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New Discourses on Ocean Governance: Understanding Property Rights and the Public Trust

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"Quite possibly, by 2010 a map of the United States [Exclusive Economic Zone] will look more like the plat of a subdivision than a map of ocean space."[1]

"Once private property rights in ocean waters are recognized, I am uncertain where lines can be drawn."[2]

Can a private party own ocean space? Can a government sell, transfer, or give away marine systems under its jurisdiction? When a nation declares a marine-protected area or an exclusive fishing zone, is it exercising rights as the proprietor of marine systems or is it exercising regulatory authority? What is the role of government in regard to allocation of ocean resources? These are not simple questions, but they are critically important as the demand for exclusive rights to ocean resources increases. This Article aims to articulate questions not yet explored in the literature and provide readers with the background to search for answers.

The oil and gas industry has placed thousands of stationary and floating platforms, pipelines, and related infrastructure in the oceans.[3] Other industries are now joining the offshore development boom, adding wind, wave, and tidal-energy facilities; tuna ranches; and liquid natural gas (LNG) terminals.[4] To protect

[1] James E. Bailey, III, Comment, *The Exclusive Economic Zone: Its Development and Future in International and Domestic Law*, 45 LA. L. REV. 1269, 1296 (1985).

[2] Alabama v. Texas, 347 U.S. 272, 279 (1954) (Black, J., dissenting).

[3] In the United States, the Minerals Management Service within the Department of the Interior manages more than 8000 active leases on the 1.76 billion acres of the outer continental shelf. Most of these leases are within the Gulf of Mexico. U.S. DEP'T OF THE INTERIOR, MINERALS MGMT. SERV., LEASING OIL AND NATURAL GAS RESOURCES: OUTER CONTINENTAL SHELF 1, *available at* http://www.mms.gov/ld/PDFs/GreenBook-LeasingDocument.pdf (last visited Jan. 31, 2007) [hereinafter LEASING OIL AND NATURAL GAS RESOURCES].

[4] *See* PAUL W. PARFOMAK & AARON M. FLYNN, Cong. Research Serv., LIQUEFIED NATURAL GAS (LNG) IMPORT TERMINALS: SITING, SAFETY AND REGULATION 4 tbl.1 (2004).

these offshore installations, and in some cases to prevent sabotage or terrorism, these facilities require exclusion zones,[5] effectively closing an area to all vessel traffic including fishing and recreational boating. Simultaneously, U.S. foreign trade (much of which is dependent on freedom of navigation, increased container shipping, and expanded port facilities) is projected to double in tonnage and quadruple in value by 2020.[6] Once investments are made to install any of these new uses, investors may come to expect protection of rights that have not existed previously. It is easy to foresee a set of issues that defy resolution under our existing legal and political system.

What system of rights and rules should be in place to authorize offshore wind, tidal, and wave-energy facilities, or permit conversion of oil and gas platforms to other uses? In 2005, Congress authorized the Department of the Interior's Minerals Management Service (MMS) to adopt regulations for offshore renewable-energy facilities and possible conversion of oil and gas platforms.[7] Congress is now considering bills to establish a regulatory structure that would encourage and authorize offshore open-water aquaculture.[8] Before the United States approves a

[5] Federal regulations require specific zones around LNG terminals. 49 C.F.R. § 193.2057 (2006) (thermal exclusion zones); 49 C.F.R. § 193.2059 (flammable vapor-gas dispersion zones). The regulations incorporate and comply with National Fire Protection Association standards. NAT'L FIRE PROT. ASS'N, NFPA: 59A: STANDARD FOR THE PRODUCTION, STORAGE, AND HANDLING OF LIQUEFIED NATURAL GAS (LNG) (1996). *See* PARFOMAK, *supra* note 4, at 8. An example of a safety exclusion zone is found in the Draft Environmental Impact Report for Cabrillo Port LNG Natural Gas Deepwater Port, which anticipates a safety exclusion zone around each LNG carrier of 1000 yards ahead and 500 yards to the sides, and discusses deliberate attacks. CAL. STATE LANDS COMM'N, REVISED DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE CABRILLO PORT LIQUEFIED NATURAL GAS DEEPWATER PORT 4.2-25 (2006), *available at* http://www.slc.ca.gov/Division_Pages/DEPM/DEPM_Programs_and _Reports/BHP_DEIS-R.htm.

[6] THE TRANSP. INST., PRESENT STATUS, http://www.trans-inst.org/1.html, (last visited Jan. 31, 2007). For an overview of the importance of and trends in marine transport, see U.S. COMM'N ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY: FINAL REPORT (2004) [hereinafter OCEAN BLUEPRINT], *available at* http://www.oceancommission.gov/documents/full_color_rpt/welcome.html#full.

[7] Energy Policy Act of 2005 § 388(a), 43 U.S.C. § 1337 (2006). For a discussion of U.S. and international law regarding conversion of offshore rigs to artificial reefs, see Rachael E. Salcido, *Enduring Optimism: Examining the Rig-to-Reef Bargain*, 32 ECOLOGY L.Q. 863 (2005).

[8] *See*, *e.g.*, National Offshore Aquaculture Act, S. 1195, 109th Cong. (2005). On June 8, 2006, the National Ocean Policy Study Subcommittee of the Senate Commerce, Science and Transportation Committee held hearings on the National Offshore Aquaculture Act of 2005. *Offshore Aquaculture: Challenges of Fish-Farming in Federal Waters: Hearing on S. 1195 Before the S. Comm. on Commerce, Science*

new generation of stationary ocean and seabed uses, we should have a clear understanding of the extent and limits of Congressional authority in the oceans. This Article examines the basis in international and domestic law for allocating rights in the oceans. It addresses the nature of property rights to, as well as authority over, ocean space and marine resources essential to understanding and developing new regimes for ocean governance.[9]

I begin with a look at how societal views and laws regarding ocean space have changed from the sixteenth century to the present. New ocean discourses are likely to lead to new systems of ocean governance to deal with new uses and conflicts arising over ocean space. Section II provides an overview of property rights. Section III explains the distinction between *imperium* and *dominium* in international law, a distinction central to understanding the seas as common property (in contrast to public or private property). Section IV brings international law to bear from the Geneva Conventions of 1958, signing of the United Nations Convention on the Law of the Sea in 1982 (1982 Convention), and subsequent treatment of ocean space under international law. Section V traces the evolution of property rights and the changing structure of sovereignty over the seas in U.S. court cases and statutes including the nineteenth century battles over tidelands, the 1945 Truman Proclamation unilaterally claiming an extension of U.S. jurisdiction and control over the continental shelf, and a series of cases from the 1940s to the present dealing with federal-state conflicts over the oil and gas resources of the continental shelf. This section considers the nature of federal and state authority over the seabed and subsurface, and explores in-depth the assertions of property rights made by parties to these cases and

and Transportation, 109th Cong. (2006), *available at* http://commerce.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=1770 (source not in print as of publication).

[9] A multidisciplinary, international group of marine ecologists, social scientists, and ocean managers that convened at the National Center for Ecological Analysis and Synthesis is articulating and developing the principles, concepts, and tools necessary to move from fragmented, sector-by-sector governance of oceans to ecosystem-based management through comprehensive ocean zoning. The group discusses ecosystem-based management in L.B. Crowder et al., *Resolving Mismatches in U.S. Ocean Governance,* 313 SCI. 617 (2006). The Working Group on Ocean Ecosystem-Based Management: The Role of Zoning, met in March and November 2005 and June 2006. National Center for Ecological Analysis and Synthesis, The Working Group on Ocean Ecosystem-Based Management: The Role of Zoning, http://www.nceas.ucsb.edu/fmt/doc?https://admindb.nceas.ucsb.edu/admin/db/web.plist (last visited Feb. 15, 2007).

rejected by the U.S. Supreme Court. Section VI discusses protection of common property through contract law and the public trust doctrine. The final section offers recommendations for ocean governance that reflect twenty-first century discourses on the importance of marine ecosystems and ways to reduce and manage conflicts as existing and new uses compete for ocean space.

I

OCEAN DISCOURSES

Rights and rules are social constructs that reflect societies' conceptions at any point in history. Philip Steinberg explores in-depth the evolution of changing and conflicting discourses on the sea in *The Social Construction of the Ocean*.[10]

What was once seen as a great void or wild, uncontrollable nature has become what some envision as "a legitimate arena for expressing and contesting social power."[11] Beginning with the enclosure movement in the 1940s, coastal nations have extended their authority to explore, extract, and govern ocean resources from a three-mile territorial sea out to 200 miles or beyond.[12] From the 1950s to the 1980s, coastal nations asserted unilateral claims to extend their jurisdiction in the sea, arguably to achieve more rapid and efficient development of oil and gas reserves as well as fisheries off their coasts.[13] Debates among nations pitted coastal states against distant water-fishing nations, landlocked states against coastal states, and maritime powers seeking freedom of movement against coastal states interested in capturing and controlling increasingly valuable living and non-living ocean and seabed resources. Eventually, the 1982 United Nations Law of the Sea treaty effected a massive "redistribution of wealth and

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[10] PHILIP E. STEINBERG, THE SOCIAL CONSTRUCTION OF THE OCEAN (2001).

[11] *Id.* at 207-08.

[12] ROSS D. ECKERT, THE ENCLOSURE OF OCEAN RESOURCES (1979).

[13] These debates are well documented in numerous sources. LAWRENCE JUDA, INTERNATIONAL LAW AND OCEAN USE MANAGEMENT: THE EVOLUTION OF OCEAN GOVERNANCE 93-254 (H.D. Smith ed., 1996); ANN L. HOLLICK, U.S. FOREIGN POLICY AND THE LAW OF THE SEA 62-349 (1981); ROBERT L. FRIEDHEIM, NEGOTIATING THE NEW OCEAN REGIME 18-26 (1993).

income" through the "transfer . . . of two assets, hydrocarbons and living resources, to the coastal state. . . ."[14]

In the twenty-first century, scientists are probing the deep seas, discovering and naming new species. While mining companies sample the quality and quantity of minerals that might be extracted around deep-sea vents,[15] scientists warn of the danger of loss of species and genetic diversity from these unique and unexplored habitats.[16] No longer are the oceans opaque to the human view. Underwater cameras allow aquarium visitors to watch real-time undersea changes.[17] Satellite tags enable researchers to provide three-dimensional diagrams of the movement of tuna and billfish over months or years,[18] and listening devices reveal the location and movement of marine mammals as well as identifiable schools of fish.[19] Science and technology have probed ocean space and opened our eyes to new economic opportunities, threats, and values.

Elliott Norse, a marine ecologist and President of the Marine Conservation Biology Institute, has called for an end to "the

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[14] Giulio Pontecorvo, *Division of the Spoils: Hydrocarbons and Living Resources*, *in* THE NEW ORDER OF THE OCEANS: THE ADVENT OF A MANAGED ENVIRONMENT 17 (Giulio Pontecorvo ed., 1986).

[15] Patric Hadenius, *Technology in the (Ocean) Trenches*, TECH. REV., May/June 2006, *available at* http://www.technologyreview.com/read_article.aspx?id=16790&ch=infotech.

[16] *See generally* Census of Marine Life, *Extraordinary Life Found Around Deep-Sea Gas Seeps* (NOV. 20, 2006), *available at* http://www.eurekalert.org/pub_releases/2006-11/coml-elf112006.php# (discussing newly observed marine life near New Zealand). For a discussion of the environmental concerns regarding mining of deep-sea vents, see KRISTI BIRNEY ET AL., DONALD BREN SCH. OF ENVTL. SCI. & MGMT., UNIV. OF CAL., SANTA BARBARA, POTENTIAL DEEP-SEA MINING OF SEAFLOOR MASSIVE SULFIDES: A CASE STUDY IN PAPUA NEW GUINEA, (Spring 2006), *available at* www.bren.ucsb.edu/research/documents/VentsBrief.pdf.

[17] *See, e.g.*, Skidaway Institute of Oceanography's webcam at http://www.skio.peachnet.edu/research/sabsoon/fishwatch/ (last visited Jan. 31, 2007); *see also* Press Release, Scripps Inst. of Oceanography, Univ. of Cal., San Diego, Deceptive New Birch Aquarium Exhibit Explores Camouflage in the Sea (May 27, 2005), *available at* http://scrippsnews.ucsd.edu/article_detail.cfm?article_num=683.

[18] *See* Tuna Research and Conservation Center, Tag-A-Giant, www.tunaresearch.org (last visited Jan. 31, 2007); *see also* Randall Kochevar, Stanford Univ., *Following a Dream, and Tuna, with Electronic Tagging*, Feb. 25, 2004, http://news-service.stanford.edu/news/2004/february25/aaas-blocksr-225.html.

[19] Environment News Service, *Scientists Use Ocean Listening Curtains to Track Tagged Animals*, July 3, 2006, http://www.ens-newswire.com/ens/jul2006/2006-07-03-01.asp; Nat'l Oceanic & Atmospheric Admin., VENTS Program: Acoustic Monitoring, http://www.pmel.noaa.gov/vents/acoustics.html (last visited Feb. 1, 2007); *see also* Juliet Eilperin, *Technologies Change Insight Into the Seas,* WASH. POST, Dec. 18, 2006, at A12 (providing a good overview of recent technological developments).

range wars on the last frontier"[20] and urged development of ocean zoning to avoid the conflicts that are inevitable as mineral companies, fishing enterprises, and the energy industry lay claim to, carve up, and exploit marine resources.[21] Production and consumption sites are now expanding from land to sea, undermining earlier conceptions of the oceans as a void. At the same time, the increasing importance of the seas as unfettered transport-space may blind us to the impact of shipping on water quality and lead us to discount the cost of diesel fuel's carbon emissions on the oceans and atmosphere. In his concluding chapter, Steinberg recapitulated the conflicts within capitalist discourses as well as the conflicting discourse calling for stewardship of the sea; he wrote:

> [T]he postmodern era is beset by increasing contradictions in capitalist spatiality and, more specifically, capitalist constructions of ocean-space. The ocean is more important than ever as transport-space, and so there is increasing pressure . . . to make the ocean as friction-free a surface as possible. At the same time, however, the ocean increasingly is attractive as a space of development, and soon for the first time there will probably be opportunities for spatially fixed investments in the deep sea. Additionally, humanity has developed an unprecedented capacity to transform the nature of the sea so that it no longer provides the resources it once did, a phenomenon that has led some to support a stewardship system whereby the ocean is governed as a special space of nature. As various ocean uses and the contradictions among them intensify, and as each of these constructions conflicts with the spaces of representation being constructed by everyday actors outside the imperative of capitalism's dominant (and contradictory) spatial practices, it seems likely that the oceans will become a site for imagining and creating future social institutions and relations, for land as well as for sea.[22]

Together, these discourses are reshaping social institutions for the sea.

Indeed, governments are in the process of restructuring the rights and rules that govern ocean space. Lawmakers are rapidly adding to the number of marine reserves around coastal areas

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[20] Elliott A. Norse, *Ending the Range Wars on the Last Frontier: Zoning the Sea*, *in* MARINE CONSERVATION BIOLOGY: THE SCIENCE OF MAINTAINING THE SEA'S BIODIVERSITY 422 (Elliott A. Norse & Larry B. Crowder eds., 2005).

[21] *Id.* at 432-37.

[22] STEINBERG, *supra* note 10, at 208-09.

that are closed to any extractive use, including fishing.[23] Discussion and development of marine-protected areas is spreading rapidly, and some nations are experimenting with marine spatial planning as a way to reduce conflict, protect biodiversity and a range of habitat types, enhance adaptive management, and shift from species-by-species and sector-by-sector management to ecosystem-based management.[24] With proposals for marine-protected areas limiting and excluding fishing, economists are attempting to calculate the value of marine ecosystem services.[25] The U.S. Commission on Ocean Policy and the Pew Oceans Commission have called for new mechanisms of ocean management and restructuring of agency responsibility.[26] At the subnational level, states are following suit. In 2004, California created a high-level Ocean Protection Council comprised of the heads of the State's Resources Agency, Environmental Protection Agency, and Lands Commission, along with members of the

[23] Tundi Agardy, *Global Trends in Marine Protected Areas in* TRENDS AND FUTURE CHALLENGES FOR U.S. NATIONAL OCEAN AND COASTAL POLICY: PROCEEDINGS 51, 51 (Biliana Cicin-Sain et al. eds., 1999) *available at* http://www.oceanservice.noaa.gov/websites/retiredsites/natdia_pdf/8agardy.pdf. There is a huge discrepancy between the proportion of land included in some form of protected area (18% of total U.S. landmass) and of marine waters (0.1% of U.S. waters within 200 nautical miles of shore). Bradley W. Barr & James Lindholm, *Conservation of the Sea: Using Lessons from the Land*, 17 GEORGE WRIGHT FORUM 77, 77 (2000), *available at* http://www.georgewright.org/173barr.pdf. On June 15, 2006, President George W. Bush established the largest protected ocean area in the world, the Northwestern Hawaiian Islands Marine National Monument, covering 139,793 square miles of emergent and submerged lands and waters. Proclamation No. 8031, 71 Fed. Reg. 36,443 (June 15, 2006).

[24] *See* MPA News, http://depts.washington.edu/mpanews/ (last visited Feb. 26, 2007); *see also* F. Douvere et al., *The Role of Marine Spatial Planning in Sea Use Management: The Belgian Case,* 31 MARINE POL'Y 182 (forthcoming March 2007); Jon C. Day, *Zoning—Lessons from the Great Barrier Reef Marine Park*, 45 OCEAN & COASTAL MGMT. 139, 141 (2002).

[25] Judith T. Kildow, Director of the National Ocean Economics Program, and her team are creating the first comprehensive assessment of the coastal and ocean economy. *See* National Ocean Economics Program, http://noep.mbari.org/ (last visited Jan. 31, 2007); *see also* JUDITH KILDOW & CHARLES S. COLGAN, NAT'L OCEAN ECON. PROGRAM, CALIFORNIA'S OCEAN ECONOMY: REPORT TO THE RESOURCES AGENCY, STATE OF CALIFORNIA, (July 2005), *available at* http://resources.ca.gov/press_documents/CA_Ocean_Econ_Report.pdf (providing comprehensive information on the economic role of California's ocean resources). The National Ocean Economics Program aims to measure non-market values as well as market values of the oceans. Non-Market Valuation Studies, http://noep.mbari.org/nonmarket/NM-main.html (last visited Jan. 31, 2007).

