Marine Fisheries Service's] failure to minimize bycatch and bycatch mortality is arbitrary, capricious, and contrary to law, and in violation of the [Magnuson-Stevens Act], [Sustainable Fisheries Act], and [Administrative Procedure Act].").

limitations wrought by the Administrative Procedure Act (APA).[324] Although there are exceptions (e.g., where expert testimony is needed to explain technical matters), judicial review of agency actions under the APA is typically confined to the record that is compiled by the agency itself. Moreover, so long as the agency action is deemed reasonable and is rationally explained, federal courts are inclined to defer to agency expertise.[325] According to Professor Arnold Lum:

> Examining natural resource management issues using the public trust doctrine . . . allows courts to engage in a more in-depth review of the claims presented. If a claim of waste is brought as an administrative appeal under the state's administrative procedure act, the agency's record forms the evidentiary base, affording claimants little opportunity to put on their proof. However, . . . because breach of trust claims do not require the courts to defer to agency decisions, as would be the norm in an [APA] appeal, judges presiding over disputes regarding natural resources will be less constrained to adopt the agency's point of view. Therefore, from a citizen's perspective, breach of trust claims to enjoin waste of public natural resources may create a more level playing field.[326]

In federal public lands law, Professor Wilkinson summarized that the public trust concept can vitally serve "as a backdrop for judicial decisionmaking, as an aid in determining legislative intent and as a yardstick in assessing administrative action or inaction."[327] Federal ocean resources could benefit greatly from protection afforded via a similar public trust concept.[328]

All mechanisms for regulatory management require custodians for their enforcement. These custodians require an operating principle with which to guide and unify their approaches. In some instances, Congress and agencies have provided the necessary guidance with comprehensive management frameworks detailed in federal statutes and implementing regulations.[329] In the

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324. 5 U.S.C. §§ 1001–1011, 60 Stat. 238, amended by Pub. L. 89-554 (Sept. 6, 1966), 80 Stat. 383.

325. *See* Chevron v. NRDC, 467 U.S. 837 (1984); *see also supra* note 298.

326. Arnold L. Lum, *How Goes the Public Trust Doctrine: Is the Common Law Shaping Environmental Policy?*, 18 NATURAL RESOURCES & ENV'T 73, 74–75 (2003).

327. Charles F. Wilkinson, *The Public Trust Doctrine in Public Land Law*, 14 U.C. DAVIS L. REV. 269, 316 (1980). Note that the common law public trust doctrine has rarely been expressly applied to public terrestrial lands. Professor Babcock argues that this is due to the many public lands statutory authorities that already impart public trust responsibilities on the federal government. *See* Babcock, *supra* note 36, at 54–59, and Eric Pearson, *The Public Trust Doctrine in Federal Law*, 24 J. LAND RESOURCES & ENVTL. LAW 173 (2004).

328. One commentator, Sarah Newkirk, envisioned that if clearly extended to federal waters via statutory authority, a federal oceans public trust doctrine would "clarify the public's interest in the resource, make public involvement in the management of the resource more accessible, [and] make available the possibility of equitable compensation in the event that resources are obliterated." Newkirk, *supra* note 40, at 572.

329. For example, the Clean Water Act aims to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a) (2006). To that end, the Act declares that "the discharge of any pollutant by any person shall be unlawful," subject to certain defined exceptions. *Id.* § 1311(a). The exceptions include permitting programs that allow the discharge of

case of federal ocean waters, however, neither Congress nor NMFS has clearly taken this step. A public trust doctrine-infused oceans management regime would realign the horizon of current fisheries management with long-term considerations. It would also give U.S. oceans agencies the legal bedrock on which to build ecosystem-based management—a radically different approach to ocean governance that will require a comprehensive legal underpinning to implement.

B. Ecological Realism and the New Science of Ecosystem Services

> There is a growing awareness that the escalating crisis in marine ecosystems—from biodiversity losses and transformed food webs to marine pollution and warming waters—is in large part a failure of governance.[330]

Science now supports a much more holistic picture of the world's ocean ecosystems and the services they provide than it did in the past.[331] These services include climate regulation, nutrient cycling, control of animal populations by food web dynamics, disturbance regulation (e.g., flood control by wetlands and mangroves), waste detoxification by wetlands, food production, and essential habitat for ocean fauna.[332] Coastal and open-ocean ecosystems also provide recreational and cultural benefits through ecotourism, sport fishing, and aesthetic, artistic, educational, spiritual, and scientific values.[333] Mostly untapped but likely future services include sources for wind, tidal and current-generated electricity, as well as ocean thermal energy conversion.[334] Ocean ecosystem services have been valued at an average of

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pollutants from point sources pursuant to National Pollutant Discharge Elimination System Permits issued by the United States Environmental Protection Agency (EPA) or by states, 33 U.S.C. § 1342 (2006), and the discharge of dredged or fill material pursuant to permits issued by the U.S. Army Corps of Engineers, subject to EPA review, 33 U.S.C. § 1344 (2006). In turn, these permitting programs are implemented by detailed regulations. *See, e.g.*, Guidelines for Specification of Disposal Sites for Dredged or Fill Material, 40 C.F.R. § 230.1 (2008) (explaining how dredge and fill permits can be issued only upon certain findings that the discharge will not adversely affect the aquatic environment). By contrast, the United States' current approach to managing federal ocean waters lacks a unified management framework: there are over 20 different federal agencies with overlapping jurisdiction and missions in our oceans. *See supra* note 7.

