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OFFSHORE MANAGEMENT CONSIDERATIONS: LAW AND POLICY QUESTIONS RELATED TO FISH, OIL, AND WIND

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Abstract: The United States has depended upon offshore resources throughout its history. Past approaches to managing resources such as fish and offshore oil raise questions about how the nation might shape new regulatory management systems to govern evolving uses and resources such as offshore wind power. At the same time, increasing, overlapping, and conflicting uses of ocean resources suggest that public *land* management systems ought to be examined to capitalize on terrestrial success while avoiding potential pitfalls. Because new technologies and uses for offshore resources are emerging at a rapid rate, legislators and policymakers would do well to ensure that these developments do not lead to inadvertent plunder.

> *He has plundered our seas, ravaged our Coasts . . . and destroyed the lives of our people.*
>
> —The Declaration of Independence para. 2 (U.S. 1776).

INTRODUCTION

Europeans, drawn to rich fishing areas, began the settlement of North America early in the second millennium (CE).[1] The "New World" economy developed in large part due to a wealth of natural resources in combination with advances in the means to harvest those resources and integrate them into a marine-based economy. During a centuries-long era of freedom on the high seas and open access to offshore resources, the notion of private ownership of marine areas or resources was unheard of in the region. Conflicts did arise, however,

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[1] For an excellent presentation on the role of the cod fishery in the settlement of North America, see generally MARK KURLANSKY, COD: A BIOGRAPHY OF THE FISH THAT CHANGED THE WORLD (1997).

regarding which nation might have superior rights over marine areas or resources. Nevertheless, history and custom supported the notion that most marine resources were deemed "unowned" until some human activity occurred to transform them into "property."

The importance of ocean and coastal resources to the United States and its people can be traced to the nation's genesis. As the relationship between England and the American colonies strained, the sense of "ownership" of offshore resources prompted members of the Continental Congress to tie those interests to the colonists' right of self-determination as articulated in the Declaration of Independence. Yet, while the new nation was able to eject a sovereign deemed to be plundering its seas and ravaging its coasts, questions regarding the best means of stewarding offshore areas and resources remained.

This Essay raises a series of questions regarding the manner in which the United States has attempted to fashion management systems to ensure that our offshore resources are no longer plundered. Part One sets out a brief background on the laws governing fugacious[2] offshore resources. Part Two outlines the legal regimes that have been employed in the United States to manage the nation's fishery resources. Part Three describes the nation's management regime governing oil and gas deposits located below the Outer Continental Shelf (OCS.) Part Four highlights the recent debate regarding the possible siting of offshore wind farms in the nation's waters. Each Part also raises a series of resource management related questions. The Conclusion suggests that, as technology spurs new opportunities to use offshore areas and resources for an increasing variety of purposes, a new ocean management ethic must be devised to ensure that our technological capacity does not lead to inadvertent plunder.

I. Laws Governing Fugacious Offshore Resources

"The trouble with fish," goes the old saw, "is that they swim." The statement highlights the fact that, while human beings establish property lines and jurisdictional boundaries, fish seem determined to frustrate space-based property and governance systems. The problematic fish may move from a river governed by municipal ordinances through

[2] Fugacious resources are those resources that, by their very nature, migrate or move (often across property lines and/or jurisdictional boundaries). While courts often refer to fugacious mineral resources when they talk of the movement of non-living resources (oil, gas, certain minerals) this paper uses the term in a broader sense to encompass living (e.g., fish) and non-living (e.g., oil and wind) resources.

state-ruled seas out into federal waters and ultimately into the marine areas governed by another nation, state, or municipality. Who owns the fish? Our legal history tells us that no one holds title to the free-swimming fish and therefore everyone has a right to pursue them. But how can one transform the unowned entity into private property?

John Locke suggested that such a transformation takes place when an individual mixes his labor into some unowned thing, thus acquiring a legal interest in that thing.[3] But the "mixing of labor" concept has proven difficult to employ in the courts when more than one laborer claims ownership. Common law evolved in the United States to recognize title in the individual who could show that he reduced the thing to possession, and thus the "rule of capture" was introduced into the law of fugacious resources.[4] While one hunter might employ considerable time and labor in the process of stalking his prey, a subsequent hunter might ultimately capture the resource and be deemed owner even when the capture is accommodated by the efforts of the prior actor. The courts reason that possession provides the requisite manifestation to accord property rights in such a case.[5] Yet the rule of capture must be employed keeping another legal interest in mind: the right of access. The rule of capture does not imply that any interested pursuer has a right of access to any and all wild resources. As a result, a prospective pursuer must first acquire legal access to an area and/or resource to engage in the pursuit.

A. *Access to Pursue Fugacious Resources in Private and Public Space*

To pursue the fugacious resource, the pursuer must have a legitimate right to access the space that will be employed in the pursuit. A hunter's claim of ownership pursuant to the rule of capture will be frustrated if he is deemed to have been trespassing at the point of capture. Accordingly, an owner of real property holds a real and significant advantage in pursuing these fleeting resources. His right of exclusion affords him more flexibility in employing his labor in the effort to reduce the resource to possession.