[26] PEW OCEANS COMMISSION, AMERICA'S LIVING OCEANS: CHARTING A COURSE FOR SEA CHANGE, at xi (2003), *available at* http://www.pewtrusts.org/pdf/env_pew_oceans_final_report.pdf.

public, to improve the management of the state's coastal waters.[27] In 2006, New York enacted the Ocean and Great Lakes Ecosystem Conservation Act, which created the New York Ocean and Great Lakes Ecosystem Conservation Council and charged it to "integrate and coordinate ecosystem-based management with existing laws and programs,"[28] focusing particularly on the eastern Lake Ontario and Long Island Great South Bay coastal ecosystems. Throughout the world, countries and subunits of national governments are recognizing the need to reshape ocean governance and the nature of property rights in the seas.

One approach to problems of overexploitation is privatization of resources, and this solution is frequently promoted for marine resources.[29] For example, the National Center for Policy Analysis, among others, recommends replacement of current regulatory (command-and-control) approaches to fishery management with a system of property rights.[30] The National Center for Policy Analysis argues that experimenting with innovative private property approaches will re-orient incentives and help restore fisheries.[31] Its "Debate Central" website considers four types of ownership of marine resources as a starting point:

- Allowing ownership of shore land that is covered with water at high tide as a way of managing clams, mussels, and oysters.
- Allowing ownership of parcels of the ocean floor, so that individuals can create artificial reefs.
- Allowing individuals to "fence off" areas of the ocean as a way of managing migratory fish.
- Creating tradable rights—Individual Transferable Quotas—that entitle fishermen to a certain portion of the catch.[32]

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[27] CAL. PUB. RES. CODE § 35600 (West 2004).

[28] N.Y. ENVTL. CONSERV. LAW § 14-0109(4) (McKinney 2006) (establishing the council, § 14-0111(1) (defining the council's purpose and focus).

[29] *See* Rögnvaldur Hannesson, *The Privatization of the Oceans*, *in* EVOLVING PROPERTY RIGHTS IN MARINE FISHERIES 25 (Donald R. Leal ed., 2005).

[30] National Center for Policy Analysis, Progressive Environmentalism: A Pro-Human, Pro-Science, Pro-Free Enterprise Agenda For Change (2001), http://www.ncpa.org/studies/s162/s162d.html.

[31] *See id.*

[32] Affirmative Plan: Property Rights, www.debate-central.org (last visited July 22, 2005) (on file with author). Debate Central is an online resource created and maintained by the National Center for Policy Analysis for high school students researching the nationwide high school debate topic.

Advocates of privatization sought to create private property in oyster beds and submerged lands adjacent to the coast even before the United States became an independent nation.[33] And today the non-profit Nature Conservancy, which has large holdings of land, is acquiring private submerged parcels for the purpose of restoration and conservation.[34] While privatization of marine resources offers some attractions as a way to restructure economic incentives in order to induce users to conserve and even restore fisheries, privatization assumes that the government has ownership rights in the sea floor, water column, and ocean resources sufficient to allow transfer of ownership to private individuals or groups. The Nature Conservancy is studying submerged lands policies in Oregon and Massachusetts including an examination of a sample of leases and titles.[35] A limited number of parcels close to the coast are held privately or leased to private owners and may well provide a new vehicle for private conservation ownership.[36] In addition, some parcels have become public property held by states and subject to the public trust. Far more prevalent is common ownership of the seabed, water column, and marine resources: these are protected by the public trust doctrine with the government acting as a fiduciary to protect the ownership interests of the people.[37]

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[33] *See* BONNIE J. MCCAY, OYSTER WARS AND THE PUBLIC TRUST: PROPERTY, LAW AND ECOLOGY IN NEW JERSEY HISTORY 58 (1998).

[34] The Nature Conservancy acquired about 13,000 acres of submerged lands in Long Island's Great South Bay in 2002. M. W. Beck et al., *New Tools for Marine Conservation: The Leasing and Ownership of Submerged Lands*, 18 CONSERVATION BIOLOGY 1214, 1217 (2004). It also holds either title or leases to submerged lands in Galveston Bay, Texas; Puget Sound, Washington; and Peconic Bay, New York. *Id.*

[35] The work is being done as part of a project funded by the National Oceanic and Atmospheric Administration's Coastal Services Center. E-mail from Michael Beck, The Nature Conservancy, to author (Jan. 10, 2007) (on file with author).

[36] Where the government granted rights to submerged lands to private owners, the grants were to further public purposes (in transportation, movement of goods, or other essential services). The government transferred substantial tidelands and submerged lands in bays and estuaries to private owners early in this country's history to provide for railroads and wharves, seen as essential to foster commerce and well-being for a growing nation. Lands transferred into private ownership after any state entered the union are protected by the public trust doctrine, which may well require different treatment to serve different public needs today. These protections may be sufficient to restrict a private owner's use of those submerged lands today and prevent the charge that government action restricting use for conservation is an unlawful "taking."

[37] For an overview of the public trust doctrine, *see* DONNA R. CHRISTIE & RICHARD G. HILDRETH, COASTAL AND OCEAN MANAGEMENT LAW IN A NUT SHELL 19-31 (2nd ed. 1999); *see also* discussion *infra* Part VI.

II

A Primer on Property Rights

Property rights are the entitlements of ownership, to which we may add the obligations of ownership. Ownership of property generally falls into one of four broad categories: private, public, common, and nul property.

Figure 1: Patterns of Property Rights

Private property: Bundle of rights belongs to identifiable owner (individual or legal person such as a corporation).
Public property: Bundle of rights belongs to the federal government or the state government.
Common property: Bundle of rights belongs to a group of people. Community property is a subset of common property in which an identifiable community or group of owners make collective decisions regarding the property.
Nul property: In effect, the bundles are more or less empty in the sense that anything goes, but note that truly empty sets are pretty rare. An absence of well-defined use rights.

Nul property, with access open to all (though often confused with common property), seldom occurs in practice today.[38] Historically, areas now treated as common property, including the exclusive economic zone (EEZ) and high seas, were nul property. However, as the need for rules of access and use arose, nul forms of property have given way to other property systems. Property rights to the oceans differ from property rights to land.[39] On land, the government often owns extensive areas as public property, but the law is quite different with regard to navigable waters and submerged lands. Under English common law, the king held

[38] "Nul" is short for *res nullius*, which is Latin for "thing of no one." Black's Law Dictionary 1312 (7th ed. 1999); *see generally* 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, 646-47 (2004) (highlighting the problem with conflating open-access resources and common-property regimes).

[39] Oran R. Young, *Institutional Interplay: The Environmental Consequences of Cross-Scale Interactions*, *in* The Drama of the Commons 263, 267-73 (Elinor Ostrom et al. eds., 2001) (exploring the differences between sea tenure and land tenure) ("[T]here is little history of private property and only limited experience with public property in the ordinary or normal sense of the term when it comes to the management of human uses of marine resources."). *Id.* at 271.

shores, bays, rivers, arms of the sea, and the land under them as a public trust for the benefit of the whole community.[40] These areas were part of the commons. U.S. courts based their development of the public trust doctrine on English common law; thus submerged lands, waters, and marine resources are not public property owned by the state, but are referred to as public trust lands, public trust waters, and public trust resources.[41] The government is not the owner, but the trustee on behalf of the people. Public trust property is more properly categorized as common property, though in the U.S. legal system such property is frequently identified as a particular type of public property:

> Public trust lands are special in nature. . . . Because of the "public" nature of trust lands, the title to them is not a singular title in the manner of most other real estate titles. Rather, 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.[42]

While the king (and the American colonies and, later, the states) could convey the *jus privatum* part of the title to a private owner, the *jus publicum* remained dominant and could not be conveyed.[43]

Under international law, title to or ownership of the oceans belongs to a wider community: oceans and their resources have been treated as common property. Now this concept, long accepted in international law, is being challenged.

From the time that Dutchman Hugo Grotius' seventeenth-century view of international law of the oceans took hold, the oceans beyond the territorial sea have been regarded as common property, *res communis* (global commons outside of national jurisdiction).[44] Although often inaccurately labeled *res nullius* (open

[40] *See generally* Joseph Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970) (seminal article reviving the public trust concept).

[41] *Id.*

[42] DAVID C. SLADE, PUTTING THE PUBLIC TRUST DOCTRINE TO WORK: THE APPLICATION OF THE PUBLIC TRUST DOCTRINE TO THE MANAGEMENT OF LANDS, WATERS AND LIVING RESOURCES OF THE COASTAL STATES 1 (1990).

[43] *Id.* at xviii-xix, 13; *see also id.* at xxxix (containing definitions of *jus privatum* and *jus publicum*).

[44] *See* JOSEPH J. KALO ET AL., COASTAL AND OCEAN LAW 309 (2d ed. 2002). Grotius' seminal text *Mare Liberum*, penned in 1609, argued for open seas, a concept that would benefit Dutch trading interests. *Id. See generally* HUGO GROTIUS,

access), the Grotian order of the oceans embodies the concept of communal ownership with nation-states as the members of the community who set the rules.[45] The Dutch, as a growing commercial sea-power, needed freedom of movement on the seas. At the time, Spain and Portugal each envisioned controlling large parts of the oceans, but they had neither the technology to police their claims nor the consent of other nations.[46] The fact that many resources, such as fish, remained unrestricted and available to all reflected the view of member nations that rules and restrictions were not necessary for such abundant, even inexhaustible, resources.[47] With the post-World War II enclosure movement, nations claimed increased sovereignty as well as exclusive use and control rights over the oceans.[48]

In line with prominent economic thinking, policymakers in the 1960s and 1970s found the argument for conversion of communal land to private property (or to public property) appealing. Conversion has been viewed by Harold Demsetz and others as a way to avoid economic waste and inefficiency or to better internalize benefits and costs.[49] Transformation of communal rights to more exclusive forms of property rights occurs, Demsetz argued, when the benefits of efficiency outweigh the costs of conversion.[50] Ross Eckert, applying Demsetz's theories to the oceans to understand the enclosure movement that began with the Truman Declaration of 1945, argued:

> [T]he process of conversion to more exclusive ocean resource rights, either through enclosure or [the United Nations Conference on the Law of the Sea], is only a first step for removing the inefficiencies that result from communal rights. The

THE FREEDOM OF THE SEAS: OR, THE RIGHT WHICH BELONGS TO THE DUTCH TO TAKE PART IN THE EAST INDIAN TRADE (James Brown Scott ed., Ralph Van Deman Magoffin trans., Oxford University Press 1916) (a collection of Grotius' dissertations translated from Latin).

[45] *See generally* GROTIUS, *supra* note 44 (arguing that no one country can monopolize control of the seas).

[46] Robert L. Friedheim, *Managing the Second Phase of Enclosure*, 17 OCEAN AND COASTAL MGMT. 217, 220 (1992).

[47] *See infra* Part IV.A.

[48] OCEAN BLUEPRINT, *supra* note 6, at 49.

[49] *See* Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 354 (1967).

[50] *Id.* at 355. For a more nuanced discussion of the drivers of privatization that incorporate the political dimensions, see Katrina Miriam Wyman, *From Fur to Fish: Reconsidering the Evolution of Private Property*, 80 N.Y.U. L. REV. 117 (April 2005).

> second step is for authorities to assign exclusive and transferable private property rights to individuals, firms, or other entities that will ultimately exploit the resources.[51]

While coastal nations succeeded in asserting exclusive rights to control and regulate resources 200 miles beyond land,[52] the privatization that Eckert anticipated did not occur. For the most part the oceans, and even the seabed and subsurface over which coastal nations exert substantial control, are neither privately nor publicly owned. Nonetheless, the United States and other coastal nations have used sovereign rights and authority to behave much as a proprietor would with regard to the seabed and subsurface on the continental shelf.[53] The Supreme Court and Congress have on occasion blurred the distinction between sovereignty (authority) and ownership (property rights). So it is not surprising that policymakers, news reporters, scientists, resource managers, and the general public find it difficult to understand the limited nature of ownership or property rights in the sea today.[54]

In the United States, where federal public property exists on land (whether as a national park, forest, petroleum reserve, or military base), the Property Clause of the Constitution allows Congress not only to manage that land, but also to dispose of it.[55] If the seas were purely public property, then it would follow that Congress could also convert the seas to private property. But the oceans, seabed, subsurface, and living resources are common property subject to the public trust responsibility of the government or governments that exercise regulatory authority over them. In the United States, various federal agencies exercise regulatory authority under the Commerce Clause over navigable waters, submerged lands, and the resources of the sea.

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[51] ECKERT, *supra* note 12, at 16.

[52] *See* discussion *infra* Part IV and accompanying footnotes.

[53] The separation between communal, private, and state ownership, while useful in their ideal or simplified forms for theoretical examination, is less clear in practice.

[54] The literature on conservation of marine areas is replete with misconceptions and erroneous statements regarding the nature of property rights in the sea. The most common error is to state that seas are "publicly owned." For an example, see Barr & Lindholm, *supra* note 23, at 79. The authors make this error, then in the next sentence contradict this characterization of public ownership with the statement that "all the waters of the EEZ (with a very few riparian exceptions) are owned in common by the people." As this Article points out, public property is not synonymous with common property.

[55] U.S. Const. art. IV, § 3, cl. 2.

The ocean enclosure movement[56] as embodied in the 1982 Convention and in custom, has granted increased sovereign rights and exclusive rights; coastal states have exercised these rights to behave as proprietors over the seabed and subsurface within 200 miles from shore. Governments grant long-term leases to private industry to explore and exploit oil and gas, and charge use fees, rents, and royalties for access and extraction. But, as I will explain later, the Law of the Sea Convention and customary international law may have reduced the common owners from a global community to citizens of particular states, but they did not change the fundamental nature of ownership from common property to public property. Robert Friedheim, an international-relations scholar, characterized the EEZ as a "national common, since the USA has not been willing, or perhaps able, to allocate resources among domestic users, even if the enclosing measures have eliminated or effectively controlled foreign users."[57]

Lawyers often use the metaphor of a bundle of sticks to explain property rights. The various "sticks" or rights that make up the bundles generally fall into four categories: possession, use, exclusion, and disposition, as shown in Figure 2.

[56] JUDA, *supra* note 13, at 226, 249 n.100; *see also* Lewis Alexander, *The Ocean Enclosure Movement: Inventory and Prospect*, 20 S.D. L. REV. 561-94 (1983) (describing the ocean enclosure movement as "creeping jurisdiction").

[57] Friedheim, *supra* note 46, at 229. Friedheim explains that states have not been able to "treat their ocean territory as they have treated their land territory." *Id.* at 218. States have granted only limited private rights because of the numerous possible claimants or interests who "wish to use the area simultaneously." *Id.* at 229. "A first step [to allocation among all of these claimants] would be to recognize that the ocean, because of its joint supply or indivisibility, must always belong to all." *Id.* at 230.

FIGURE 2: CHARACTERISTICS OF PROPERTY RIGHTS[58]

Types of Rights	Characteristics	Examples
Possessory (proprietary)	Right to keep, reinvest or apportion the value; owner is exposed to liability for damages caused by property to others' interests and may collect for harm or damage to the property by others	Collects rents, royalties from lessee
Use	Rights to use for specific (usually limited) purposes, at specified times and places	Fishing rights, oil and gas exploration and extraction rights, rights to use area for aquaculture or tuna ranching
Exclusionary	Right to exclude others from the property	Exclusive right to explore and exploit; demarcation of safety zones from which outsiders are excluded
Disposition	Right to transfer, sell, exchange	Individual transferable fishing license; right to sell oil and gas lease tract

A full set of possessory rights to marine areas would entitle the owner to keep, reinvest, or apportion the value that accrues to the property and would expose the owner to risk of loss in value.[59] Possessory rights entitle the holder to collect for damages to the property (compensation for damage to resources or unlawful destruction of property) and expose the owner to liability for damage caused by the property (e.g., from a blown-out oil well or from the spread of invasive aquatic species).[60] Use (usufructuary) rights entitle the holder to use a particular property for specific (usually limited) purposes (such as extraction of oil, gas, or minerals; agriculture; aquaculture; and fishing).[61] Use rights may be limited to a particular time (five-year lease or seasonal fishing license). Exclusionary rights entitle the holder to exclude others from using or trespassing on the property, and set conditions for others to use the property.[62] Disposition rights en-

[58] Oran R. Young, *Rights, Rules, and Common Pools: Solving Problems Arising in Human/Environment Relations*, NAT. RES. L. J. (forthcoming 2007); Gail Osherenko, *Property Rights and Transformation in Russia: Institutional Change in the Far North*, 47 EUR.-ASIA STUD. 1077, 1086-87 (1995).

[59] *See* Osherenko, *supra* note 58, at 1086-87.

[60] *Id.*

[61] *Id.*

[62] *Id.*

title the holder to dispose of, or in legal terminology, "alienate" the property.[63]

From the sixteenth century to the latter part of the twentieth century, people thought about sovereignty in terms of freedom of navigation and expanded commerce. Industry did not want to privatize or carve up the seas. Grotius, of the Netherlands, fathered the concept of innocent passage through territorial seas as a way to foster commerce while recognizing state sovereignty.[64] The alternative was a Seldenian regime with the oceans divided into national jurisdictions, based on the views of British lawyer John Selden.[65]

While Grotius' view prevailed, nations have dramatically expanded their claims to the right to manage and control the use of the seas. First their claims expanded from a three- to a twelve-mile territorial sea, then to extended rights to contiguous zones, to the continental shelf, and finally EEZs 200 nautical miles from the coastline.[66] But nations have avoided overt claims of state ownership or property rights to the seas. The 1982 Convention and U.S. legislation provide for state control and management of offshore exploration and exploitation of subsea resources, but they are generally silent on the nature of property rights to marine resources. Despite relentless pressure to make valuable seabed and subsurface mineral resources available to industry, the 1982 Convention does not address the subject of property rights, instead focusing on jurisdiction. Treaties and U.S. legislation generally avoid addressing property rights head-on, prefer-

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[63] *Id.*

[64] *See generally* JUDA, *supra* note 13, 8-30 (discussing the changing perceptions of the sea during Grotius' time).