330. Oran R. Young, Gail Osherenko, Julia Ekstrom, Larry B. Crowder, John Ogden, James A. WIlson, Jon C. Day, Fanny Douvere, Charles N. Ehler, Karen L. McLeod, Benjamin S. Halpern, & Robbin Peach, *Solving the Crisis in Ocean Governance*, 49 ENV'T 20, 20 (2007).

331. Ecosystem services are, simply put, the benefits humans attain from ecosystems. *See, e.g.*, MILLENNIUM ECOSYSTEM ASSESSMENT, *supra* note 5, at vi, 40. The importance of ecosystem services as a concept has been widely accepted. For example, Dr. Gretchen Daily, who has written extensively about ecosystem services and edited NATURE'S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEMS (1997), was recently inducted into the National Academy of Sciences.

332. *See* Robert Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, 387 NATURE 253, 254 (1997).

333. *See id.*

334. *See* U.S. COMM'N ON OCEAN POLICY, *supra* note 3, at 365–68.

$21 trillion a year—approximately two-thirds of the value of all services provided by the earth's ecosystems.[335]

Just as the scientific community is starting to better understand and endeavor to quantify the breadth and value of services provided by marine ecosystems, oceans are experiencing increasing and multiple stressors. These threats fall into several categories, including freshwater, sediment, nutrient, and pollutant inputs; coastal engineering and development; direct human impacts (e.g., noise, light pollution, and trash input, particularly plastics); aquaculture and fishing; climate change; invasion of nonnative species; disease; harmful algal blooms; hypoxia (i.e., low- or no-oxygen events that kill or cause the exodus of marine animals); ocean-based pollution (e.g., marine debris and ship-based waste disposal and noise); commercial activity (e.g., shipping lanes, anchoring structures); ocean mining; offshore development (e.g., oil platforms, pipelines and windmills); and ecotourism.[336] The decline of some ecosystem services due to these varied hazards can lead to fisheries collapses.[337] More generally, biodiversity loss can affect primary and secondary productivity, resource use, nutrient cycling, and ecosystem resilience (i.e., the ability to either withstand or recover quickly from disturbances).[338] In addition, the loss of filtering and detoxification services provided by oyster reefs, seagrass beds, and wetlands has led to beach closures, harmful algal blooms, fish kills, shellfish bed closures, oxygen depletion, and coastal flooding.[339]

As a result of the greater appreciation for the services ocean ecosystems provide and the injurious effects of human activity on those ecosystems, much of the national ocean policy discourse today concerns devising laws and regulations that promote what is called ecosystem-based management. Generally, an ecosystem-based approach seeks to protect the "structure, functioning, and key processes" of ecosystems to sustain the services that humans want and need.[340] Managing complex systems like ocean ecosystems

335. *See* Costanza et al., *supra* note 332 at 256, 259. Though their work provides only a gross estimate, the work of Robert Costanza et al. offers important context for the worth of ecosystem services. The global value of all ecosystem services, $33 trillion, *id.* at 256, was 1.8 times the 1997 global gross national product (GNP). *Id.* at 254, 259 ("One way to look at this comparison is that if one were to try to replace the services of ecosystems at the current margin, one would need to increase global GNP by at least US$33 trillion . . . . This impossible task would lead to no increase in welfare because we would only be replacing existing services, and it ignores the fact that many ecosystem services are literally irreplaceable.").

336. *See* Halpern et al., *supra* note 15, at 1304–06.

337. *See*, *e.g.*, Jeremy B. C. Jackson, *What Was Natural in the Coastal Oceans*, 98 PROC. OF THE NAT'L SCI. 5411 (2001).

338. *See* Boris Worm et al., *Impacts of Biodiversity Loss on Ocean Ecosystem Services*, 314 SCIENCE 787 (2006).

339. *Id.* at 788.

340. *See* MCLEOD ET AL., *supra* note 5, at 1 ("Specifically, ecosystem-based management: emphasizes the protection of ecosystem structure, functioning, and key processes; is place-based in focusing on a specific ecosystem and the range of activities affecting it; explicitly accounts for the interconnectedness within systems, recognizing the importance of interactions between many target species or key services and other non-target species; acknowledges interconnectedness among systems,

in this fashion is a relatively new concept that has yet to be widely implemented.[341]

Fortunately, the vast majority of services provided by the oceans originate in relatively cohesive continental shelf ecosystems, which typically fall within coastal nations' EEZs.[342] For example, at last estimate, 90 to 95 percent of fish and shellfish captured by marine fisheries are from continental shelf ecosystems.[343] The fact that most services provided by oceans stem from processes that occur within continental shelf ecosystems is not insignificant—governance institutions already exist in most, if not all, coastal nations' EEZs. Thus, protecting the ecosystem services provided by continental shelf ecosystems will not require new governance institutions, but simply a new mandate for existing institutions to implement ecosystem-based management. In the United States, this mandate must include incentives for collaboration among sectoral authorities such that marine biodiversity and ecosystem functions affected by human activities are protected.[344]

In the United States, this new mandate to manage for the resilience of marine ecosystem services can be located in the public trust doctrine. Professors J.B. Ruhl and James Salzman assert that the doctrine can be employed even under the strictest utilitarian interpretation of its scope.[345] Protecting ecosystem services essentially preserves the traditional triad of public trust uses, i.e., fishing, commerce, and navigation.[346] Since the historical *raison d'être* for the public trust doctrine is to promote these public uses of

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such as between air, land and sea; and integrates ecological, social, economic, and institutional perspectives, recognizing their strong interdependences.").