[65] *See* JOHN SELDEN, OF THE DOMINION, OR, OWNERSHIP OF THE SEA (Leonard Silk advisory ed., Arno Press 1972) (1652).

[66] Seaward of the territorial sea, international law recognizes a contiguous zone over which nations may assert limited authority related to customs, fiscal, immigration, and sanitary laws. OCEAN BLUEPRINT, *supra* note 6, at 72. President Clinton extended the U.S. contiguous zone from twelve to twenty-four miles offshore in 1999 to expand U.S. enforcement authority over foreign-flag vessels. Proclamation No. 7219, 64 Fed. Reg. 48,701 (Aug. 2, 1999). The legal definition of "continental shelf" under the United Nations Conference on the Law of the Sea (UNCLOS) now overlaps geographically with EEZ, even where the continental margin does not extend that far from shore. OCEAN BLUEPRINT, *supra* note 6, at 73. This Article does not explore the basis for claims of extension of rights to the continental shelf where it extends beyond 200 nautical miles. For in-depth discussions on the UNCLOS negotiations regarding the extent of offshore jurisdiction, see KALO ET AL., *supra* note 44, at 317-18; and HOLLICK, *supra* note 13, at 284-349.

ring to skirt an issue that squarely raises questions of equity, and pits haves against have-nots.

III

IMPERIUM VERSUS *DOMINIUM*

International law makes a clear distinction between *imperium* (exercise of authority) and *dominium* (property rights), and this fundamental distinction matters in a time of increased claims to ocean space for offshore industrial facilities, marine-protected areas, exclusive fishing zones, and expanded shipping. While on land, governments have both *imperium* and *dominium*, the law is quite different with regard to the seas. Both scholarly and lay literatures frequently fail to distinguish between *imperium* and *dominium*, thus eroding the distinction between the exercise of authority and the entitlements of ownership. Before states issue permits for wind farms, aquaculture, and other new uses of oceans, they need to be clear about their limited rights as sovereign nations to grant property rights in the sea, as well as about the limited nature of rights that can be granted by lease. The important distinction between sea- and land-tenure systems requires governments to exercise caution before enlarging the bundle of property rights held by either public or private entities over the seabed, water column, and ocean resources because these are common property, not state-owned property. The role of the state is that of a trustee on behalf of the public.

While examining the nature of expanded nation-state sovereignty over plant and animal genetic resources in the 1990s and over EEZs in the seas with the 1982 Convention, international law expert Peter H. Sand wrote: "The message is simple: [t]he sovereign rights of nation states over certain environmental resources are not proprietary, but *fiduciary*."[67] Underpinning international law is the separation of property rights from sovereignty and the understanding that international law may, by agreement among sovereign nations, extend rights of sovereignty to groups of states, but this does not simultaneously grant property rights. Sand correctly characterizes the expanded role of the state over environmental resources as that of a fiduciary (trustee) rather than a proprietor (owner). The public trust doctrine pro-

[67] Peter H. Sand, *Sovereignty Bounded: Public Trusteeship for Common Pool Resources?,* 4 GLOBAL ENVTL. POL. 47, 48 (2004).

tects the public's interest in resources that are common property, such as tidelands and submerged lands. I will return to discuss this fiduciary duty and its relationship to the public trust doctrine in Part VI of this Article.

The U.S. Department of the Interior has paid close attention to the distinction between the government's exercise of authority under the Property and Commerce Clauses of the Constitution.[68] Under the Property Clause, Congress has authority both "to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States. . . ."[69] Under the Commerce Clause, the federal government may make rules and regulations that affect use, exclusion, and management, but it may not alienate what it does not own. Thus, the federal government exercises *imperium* (authority) over the seas from 3 to 200 nautical miles, but cannot legitimately privatize ocean space over which it does not have *dominium*.[70] The right of the federal government to exercise authority must be clearly separated from any mistaken concept of property ownership in order to avoid endless battles among entrenched private interests, the government, and rights of the public to common property and common property resources.[71]

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[68] *See generally* General Regulations for Areas Administered by the National Park Service and National Park System Units in Alaska, 61 Fed. Reg. 35,133-01 (July 5, 1996) (codified at 36 C.F.R. pts. 1 & 13) (clarifying authority to regulate navigable waters located within park boundaries irrespective of ownership of submerged lands.

> In some park areas, the United States holds title to the submerged lands under navigable waters. 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. Like the United States Coast Guard, the National Park Service exercises authority over navigable waters irrespective of ownership of submerged lands.

Additionally, the Park Service makes rules regarding private in-holdings (parcels owned by private individuals or entities) within the boundaries of a national park, but it may not use the Property Clause of the U.S. Constitution as authority over private in-holdings.). *See id.* at 35, 134.

[69] U.S. CONST. art. IV, § 3, cl. 2.

[70] For an overview of jurisdiction on the oceans, see OCEAN BLUEPRINT, *supra* note 6, at 70-73.

[71] Once land does become private, the Fifth and Fourteenth Amendments to the U.S. Constitution protect private property rights from being taken by government without just compensation and due process. The government's regulatory power is then limited in order to prevent unconstitutional deprivations of all economic use of the land, *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1019 (1992), as well as regulations that reduce the economic value where the government fails to show a sufficient

IV

OWNERSHIP AND OCEAN SPACE UNDER INTERNATIONAL LAW

In this section, I will discuss the key United Nations conventions relevant to understanding the sovereign rights of nations in the sea. International law deals with sovereignty, so the discourse among nations divides and allocates jurisdiction or authority, not property rights.

A. 1958 Geneva Conventions

Prior to the 1982 Convention,[72] traditional freedoms of the high seas limited resource interests and rights of the coastal states. While the seas were ostensibly open to all, the sovereign rights of individual nations, coastal or landlocked, were limited. States exercised neither *imperium* nor *dominium* over the high seas. Social groups or small communities, however, did exercise rights to use certain areas of the sea and sometimes effectively excluded competing users.[73]

Three of the four conventions adopted at the First United Nations Conference on the Law of the Sea (UNCLOS I) in Geneva in 1958 codified generally accepted customary law of the sea.[74] The Convention on the Territorial Sea and the Contiguous Zone[75] affirmed the sovereignty of coastal nations over internal waters, including ocean bays and a territorial sea subject to the

nexus between the public purpose and the regulation that restricts the owner's bundle of rights, *Nolan v. Cal. Coastal Comm'n,* 483 U.S. 825, 837 (1987).

[72] United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397. The treaty entered into force Nov. 16, 1994, and is ratified by 153 countries and the European Union, *not* including the United States. *Id.* at 397-98.

[73] Sea-tenure rights often were extensions of landholdings, but might be demarcated by physical features such as patch reefs, reef holes, and reef passages. Donald M. Schug, *The Revival of Territorial Use Rights in Pacific Island Inshore Fisheries in* OCEAN YEARBOOK 12, at 235, 236 (Elisabeth Mann Borgese et al. eds., 1996); *see also* JAMES M. ACHESON, CAPTURING THE COMMONS: DEVISING INSTITUTIONS TO MANAGE THE MAINE LOBSTER INDUSTRY 24-35 (2003) (describing how "harbor gangs" in Maine effectively control local lobster-fishing territories); *but see* E. Paul Durrenberger & Gisli Palsson, *Ownership at Sea: Fishing Territories and Access to Sea Resources*, 14 AM. ETHNOLOGIST 508, 509 (1987) (discussing inshore rights to resources as an extension of the territorial hunting-and-gathering model on land).

[74] *See* JUDA, *supra* note 13, at 157-59.

[75] Geneva Convention on the Territorial Sea and the Contiguous Zone, Apr. 29, 1958, 516 U.N.T.S. 206. The treaty entered into force Sept. 10, 1964, and is ratified by fifty-one countries including the United States. *Id.* at 206.

right of innocent passage for foreign-flag vessels.[76] While the extent of the territorial sea is not specified in the Convention on the Territorial Sea, coastal states were allowed to exercise jurisdiction to implement and enforce customs, fiscal, immigration, and sanitary laws in a contiguous zone extending nine miles beyond the traditional three-mile territorial sea. The Convention on the Continental Shelf confirmed coastal states' "sovereign rights" to explore and exploit the natural resources of the continental shelf.[77] The Convention on the High Seas[78] codified the freedom of navigation (on the surface and submerged), the freedom to fish, the freedom of overflight, and the freedom to lay cables and pipelines on the sea floor in the area beyond the territorial sea.[79]

The fourth convention, the Convention on Fishing and Conservation of the Living Resources of the High Seas,[80] allowed coastal nations to set nondiscriminatory conservation rules regarding fishing for threatened stocks in the high seas beyond their territorial seas.[81] Although the Treaty was adopted and ratified by a sufficient number of nations to enter into force, the major distant water-fishing nations did not join or observe the regulations set by member countries.[82] What is important about the Geneva conventions for our purposes is that the area beyond the territorial sea remained high seas. Coastal nations gained rights to assert increased *imperium* (authority or control) but not *dominium* (ownership).

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[76] In the late 1940s and early 1950s, Peru, Ecuador, and Chile claimed natural resources out to 200 miles. *See* KALO ET AL., *supra* note 44, at 312-15. As the "200-mile Club" grew, a group of international law experts formed within the United Nations system and drafted the four draft treaties proposed at UNCLOS I. *Id.* at 313.

[77] Geneva Convention on the Continental Shelf, Apr. 29, 1958, 419 U.N.T.S. 312, 312. The treaty entered into force June 10, 1964, and is ratified by fifty-eight countries including the United States. *Id.*

[78] Geneva Convention on the High Seas, Apr. 29, 1958, 450 U.N.T.S. 12. The treaty entered into force Sept. 30, 1962, and is ratified by sixty-three countries including the United States. *Id.*

[79] *Id.* at 82-84.

[80] Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas, Apr. 29, 1958, 559 U.N.T.S. 286. The treaty entered into force March 20, 1966, and is ratified by thirty-eight countries including the United States. *Id.* at 286.

[81] *See* JUDA, *supra* note 13, at 159-60.

[82] *Id.* at 150, 196 n.2.

Even the Convention on the Continental Shelf makes no mention of property rights, dominion or *dominium*, and only grants coastal states "sovereign rights for the purpose of exploring [the continental shelf] and exploiting its natural resources."[83] The rights are exclusive, so that if the coastal state does not explore or exploit the natural resources of its continental shelf, no one else may do so without express consent of the coastal state.[84] While the Convention does not consider the continental shelf to be the territory of the coastal state, the coastal state has use rights and exclusionary rights.[85] Furthermore, the state may exercise, and many states have exercised, possessory rights over the continental shelf by collecting rents and royalties for oil, gas, and other minerals extracted from the continental shelf, as well as from bonus bids when conducting lease sales. States behave as though they own an extensive bundle of property rights in the continental shelf, with the exception of full disposition or alienation. Notably, the United States has neither sold the continental shelf outright to private interests nor transferred fee title. Leases are limited to the life of the oil or gas field, many environmental and safety conditions apply, and contracts require removal of all equipment from the site at the conclusion of the lease term.[86]

In the Convention on the Continental Shelf, Article 3 specifies that the coastal states' rights "do not affect the legal status of the superjacent waters as high seas."[87] But Article 5 allows the coastal state "to construct and maintain or operate on the continental shelf installations and other devices necessary for its exploration and the exploitation of its natural resources, and to establish safety zones . . . to a distance of 500 metres around the installations and other devices which have been erected. . . ."[88] The Convention is careful to ensure that the installations are not

[83] Geneva Convention on the Continental Shelf, *supra* note 77, 419 U.N.T.S. at 312.

[84] *Id.*

[85] *See id.* at 312-13.

[86] *See* 43 U.S.C. § 1334(a) (2006) ("The Secretary may . . . prescribe . . . rules . . . for the prevention of waste and conservation of the natural resources of the outer Continental Shelf."); *see also* LEASING OIL AND NATURAL RESOURCES, *supra* note 3, at 40 ("When a field can no longer be economically produced and the lease expires, the lessee, with the MMS approval, must plug and abandon all wells and remove all equipment from the lease, including the platform and any subsea devices.").

[87] Geneva Convention on the Continental Shelf, *supra* note 77, 419 U.N.T.S. at 313.

[88] *Id.* at 314.

considered territory of the coastal state. The installations "do not possess the status of islands. They have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea of the coastal State."[89]

B. 1982 Convention on the Law of the Sea

The Third U.N. Conference on the Law of the Sea (UNCLOS III) began in 1973 and culminated in adoption of the comprehensive 1982 Convention.[90] Two Implementation Agreements followed: Part XI (Seabed) in 1994[91] and Fish Stocks in 1995.[92] Negotiators in Committee Four of UNCLOS III debated the functional content of the continental shelf regime to be included in what became Article 68 of the 1982 Convention.[93] One issue was the meaning of "sovereign rights" for the purpose of exploring and exploiting the natural resources.[94] Latin American nations wanted the term replaced with "sovereignty," while Germany preferred "rights."[95] The United States at one point proposed "exclusive rights."[96] Article 56(1)(a) of the 1982 Convention retained the "sovereign rights" terminology of the 1958 Convention; in the EEZ a coastal State has:

> [S]overeign 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 sea-bed and of the sea-bed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone,

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89 *Id.*

90 *See* JUDA, *supra* note 13, at 212-43. The first U.N. Conference on the Law of the Sea began in 1958. *Id.* at 138. At the second conference in 1960, nations came close to agreeing on a Convention on the Territorial Sea. *See id.* at 160-62.

91 *Id.* at 256; *see also* Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea, July 28, 1994, 1836 U.N.T.S. 42. The treaty entered into force on November 16, 1994. *Id.* at 43.

92 JUDA, *supra* note 13, at 284; *see also* Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, Dec. 10, 1982, 2167 U.N.T.S. 3. The Treaty entered into force December 11, 2001, ratified by sixty-four countries including the United States and the European Union.

93 HOLLICK, *supra* note 13, at 150-51.

94 *Id.* at 151.

95 *Id.*

96 *Id.*

> such as the production of energy from the water, currents and winds.[97]

Article 56(1)(b) of the 1982 Convention grants coastal states jurisdiction in the EEZ over artificial islands and offshore installations and structures, marine scientific research, and marine environmental protection and preservation.[98] The 1982 Convention provisions regarding the EEZ do not confer *dominium* (a property right) in the seabed, the water column, or ocean resources, but they allocate considerable jurisdiction and control to coastal states.

If the signatories intended to convert common property to public property, rather than merely to extend authority to coastal states to manage and control common property in the sea under a new set of rules, the language of the 1982 Convention would have made this vital distinction clear. The grant of sovereign rights to coastal states "for the purpose of exploring and exploiting . . . resources"[99] allows coastal states to exercise increased *imperium* over the EEZ. In other words, coastal states have the right to manage the EEZ on behalf of the people, the common property owners.

The exercise of sovereign rights "for the purpose of . . . conserving and managing the natural resources"[100] requires only the authority or the ability to make rules.[101] Exploring, exploiting, and activities such as production of energy, however, usually re-

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[97] United Nations Convention on the Law of the Sea, *supra* note 72, 1833 U.N.T.S. at 418; *see also* JUDA, *supra* note 13, at 229. The EEZs are estimated to contain twenty-five percent of global primary production and ninety percent of the world's fish catch. *See* INDEP. WORLD COMM'N ON THE OCEANS, THE OCEAN, OUR FUTURE 59 (1998). For further discussion of the implications of the creation of the EEZ, see A SEA CHANGE: THE EXCLUSIVE ECONOMIC ZONE AND GOVERNANCE INSTITUTIONS FOR LIVING MARINE RESOURCES 3-6, 7-18 (Syma A. Ebbin et al. eds., 2005.

[98] United Nations Convention on the Law of the Sea, *supra* note 72, 1833 U.N.T.S. at 418. The international community expects, and the 1982 Convention provides protection for, research that furthers knowledge of the marine environment. *See id.* A coastal state's approval of a research application is presumed if an applicant receives no response within four months. KALO ET AL., *supra* note 44, at 334. The United States has not established a consent requirement beyond its territorial sea due to its commitment to unrestricted scientific research. *Id.*

[99] United Nations Convention on the Law of the Sea, *supra* note 72, 1833 U.N.T.S. at 418.

[100] *Id.*

[101] *See* JUDA, *supra* note 13, at 230 (discussing the general duties of coastal states to protect the resources, which involves, for example, rulemaking for total allowable catch).

quire ownership or property rights. Economic investments normally are not undertaken without secure rights to recoup and even profit from the investment.

But the 1982 Convention does not clarify whether the extension of sovereign rights over the EEZ includes property rights. Certainly, coastal states have authority to make rules regarding exploration, exploitation, conservation, management, and production of energy. Commentators and scholars have expounded at length on the extension of authority under the 1982 Convention, as well as the constraints on coastal state authority.[102] But they have not explored the nature of property rights, if any, that coastal states may claim as a result of declaring an EEZ.

Although coastal states may have behaved as owners of the seabed for the purposes of exploration, exploitation, and production of hydrocarbons by state-owned companies (e.g., Statoil in Norway),[103] or by leasing tracts of the ocean floor to private entities while collecting revenues from lease sales and production royalties,[104] they are actually exercising sovereign rights to regulate exploration and production in their capacity as trustees on behalf of the common owners. When coastal states permit siting of wind-power facilities, authorize LNG terminals offshore, or allow open-ocean tuna pens, they are exercising rights of *imperium* in setting the rules of access and exclusion, and should not claim ownership over the seabed, water column, or marine resources.

The 1982 Convention ensures that all nations enjoy freedom of navigation and overflight, and the right to lay cables and pipelines both on the high seas and in the EEZ.[105] The United States interprets these freedoms to include conducting military exercises that do not interfere with the rights and freedoms of other nations.[106] The International Maritime Organization establishes uniform rules and standards for protecting the marine environ-

[102] *See generally id.* (examining the evolution of ocean-use management); HOLLICK, *supra* note 13 (tracing U.S. policy regarding the ocean); and FRIEDHEIM, *supra* note 13 (providing an in-depth history of the 1982 Convention).

[103] Statoil is a Norwegian company with sixty-two percent of its ownership held by the government at the end of 2006. Heather Timmons, *Statoil to Buy Norsk Offshore Operations in $28 Billion Deal*, INT'L HERALD TRIBUNE, Dec. 18, 2006, http://www.iht.com/articles/2006/12/18/yourmoney/merge.php.

[104] The Outer Continental Shelf Lands Act (OCSLA) gives the Secretary of the Interior authority to regulate leasing. 43 U.S.C. § 1334(a) (2006).

[105] United Nations Convention on the Law of the Sea, *supra* note 72, 1833 U.N.T.S. at 418, 432.

[106] KALO ET AL., *supra* note 44, at 335.

ment from vessel-source pollution, and flag states, rather than coastal states, have primary jurisdiction to enforce those rules and standards against vessels flagged in their nation.[107] Port nations also exercise rights of enforcement over any vessel in ports visited by an offending ship.[108]

The 1982 Convention grants exclusive rights to coastal states to manage fisheries as well as preferential harvest rights for coastal states' fishermen.[109] But a coastal state's sovereignty is limited by obligations to conserve the living resources of the EEZ, as well as the potentially conflicting duty to promote "optimum utilization."[110] Part XII of the 1982 Convention includes forty-six articles devoted to marine environmental protection,[111] beginning with the general obligation of states "to protect and preserve the marine environment."[112] States have a duty to "take . . . all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source . . . ,"[113] including "those [measures] 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."[114] The 1982 Convention requires parties to coordinate and cooperate in the management of straddling stocks[115] (transboundary species such as groundfish) and highly migratory species[116] (such as tuna and billfish). The 1995 Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks filled a significant gap in the 1982 Convention by requiring conservation and management of these stocks within the EEZ and on the high seas.[117] Thus, a coastal nation-state's juris-

107 *Id.*; *see also* United Nations Convention on the Law of the Sea, *supra* note 72, 1833 U.N.T.S. at 479, 483, 485-87 (containing the enforcement provisions, which are arts. 197, 211, 213, 217, & 218).

108 *Id.* at 487.

109 *Id.* at 421.

110 *Id.* at 487 (addressing conservation of living resources), 421 (providing the goal of optimum utilization).

111 JUDA, *supra* note 13, at 235.

112 United Nations Convention on the Law of the Sea, *supra* note 72, 1833 U.N.T.S. at 477. For a summary of the marine environmental-protection provisions, see JUDA, *supra* note 13, at 235-37.

113 United Nations Convention on the Law of the Sea, *supra* note 72, 1833 U.N.T.S. at 478.

114 *Id.* at 479.

115 *Id.* at 422.

116 *Id.* at 423.

117 *See* CHRISTIE & HILDRETH, *supra* note 37, at 378-80.

diction over its EEZ is extensive, but restrained by international law. And while international law determines the extent of coastal state jurisdiction, it does not grant ownership over ocean space or resources.

V

PROPERTY RIGHTS IN THE SEA UNDER U.S. LAW

This section begins with a brief description of early conflicts along the U.S. East Coast over tidelands and the tensions that arose as private interests attempted to privatize common property. A set of U.S. Supreme Court cases in the post-World War II period raised the issue of whether the federal government or coastal-state governments have authority over, or property rights to, the seabed and subsurface of offshore tidelands. California, Louisiana, and Texas had leased areas offshore and were collecting revenues from offshore oil and gas development. The United States filed lawsuits first against California and then against Louisiana and Texas.[118] As the following discussion documents, the Supreme Court decisions in favor of federal control rested on the federal government's authority (*imperium*), not on property rights. Congress gave authority (and the right to collect revenue) back to the coastal states when it passed the Submerged Lands Act (SLA) in 1953.[119] Congress could exercise *imperium*, but not *dominium*, in adopting the SLA and the subsequent Outer Continental Shelf Lands Act (OCSLA) under which private owners are able to produce oil and gas from subsea resources through leases.

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[118] United States v. California, 332 U.S. 19 (1947); United States v. Louisiana, 339 U.S. 699 (1950), and United States v. Texas, 339 U.S. 707 (1950). Control and ownership of offshore lands was the issue in these three cases, and the controversy is described and analyzed in ERNEST R. BARTLEY, THE TIDELANDS OIL CONTROVERSY: A LEGAL AND HISTORICAL ANALYSIS (1953); HERBERT MARSHALL & BETTY ZISK, THE FEDERAL-STATE STRUGGLE FOR OFFSHORE OIL (1969); and William K. Metcalfe, *The Tidelands Controversy: A Study in the Development of a Political-Legal Problem*, 4 SYRACUSE L. REV. 39 (1952-53). The controversy was revisited more recently in EDWARD A. FITZGERALD, THE SEAWEED REBELLION: FEDERAL-STATE CONFLICTS OVER OFFSHORE ENERGY DEVELOPMENT (2001), and Edward A. Fitzgerald, *The Seaweed Rebellion: Florida's Experience with Offshore Energy Development*, 18 J. LAND USE & ENVTL. L. 1 (2002).

[119] § 3, 43 U.S.C. § 1311(b)(1) (2006).

A. Nineteenth Century Battles Over Tidelands

Attempts to extend private property rights to tidelands triggered "oyster wars" along the New Jersey coast in the nineteenth century.[120] Entrepreneurs who had seeded declining oyster beds claimed property rights to the tidelands they "planted," while baymen or watermen who made a living from the oyster trade, as well as farmers who supplemented their income by gathering and selling oysters, resisted privatization of the tidelands.[121] In the 1700s, the demands of an industrializing economy led to overexploitation and ruin of natural oyster beds, not only for food, but also for lime and fuel for iron-making furnaces.[122]

In the well-known case *Martin v. Waddell's Lessee*, the Supreme Court interpreted grants made in 1664 and 1674 by Charles II to his brother, the Duke of York, involving lands under the navigable waters in Raritan River and Bay in New Jersey.[123] The defendant, lessee of William Waddell, claimed an exclusive right to take oysters from 100 acres of submerged lands of Raritan Bay.[124] The Court rejected the defendant's view that the grant to the duke, "instead of being held as a public trust for the benefit of the whole community, to be freely used . . . for navigation and fishery, as well as for shell-fish . . . had been converted . . . into private property, to be parcelled out and sold by the duke for his own individual emolument."[125] Rather, the Court declared "the land under the navigable waters passed to the grantee, as one of the royalties incident to the powers of government; and were to be held by him in the same manner, and for the same purposes, that the navigable waters of England, and the soils under them, are held by the crown."[126] Once the people of New Jersey formed their own colonial government, they assumed the rights and responsibilities of sovereignty that had

120 BONNIE J. MCCAY, OYSTER WARS AND THE PUBLIC TRUST: PROPERTY, LAW, AND ECOLOGY IN NEW JERSEY HISTORY 7-21, 29 (1998).

121 *Id.* at 30-57. Anthropologist McCay recounts the clash between rich and poor, proprietors and artisanal oystermen, in her detailed study of the skirmishes and ensuing court cases over New Jersey's oyster beds.

122 *Id.* at 7-8; *see also* MARK KURLANSKY, THE BIG OYSTER: HISTORY ON THE HALF SHELL (2006) (exploring the role of oysters in New York City's history).

123 Martin v. Waddell's Lessee, 41 U.S. 367, 367 (1842).

124 *Id.*

125 *Id.* at 413.

126 *Id.* at 413-14.

been passed by this grant to the duke.[127] As Justice Thompson pointed out in his dissent:

> A majority of the court seem to have adopted the doctrine of *Arnold v. Mundy*, decided in the supreme court of New Jersey, in which it is held, that navigable rivers, where the tide ebbs and flows, and the ports, bays and coasts of the sea, including both the waters and the land under the water, are common to the people of New Jersey; and that . . . all the rights . . . passed to the duke, as governor of the province, exercising the royal authority, and not as the proprietor of the soil; but that he held them as trustee for the benefit of all settlers in the province . . . .[128]

As courts and state legislatures tried to resolve these conflicts in the 1800s, they blurred the line between the role of the state as rule-maker and the role of the state as owner of tidelands. The first state oyster-bed protection laws, adopted in the 1700s, employed closed seasons and residential restrictions to protect the interests of "poor People, and others inhabiting this Province [New Jersey]."[129] But by the late 1800s, the railroads and the industries dependent on them, undermined the states' obligation to protect tidal lands.[130] Legislatures authorized leases and grants of tidal lands to private interests, and courts upheld these grants while elaborating the common-law public trust doctrine to protect public rights in fishing, navigation, recreation, and other interests.[131] The oyster wars, as well as the industrial era of railroads and wharf building, left the coastlines of the nation pockmarked with private titles and encumbered with private leases, permits, or licenses. The tension between privatization and the protection of the public interest also has produced murky legal opinions and a literature replete with muddled treatment of the nature of property rights in the sea.

Today, private rights to tidelands and bottomlands run the gamut from fee title to something less than a lease.[132] Approximately seventy percent of tidelands in Puget Sound in Washington state are privately owned, according to Jay Udelhoven of The

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127 *Id.* at 417.

128 *Id.* at 419.

129 MCCAY, *supra* note 120, at 8.

130 *Id.* at 111.

131 *Id.*

132 Telephone interview with Jay Udelhoven, Senior Policy Advisor, Global Marine Initiative, The Nature Conservancy (Apr. 28, 2006).

Nature Conservancy.[133] These holdings usually cover the area between mean-low and mean-high tide, but in bays and estuaries the holdings may be extensive.[134] Today, many coastal states allow private parties to lease shellfish beds, aquaculture areas, kelp beds, and marinas along their coasts.[135] Conservation organizations such as the Nature Conservancy are purchasing and leasing inter-tidal and sub-tidal lands to restore biodiversity and ecosystem services.[136] Private ownership occasionally extends below the low-tide line.

B. The Truman Proclamation of 1945

Prior to discovery of offshore oil at the beginning of the twentieth century, the question of ownership of seabed resources had not been of any significance.[137] At first, oil companies in California and Louisiana drilled a few shallow-water oil wells. Oil companies had sought property rights to explore and drill for oil in the Gulf of Mexico as early as 1918, but the U.S. State Department and the Department of the Interior responded to inquiries, then and in the late 1930s, that neither the United States nor any other nation had jurisdiction beyond territorial waters.[138] The search for new international legal principles and concepts began in earnest in the 1940s as industry and the Interior Department's Geological Survey discovered the extent and value of offshore petroleum deposits.[139] As pressure mounted to claim these resources for the United States, President Truman issued a Proclamation on the Continental Shelf on September 28, 1945, asserting "jurisdiction and control" over the natural resources of

133 *Id.* For a discussion of the application of the public trust doctrine to submerged lands that have been leased to private owners, see Tim Eichenberg et al., *The Legal Context of Submerged Lands Leasing & Ownership*, *in* TOWARDS CONSERVATION OF SUBMERGED LANDS: THE LAW AND POLICY OF CONSERVATION LEASING AND OWNERSHIP 4 (Michael W. Beck et al. eds., 2005) *available at* http://law.edu/sites/marineaffairs/content/pdf/sublandsrpt.pdf.

134 Udelhoven, *supra* note 132.

135 *See generally* M. Richard DeVoe & Andrew S. Mount, *An Analysis of Ten State Aquaculture Leasing Systems: Issues and Strategies*, 8 J. SHELLFISH RES. 233 (1989) (analyzing leasing programs in several coastal states).

136 Michael Beck et al., *supra* note 34, at 1217. The article contains useful information about this new trend among private non-profit conservation organizations, and tideland leases in general.

137 *See* MARSHALL & ZISK, *supra* 118, at 5.

138 For an excellent description of correspondence and events leading up to the Truman Proclamation, see JUDA, *supra* note 13, at 93-97.

139 *See id.* at 95.

the seabed and subsoil of the continental shelf beneath the high seas, but contiguous to the coast of the United States.[140] This unilateral assertion of control, based on "conservation and prudent utilization,"[141] fell short of a claim to sovereignty as the United States sought to protect its interests in commerce, freedom of movement for the Navy, and distant-water fisheries. And "this claim was almost certainly illegal at the time. . . ."[142] The pragmatic need of the oil industry for investment security, and the growing demand for oil in the post-war period, made it inevitable that coastal states would seek expanded jurisdiction over the continental shelf. The Truman Proclamation on the Continental Shelf initiated a "claim-and-response process of customary international law" that helped "turn the old order of the seas into a shambles."[143] Among the numerous unilateral claims, "Argentina went the furthest in claiming 'sovereignty, property rights and incorporation of the shelf and sea as national territory.'"[144] Many of the claims of this growing enclosure movement aimed to exclude other states from fishing, and protect states from growing distant-water fishing fleets. Chile and Peru (in 1947) and Ecuador (in 1951) were among the early states to assert 200-mile claims to protect their fishing (and whaling for Chile) interests against growing distant-water fleets and the U.S. tuna fleet.[145]

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140 The Truman Proclamation declared "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. 2667, 3 C.F.R. 68-69 (1943-1948) (Sept. 28, 1945). *See also* BILIANA CICIN-SAIN & ROBERT W. KNECHT, THE FUTURE OF U.S. OCEAN POLICY: CHOICES FOR THE NEW CENTURY 33 (2000) (elaborating on the hastened activity toward control over oil resources). A second Proclamation on Coastal Fisheries asserted a conservation zone in areas of the high seas contiguous to the coasts of the United States. No. 2668, 3 C.F.R. 68-69 (1943-1948) (Sept. 28, 1945). Neither proclamation makes any mention of how these zones are to be measured. They neither specify depth in meters nor extent in miles.

141 Proclamation No. 2667, 3 C.F.R. 68-69.

142 KALO ET AL., *supra* note 44, at 311. International-relations scholar Lawrence Juda, however, states that the majority view of continental shelf resources as "the submarine extension of state territory . . . under the domain of the contiguous coastal state" won out over the "idealists" who argued for "some form of common ownership" or *res communis*. JUDA, *supra* note 13, at 97. The view that continental shelf resources are property of coastal states overstates reality.

143 KALO ET AL., *supra* note 44, at 305, 311.

144 HOLLICK, *supra* note 13, at 118.

145 *See* KALO ET AL., *supra* note 44, at 312-13. *See also* P.W. Birnie, *The Law of the Sea Before and After UNCLOS I and UNCLOS II*, *in* THE MARITIME DIMENSION 13 (R.P. Barston & Patricia Birnie eds., 1980) (detailing Latin American claims to a 200-mile sea); HOLLICK, *supra* note 13, at 75-80, 85-91 (discussing these 200-

By the fall of 1977, sixty-eight countries had claimed exclusive fishing zones beyond twelve miles, including fifty-one claims extending to 200 miles.[146] The Truman Proclamation touched off a debate that culminated in dramatic changes to the map of ocean claims, first in the 1958 Geneva Convention on the Continental Shelf, and later in the 1982 Convention. Note, however, that the extended coastal claims mark expansions of coastal state *imperium*, not *dominium*, over the seabed, subsurface, and ocean resources.

C. State/Federal Court Battles Over Proprietary Rights to Subsurface

After the discovery of oil under the sea floor, a great battle began in the United States between the federal government and the coastal states over subsurface rights in the three-mile territorial sea. The California Legislature authorized permits to prospect off its coast in 1921, and collected rents and royalties for petroleum extracted from under the ocean.[147] As other states followed California's lead, the federal government challenged California's claim and alleged that the United States "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, lying seaward of the ordinary low water mark on the coast of California and outside of the inland waters of the State, extending seaward three nautical miles . . . ."[148]

In the first of several decisions, in *United States v. California* the Supreme Court held in favor of the federal government.[149] The case raised the narrow question of who has paramount rights in, and power over, this three-mile ocean belt—a state or the fed-

mile claims and coordinated claims of Chile, Ecuador, and Peru from 1952-1955). In the early 1970s, during preparations for UNCLOS III, Peru, Ecuador, and Chile along with Panama and Brazil argued for 200-mile territorial seas, a broader claim than that of the "patrimonialists," who favored 200-mile economic or resource zones. *Id.* at 250-52. For a detailed catalogue of the different political coalitions—territorialists, patrimonialists, archipelagic states, maritime states, landlocked and geographically disadvantaged states, the Group of 77, and technologically advanced mining states—that is useful to understand the rationale behind varying approaches to expanded sovereignty, see *id.* at 250-56.

146 ECKERT, *supra* note 12, at 129.

147 United States v. California, 332 U.S. 19, 38 (1947) (citing 1921 Cal. Stat. 1921 404).

148 *Id.* at 22 (emphasis added).

149 *Id.* at 42-43.

eral government. The Court concluded in favor of the nation rather than its subunits (coastal states).[150] The Court did not accept the federal government's argument of fee simple ownership, but rested its decision on the "paramount rights" of the federal government.[151]

Justice Black was cognizant that international law had not explicitly recognized property rights or *dominium* of nations in the three-mile territorial sea.[152] "[W]hen this nation was formed, the idea of a three-mile belt over which a littoral nation could exercise rights of ownership was but a nebulous suggestion."[153] Rather, the three-mile territorial sea came about as the United States, Great Britain, and other maritime states used it to define the limits of littoral-state jurisdiction, particularly for exercising exclusive rights to the fishery.[154] The majority opinion confirmed that "[t]here is no substantial support in history for the idea that [those who settled this country] wanted or claimed a right to block off the ocean's bottom for private ownership and use in the extraction of its wealth."[155] But the Court reasoned that the nation's interest in "national dominion over a definite marginal zone to protect our neutrality" led to exercises by the United States (and other maritime nations) of "broad, if not complete dominion . . . over our three-mile marginal belt."[156] The Court decided that the assertion and exercise of this broad control "is binding on this Court."[157] Justice Black wrote:

> [The U.S. government] must have powers of dominion and regulation in the interest of its revenues, its health, and the security of its people from wa[r]s waged on or too near its coasts. And insofar as the nation asserts its rights under international law, whatever of value may be discovered in the seas next to its shores and within its protective belt, will most naturally be appropriated for its use.[158]

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150 *Id.* at 38-39.

151 *Id.* at 38.

152 *Id.* at 32.

153 *Id.*

154 *Id.* at n.12. Three miles had become the norm in the 1700s under the "cannon shot rule," as it was the distance over which nations could assert military power. KALO ET AL., *supra* note 44, at 309.