341. *See* Simon A. Levin & Jane Lubchenco, *Resilience, Robustness, and Marine Ecosystem-Based Management*, 58 BIOSCIENCE 27 (2008); Heather M. Leslie & Karen L. McLeod, *Confronting the Challenges of Implementing Marine Ecosystem-Based Management*, 5 FRONTIERS IN ECOLOGY & ENV'T 540 (2007).

342. Though the boundaries between the waters of the world's ocean ecosystems are nothing if not porous, we now know that individual continental shelf ecosystems—called "large marine ecosystems" (LMEs)—can be characterized by their distinct bathymetry, hydrography, and interdependent food web ecologies. *See* VARIABILITY AND MANAGEMENT OF LARGE MARINE ECOSYSTEMS 239 (Kenneth Sherman & Lewis M. Alexander eds. 1986); Kenneth Sherman, *The Large Marine Ecosystem Concept: Research and Management Strategy for Living Marine Resources*, 1 ECOLOGICAL APPLICATIONS 349 (1991). U.S. waters are part of the Eastern Bering Sea, Gulf of Alaska, California Current, Gulf of Mexico, Southeastern U.S. Continental Shelf, Northeastern U.S. Continental Shelf, Beaufort Sea, Chukchi Sea, Insular Pacific-Hawaiian, and Caribbean Sea LMEs. *See* U.S. COMM'N ON OCEAN POLICY, *supra* note 3, at 63-64.

343. *See* VARIABILITY AND MANAGEMENT OF LARGE MARINE ECOSYSTEMS at 256; U.N. ENV'T PROGRAMME, THE WORLD ENVIRONMENT 1972–1992: TWO DECADES OF CHALLENGE (1992), *cited in* CONDITIONS & TRENDS WORKING GROUP, MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: CURRENT STATE AND TRENDS 516 (2005), *available at* http://www.millenniumassessment.org/en/Condition.aspx.

344. *See* L.B. Crowder et al., *Resolving Mismatches in U.S. Ocean Governance*, 313 SCIENCE 617 (2006).

345. Note that the Green Dissent believed the doctrine to be fatally constrained by its historic utilitarian scope. *See* Lazarus, *supra* note 45, at 701–02; Ruhl & Salzman, *supra* note 296, at 227–30.

346. *See* Ruhl & Salzman, *supra* note 296, at 228.

trust resources, even a conservatively interpreted public trust doctrine can be applied to protect ecosystem services.[347] Professors Ruhl and Salzman reason:

> [T]raditional public trust resources often contain natural capital supplying economically valuable ecosystem services to the public; the public's enjoyment of those values is appropriately treated as a use of the trust lands within the meaning of the public trust doctrine; and, therefore, the restrictions applicable under the public trust doctrine attach to the natural capital found on trust lands. [Thus] integrating natural capital and ecosystem services within the public trust doctrine's utilitarian core [will] make it more ecological on its surface.[348]

Professor Ralph Johnson explained this concept in more specific terms:

> [T]he right of fishery . . . is meaningless unless fish are there to be caught. If the water is polluted, the fish die. Thus the right of fishery necessarily includes an implied right to water quality sufficient to support the fishery.[349]

Indeed, some of the language used to describe the utility of the public trust doctrine closely tracks language used in the conversation about ecosystem services. In 1980, Professor Sax contended that "the focus of environmental problems is *not*, as is sometimes suggested, the mere *fact* of change, which it is said environmental zealots cannot accommodate, but rather a rate of change so destabilizing as to provoke crises—social, biological and . . . economic."[350] He argued that the public trust doctrine could uniquely "identify the trustee's obligation with an eye toward insulating [the public's] expectations that support social, economic and ecological systems from avoidable destabilization and disruption."[351] Said another way, the public holds a common expectation that "most of its rivers will remain rivers, its lakes lakes, and its bays bays."[352] It is equally fair to conclude that the public also expects that its rivers will continue to *function* as rivers, its lakes as lakes, its bays as bays, as well as its oceans as oceans.

The conversation about protecting ecosystem services has not been confined to academia; some courts have also incorporated consideration of ecosystem services into their decisions.[353] For example, in *Avenal v. State*,

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347. *Id*. at 232.

348. *Id*. (footnote omitted).

349. Ralph W. Johnson, *Oil and the Public Trust Doctrine in Washington*, 14 U. PUGET SOUND L. REV. 671, 678 n.50 (1991).

350. Sax, *Liberating from Historical Shackles*, *supra* note 48, at 188.

351. *Id.* at 193.

352. Wilkinson, *supra* note 43, at 426.

353. *See, e.g.*, Avenal v. State, 886 So. 2d 1085 (La. 2004), Marks v. Whitney, 491 P.2d 374, 380 (Cal. 1971). For a more complete treatment of how the concept of ecosystem services could be more fully incorporated into the U.S. environmental policy framework, *see* J.B. RUHL, STEVEN A. KRAFT, & CHRISTOPHER L. LANT, THE LAW AND POLICY OF ECOSYSTEM SERVICES (Island Press, 2007); James Salzman, *A Field of Green? The Past and Future of Ecosystem Services*, 21 J. LAND USE & ENVTL. L. 133 (2006); James Salzman, Barton H. Thompson, Jr., & Gretchen C. Daily, *Protecting Ecosystem Services: Science, Economics, and Law*, 20 STAN. ENVTL. L. J. 309 (2001). *See also* Robin Kundis

oyster bed lessees sued to prevent the movement of their leases to accommodate a canal diversion project designed to restore sediment and freshwater flow to coastal areas and rebuild coastal marshes.[354] Upholding the restoration project, the Louisiana Supreme Court noted:

> [The project] fits precisely within the public trust doctrine. The public resource at issue is our very coastline, the loss of which is occurring at an alarming rate. The risks involved are not just environmental, but involve the health, safety, and welfare of our people, as coastal erosion removes an important barrier between large populations and ever-threatening hurricanes and storms.[355]

Professors Ruhl and Salzman focused their discussion on ecosystem services provided by trust lands within state jurisdictions, but their analysis equally supports the view that the public trust doctrine is also the best instrument with which to protect ecosystem services provided by resources within federally controlled waters. Because resources in state waters are coextensive with resources in federal waters, state governments cannot protect them if the federal government does not also adequately protect those resources within its jurisdiction. Fish populations don't heed lines on maps, and many commercially important species inhabit both state and federal waters over the course of their life histories.[356] State governments cannot protect their citizens' right to fish, for example, if the federal government does not also adequately protect fish in federal waters.[357]

It is apparent that the cohesive nature of continental shelf ecosystems is well suited for a coherent management regime.[358] By establishing a duty to conserve entire continental shelf ecosystems—not just those components with economic value, or those that fall under the aegis of state public trust

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Craig, *Justice Kennedy and Ecosystem Services: A Functional Approach to Clean Water Act Jurisdiction after* Rapanos, 38 ENVTL. L. 635 (2008).

354. *See, e.g.*, *Avenal*, 886 So. 2d at 1091–93.

355. *Id.* at 1101; *see also id.* (noting that Louisiana's law stipulates that the public trust doctrine be "implemented" as a "balancing process in which environmental costs and benefits must be given full and careful consideration along with economic, social and other factors.") (quoting Save Ourselves, Inc. v. La. Envtl. Control Comm'n, 452 So. 2d 1152, 1157 (La. 1984)).

356. *See* Michael W. Beck et al., *The Identification, Conservation, and Management of Estuarine and Marine Nurseries for Fish and Invertebrates*, 51 BioScience 633 (2001) (discussing the role of nearshore ecosystems as nursery habitat for many fish and invertebrates); *see also* Interjurisdictional Fisheries Act, 16 U.S.C. §§ 4101–4107, November 14, 1986, as amended 1990, 1992, 1993, 1994 and 1996 (to promote and authorize funding for projects to support the management of interjurisdictional fisheries).

357. *See* Beck et al., *supra* note 356, at 636 (listing Red Drum, Brown Shrimp, Gray Snapper, Gag Grouper, and flounders, among others, as examples of species that live in state and federal waters over their life histories).

358. *See* Heather Leslie, Andrew A. Rosenberg, & Josh Eagle, *Is a New Mandate Needed for Marine Ecosystem-Based Management?*, 6 FRONTIERS ECOLOGY & ENV'T 43, 43 (2008) (discussing how the services provided by continental shelf ecosystems "lead naturally into discussions about how to better align or even reinvent ocean governance and management institutions").

doctrines—a federal public trust doctrine could unify federal ocean agencies with state efforts under a common ecosystem-based vision.

C. Using the Public Trust Doctrine to Tame the Frontiers of Marine Management: Property Rights and Marine Spatial Planning

> As various ocean uses and the contradictions among them intensify . . . the ocean will become a site for imagining and creating future social institutions and relations, for land as well as for sea.[359]

The value of a federal public trust doctrine for U.S. oceans can be seen through the lens of two particularly pressing issues today—the introduction of property rights to fisheries management and marine spatial planning.[360] Much thinking in fisheries management today concerns implementing property rights regimes in fisheries, in which individual fishermen or communities hold long-term rights to the benefits resulting from ocean resources.[361] Marine spatial planning—analogous to land-use planning in terrestrial settings[362]—is also gaining importance, with U.S. state and regional efforts, as well as international programs, already underway.[363] There are fears, however, that with both of these approaches governments may be selling the oceans to private interests.[364]

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359. STEINBERG, *supra* note 142, at 209.

360. Osherenko, *supra* note 40, at 381 ("The concepts of public trust responsibilities, intergenerational equity, ecosystem-based management, marine spatial planning, and comprehensive ocean zoning have emerged in a twenty-first century discourse that is reshaping social institutions for the sea.").

361. *See, e.g.*, Becky Mansfield, *Neoliberalism in the Oceans: "Rationalization," Property Rights, and the Commons Question*, 35 GEOFORUM 313, 325–26 (2004) ("Property rights are at the center of a massive change in the political economy of the oceans . . . .").

362. "Marine spatial planning is defined as "[a] process of analysing and allocating parts of three-dimensional marine spaces to specific uses, to achieve ecological, economic, and social objectives that are usually specified through the political process." VISIONS FOR A SEA CHANGE, REPORT OF THE FIRST INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION AND MAN AND THE BIOSPHERE PROGRAMME, IOC MANUAL AND GUIDES, THE BIOSPHERE no. 48, IOCAM Dossier no. 4, 12 (UNESCO, Paris, 2007). Often confused with marine spatial planning is "ocean zoning." It is instead "[a] regulatory measure to implement marine spatial planning usually consisting of a zoning map and regulations for some or all areas of a marine region. Ocean zoning is an element of marine spatial planning." *Id.*

363. For example, Massachusetts was the first state to mandate the development of a comprehensive ocean management plan, which will include a spatial planning component. *See* 2008 MASS. ACTS ch. 114, *available at* http://www.mass.gov/legis/laws/seslaw08/sl080114.htm. Other regional initiatives have investigated implementing marine spatial planning. *See* FARA COURTNEY & JACK WIGGIN, OCEAN ZONING FOR THE GULF OF MAINE: A BACKGROUND PAPER 19–21 (2003). A leading example of marine spatial planning and ocean zoning is the Great Barrier Reef Marine Park off of Australia, which contains 344,400 km^2 of zoned coastal and ocean waters, islands, and coral cays. Jon Day, *The Need and Practice of Monitoring, Evaluating, and Adapting Marine Planning and Management–Lessons from the Great Barrier Reef*, 32 MAR. POL. 823 (2008).