155 *Id.* at 32-33.

156 *Id.* at 33.

157 *Id.* at 34 (citing Jones v. United States, 137 U.S. 202, 212-14 (1890) and *Ex parte* Cooper, 143 U.S. 472, 502-03 (1892)).

158 *Id.* at 35.

What did Justice Black mean by "powers of dominion"? Is he using dominion as a synonym for *dominium*? Can a nation appropriate for its use that which is not its property? Is the Court asserting a property right or only exercising sovereign authority? Justice Frankfurter, in his dissent, called attention to the confusion created by the majority's finding of trespass against the United States on the basis of "national dominion."[159] Justice Frankfurter understood, and even explained, the difference between the Roman concept of *dominium* and *imperium* when he wrote in his dissent:

> One may choose to say, for example, that the United States has "national dominion" over navigable streams. But the power to regulate commerce over these streams, and its continued exercise, do not change the *imperium* of the United States into *dominium* over the land below the waters. Of course the United States has "paramount rights" in the sea belt of California—the rights that are implied by the power to regulate interstate and foreign commerce, the power of condemnation, the treaty-making power, the war power.[160]

The majority did not need to determine the precise ownership interest, or even that the United States had a property interest in the seabed, in order to decide the central issue in the case. The Court determined that the federal government "had paramount rights in and powers over" the land under the sea beyond inland waters, which resolved the case in favor of the federal government.[161] At the same time, the majority acknowledged the existence of international rights within the three-mile belt, and noted that the rights to subsea oil "might well become the subject of international dispute and settlement."[162] Nonetheless, the majority concluded that "the 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."[163] This sentence, referred to in recent cases as the "paramountcy doctrine,"[164] has led to ongoing confusion over the nature of federal rights to the seabed

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[159] *Id.* at 44 (Frankfurter J., dissenting).

[160] *Id.* (emphasis added).

[161] *Id.* at 24.

[162] *Id.* at 35.

[163] *Id.* at 38-39.

[164] Native Village of Eyak v. Trawler Diane Marie, 154 F.3d 1090, 1092 (9th Cir. 1998).

and subsoil of the three-mile territorial sea.[165] Later cases have suggested that "full dominion" is equivalent to a property right,[166] even though dictionary definitions of dominion treat it as a synonym for sovereignty, authority, government, and jurisdiction.[167]

Justice Frankfurter's dissent in *California* calls attention to how the majority does not rest its decision on finding that the three-mile area of the sea "belongs, in a proprietary sense, to the United States"[168] as the government's lawyers had urged.[169] But Frankfurter rightly expressed concern with the majority's failure to steer clear of a national claim of ownership that had not historically occurred. He wrote:

> We have not now before us the validity of the exercise of any of these paramount rights. Rights of ownership are here asserted—and rights of ownership are something else. Ownership implies acquisition in the various ways in which land is acquired—by conquest, by discovery and claim, by cession, by prescription, by purchase, by condemnation. *When and how did the United States acquire this land?*
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> . . . .
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> To declare that the Government has "national dominion" is merely a way of saying that *vis-à-vis* all other nations the Government is the sovereign. If that is what the Court's decree means, it needs no pronouncement by this Court to confer or declare such sovereignty. If it means more than that, it implies that the Government has some proprietary interest. That has not been remotely established except by sliding from absence of ownership by California to ownership by the United States.[170]

Frankfurter characterized the three-mile area as "unclaimed land" and argued that any determination to claim it for the United States rested with the President and Congress.[171] In

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165 Edward A. Fitzgerald, *The Seaweed Rebellion: Florida's Experience with Offshore Energy Development*, 18 J. LAND USE & ENVTL. L. 1, 8 ("the court confused property rights, which are determined by domestic law, with sovereignty, which is governed by international law.").

166 *See* discussion *infra*, Parts V.C.3., V.C.5.

167 "Control or the exercise of control; sovereignty." AMERICAN HERITAGE COLLEGE DICTIONARY 410 (3d ed. 2000). "Sovereign or supreme authority; the power of governing and controlling; domination; sovereignty; control." WEBSTER'S NEW UNIVERSAL UNABRIDGED DICTIONARY 544 (2d ed. 1983).

168 *California*, 332 U.S. at 43 (Frankfurter, J., dissenting).

169 *Id.* at 44-45.

170 *Id.* (emphasis added).

171 *Id.* at 45.

short, the Court did not have the authority to claim property rights for the United States in the three-mile territorial sea. The Court could not go beyond the Truman Proclamation's claim of jurisdiction and control and did not need to go beyond that to resolve the federal-state jurisdictional conflict before it. Thus, the case merely confirmed the paramount rights (sovereign authority) of the federal government over a three-mile belt. Those paramount rights stem from the exercise of *imperium* and should not be confused with *dominium* or property rights.

Following the federal government's success against a coastal state's claim to reap the revenues of offshore oil and gas leasing, the United States brought suit against Louisiana, which had leased offshore seabed and subsoil, and claimed a right to do so out to three marine leagues (twenty-seven nautical miles).[172] The United States charged Louisiana, as well as those who purported to have valid leases from the state, with trespassing.[173] Even though *California* did not turn on conventional ownership rights,[174] the U.S. Attorney General asserted such property rights in the complaint against Louisiana.[175] The Court relied on *California*." Justice Douglas wrote:

> 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.[176]

As in *California*, the Court avoided asserting its own claim of ownership to the offshore lands as it rejected the claim by Louisi-

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[172] United States v. Louisiana, 339 U.S. 699, 701 (1950).

[173] *Id.*

[174] *Id.* at 704.

[175] The United States claimed itself as "the owner in fee simple of, or possessed of paramount rights in, and full dominion and power over, the lands, minerals, and other things underlying the Gulf of Mexico, lying seaward of the ordinary low-water mark on the coast of Louisiana and outside of the inland waters, extending seaward twenty-seven marine miles. . . . The prayer of the complaint is for a decree . . . enjoining Louisiana and all persons claiming under it from continuing to trespass upon the area in violation of the right of the United States. . . ." *Id.* at 701.

[176] *Id.* at 704.

ana, instead relying on the paramount rights rationale "fully elaborated" in *California*.[177]

1. The SLA of 1953

With Supreme Court decisions that took away the coastal states' revenues from offshore oil and gas leasing, the coastal states turned to Congress to regain control and revenue from these seabed resources. In May 1953, Congress passed the SLA, granting coastal states "title to and ownership of the lands beneath navigable waters within the boundaries of the respective States, and the natural resources within such lands and waters."[178] The Act defines "lands beneath navigable waters" to reach seaward three geographical miles from the coastlines of states bordering the Atlantic and Pacific Oceans, or, in the case of Texas and Florida, for example, no more than three marine leagues into the Gulf of Mexico.[179]

Congress clearly intended states to have property rights to the seafloor and subsurface, but was cautious about overstating its ownership rights over these lands and resources: "The United States releases and relinquishes unto said States and persons aforesaid, except as otherwise reserved herein, all right, title, and interest of the United States, *if any it has*, in and to all said lands, improvements, and natural resources. . . ."[180]

How could Congress grant ownership rights that the United States did not possess? The SLA confirmed federal retention of authority over these submerged lands, as well as navigable waters for specific constitutional purposes (commerce, navigation, national defense, and international affairs), but did not retain "proprietary rights of ownership, or the rights of management, administration, leasing, use, and development of the lands and natural resources which are specifically recognized, confirmed, established, and vested in and assigned to the respective States and others by section 1311 of this Act."[181]

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[177] *Id.*

[178] *Submerged Lands Act of 1953,* § 3, 43 U.S.C. § 1311(a)(1) (2006).

[179] *Id.* § 1301 (a)(2)-(3)(b). Congress later granted Puerto Rico jurisdiction to nine nautical miles. OCEAN BLUEPRINT, *supra* note 6, at 70.

[180] § 1311(b)(1) (2006) (emphasis added).

[181] *Id.* § 1314(a).

An interpretation of the SLA consistent with international law is that the three- (or nine-) mile belt[182] remained common property, and coastal states' governments hold the submerged lands as trustees for the common property owners in addition to exercising regulatory authority. The states, then, assume the public trust responsibilities previously held by the federal government. In *California*, the Court had applied the public trust doctrine to reject the state's argument that actions of federal agents had resulted in loss of federal rights in the three-mile belt.[183] I will discuss the public trust doctrine further in section VI of this article.

Notably, Congress confirmed federal "jurisdiction and control" over "the natural resources of that portion of the subsoil and seabed of the Continental Shelf lying seaward and outside of the area of lands beneath navigable waters, as defined in section 1301" of the SLA, the lands over which the states were to exercise control.[184]

2. The OCSLA of 1953

Less than three months after the SLA was passed, Congress approved the OCSLA of 1953, authorizing the Secretary of the Interior to lease submerged lands beyond the jurisdiction granted to states in the SLA.[185] Section 3 of the OCSLA, adopted on August 7, 1953, declared the policy of the United States "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 in this [Act]."[186]

Although Kalo substituted "belong" as a synonym for "appertain,"[187] a more apt meaning of "appertain" is that the outer continental shelf is connected to the United States geographically, geologically, and functionally. The outer continental shelf may

[182] For historical reasons, jurisdiction extends nine nautical miles seaward from the coastal baseline for Texas, the Gulf Coast of Florida, and Puerto Rico. OCEAN BLUEPRINT, *supra* note 6, at 70.

[183] United States v. California, 332 U.S. 19, 40 (1947) ("The Government, which holds its interests here as elsewhere in trust for all the people, is not to be deprived of those interests by the ordinary court rules designed particularly for private disputes over individually owned pieces of property. . . .").

[184] 43 U.S.C. § 1302.

[185] Outer Continental Shelf Lands Act of 1953, § 5, 43 U.S.C. § 1334(a) (2006).

[186] *Id.* § 1332(1). Arguably, at the time of its adoption in 1953, the OCSLA was illegal. It would have been hard to find any legal justification in international law for the unilateral extension of authority into international waters.

[187] KALO ET AL., *supra* note 44, at 376.

be a part of the United States without being the property of the United States. The OCSLA asserts authority, or *imperium*, of the United States over the outer continental shelf from the boundary of "submerged lands" as defined in the SLA.[188] Although it is problematic that the OCSLA states that the United States has the power of disposition over the subsoil and seabed, the disposition allowed by the Act does not go beyond leasing of soil and subsurface tracts for specified, limited terms and with numerous conditions.[189]

Section 2(a) of the OCSLA makes no claim of overt ownership; it simply defines the outer continental shelf as: "all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in [section 2 of the Submerged Lands Act] . . . and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control."[190]

Importantly, the OCSLA did not affect ownership or control of the waters above the outer continental shelf nor change its character in law. As in the 1945 Truman Proclamation, the OCSLA confirmed that the water column and resources above the Shelf are part of the "high seas."[191] Section 3(b) states: "This Act shall be construed in such a manner that the character as high seas of the waters above the outer Continental Shelf and the right to navigation and fishing therein shall not be affected."[192]

3. Alabama v. Texas (1954)

After the SLA was passed, Alabama and Rhode Island filed motions in the Supreme Court requesting leave to challenge the rights of other states to hold property ceded to them under the SLA.[193] In a per curium opinion, the Supreme Court denied these motions.[194] Despite the Court's earlier caution to avoid using property rights or ownership as a basis for its decisions in *California*, *Texas*, and *Louisiana*, the *Alabama* Court used the

188 43 U.S.C. § 1331(a), (a)(1).

189 Under § 12(a) of the OCSLA, the President "may, from time to time, withdraw from disposition any of the unleased lands of the outer Continental Shelf." *Id.* § 1341(a).

190 *Id.* § 1331(a).

191 *Id.* § 1332(2).

192 *Id.*

193 Alabama v. Texas, 347 U.S. 272, 273 (1954).

194 *Id.*

Constitution's Property Clause[195] and earlier cases to treat the subsoil and seabed of the marginal seas as property of the United States. The Court's decision in *Alabama* is troubling because, as discussed above, the three-mile belt is common property, not state-owned property: the role of the government is as a trustee.[196] While purporting to follow *California*, the Court distorted earlier decisions when it declared:

> The power of Congress to dispose of any kind of property belonging to the United States "is vested in Congress without limitation. For it must be borne in mind that Congress not only has a legislative power over the public domain, but it also exercises the powers of the proprietor therein. Congress may deal with such lands precisely as an ordinary individual may deal with farming property. It may sell or withhold them from sale. Article 4, Section 3, Cl. 2 of the Constitution provides that [t]he Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory and other Property belonging to the United States. The power over the public land thus entrusted to Congress is without limitations. And it is not for the courts to say how that trust shall be administered. That is for Congress to determine. We have said that the constitutional power of Congress [under Article IV, Section 3, Cl. 2] is without limitation.[197]

Justice Reed's concurrence shed some light on the basis for the motions by Alabama and Rhode Island. Justice Reed explained that these states relied on the earlier *California*, *Texas*, and *Louisiana* cases to assert that "the 'paramount rights' of the United States decreed by this Court arose from the sovereignty of the United States. . . ."[198] The states, Justice Reed explained, used the equal-footing doctrine in appealing to the Court to determine "that the rights are held in trust for all the states. . . ."[199] Justice Reed admitted that the Supreme Court had not held earlier that the subsurface and seabed "belonged to the United States as a proprietor," but interpreted the "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,"[200] as a

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195 U.S. CONST. art. IV, § 3, cl. 2.

196 *See supra* text accompanying note 183.

197 *Alabama*, 347 U.S. at 273-74 (internal quotations and citations omitted).

198 *Id.* at 274 (Reed, J., concurring).

199 *Id*. Justice Black's dissent also acknowledged this assertion, noting that the states argued "that whatever power the United States has over the Ocean is an inseparable part of national sovereignty which cannot be irrevocably parcelled out or delegated to states, individuals or private business groups." *Id.* at 277.

200 United States v. California, 332 U.S. 19, 38-39 (1947).

property right over which Congress had unlimited power of disposition.[201] Justice Reed explained that "if . . . the marginal lands were not declared by those cases to belong to the United States, then title to them remained in the respective states."[202]

The majority and concurring opinions in *Alabama* demonstrate how easy it was for Congress and the Court to slide from a cautious approach that fell short of declaring any ownership interest in the resources under the marginal seas, to affirming proprietary rights that Congress could transfer to the states, which could then lease to private owners. The prevailing view that resources should be extracted for use by the nation, coupled with the need for security of investment by private enterprises, inevitably led to a position that affirmed proprietary rights to marginal lands over which Congress had extensive authority.

Justice Black, who had written the majority opinion in *California*, was deeply troubled by the Court's rejection of Alabama's and Rhode Island's motions. He wanted the cases to be heard on their merits, and wrote forcefully of the difficulties of treating the subsea lands as public property over which Congress may exercise unlimited authority, arguing that the oceans were the common property of all.[203] The United States, he argued:

> [C]ould produce oil from the ocean and sell that property. It could have that oil produced by its agents. But I have difficulty in believing that any state can be granted power under our Constitution to exact tribute from any other state that wants to take oil or fish from the ocean which is the common "property" of all. And I have trouble also in thinking Congress could sell or give away the Atlantic or Pacific oceans. If it can treat those oceans as "Territory" within the Constitution's meaning, why could it not deed away thousands of miles of the Atlantic or Pacific at will?[204]

Justice Black predicted, "Once private property rights in ocean waters are recognized, I am uncertain where lines can be drawn."[205] Quoting from an 1881 Court decision, Justice Black wrote, "We should not forget that the ocean 'belongs to no one nation, but is the common property of all.'"[206]

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201 *Alabama*, 347 U.S. at 275.

202 *Id.* at 276.

203 *Id.* at 278-80 (Black, J., dissenting).

204 *Id.* at 280.

205 *Id.* at 279.

206 *Id.* (quoting Lord v. Steamship Co., 102 U.S. 541, 544 (1881)).

4. United States v. Maine (1970-1975)

Between 1953, when Congress enacted the SLA and the OCSLA, and 1975, the Department of the Interior held thirty-three lease sales and granted 1940 leases covering more than eight million acres of the outer continental shelf.[207] Private leaseholders extracted three billion barrels of oil, 19 trillion Mcf[208] of natural gas, and millions of tons of sulfur and salt from the outer continental shelf.[209] But the issue of ownership of the seabed and allocation of rights between the states and the federal government had not been laid to rest. In 1969, the United States sought leave to file a complaint in the Supreme Court against the thirteen Atlantic states to exclude them from exercising rights over the seabed and subsoil lying more than three miles seaward of the ordinary low-water along the Atlantic Coast.[210] The Atlantic states from Maine to Florida challenged the proprietary rights of the United States in this seabed area, and claimed for themselves "the exclusive right of dominion and control over the seabed underlying the Atlantic Ocean seaward from its coastline to the limits of the jurisdiction of the United States."[211] The Supreme Court assigned a Special Master to request further pleadings, summon witnesses, take evidence, and submit a report.[212] Following the recommendations of the Special Master, the Court declined to overrule its decisions in the *California*, *Texas*, and *Louisiana* cases. The Court affirmed these earlier rulings and found them binding over the Atlantic states.[213]

The Court reaffirmed that "this class of litigation does not turn on title or ownership in the conventional sense."[214] Rather, the Court rested its decision on the attributes of sovereignty to affirm that the national government and not the states must exercise "protection and control of the area" as "functions of national external sovereignty."[215] If there was confusion from earlier

[207] United States v. Maine, 420 U.S. 515, 527 (1975).

[208] One Mcf = 1000 cubic feet, or one dekatherm (10 therms). American Gas Association, http://www.aga.org/Content/NavigationMenu/About_Natural_Gas How_to_Measure_Natural_Gas/How_to_Measure_Natural_Gas.htm (last visited March 13, 2007).

[209] *Maine,* 420 U.S. at 526.

[210] *Id.* at 515.

[211] *Id.* at 518.

[212] United States v. Maine, 398 U.S. 947, 947 (1970).

[213] *Maine*, 420 U.S. at 527-28.

[214] *Id.* at 520-21 (quoting United States v. California, 332 U.S. 19, 31-34 (1975)).

[215] *Id.* at 521 (quoting *California*, 332 U.S. at 31-34).

cases, this 1975 decision emphasized that the United States' "paramount rights in the marginal sea," determined in the earlier cases, stem from the exercise of sovereignty rather than ownership.[216] The *Maine* Court reiterated that whatever ownership the states might have had prior to statehood "did not survive becoming a member of the Union."[217] In the Court's view, Congress "embraced" rather than "repudiated" this basis in passing the SLA.[218] The Court confirmed that the SLA's transfer to the states of rights to the seabed "was in no wise inconsistent with paramount national power but was merely an exercise of that authority."[219]

5. Ninth Circuit Cases (1999-2005)

The question of property rights arose again in two Ninth Circuit cases. The first began with claims of five Alaska Native villages to aboriginal title and exclusive fishing and hunting rights to a portion of the outer continental shelf.[220] The second addressed ownership claims to submerged lands offshore of the Northern Mariana Islands.[221] In both cases, the Ninth Circuit rejected the claims on the basis of the paramount interest of the United States as found by the Supreme Court in *California*.[222] The claims of the native villages as well as the Northern Mariana Islands failed for being inconsistent with the paramountcy doctrine, which ascribes paramount rights to the federal government.[223] Neither would the Ninth Circuit imply a grant of submerged lands in the covenant establishing the Northern Mariana Islands where there was no explicit grant. The Ninth Circuit had no need in either case to determine the "ownership" of the submerged land. In the Northern Mariana Islands case, Judge Beezer heads toward the slippery slope of property rights by stating that Congress, under the paramountcy doctrine, "can transfer

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216 *Id.* at 523.

217 *Id.* (quoting United States v. Texas, 339 U.S. 707, 717-18 (1950)).

218 *Id.* at 524.

219 *Id.*

220 Native Village of Eyak v. Trawler Diane Marie, 154 F.3d 1090, 1091 (9th Cir. 1998), *cert. denied*, 527 U.S. 1003 (1999).

221 N. Mariana Islands v. United States, 399 F.3d 1057, 1058 (9th Cir. 2005), *cert. denied*, 126 S. Ct. 1566 (2006).

222 *N. Mariana Islands*, 399 F.3d at 1060-61; *Native Village of Eyak*, 154 F.3d at 1092.

223 *See supra* text accompanying notes 149-76.

ownership of submerged lands to the states or other entities."[224] In revisiting several Supreme Court cases, the Ninth Circuit cites the Supreme Court in *Alabama v. Texas*, stating that "[T]his is an instance where property interests are so subordinated to the rights of sovereignty as to follow sovereignty."[225] This circular reasoning from the Texas case which so troubled Justice Black at the time,[226] has led to muddled analyses in these recent Ninth Circuit decisions as judges failed to separate the authority of the federal government from property rights. Neither of the decisions, however, needed to rely on a determination of ownership or property rights. It is sufficient that in both cases the Ninth Circuit determined that the paramount rights of the federal government bar the competing states' claims to control over the outer continental shelf.[227]

6. Offshore Leases May Convey "a Property Interest"

The overview of federal cases above illustrates the difficulty in separating property rights from authority. The effect of the Geneva Conventions of 1958 was to convert what was once common property of all nations to common property under the limited sovereignty of coastal nation-states. In exercising its new rights to explore and exploit seabed and surface resources, the United States exercised its coastal-state rights by granting a limited bundle of property rights including use, possessory, and some exclusionary rights to private owners. As the Minerals Management Service drafts new regulations for authorizing development of offshore renewable-energy facilities,[228] it should note the problems encountered with the oil and gas leasing system, and

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224 *N. Mariana Islands*, 399 F.3d at 1063 (citing the Submerged Lands Act of 1953, 43 U.S.C. §§ 1310, 1311 (2000)).

225 *N. Mariana Islands*, 399 F.3d at 1066 (citing United States v. Texas, 339 U.S. 707, 719 (1950)).

226 *See supra* text accompanying notes 203-06.

227 "The Constitution allotted to the federal government jurisdiction over foreign commerce, foreign affairs, and national defense so that as attributes of these external sovereign powers, it has paramount rights in the contested areas of the sea. This principle applies with equal force to *all* entities claiming rights to the ocean: whether they be the Native Villages, the State of Oregon, or the Township of Parsippany." *Native Village of Eyak*, 154 F.3d at 1096.

228 The Minerals Management Service sought comments on development of a regulatory program to implement portions of the Energy Policy Act of 2005, Section 833-Alternative Energy-Related Uses on the Outer Continental Shelf. Alternate Energy-Related Uses on the Outer Continental Shelf, 70 Fed. Reg. 77,345-01 (Dec. 30, 2005) (to be codified at 30 C.F.R. pt. 285).

the pitfalls of replicating these problems in authorizing other offshore facilities.

Once the federal government has collected large up-front fees, later changes in the procedural or substantive requirements may result in requiring the government to return the original fees despite the willingness of the original lessee to bear the risk that the investment would not be profitable for lack of sufficient resources, environmental risks, or other concerns. A Ninth Circuit decision regarding the right of four oil companies to construct a drilling platform in the Santa Barbara Channel under a federal oil and gas lease raised the issue of the nature of property rights conveyed in a lease under the OCSLA.[229] The court likened the outer-continental-shelf lease to a mineral lease under the Mineral Leasing Act of 1920,[230] stating:

> A lease issued under [the OCSLA], like a Mineral Lease granted under the Mineral Leasing Act of 1920, does not convey title in the land, nor does it convey an unencumbered estate in the oil and gas. The lease does convey a property interest enforceable against the Government, of course, but it is an interest lacking many of the attributes of private property.[231]

The need for investment security and the fact that the oil companies had paid more than $61 million for the lease tract perhaps influenced the finding of a vested property-interest.[232] Judge Choy wrote:

> The structure of the [OCSLA] demonstrates that Congress intended vested rights under the lease to be invulnerable to defeasance by subsequently issued regulations. . . . Congress clearly did not intend to grant leases so tenuous in nature that the Secretary could terminate them, in whole or in part, at will.[233]

The court regarded the property interest in the lease to be sufficient, and considered whether suspension of the lease interfered

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229 Union Oil Co. of Cal. v. Morton, 512 F.2d 743, 746 (9th Cir. 1975).

230 Mineral Leasing Act of 1920, Pub. L. No. 109-279, 41 Stat. 437 (codified as amended in scattered sections of 30 U.S.C.).

231 *Union Oil Co. of Cal*., 512 F.2d at 747.

232 *Id.* at 746.

233 *Id.* at 750. ("The potential lessees of outer Shelf land . . . realize that they are subject to police-power regulations which can be modified from time to time. But they are sensitive to provisions that would give the United States power to change the proprietary regulations governing the lease after the issuance of a lease." (citing Warren M. Christopher, *The Outer Continental Shelf Lands Act: Key to a New Frontier*, 6 STAN. L. REV. 23, 44 (1953)).

with private property enough to be an unconstitutional "taking" for which the government must compensate.[234] The court wrote that "[w]hether the Secretary has taken Union's property depends on the conditions of the suspension. If operations are suspended indefinitely, property rights have been taken."[235] The court vacated the district court's decision and remanded the case to determine whether the suspension exceeded the Secretary's statutory authority.[236]

VI

PROTECTING COMMON PROPERTY INTERESTS THROUGH CONTRACT LAW AND THE PUBLIC TRUST DOCTRINE

As previous sections demonstrate, the oceans and their resources are common property, and the role of the government is that of a trustee or fiduciary. In the oceans, the federal government (or state government within state waters) 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.[237] This section discusses how contract law and application of the public trust doctrine may be used in tandem to provide investment security for offshore facilities while protecting the ocean's assets for current and future owners of the ocean commons.

A. Application of Contract Law

Recent cases, including one confirmed by the Supreme Court in 2000,[238] rely on contract theories such as rights of restitution and rescission, rather than on property law to provide security of investment for offshore leases against statutory changes.[239] These cases demonstrate a strong preference of the courts to restore full payment of the original contract price to a lessee when

234 *Union Oil Co. of Cal*., 512 F.2d at 750.

235 *Id.* at 751.

236 *Id.* at 752.

237 *See supra* text accompanying notes 39-43.

238 *See* Mobile Oil Exploration & Producing Se., Inc., v. United States, 530 U.S. 604 (2000); *see also infra* text accompanying notes 242-44.

239 For an in-depth discussion of the differences between the remedies available in restitution (or reliance) and rescission, see *Amber Res. Co. v. United States*, 73 Fed. Cl. 738, 742-47 (2006).

the lessee is subjected to additional hurdles and procedural requirements due to a change in the law.[240] Regulatory changes in accord with the original law do not present the same problem. This has been true even when the current holders of an offshore oil and gas lease are not the same as the original lessee and, quite likely, paid only some fraction of the original purchase price.[241]

In 2000, the Supreme Court affirmed a judgment against the federal government for breaching lease contracts purchased in 1981 by Mobil Oil and Marathon Oil to explore and drill off the shore of North Carolina, awarding $156 million to Mobil Oil.[242] The Court found that the Secretary of the Interior breached the contracts after Congress passed the Outer Banks Protection Act.[243] The Court of Federal Claims had determined that the new statutory conditions and the Department of the Interior's actions in accordance with the Outer Banks Protection Act constituted a breach for which the United States owed restitution in the amount of the original contract payments.[244]

In 2005, the Court of Federal Claims relied on the Supreme Court's decision in *Mobil Oil* when it ordered the United States to return $1.1 billion to holders of thirty-six leases off the California coast.[245] The award was granted after Congressional amendments to the OCSLA in 1990 resulted in a requirement that the United States obtain a determination of consistency from California for lease suspensions that had not previously been subject to review by the California Coastal Commission.[246] These recent cases do not speak to the nature of property rights under an outer continental shelf lease. Rather they employ contract law to

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[240] *See id.* at 738.

[241] Most of the plaintiffs in *Amber Resources Co. v. United States* are successors to the original lessees and paid less than the original bonus bid to take over the leases. 73 Fed. Cl. 738, 747-48 (2006).

[242] *Mobil Oil Exploration*, 530 U.S. at 607-09 (2000). For discussions of the case, see H. David Gold, *Supreme Court Orders Federal Government to Return More Than $150 Million to Oil Companies*, 28 ECOLOGY L.Q. 550 (2001); and Diana Schroeher, *Mobile Oil Exploration v. U.S.: The Supreme Court Addresses Repudiation by the Federal Government of Leasing Contracts to Explore and Develop Oil*, 8 U. BALT. J. ENVTL. L. 208 (2001).

[243] *Mobil Oil Exploration*, 530 U.S. at 618-19. The Outer Banks Protection Act was repealed in 1996. Act of Apr. 26, 1996, § 109, PUB. L. NO. 104-134, 110 Stat. 1321, 1498.

[244] Mobil Oil Exploration & Producing Se., Inc. v. United States, 177 F.3d 1331, 1333 (9th Cir. 1999), *rev'd*, 35 Fed. Cl. 309 (1996), *rev'd*, 530 U.S. 604 (2000).

[245] Amber Res. Co. v. United States, 68 Fed. Cl. 535, 544-46 (2005).

[246] *Id.* at 541 (discussing California v. Norton, 311 F.3d 1162 (9th Cir. 2002)).

determine a substantial breach of contract when Congress made it more difficult for lessees to move forward with exploration and development, or even to renew suspensions of leases originally executed between 1968 and 1984. The leases had been suspended or prolonged beyond the initial five-year term numerous times, but the suspension order by Minerals Management Service in 1999 triggered a lawsuit by the State of California for failure to meet the requirements for certification by the State contained the Coastal Zone Management Act, section 307(c)(1).[247] The 1990 amendments deleted prior requirements for consistency determinations only for federal actions "directly affecting" the coastal zone.[248]

These cases demonstrate that while an offshore oil and gas lease does not convey a title in the seabed or an unencumbered right to the oil and gas resources that may be discovered, the lease does provide extensive investment security. While the original terms of leases were only five to ten years, the use of suspensions (periods in which the lessee need only inform the Minerals Management Service of its reasons for the suspension and a schedule for work to be pursued during the suspension[249]) has enabled companies to retain possession of leases to more marginal oil and gas reserves for decades while waiting for favorable production conditions (e.g., a substantial increase in the price of oil, advanced drilling technology, or other conditions).[250] The Claims Court's $1.1 billion award to holders of thirty-six leases off the California coast may re-open negotiation of a buy-back by the federal government.[251]

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247 Coastal Zone Management Act of 1972, 16 U.S.C. § 1456(c)(1) (2006).

248 "Each Federal agency [conducting or supporting activities directly affecting] *activity within or outside the coastal zone that affects any land or water use or natural resource of* the coastal zone shall [conduct or support those activities] *be carried out* in a manner which is consistent to the maximum extent practicable with *the enforceable policies* of approved State management programs. . . ." *Id.* § 1456(c)(1)(A). *Compare* Pub. L. No. 89-454, 86 Stat. 1280, 1285 (Oct. 12, 1972), *and* Pub. L. No. 101-508, 104 Stat. 1388, 1388-307 (Nov. 5, 1990) (additions italicized and deletions bracketed).

249 *Amber Res. Co*., 68 Fed. Cl. at 538. ("Lessees frequently request suspensions to prevent lease expiration in the face of ongoing exploration or development activities that have not yet resulted in the production of oil in paying quantities.").

250 *Id.*

251 Melinda Burns, *U.S. To Pay $1.1 B to Oil Firms*, SANTA BARBARA NEWS PRESS, Nov. 19, 2005, at A1; *see also*, LEASING OIL AND NATURAL GAS RESOURCES, *supra* note 3, at 36 (discussing the authorization of the Secretary of the Interior to cancel leases and compensate lessees).

Environmental and fishing organizations have urged the Minerals Management Service to not replicate the leasing systems used for oil and gas development in developing a regulatory system for authorizing offshore renewable-energy.[252] Their comments stressed the importance of terms that would make it possible for the government to revoke leases if conditions to protect living resources are not met.[253] Additionally, they urged the MMS to not emulate outer continental shelf programs such as royalty forgiveness and royalties in kind, in order to prevent speculative transfers of a license to anyone other than the original lessee.[254] They also urged the MMS to prevent the "misuse" of the suspension program that allows oil and gas developers to sit on their licenses and wait until prices increase or technology develops.[255] In crafting the terms of any lease, the MMS could provide adequate investment security to encourage development of renewable technologies but avoid granting a set of property rights that undermine the interests of other members of the community who share ownership in the community property.

B. Government's Fiduciary Responsibility and the Public Trust Doctrine

"The public trust is a fundamental doctrine in American Property law. . . ."[256] Said to be derived from ancient Roman law, the

[252] Letter from Carl Pope et al., Executive Dir., Sierra Club, to Minerals Management Service, (Feb. 28, 2006), *available at* http://ocsconnect.mms.gov/pcs-public/do/CommentDetailView;jsessionid=GyMByznp1KpLS80Y6LQX91BHpv82h0m22n79xLbZTW9GTvHy416f!428659386?objectId=09011f8080067f40. Other signatories include Defenders of Wildlife, Institute for Fisheries Resources, Pacific Coast Federation of Fishermen's Associations, Cook Inlet Keeper, Alaska Wilderness League, and U.S. PIRG. The Humane Society of the United States urged a twenty-year limit before renewal. Letter from Sharon B. Young, Marine Issues Field Dir., Humane Society of the United States, to Minerals Management Service 3 (Feb. 28, 2006) (on file with author). The Whale and Dolphin Conservation Society urged finite limits of "20 years or 10 years renewable for an additional 10 years subject to a clean environmental audit at the 10 year mark." Letter from Regina A. Asmutis-Silvia, Biologist, Whale and Dolphin Conservation Society, to Minerals Management Service 2 (Feb. 28, 2006) (on file with author).

[253] Pope, *supra* note 252, at 4.

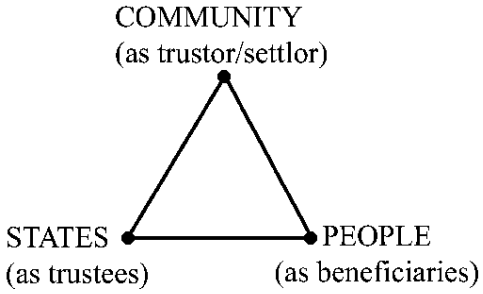
[254] *Id.* at 3-4; *see also* Letter from Mark Sinclair, Deputy Dir., Clean Energy States Alliance, to Minerals Management Service (Feb. 27, 2006) (containing useful comments on bonus bids and royalty terms), *available at* http://www.cleanenergyfunds.org/JointProjects/offshore%20docs/CESA_ANOPR_Final_Comments2.06.pdf.

[255] Pope, *supra* note 252, at 4.

[256] Harrison C. Dunning, *The Public Trust: A Fundamental Doctrine of American Property Law*, 19 ENVTL. L. 515, 516 (1989).

doctrine has been developed by American courts on the basis of English common law.[257] This section summarizes the nature of the public trust doctrine, and asks several questions. To what part of the seas does it apply? Who administers, interprets, and applies the trust doctrine? To what uses may public trust lands in the seas be put, and what are the limits to uses of public trust resources? In the United States, public trust principles are included in some state constitutions and reflected in numerous federal and state laws.[258] Public trust resources are held and managed by a government (the trustee) for the benefit of a specified human community (the people). The role of the state is more limited over trust resources than over public (state) property. The nature of the public trust or trusteeship concept is trilateral.

FIGURE 3. INTERNATIONAL MENTAL TRUSTEESHIP[259]



Public trust resources are held in trust for the benefit of a larger community of people. The beneficiaries may vary from all members of a particular country to some subset of those members, or might encompass all members of the global human community. The relevant level of government acts in a fiduciary

[257] *Id.* at 519; *see also* CHRISTIE & HILDRETH, *supra* note 37, at 19.