364. For arguments against implementing property rights regimes in U.S. fisheries, *see, e.g.*, SETH MACINKO & DANIEL W. BROMLEY, WHO OWNS AMERICA'S FISHERIES? (2002); Seth Macinko & Daniel W. Bromley, *Property and Fisheries for the Twenty-First Century: Seeking Coherence from Legal and Economic Doctrine*, 28 VT. L. REV. 623 (2004). In a list of follow-up research questions to the first international workshop on marine spatial planning (MSP), the following research priority was especially provocative vis a vis the "first world bias" of marine spatial planning: "Acknowledge and address the

Indeed, marine spatial planning and property rights regimes have been perceived by some as potentially anti-conservation.[365] If extended to all U.S. waters, a public trust backstop could be essential to ensuring these programs are implemented in the best interest of the U.S. citizenry.

A "property right" can generally be defined as "a defensible claim to a stream of benefits arising from things and resources;" these rights can be conferred upon individuals, companies, communities, or the state.[366] The rationale for using property rights to manage fisheries lies in the desire to short-circuit the open-access dynamics that have often prevailed in fisheries.[367] In the absence of clear economic incentives, generally attained through some level of property rights, fishermen have little reason to fish sustainably, and their collective actions often deplete the resource.[368] By implementing rights-based fisheries management reforms, fishery managers seek to establish clear economic incentives for better fishing practices by realigning individual goals with fleet-wide profit maximization goals, as well as public conservation goals.[369]

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first world bias of MSP, i.e., MSP appears to be emerging from the growing need to reserve space for semi-permanent structures such [as] wind farms, aquaculture, oil/gas platforms, . . . and other competing activities (e.g., industrial fishing, recreation). MSP, so far, addresses these competing activities as activities and interests of equal "actors." In developing countries, many of these activities (e.g., industrial fishing, oil/gas, recreation) are not the activities of local actors. Insofar as MSP is about dividing and allocating common property, just whose commons is being divided and allocated to whom is vital to consider . . . ." VISIONS FOR A SEA CHANGE, *supra* note 362, at 72.

365. *See, e.g.*, *id.*

366. *See* RIGHTS TO NATURE: ECOLOGICAL, ECONOMIC, CULTURAL, AND POLITICAL PRINCIPLES OF INSTITUTIONS FOR THE ENVIRONMENT 1 (Susan S. Hanna, Carl Folke, & Karl-Göran Mäler eds., 1996) [hereinafter RIGHTS TO NATURE] ("Regimes of property rights—the structure of rights to resources and the rules under which those rights are exercised—are mechanisms people use to control their use of the environment and their behavior toward each other. Property-rights systems are part of society's institutions: the norms and rules of the game, the humanly devised constraints that shape human interaction.") (citations omitted).

367. Open-access dynamics occur when common-pool resources are not managed. Common property scholars argue that the tragedy-of-the-commons dynamics famously described by Garret Hardin is actually more often associated with open-access regimes. *See, e.g.*, Fikret Berkes, *Social Systems, Ecological Systems, and Property Rights*, *in* RIGHTS TO NATURE, *supra* note 366, at 87, 89 ("[T]here is general consensus that open access is not compatible with sustainability. Hardin's herders, whose access to the resource was free and rulemaking appeared not to exist, were functioning in an open-access regime, not communal property."). *See also* Garret Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1245 (1968).

368. *See* Christopher Costello, Steven D. Gaines, & John Lynham, *Can Catch Shares Prevent Fisheries Collapse?*, 321 SCIENCE 1678, 1679 (2008) ("If global fisheries contain large potential profits . . . yet the profits are only realized if the fisheries are managed sustainably, why are actively managed fisheries systematically overexploited? The answer lies in the misalignment of incentives. Even when management sets harvest quotas that could maximize profits, the incentives of the individual harvester are typically inconsistent with profit maximization for the fleet. Because individuals lack secure rights to part of the quota, they have a perverse motivation to 'race to fish' to outcompete others. This race can lead to poor stewardship and lobbying for ever-larger harvest quotas, creating a spiral of reduced stocks, excessive harvests, and eventual collapse.") (footnote omitted).