[258] For recent discussions of the public trust doctrine and its U.S. application to coastal states, see SLADE, *supra* note 42, at 19-21; Jon M. Van Dyke, *The Role of a Constitution for the U.S. Ocean*s, 17 OCEAN & COASTAL MGMT. 273, 289-90 (1992); JACK H. ARCHER ET AL., THE PUBLIC TRUST DOCTRINE & THE MANAGEMENT OF AMERICA'S COASTS (1994); Matthew T. Kirsch, *Upholding the Public Trust in State Constitutions*, 46 DUKE L. J. 1169 (1997); and Alan 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). For a discussion of the public trust doctrine and coastal management in Washington, see Ralph W. Johnson et al., *The Public Trust Doctrine and Coastal Zone Management in Washington State*, 67 WASH. L. REV. 521 (1992).

[259] Sand, *supra* note 67, at 55 fig.1.

capacity as the trustee to protect the corpus (the productive capacity) of the trust resources for the beneficiaries who include both the current and future members of the community. The government may neither extinguish the trust nor permanently alienate the trust resources.[260] While private uses may be permitted, the use must be consistent with public trust purposes and limited to activities that do not harm or interfere with them. These purposes traditionally encompassed navigation, commerce, and fishing, but the purposes change to reflect changing public perceptions, values, and human needs.[261] Thus, appropriate uses of public trust resources today may be limited to those that do not harm or interfere with numerous recreational purposes (boating, fishing, and swimming) and even with ecological and aesthetic purposes, including preservation of lands in their natural state.[262] The Washington Supreme Court upheld a local ordinance prohibiting the use of personal watercraft in public trust waters to prevent harm to waters and wildlife.[263]

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. Unlike a private foundation trust invested in monetary instruments, the corpus of a trust in the ocean cannot be converted to monetary instruments and invested solely for profit. The ocean, or more aptly, ocean ecosystems, must be protected so that they may continue to produce ecosystem services (food, medicine, climate stabilization, recreation, aesthetic enjoyment, as well as navigation and commerce).[264] We now recognize the important role of the

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[260] Kanner, *supra* note 258, at 76.

[261] *See* Sax, *supra* note 40, at 477; *see also* Marks v. Whitney, 491 P.2d 374, 380 (Cal. 1971) (defining public trust easements).

[262] *Marks*, 491 P.2d at 380. *See also* CALIFORNIA COASTAL COMMISSION, SEAWATER DESALINATION AND THE CALIFORNIA COASTAL ACT 41 (March 2004) (reporting on the status of and issues regarding desalination along the California coast), *available at* http://www.coastal.ca.gov/energy/14a-3-2004-desalination.pdf; SLADE, *supra* note 42, at xxi ("Recognized public uses of trust lands today include fishing, bathing, sunbathing, swimming, strolling, pushing a baby stroller, hunting, fowling, both recreational and commercial navigation, environmental protection, preservation of scenic beauty, and perhaps the most basic use, just being there.").

[263] Weden v. San Juan County, 958 P.2d 273, 284 (Wash. 1998).

[264] For a pilot study to value those services on a global scale, see Robert Costanza et al., *The Value of the World's Ecosystem Services and Natural Capital*, 387 NATURE 253 (1997).

oceans in moderating and stabilizing the earth's climate as well as the vital role of the oceans in providing seafood (wild and cultivated). Along many coastlines, the economic value of tourism, recreation, and the associated services related to these industries far outstrip revenues from commercial fishing.[265] The widespread movement to create marine-protected areas, including marine reserves that are off-limits to commercial and recreational fishing, reflects this readjustment of priorities.[266] The shift to ecosystem-based management called for in a 2005 Scientific Consensus Statement[267] may gradually reshape government priorities and the application of the public trust doctrine. Courts have emphasized the flexibility of the public trust doctrine.[268] The allowed uses are not fixed, but the principles are. Thus, water-dependent activities usually are allowed by the public trust doctrine, but commercial and residential developments are not allowed except as incidental to water-dependent structures.[269]

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265 *See* National Ocean Economics Program, About NOEP http://noep.csumb.edu/About/overview.asp (last visited Apr. 12, 2007). Market and non-market valuation data is available through the Program's website, http://noep.csumb.edu/.

266 Australia's Great Barrier Reef Marine Park is a prime example of a large marine-protected area with multiple zones including no-take and no-go zones. *See* The Great Barrier Reef Marine Park, http://www.gbrmpa.gov.au/ (last visited Mar. 23, 2007). California's Fish and Game Commission approved the state's first network of marine reserves around the Channel Islands off Santa Barbara in 2002. Lydia K. Bergen & Mark H. Carr, *Establishing Marine Reserves: How Can Science Best Inform Policy?* 45 ENV'T 2, 8 (March 2003). The National Oceanic and Atmospheric Administration (National Marine Sanctuaries Office and NOAA Fisheries) are now considering additions to this network within federal waters. CHANNEL ISLANDS NATIONAL MARINE SANCTUARY, MARINE RESERVES ENVIRONMENTAL REVIEW PROCESS, http://channelislands .nos.noaa.gov/marineres/main.html (last visited Feb. 11, 2007). Additionally, California is developing a network of marine-protected areas off the central coast. CAL. DEP'T OF FISH & GAME, MARINE DIV., MARINE LIFE PROTECTION ACT INITIATIVE, http://www.dfg.ca.gov/mrd/mlpa/meetings.html (last visited Feb. 11, 2007).

267 NAT'L CTR. FOR ECOLOGICAL ANALYSIS & SYNTHESIS, SCIENTIFIC CONSENSUS STATEMENT ON ECOSYSTEM-BASED MANAGEMENT (2001), *reprinted in* Bergen & Carr, *supra* note 266, at 13.

268 *See* Marks v. Whitney, 491 P.2d 374, 380 (Cal. 1971).

269 *See* CAL. STATE LANDS COMM'N, PUBLIC TRUST POLICY, *available at* www.slc.ca.gov/Policy%20Statements/Public_Trust_Trust-Policy.pdf ("Uses that are generally not permitted on public trust lands are those that are not trust-use related, do not serve a public purpose, and can be located on non-waterfront property, such as residential and non-maritime related commercial and office uses.") (last visited Feb. 11, 2007). Prominent ocean-law scholars have discussed priority rules applicable to resolving conflicts over use of ocean resources. *See* Richard G. Hildreth, *The Public Trust Doctrine and Coastal and Ocean Resources Management*, 8 J. ENVTL. LAW & LITIG. 221, 230 (1993) (discussing several candidate priority rules); *see also*

New uses, such as offshore renewable-energy development; open-water aquaculture; offshore, floating, LNG terminals; and mining of deep-sea vents would present a challenge for government trustees as each would entail closure of some areas to public access. In a private trust, the trustee may be given instructions to invest conservatively and thus might be reluctant to allocate trust assets to new ventures. By analogy, government policy sets the terms for exercise of public trust obligations, and implementing agencies must exercise their trust responsibility in accord with current (and changing) policy. Many scholars consider the principle of intergenerational equity to be a part of the public trust doctrine.[270] Professor Donna Christie used this principle to explain how marine reserves, though they restrict public access, conform to the purposes of the public trust doctrine.[271]

In an era of increased understanding of the importance of ecosystem-based thinking and management, there is little doubt that the trustee of public trust resources must act as a steward for future generations as well as the present.

In the United States, the public trust doctrine has been applied widely to navigable waters, and tidal and submerged lands. Living resources within these waters and on these lands are also subject to the public trust. Under English common law, the sovereign held these lands and resources not as an owner but as a trustee. The United States assumed this role after independence and passed the trusteeship over these resources (at least to the extent of each state's jurisdiction) to the original states[272] and

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, 263-64 (1992) (recommending principles that would require the federal government to become more environmentally sensitive trustees of oceans); and M. Casey Jarman, *The Use of the Public Trust Doctrine for Resource-Based Area-Wide Management: What Lessons Can We Learn from the Navigable Waters Trust*, 4 ALB. L.J. SCI. & TECH. 7, 14 (1994) (discussing priority-of-use analysis for resolving resource conflicts).

270 *See* Edith Brown Weiss, *Our Rights and Obligations to Future Generations for the Environment*, 84 AM. J. INT'L L. 198 (1990); *see also* WORLD COMM'N ON ENV'T & DEV., OUR COMMON FUTURE 8 (1987) (noting that the principles of sustainable development call for "meet[ing] the needs of the present without compromising the ability of future generations to meet their own needs.").

271 Donna R. Christie, *Marine Reserves, The Public Trust Doctrine and Intergenerational Equity*, 19 J. LAND USE & ENVTL. LAW 427, 434 (2004). *But see* Katryna D. Bevis, *Stopping the Silver Bullet: How Recreational Fishermen Can Use the Public Trust Doctrine to Prevent the Creation of Marine Reserves*, 13 SE. ENVTL. L. J. 171, 171 (2005).

272 Martin v. Waddell's Lessee, 41 U.S. (16 Pet.) 367, 410 (1842).

later admitted states in accord with the equal-footing doctrine.[273] Scholarship on the public trust doctrine has focused largely on how far onto land the doctrine extends,[274] the boundaries of the doctrine's application at the shoreline, and the role and responsibilities of states.

The Supreme Court applied the public trust doctrine to federal waters in *California* to reject claims by California that federal agents had substantiated California's ownership of submerged lands within the territorial waters.[275] This opinion suggests that the trust responsibility of the federal government would extend to all federal waters, but the territory in that case did not reach beyond the three-mile belt. Legal scholars have called attention to the "increased role of public stewardship"[276] over the EEZ resources assumed by the federal government with the 1983 Proclamation on the Exclusive Economic Zone of the United States of America,[277] and inclusion of public trust principles into provisions of the Magnuson Fishery Conservation Management Act, the Marine Mammal Protection Act, and the Endangered Species Act.[278] Professors Jack Archer and Casey Jarman have urged application of the public trust doctrine to the EEZ and suggested principles for prioritizing uses of the EEZ in line with trust responsibilities.[279] 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. The public trust doctrine applies to common property over which the U.S. government exercises control but not owner-

273 Pollard v. Hagan, 44 U.S. (3 How.) 212, 228-29 (1845).

274 The California courts extended the reach of the public trust doctrine to all tributaries of navigable waters in a case involving Mono Lake where water withdrawals were depleting lake levels. Nat'l Audubon Soc'y v. Superior Court, 658 P.2d 709, 732 (Cal. 1983).

275 *See supra* Part V.

276 Casey Jarman, *The Public Trust Doctrine in the Exclusive Economic Zone* 65 OR. L. REV. 1, 2 (1986)

277 Proclamation No. 5030, 48 Fed. Reg. 10,605 (March 10, 1983).

278 *See* Jarman, *supra* note 276, at 18-19 (noting that the "overall purpose of the [Magnuson Fishery Conservation and Management Act] is consistent with stewardship principles"), 21 (noting that the Marine Mammals Protection Act, while not referring to marine mammals in trust-resource terms, "describes the mammals as 'resources of great international significance. . . .'"), & 22 (referring to the duties of government to safeguard threatened species under the Endangered Species Act as "akin to a trust").

279 *See* Archer & Harman, *supra* note 269, at 260-66.

ship, including resources within the EEZ.[280] In governing common property, in contrast to public property, the public trust doctrine protects the interests of the actual owners (the people) against privatization or destruction of their rights. While the federal government may use leases, permits, dedicated-access privileges, and other legal instruments to determine the appropriate uses of the EEZ, it may not fully privatize the commons or undermine the interests of the wider public expressed in numerous court cases, federal laws, and other authoritative writings regarding the public trust doctrine.[281]

This Article does not attempt to canvas the application of the public trust doctrine (and its related principles of stewardship, guardianship, and the common heritage of mankind) to the EEZs of other coastal states and the high seas. As Peter Sand points out, the public trust doctrine in the United States and commonwealth countries developed from common law by judicial opinions;[282] thus, civil law systems have no exact parallel.[283] Nonetheless, Sand makes a credible argument for extending fiduciary and public trusteeship concepts internationally.[284]

A number of writers have advocated the extension of the public trust concept to the international arena,[285] sometimes couched

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[280] *See* Seth Macinko, *Public or Private?: United States Commercial Fisheries Management and the Public Trust Doctrine, Reciprocal Challenges,* 33 NAT. RESOURCES J. 919, 945, 949 (1993) (linking the public trust doctrine to U.S. fisheries management in order to protect the communal "right *of* fishing" (in contrast to a "right *to* fish"), urging return to "an emphasis on . . . distributional equity" that characterized early articulations of the public trust doctrine in the United States).

[281] Despite a powerful and oft-cited critique of the public trust doctrine by Professor Richard Lazarus in 1986, the doctrine has proved resilient. Courts have continued to apply and even widen its scope. *See* Erin Ryan, *Public Trust and Distrust: The Theoretical Implications of the Public Trust Doctrine for Natural Resource Management*, 31 ENVTL. L. 457, 490-91 (2001) (responding to Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631 (1986)).

[282] *See* Sand, *supra* note 67, at 49 (tracing the roots of environmental trusteeship).

[283] Peter H. Sand, *Public Trusteeship for the Oceans*, 4 OIL, GAS & ENERGY L. INTELLIGENCE, Nov. 2006, at 2.

[284] *See* Sand, *supra* note 67, at 51-54.

[285] *See* Ved P. Nanda & William K. Ris, Jr., *The Public Trust Doctrine: A Viable Approach to International Environmental Protection*, 5 ECOLOGY L.Q. 291 (1976). Other sources advocating such an extension include EXPERTS GROUP ON ENVTL. LAW, WORLD COMM'N ON ENV'T & DEV., ENVIRONMENTAL PROTECTION AND SUSTAINABLE DEVELOPMENT: LEGAL PRINCIPLES AND RECOMMENDATIONS, (1988); Michael J. Glennon, *Has International Law Failed the Elephant?,* 84 AM. J. INT'L. L. 1, 34 (1990); Durwood Zaelke & James Cameron, *Global Warming and Climate Change—An Overview of the International Legal Process*, 5 AM. U. INT'L L. REV.

in terms of ocean "steward[ship]" or ocean "trust."[286] As far back as 1893, in the *Fur Seal Arbitration*, the United States argued that it was acting as "trustee . . . for the benefit of mankind" in protecting living marine resources outside its territorial jurisdiction.[287] In 1998, the Independent World Commission on the Oceans, chaired by former Portuguese President Mario Soares, recommended that "the 'high seas' be treated as a public trust to be used and managed in the interests of present and future generations."[288]

Sand argues "that a transfer of the public trust concept from the national to the global level is conceivable, feasible, and tolerable."[289] He further states that the "public trust concept thus reinforces, rather than weakens, the legitimacy of environmental governance by nation states."[290]

On the high seas, which under the UNCLOS are "the common heritage of mankind," the members of the community include all peoples, and states exercise a common role as trustees for the beneficiaries, including future generations.[291] Under the 1982 Convention, the International Sea-bed Authority is given the for-

249, 268 (1990); CATHERINE REDGWELL, INTERGENERATIONAL TRUSTS AND ENVIRONMENTAL PROTECTION (1999); and David D. Caron, *The Place of the Environment in International Tribunals*, *in* THE ENVIRONMENTAL CONSEQUENCES OF WAR: LEGAL, ECONOMIC, AND SCIENTIFIC PERSPECTIVES, 250 (Jay E. Austin & Carl E. Bruch eds., 2000). Also see the extensive bibliography in Sand, *supra* note 67, at 58.

286 Jon M. Van Dyke, *International Governance and Stewardship of the High Seas and its Resources*, *in* FREEDOM FOR THE SEAS IN THE 21ST CENTURY: OCEAN GOVERNANCE AND ENVIRONMENTAL HARMONY 13, 19 (Jon M. Van Dyke et al. eds., 1993); *see also* CHRISTOPHER D. STONE, THE GNAT IS OLDER THAN MAN: GLOBAL ENVIRONMENT AND HUMAN AGENDA 84 (1993) ("The antidote I have been proposing is a system of guardians who would be legal representatives for the natural environment."); ELISABETH MANN BORGESE, THE OCEANIC CIRCLE: GOVERNING THE SEAS AS A GLOBAL RESOURCE 59-108 (1998) (discussing how the common-heritage nature of the ocean is taking the international community closer to a concept of ownership as trusteeship); and W. M. von Zharen, *Ocean Ecosystem Stewardship*, 23 WM. & MARY ENVTL. L. & POL'Y REV. 1, 1 (1998) (proposing an effective stewardship regime).

287 Fur Seal Arbitration (Gr. Brit. v. U.S., 1893), *reprinted in* 1 JOHN BASSETT MOORE, HISTORY AND DIGEST OF THE INTERNATIONAL ARBITRATIONS TO WHICH THE UNITED STATES HAS BEEN A PARTY, 755, 813-14 (1898).

288 INDEP. WORLD COMM'N ON THE OCEANS, *supra* note 97, at 17.

289 Sand, *supra* note 67, at 57.

290 *Id.* at 58.

291 1 ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW 692 (1992) (treating the high seas as an international commons for the benefit of this and future generations). For a discussion of intergenerational equity, *see* REDGWELL, *supra* note 285, at 115-43.

mal role of trustee over mineral resources of the seabed in areas beyond coastal-state jurisdiction.[292] The Continental Shelf Convention of 1958 had shifted the benefits of continental-shelf resources from peoples of all states to those of coastal states, and the 1982 Convention further increased benefits from the entire EEZ for coastal states, with some modest retained benefits for geographically disadvantaged and landlocked states. Still, all states, whether parties to the 1982 Convention or not, share continued rights of navigation and the right to lay cables and pipelines throughout the EEZ. In addition to public trusteeship principles, which may operate in the EEZ and beyond, states exercising jurisdiction and control in the EEZ have collective obligations to other states and to the international community as a whole under a variety of treaties to which they are parties.[293] They also have obligations because of principles that have become customary international law to manage ocean resources for conservation, and the dual goals of sustainability and development.[294]

In the case of a dispute within the United States, beneficiaries who are part of the relevant community may have standing in domestic courts to challenge government actions that violate public trust principles, and state governments may bring actions against private entities for harm to public trust assets.[295] In the international arena, beneficiaries (citizens or members of the community) must rely on their own government to challenge actions by another government, and without explicit dispute-resolution provisions, there may be no forum in which to challenge the decisions of a trustee. Parties to an international dispute must agree to accept the jurisdiction of the International Tribunal for the Law of the Sea or other dispute-resolution body.

First of all, this raises a classic question for "third" states wishing to invoke those collective obligations: does one state have a right under the 1982 Convention and the Statute of the Interna-

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[292] United Nations Convention on the Law of the Sea, Agreement Relating to the Implementation of Part XI of the Convention, *supra* note 91, 1836 U.N.T.S. at pt. I, art. 1, and pt. XI, sec. 2, art. 137, http://www.un.org/Depts/los/convention _agreements/texts/unclos/closindx.htm.

[293] *See* OCEAN BLUEPRINT, *supra* note 6, at 445-58, tbl.29.1.

[294] *See supra* Part IV.B.

[295] *See* Kanner, *supra* note 258, at 59, 100-03, 114.

tional Court of Justice to bring an action against another state?[296] For example, can a state bring an action to enforce adequate environmental protections during deep-sea vent mining in an EEZ, or for placement of fixed facilities (e.g., an LNG terminal, aquaculture facility, or wind farm) too close to shipping lanes? Does one coastal state have the right to take action in a court or another forum against another state for introducing invasive species into its waters or for depleting a region's tuna stocks? And what is the liability of a coastal state to other states and the international community at large for toxic waste dumped in the oceans that contaminates fish and marine mammals?

Secondly, if coastal states (for their EEZs) and designated international organizations (such as the U.N. International Seabed Authority) have fiduciary duties to protect the resources they hold in trust,[297] it raises the question of how those trustees are to be held accountable vis-à-vis the ultimate beneficiaries ("people"; i.e., civil society, at the national and international level). What will be needed for this purpose is the development of procedural and substantive mechanisms that enable the beneficiaries to enforce the terms of the trust or endowment against the trustees. By analogy to the mechanisms developed under the public trust doctrine in domestic environmental law,[298] there have been a number of proposals to ensure not only representation (e.g., by the attorney general under existing *parens patriae* powers,[299] or

296 *See generally* K. Sachariew, *State Responsibility for Multilateral Treaty Violations: Identifying the 'Injured State' and its Legal Status*, 35 NETH. INT'L L. REV. 273 (1988) (discussing nation-states' responsibilities to each other); *see also* JAMES CRAWFORD, THE INTERNATIONAL LAW COMMISSION'S ARTICLES ON STATE RESPONSIBILITY: INTRODUCTION, TEXT AND COMMENTARIES 302 (2002) (providing commentary on Article 4: Measures Taken by States Other than an Injured State).

297 *See generally* Alan E. Boyle, *Remedying Harm to International Common Spaces and Resources: Compensation and Other Approaches*, *in* HARM TO THE ENVIRONMENT: THE RIGHT TO COMPENSATION AND THE ASSESSMENT OF DAMAGES 83, 84 (Peter Wetterstein ed., 1997) (discussing common heritage "as a form of international trusteeship").

298 *See, e.g.*, Int'l Union for Conservation of Nature & Natural Resources, *Draft International Covenant on Environment and Development* 154 (3d ed., 2004) (proposing that "by analogy to trusteeship rights," interest groups with concerns about particular environmental elements have standing). The classic example is the Michigan Environmental Protection Act of 1970, which granted a right of action to "the attorney general, any political subdivision of the state, any instrumentality or agency of the state or of a political subdivision thereof, any person, partnership, corporation, association, organization or other legal entity. . . ." MICH. COMP. LAWS ANN. § 691.1201-1207 (West 1993) (repealed in 1994).

299 *See* Kanner, *supra* note 258, at 58.

by appointment of special "guardians"[300] or "high commissioners"[301]), but also for administrative and financial institutions to ensure the optimal allocation and equitable distribution of benefits generated by trust resources. For example, the establishment of community-based trust funds has been proposed in Nigeria[302] to manage governmental revenues from Nigerian delta-oil production, drawing on comparative experience with the Special Petroleum Fund in Norway,[303] the Alaska Permanent Fund,[304] the Nunavut Trust, and a revenue management plan for Chad.[305]

As with a charitable endowment fund, an ocean trust needs an investment committee composed of members who understand ecosystems and can bring scientific knowledge to bear in managing the trust assets. Trustees should be guided by written investment policies with a precautionary investment-strategy that encourages investment in offshore renewable-energy and aquaculture while protecting the surrounding marine ecosystems for this and future generations of beneficiaries. Trustees should not be allowed to hand over the trust corpus to private corporations (by leases or other legal contracts) without cancellation provisions, requirements for best management practices, and rules regarding removal of facilities and restoration of the seascape at the end of a facility's lifecycle.

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300 *See e.g.*, INDEP. WORLD COMM'N ON THE OCEANS, *supra* note 97, at 136-37, 161 (proposing an "Observatory" to independently monitor ocean affairs); STONE, *supra* note 286, at 84 (proposing various NGOs serve as guardians); MAXWELL BRUCE & SYDNEY HOLT, A WORLD GUARDIAN FOR THE FUTURE (1977); and Philippe J. Sands, *The Environment, Community and International Law*, 30 HARVARD INT'L L. J. 393, 417 (1989) (proposing a guardianship role for NGOs under international law).

301 *Institut de Droit Int'l, Responsibility and Liability Under International Law for Environmental Damage*, at 9 (Sept. 4, 1997), *available at* http://www.idi-iil.org/.

302 *See generally* Emeka Duruigbo, *Permanent Sovereignty and Peoples' Ownership of Natural Resources in International Law*, 38 GEO. WASH. INT'L L. REV. 33 (2006) (proposing use of permanent sovereignty over natural resources as a beneficial tool to empower) [hereinafter, Duruigbo, *Peoples' Ownership of Natural Resources in International Law*]; Emeka Duruigbo, *Managing Oil Revenues for Socio-Economic Development in Nigeria: The Case for Community-Based Trust Funds*, 30 N.C.J. INT'L L. & COM. REG 121 (2004) (proposing trust-fund mechanism to effectively manage oil reserves) [hereinafter Duruigbo, *The Case for Community-Based Trust Funds*].

303 JEFFREY DAVIS ET AL., INT'L MONETARY FUND, OCCASIONAL PAPER 205, STABILIZATION AND SAVINGS FUNDS FOR NONRENEWABLE RESOURCES 19 box 4.2, 23 (2001).

304 Duruigbo, *The Case for Community-Based Trust Funds*, *supra* note 301, at 173-83.

305 *Id.* at 176.

In his 2001 book *Who Owns the Sky*, Peter Barnes proposed that the United States create a Sky Trust, a type of non-profit charitable fund into which all air polluters in the United States would pay in proportion to their emissions of carbon dioxide.[306] Beneficiaries of the Sky Trust, all current and future U.S. citizens, would receive dividends from the trust.[307] Many beneficiaries are also polluters, but they would have an incentive to burn less carbon in order to reduce their payments into the Sky Trust.[308] This trust concept would reward those who conserve and reduce carbon emissions, penalize those who squander, and distribute income to all the "owners" of the skies.[309] Barnes envisions Congressional creation of a Sky Trust that creates carbon-emission permits, charges market rates for those permits, and distributes the income equally.[310] As with any trust, some percentage of the revenue stream should be returned to renew the trust assets.[311]

Does this farsighted concept have an Ocean Trust equivalent—a fund into which those who use the oceans pay for permits, and all beneficiaries receive equal dividends? Already, some ocean trusts and ocean trust-funds exist, though they are neither funded by fees from all users and polluters nor do they distribute dividends to citizens.[312] California's Ocean Protection Strategy supports establishment of the National Ocean Policy Trust Fund as recommended by the U.S. Commission on Ocean Policy, "but vigorously oppose[s] any funding process that would provide in-

306 PETER BARNES, WHO OWNS THE SKY: OUR COMMON ASSETS AND THE FUTURE OF CAPITALISM 4 (2001).

307 *Id.* at 68.

308 *See id.* at 64 (since dividend is static, conservation is profitable, but waste is not).

309 *Id.*

310 *See id.* at 66-67 (presenting hypothetical 2010 Q-and-A explaining mechanisms of U.S. Sky Trust).

311 For a discussion of applications of trust concepts to other commons including air, groundwater, soil, fish, public spaces, airwaves, cyberspace, quiet, and culture, see *The State of the Commons* and other publications of Tomales Bay Institute, *available at* http://www.onthecommons.org.

312 The non-profit, non-governmental organization Ocean Trust partners with the National Oceanic and Atmospheric Administration and the fish food industry to restore or enhance marine habitat and resources. Ocean Trust, Restoration, http://oceantrust.org/restoration.htm (last visited Feb. 1, 2007). It also provides research and education. Ocean Trust, Education, http://oceantrust.org/education.htm (last visited Feb. 1, 2007). In 2004, the California Legislature created the California Ocean Protection Trust Fund to fund activities and projects authorized by the California Ocean Protection Council. CAL. PUB. RES. CODE § 35,650 (West 2007).

centives for new offshore oil and gas development on the outer continental shelf."[313] The concept of providing funding for ocean protection, research, and education from ocean-resource revenues (particularly from oil and gas royalties) is not new, nor is the notion that all citizens have a right to share equally and directly in revenues from public-trust resources. The Alaska Permanent Fund distributes dividends annually to all state residents.[314] But requiring all ocean users to pay into an ocean trust-fund and returning dividends to all the owners (members of the community) would be a notable expansion of current practices.

Ocean trust-funds, funded through rents and royalties, could be used for ecosystem monitoring, tracking, and compliance. They could also be used for environmental-, social-, and cultural-impact studies, and resolution of conflicts among users.[315] Because coastal states may not have properly exercised trust responsibilities to date, the trustees would have to grapple with difficult questions of whether and how to restore degraded ecosystems, remediate ocean toxic-waste dumps, and rebuild depleted fish-stocks. Would the benefits of restoration justify the costs? Ocean trusts could be created at state, federal, and international levels depending on which level of government has jurisdiction over the relevant resources. Duties of trustees as well as the community of beneficiaries would differ depending on whether the spatial range were confined to state waters (usually three nautical miles), the territorial sea (to twelve nautical miles), EEZs, or the high seas. The trust concept can be developed through legislation and treaties as well as by broader application of the public trust doctrine.

Both treaty obligation and customary law confirm that the trusteeship concept does not cease at the territorial sea. The oceans retain their status as common property, and the public trust concept as articulated in Roman Law and carried out

313 CAL. RES. AGENCY & CAL. ENVTL. PROT. AGENCY, PROTECTING OUR OCEAN: CALIFORNIA'S ACTION STRATEGY 15 (2004), *available at* http://resources.ca.gov/ocean/Cal_Ocean_Action_Strategy.pdf. The U.S. Commission on Ocean Policy's recommendation is in OCEAN BLUEPRINT, *supra* note 6, at 468-69.

314 ALASKA STAT. § 37.13.010 (West 2006).

315 *See* REDGWELL, *supra* note 285, at 168-74; *see also* Peter H. Sand, *Trusts for the Earth: New Financial Mechanisms for International Environmental Protection*, *in* CONTEMPORARY ISSUES IN INTERNATIONAL LAW: A COLLECTION OF THE JOSEPHINE ONOH MEMORIAL LECTURES 161 (David Freestone et al. eds., 2002) (discussing several global environmental trust funds).

throughout domestic and international law applies to governments exercising jurisdiction over ocean commons.

VII

Conclusions and Recommendations: New Discourses for Ocean Management

We are entering a new era of rapidly expanding ocean use combined with increasing ability to access, study, and extract resources from the deepest parts of the ocean. New technologies are opening new discourses on ocean ethics and governance. Numerous scientific papers document declining species, altered food webs, polluted and degraded ecosystems, and proliferation of invasive species and disease. Climate warming and increased storm activities heighten problems of uncertainty. Changes in our perceptions, values, and technology regarding the sea are driving the need for new rules and regulations as well as changes in systems of rights to occupy sea space and use ocean resources. The magnitude of impact of current ocean activities on marine physical systems requires a move from single-use and single-species regulation to ecosystem-based management that values all the functioning parts of an ecosystem, not only those fish and marine mammals at the top of the trophic level that draw the highest market-price.

We need to articulate a new discourse on sea tenure (ocean rights and responsibilities) in the twenty-first century, a new way to allocate ocean space and marine resources without carving the oceans into private fiefdoms. As demands for ocean resources and space multiply, we need a way for private enterprise to pioneer wind, wave, and tidal-energy offshore as well as open-water aquaculture. We need new governance systems that protect the rights of this and future generations.

In this concluding section, I offer two recommendations. First, governments should exercise their responsibilities as trustees by crafting contracts that define the public trust and spell out terms of the trusteeship to facilitate expansion of existing ocean uses, and to accommodate new uses, while protecting the public interest and fostering ecosystem-based management. Second, government, in partnership with private entities, should develop marine spatial plans and comprehensive ocean zoning to deal with rising competition for use of public trust resources throughout the oceans.

A. Use of Contract Law and Trusteeship Principles

Current and new uses of the seas will require a new set of rules for managing relations between governments and private parties. As this Article has shown, there is no legal basis for extending private property in the seas beyond the narrow applications currently in place adjacent to coasts. Coastal states (and their subunits) have limited authority to grant long-term access rights or allow use of ocean resources within their jurisdiction. But new and path-breaking uses of the ocean (e.g., offshore mariculture, renewable-energy production, and deep-sea vent mining) require security of tenure. Governments must be able to provide investment security and long-term guarantees of access without overstepping their authority. Industry's secure-tenure need can be met while protecting the public trust and exercising fiduciary duties to all members of the community by using contract law. The government should craft contracts (e.g., leases, easements, rights-of-way, and concessions) with care to allow for periodic performance review and updating of contract terms at appropriate intervals in order to incorporate new knowledge and new technology. As with contract relations in any domain, a system of liability rules should be in place to constrain holders of the contracts and protect the community of owners from environmental or financial losses. Dispute-resolution clauses should be included in all contracts to assure methods of resolving conflict. Contract law, rather than property law, is the appropriate discourse through which to deal with allocation of ocean space.

B. Marine Spatial Planning and Ocean Zoning

Increased use of ocean space produces conflicts that must be resolved by separating incompatible uses as well as allowing for areas of multiple, compatible uses. Carving ocean space into private parcels is not an attractive or viable option. Marine spatial planning provides a platform for resolving conflicts by determining appropriate combinations of uses and regulating ocean space accordingly.[316] The creation of networks of marine protected areas is a useful first step toward more comprehensive planning and zoning. The public trust and fiduciary duties of state and federal governments over offshore areas would be well-served by

316 *See generally* Crowder et al., *supra* note 9 (discussing marine spatial planning). For a discussion of marine spacial planning in Belgium, see Douvere, *supra* note 24.

comprehensive marine spatial planning and zoning that protects the public interest in sustainable ecosystem services (e.g., safe and sustainable seafood, clean ocean water, healthy coral reefs, diversity of habitat, rebuilding of depleted fish-stocks, and biodiversity and climate stability). Given that extractive uses are incompatible with many non-extractive activities and renewable-resource uses, marine spatial plans and comprehensive zoning could help separate incompatible uses while allocating ocean space for renewable-energy facilities, extractive activities, transport, commercial and recreational fishing, tourism, and research.[317] Researchers in Belgium developed specific methodologies for spatial planning of the seas that included a survey to determine compatible and incompatible uses of the North Sea.[318] We need to test and evaluate these spatial planning tools for use throughout EEZs.

In the United States, new uses of ocean space for renewable energy and aquaculture, and creation of marine-protected areas, including no-take marine reserves, require closer cooperation between state and federal agencies. Linking renewable energy to the electric grid requires approval by various state agencies as well as the Federal Energy Regulatory Commission. The need to shift rapidly from fossil fuels to renewable energy will require close collaboration among federal and state agencies. Restructuring agencies both at the federal and state level could provide more cohesive and comprehensive planning and management of oceans.[319]

Ecosystem-based management requires close collaboration of agencies at all levels of government. Neither the federal government nor the states can effectively manage marine systems alone.

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317 *See generally* Lawrence Juda & Timothy Hennessey, *Governance Profiles and the Management of the Uses of Large Marine Ecosystems*, 32 OCEAN DEV. & INT'L L. 43-69 (2001) (suggesting a matrix for identifying compatible and incompatible uses of ocean space).

318 GAUFRE REPORT, A FLOOD OF SPACE: TOWARD A SPATIAL STRUCTURE PLAN FOR SUSTAINABLE MANAGEMENT OF THE NORTH SEA (Frank Maes et al eds., 2005) *available at* http://www.maritieminstituut.be/main.cgi?s_id=183=&lang=en.

319 Letter from Margaret Peloso, Ph.D. Student, Nicholas Sch. of the Env't & Earth Sci., Duke Univ., to U.S. Dep't of the Interior, Minerals Mgmt. Serv. 26 (Feb. 28, 2006). In her comments, Peloso outlines an idea of an Outer Continental Shelf Resource Authority, a new agency with authority over all outer continental shelf uses. As she points out, this would be in line with the recommendations of the U.S. Commission on Ocean Policy and the Pew Oceans Commission reports calling for comprehensive ocean management.

They will need much stronger and more functional cooperation and collaboration in siting offshore facilities for wind, wave, and tidal-energy where facilities, including transmission lines and servicing infrastructure, cross political boundaries. They will need closer coordination to accommodate the rapid growth in container shipping, both to avoid conflicts with other uses at sea and to allow for expansion of existing ports as well as construction of new ports. Cooperation across national political-subdivisions and across national boundaries will require new agreements and restructuring organizational arrangements to facilitate development and conservation.

In the United States, we are likely to see the evolution of the public trust doctrine for governing ocean commons throughout the territorial sea and EEZ. As pressures for use expand, so does the need to apply public trust principles, both geographically and functionally. A clearer understanding of sea tenure leads to the understanding of governments' fiduciary duty to safeguard resources for the benefit of the community, and of future as well as the present generations. Nation-states should rigorously protect the rights of all beneficiaries, i.e., all members of the community with an interest in ocean space. The oceans remain *res communis*, community property. The rights of nation-states have changed substantially in the twenty-first century with the enclosure movement, extension of coastal state jurisdiction over EEZs, and expanded rights to explore and exploit the seabed and subsurface. Nonetheless, nation-states exercise sovereign rights on behalf of all of their citizens, not only those companies that would occupy ocean space, and develop and exploit living and non-living resources as well as renewable and fossil energy. The language of "ownership" and private property rights has little place in the current order of the oceans. 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.