369. *See id.*

Incentive-based management programs in U.S. fisheries are becoming more widespread.[370] These often involve some version of Individual Transferable Quotas (ITQs), which are tradable privileges to catch a proportion of the annual allowable catch in a fishery.[371] By providing a secure asset to fishers, this approach arguably furnishes an incentive for stewardship of the resource.[372] And, because the quotas are transferable (i.e., sellable), fishers have an incentive to ensure the value of their quota remains high over time—which can only happen if the fish population remains healthy.[373] A global study of fisheries supports the hypothesis that implementing ITQs, or some variation thereof, in fisheries can prevent or even reverse drastic declines in fish populations; of the 11,135 fisheries examined, the proportion of ITQ-managed fisheries that were collapsed in 2003 was only half that of non-ITQ fisheries.[374]

Creating and allocating property rights in fisheries, however, is nothing if not controversial. Commentators have highlighted theoretical concerns (e.g., how can fishery managers create private property rights to public assets?),[375] as well as implementation issues, such as the fair allocation of initial quota and whether, if left unchecked, ITQ systems lead to the undesirable consolidation of share ownership.[376] The controversy concerns the extent of the rights granted to the use of common-pool ocean resources.[377] As rights-based

370. Limited Access Privilege, Individual Fishing Quota, or Individual Transferable Quota programs, which all employ some allocation of exclusive use rights, are used to manage fisheries for Atlantic quahog and surf clam, wreckfish, Gulf of Mexico red snapper, Pacific halibut and sablefish, Alaska pollock, the Cape Cod hook and line, and Bering Sea tanner and king crab. OFFICE OF SUSTAINABLE FISHERIES, NAT'L OCEANIC AND ATMOSPHERIC ADMIN., Limited Access Privilege Program: Current and Expected Future Programs (2008), *available at* http://www.nmfs.noaa.gov/sfa/PartnershipsCommunications/lapp/LAPPsCurrent_Expected.pdf. Fishery managers are also exploring the possibility of implementing these programs in the Gulf of Mexico grouper and tilefish, Gulf of Alaska Rockfish, Bering Sea groundfish, and West Coast groundfish fisheries. *See* SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL, REPORT OF THE LIMITED ACCESS PRIVILEGE PROGRAM EXPLORATORY WORKGROUP (2008), *available at* http://www.safmc.net/Portals/6/SocioEcon/IFQs/Final%20LAP%20Workgroup%20Report.pdf. However, the Magnuson-Stevens Reauthorization Act stipulates that new Limited Access Privilege Programs "shall not create, or be construed to create, any right, title, or interest in or to any fish before the fish is harvested by the holder." 16 U.S.C. § 1853a(b)(4) (2006). Thus, the that new programs may not create formal property rights to fish, but only limited, exclusive privileges to capture some part of the annual catch quota.

371. *See* Costello et al., *supra* note 368, at 1679; *see also* NAT'L RESEARCH COUNCIL, *supra* note 135, at 1–12 (discussing individual fishing quotas under the Magnuson-Stevens Act, including their capacity for transferability); James N. Sanchirico & James E. Wilen, *Global Marine Fisheries Resources: Status and Prospects*, 7 INT'L J. GLOBAL ENVTL. ISSUES 106 (2007); David Festa, Diane Regas, & Judson Boomhauer, *Sharing the Catch, Conserving the Fish*, ISSUES IN SCI. & TECH., Winter 2008, at 75, *available at* http://www.issues.org/24.2/festa.html.

372. *See* Festa et al., *supra* note 371.

373. *Id.*

374. *See* Costello et al., *supra* note 368, at 1679–80.

375. *See, e.g.*, MACINKO & BROMLEY, *supra* note 364.

376. *See, e.g.*, MARINE FISH CONSERVATION NETWORK, INDIVIDUAL FISHING QUOTAS: ENVIRONMENTAL, PUBLIC POLICY AND SOCIOECONOMIC IMPACTS (2004).

377. Note, however, that simply allowing some people to fish and not others (e.g., through limited-entry license programs) or a company to extract oil from an area creates and allocates property rights. *See supra* notes 194–199 and accompanying text. Thus, in the form of oil and gas leases, and, to a lesser

fisheries management plans become more widespread, the public trust doctrine could be a vital touchstone for their responsible implementation. A 1999 congressionally mandated study of Individual Fishing Quota programs by the National Research Council concurred:

> [The public trust doctrine] reinforces concerns about the "giveaway" of public resources to private interests. [Also], it confers on government a continuing duty of supervision and a responsibility to choose courses of action least destructive to trust resources.[378]

The public trust doctrine is equally material to the discussion of implementing a place-based management framework to regulate the panoply of ocean industries. There are currently thousands of stationary and floating oil and gas platforms, pipelines, and other infrastructure in the federally controlled seas.[379] Container ship traffic is projected to double in tonnage by 2020,[380] and other industries, such as offshore aquaculture, wind farms, and liquefied natural gas terminals, are increasingly coming online.[381] Many of these enterprises require security of investment, which generally comes in the form of leases and exclusionary rights.[382]

That is, as demands on ocean space intensify, accommodating most ocean-borne activities within a comprehensive management framework will require the deliberate creation and apportionment of rights to ocean space and

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degree, fishing permits, the federal government has used property rights-based mechanisms to manage uses of ocean resources for decades. *See, e.g.*, Outer Continental Shelf Lands Act of 1953, 43 U.S.C. §§ 1331 (2006) (establishing the legal framework for offshore oil and gas leasing in 1953, which, as amended, is still current law); Magnuson-Stevens Fishery Conservation and Management Act of 1976, 16 U.S.C. §§ 1801–1891 (2006), *amended by* the Sustainable Fisheries Act of 1996, Pub. L. No. 104-297, 110 Stat. 3559 and the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, P.L. 109-479, 120 Stat. 3586 (authorizing fishery management councils and the Secretary of Commerce to develop fishing permitting programs).

378. NAT'L RESEARCH COUNCIL, *supra* note 135, at 39–40. *See also*, Tom Tientenberg, *The Tradable Permits Approach to Protecting the Commons*, *in* NATIONAL RESEARCH COUNCIL, THE DRAMA OF THE COMMONS 205 (2002) ("Although the popular literature frequently refers to the tradable permit approach as 'privatizing the resource', in most cases it doesn't actually do that. One compelling reason in the United States why tradable permits do not privatize these resources is because that could be found to violate the well-established 'public trust doctrine.'").

379. *See* MINERALS MGMT. SERV., U.S. DEP'T OF INTERIOR, LEASING OIL AND NATURAL GAS RESOURCES: OUTER CONTINENTAL SHELF 1 (2008), *available at*: http://www.mms.gov/ld/PDFs/GreenBook-LeasingDocument.pdf.

380. Transportation Institute, Present Status, http://www.trans-inst.org/1.html (last visited Dec. 28, 2008).

381. *See* Crowder et al., *supra* note 344, at 617.

382. "Exclusion zones," in which the areas around the oil and gas infrastructure are closed to fishers and recreational boaters, are standard issue, and new wind, wave, and tidal energy facilities, and possible offshore aquaculture facilities will require such zones. *See* Osherenko, *supra* note 40, at 318–19, 379. *See also* MARINE AQUACULTURE TASK FORCE, PEW CHARITABLE TRUST, FULFILLING THE PROMISES, MANAGING THE RISKS 37 (2007), *available at* http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/Sustainable_Marine_Aquaculture_final_1_07.pdf; U.S. GOV'T ACCOUNTABILITY OFFICE, PUB. NO. GAO-08-594, OFFSHORE MARINE AQUACULTURE: MULTIPLE ADMINISTRATIVE AND ENVIRONMENTAL ISSUES NEED TO BE ADDRESSED IN ESTABLISHING A U.S. REGULATORY FRAMEWORK 20–24 (2008).

resources. Though harm to trust resources may be unavoidable at times,[383] under the public trust doctrine's direction, ocean managers would, at the very least, be presumed to favor "non-exclusive, as opposed to exclusive" ocean activities and "reversible commitments of resources over irreversible commitments."[384] Comprehensive marine spatial planning will require the "responsible sectoral [ocean] authorities . . . [to] work together to manage all the human activities in a [delineated] place."[385] The public trust doctrine would thus provide a guiding principle to these authorities with which to evaluate the increasingly complex trade-offs among human activities in the ocean, including wind farms versus fisheries and marine mammal protection versus defense activities, and to ensure that "users compensate the [beneficiaries of the federal ocean trust] through the payment of appropriate rents and royalties."[386]

A conflict arises in the consideration of developing property rights regimes—which secure access to resources for some people or enterprises, at the expense of others—to help manage uses of public trust resources. According to Professor Sax, the "central substantive thought in public trust litigation" is:

> When a state holds a resource which [sic] is available for the free use of the general public, a court will look with considerable skepticism upon *any* governmental conduct which is calculated *either* to reallocate that resource to more restricted uses *or* to subject public uses to the self-interest of private parties.[387]

The tension, thus, lies between the first tenet of the public trust doctrine, the guarantee of public access, and the management of industries that exploit ocean resources, which often require restricted access rights.[388] Or, in the

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383. *See, e.g.*, Nat'l Audubon Soc'y v. Superior Court, 658 P.2d 709, 728 (Cal. 1983) ("As a matter of practical necessity the state may have to approve appropriations [of water] despite foreseeable harm to public trust uses. In so doing, however, the state must bear in mind its duty as trustee to consider the effect of the taking on the public trust, and to preserve, so far as consistent with the public interest, the uses protected by the trust.") (citation omitted).

384. Archer & Jarman, *supra* note 40, at 265. *See also* Osherenko, *supra* note 40, at 367 ("As demands for new or expanded uses of public trust resources lead to conflict, the trustee must weigh current-use value against the interest of future beneficiaries to determine the appropriate trade-off between current profits and long-term provision of goods and services from the public trust property.").

385. Larry Crowder & Elliott Norse, *Essential Ecological Insights for Marine Ecosystem-Based Management and Marine Spatial Planning*, 32 MARINE POL'Y 772 (2008).

386. Young et al., *supra* note 330, at 29; *see id.* ("For the U.S. populace, the [first step towards place-based management] is to acknowledge that marine ecosystems are commons belonging to all the people of the nation; they are public trust resources managed by state and federal governments acting as trustees on behalf of the people as owners. . . . This status allows for a variety of human uses of marine ecosystems but always under rules and restrictions adopted and implemented by the trustee to protect the long-term integrity of these systems . . . .").

387. Sax, *Effective Judicial Intervention*, *supra* note 48, at 490.

388. *See* Rieser, *supra* note 60, at 433 ("As work on this and other ideas about the public trust doctrine continues, commentators and the courts will eventually need to reconcile the various purposes the doctrine has come to serve. If the doctrine is broadened to include all naturally functioning ecosystems, it may not be possible for it to serve as a vehicle for public access to all resources within its scope. Mono Lake may need to have fewer human visitors and users if wildlife species dependent on its

context of protected areas, for example, the tension lies between the guarantee of public access and ecological preservation. The question arises: which public trust right—access or sustainable management—has primacy?[389] And, are these two rights necessarily incompatible?

Bringing public trust law into the federal oceans management discussion helps clarify that ultimately the controlling duty of the governmental trustee is to act as a long-term steward of the public trust. Protecting public uses of trust resources ultimately requires protecting ecosystems. In turn, protecting ecosystems often requires limiting access to them. Under a public trust mandate, federal ocean agencies could allocate access to marine resources as long as the corpus of the U.S. ocean trust was not substantially impaired.

CONCLUSION

> [T]he question at issue is the OUTER SEA, the OCEAN, that expanse of water which antiquity describes as the immense, the infinite, bounded only by the heavens, parent of all things . . . the ocean which, although surrounding this earth, the home of the human race, with the ebb and flow of its tides, can be neither seized nor inclosed; nay, which rather possesses the earth than is by it possessed.[390]
>
> If people want both to preserve the sea and extract the full benefit from it, they must now moderate their demands, and structure them. They must put aside ideas of the sea's immensity and power, and instead take stewardship of the ocean, with all the privileges and responsibilities that implies.[391]

Until only recently, human society viewed ocean resources as infinite and the ocean itself as "wild, unruly, and untamable" and "dangerous and unpossessible."[392] The enduring legacy of this construction is the stunted ocean governance institution.[393] In the United States, a multitude of agencies manage

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ecological integrity are to benefit from doctrinal advances intended primarily for humans. This and other challenges await the many who find themselves drawn to the puzzling but compelling public trust doctrine.").

389. *See, e.g.*, *id.* at 410.

390. HUGO GROTIUS, THE FREEDOM OF THE SEAS, OR THE RIGHT WHICH BELONGS TO THE DUTCH TO TAKE PART IN THE EAST INDIAN TRADE 37 (Ralph Van Deman Magoffin trans., James Brown Scott ed., Oxford University Press 1916) (1608).

391. Edward Carr, *The Deep Green Sea*, ECONOMIST, May 23, 1998, at S17, S18.

392. STEINBERG, *supra* note 142, at 99. For an in-depth analysis of the development of ocean governance regimes that reaches beyond (in history and geography) the public trust doctrine, see *id.*; see also GEORGE GORDON BYRON, *Childe Harold's Pilgrimage*, CLXXIX, *reprinted in* THE COMPLETE POETICAL WORKS OF LORD BYRON 81–82 (Cambridge ed. 1905) ("Roll on, thou deep and dark blue Ocean, roll! Ten thousand fleets sweep over thee in vain; Man marks the earth with ruin, his control Stops with the shore . . . .").

393. *See* Michael Orbach, *Beyond the Freedom of the Seas: Ocean Policy for the Third Millennium*, 16 OCEANOGRAPHY 20, 27 (2003), *available at* http://www.tos.org/oceanography/issues/issue_archive/16_1.html ("One of the most damaging effects of the long tenure of the freedom of the seas concept has been the de facto notion that governance rules were not needed because of human inability to cause significant detrimental effects on the ocean—the inexhaustibility hypothesis.").

uses of federal ocean resources under disparate, narrowly focused statutory authorities, without any common, overarching mandate. This governance regime, developed decades ago, was not created with regard for ocean ecosystems and is fundamentally unable to keep pace with the dynamics of coupled human, ecological and oceanographic systems. Ecosystem-based management has been suggested as a replacement framework; but ecosystem approaches are only beginning to be implemented and, on their own, lack the legal underpinning to catalyze effective management across federal ocean agencies.

The public trust doctrine could uniquely provide a powerful and intuitive framework for restructuring the way we manage ocean resources. By directing the federal government to comply with trusteeship duties as a steward of U.S. ocean resources, a federal public trust doctrine would provide both a unifying concept for oceans governance and a legally recognized authority for managers to protect ecosystems through their custodial obligation to manage resources for the long-term benefit of the public. An expansive doctrine would also extend the important notion of intergenerational equity seaward—inherent to states' public trust doctrines is the provision that trust assets must be managed for both current and future citizens. The needs of current beneficiaries must be met without forfeiting the needs of future beneficiaries. Living and nonliving resources in federal ocean waters also ought to be managed consonant with this duty.

Our contemporary understanding of the range of ocean ecosystem services—which are concentrated in the waters of the continental shelves and shoreward but cannot be separated by state and federal jurisdictional boundaries—lends renewed weight to the discussion of expanding the public trust doctrine to the outer borders of the EEZ. At the heart of our analysis are three questions: (1) does a federal public trust doctrine exist; (2) if so, can we rightfully extend it to include the entirety of the U.S. ocean waters; and, (3) could the doctrine provide the missing catalyst for federal agencies to manage the use of U.S. ocean resources in a coordinated, sustainable fashion? We have answered each of these questions in the affirmative. In addition, we have determined that the most robust federal public trust doctrine would be established by a mutually reinforcing combination of judicial interpretation, congressional mandate, and executive action.

Given the failure of the current regulatory approach, improved scientific understanding of the interconnected nature of ocean ecosystems, and the inexorable pressure to exploit ocean resources, there is immense value in securing the place of the public trust doctrine in governing the way we manage uses of U.S. oceans. We are not the first to conclude that the clear extension of the public trust doctrine to the EEZ would help the government manage the oceans in a more cohesive, sustainable way. But, more than twenty years after the first rumblings about expanding the public trust doctrine to all U.S. ocean

waters, room for improvement in U.S. ocean governance remains glaringly apparent.

Thus, the stage is set for the public trust doctrine to be extended to the outer borders of the EEZ. Science calls for such an extension, and current societal values in marine natural resources demand improved feedback mechanisms with which to enforce the common interest in the sustainable management of ocean resources. Expanding the public trust doctrine to the resources of the U.S. territorial sea and EEZ would establish an enforceable duty for the federal government to manage and protect the oceans in a sustainable fashion. It would compel a more cohesive and sustainable approach to ocean governance for the benefit of current and future generations.