But what if the sought-after resource occupies public space, open and accessible to all willing to engage in the pursuit? In *The Tragedy of*

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[3] JOHN LOCKE, *Second Treatise of Government*, *in* TWO TREATISES OF GOVERNMENT 327 (Peter Laslett ed., Cambridge Univ. Press 1960) (1690).

[4] Pierson v. Post, 3 Cai R. 175 (N.Y. Sup. Ct. 1805).

[5] *Id.*

the Commons,[6] Garret Hardin pointed out that commons-based resources run the risk of over-exploitation due to the aggregated effect of multiple users, each pursuing his own best interest. The solution suggested by Hardin, as well as a multitude of commentators since, is an approach that would control access to the commons to protect them from over-exploitation. Methods for controlling access range from maintaining each individual's right, but limiting duration and/or method of resource extraction, to limiting the number of accessors to affording transferable private property rights to accessors.

Any and all of these methods, however, presume that some entity has a right to control access to the commons. In the United States, that presumption is validated by the application of the *parens patriae* doctrine. The doctrine stems from the notion dating back to English common law that the king, as sovereign, held title to public lands and resources not as a proprietor, but rather as a trustee for all people. As a result, the states, as well as the federal government, exercise authority over the manner in which a wide range of common resources, including wild animals, may be exploited.[7]

Yet, in their efforts to stem a commons "tragedy," state and/or federal governments run the risk of violating their fiduciary responsibilities as trustees. Any limitation of access to heretofore open-access resources is arguably a limitation of some beneficiary's right. If access is granted to some limited class, or if access is effectively "privatized" to some degree—for example, individual transferable quotas for fish, lease and extraction rights for oil and gas, or site accommodation and permitting for offshore wind farms—what benefit must accrue to the trust *res* in consideration for the common beneficial resource thereby alienated? The answer is by no means consistent.

II. Fish

For the first 200 years of the nation's history, the federal government played a limited role in managing U.S. fisheries. Until 1976, the United States claimed a three-mile territorial sea—and a somewhat wider fishery zone of twelve miles as of 1964—that afforded it the right to restrict foreign fishing. Within the three-mile belt of marine

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[6] *See generally* Garret Hardin, *The Tragedy of the Commons*, 162 Sci. 1243, 1243–48 (1968).

[7] *See, e.g.*, Missouri v. Holland, 252 U.S 416 (1920). States are trustees of animals *ferae naturae* within their boundaries, but the federal government retains certain paramount powers that may constrain state actions. *See id.* at 434.

waters, the federal government recognized state authority to manage fisheries.[8] While the federal government exercised some effort to manage activity by foreign fishing fleets in areas beyond the state-governed areas, it did not do so comprehensively or effectively.

By the mid-1970s, technological advances in distant water fishing fleets allowed ships to roam the planet's oceans in search of valuable fish. European, Asian, and South American boats could be seen off the coast of the United States, quickly and efficiently extracting millions of dollars worth of fish. With no rules in place to stave off a tragedy of the commons, the United States simply decided to fence out unwelcome exploiters. In 1976, Congress enacted the Magnuson Fishery Conservation and Management Act, aimed at excluding foreign fishing and constructing a national fisheries management program. The United States claimed an expansive Exclusive Fishery Conservation Zone designed to encompass some of the world's richest fishing grounds.[9]

Yet, the extension to 200 miles did not stem the tragedy. While the extended fishery jurisdiction allowed the United States to construct a comprehensive federal fisheries management system in the form of eight regional fishery management councils, many U.S. fisheries succumbed to the increasing pressure of a growing and increasingly efficient U.S. fishing industry. Twenty years into the U.S. exclusive management system, many of the nation's most valuable fish and shellfish stocks were deemed overfished.[10]

Today, fishery managers struggle with the realization that they must make difficult decisions regarding access to these fisheries. They recognize the economic impact that will be visited upon fishing communities as restrictions are employed. Yet, the obligation to prevent overfishing and rebuild those stocks deemed overfished presents them with few options. One option that has been available to fishery managers exists in the form of Individual Fishing Quotas (IFQs). An IFQ approach would allow fishery managers to determine a given fishery's total allowable catch (TAC) based on its current status and population dynamics, and then to allocate shares of that TAC to individual fishers.

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[8] *See* Submerged Lands Act, 43 U.S.C. § 1311(a) (2000).

[9] *See* Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1801 (b)(1) (2000).

[10] *See* NAT'L MARINE FISHERIES SERV., REPORT TO CONGRESS: STATUS OF FISHERIES OF THE UNITED STATES (1997), http://www.nmfs.noaa.gov/sfa/Fstatus.html (last visited Jan. 19, 2004).

The promise and criticisms regarding the employment of IFQs are well stated in the literature.[11]

As managers consider remedies for problems that have befallen our fisheries, questions related to the government in its role as trustee arise.

A. *Has the Government Met Its Fiduciary Duty in Managing Fishery Resources?*

While it can be argued that, in the case of federal fisheries, managers are violating their fiduciary duty vis-a-vis their failure to prevent overfishing, such a claim would likely fail in court due to the lack of specificity embodied in the trust governing the *parens patriae* capacity of the government. Even where smaller classes of beneficiaries have brought an action against the federal government for failing to meet its fiduciary trust responsibilities, courts have been hesitant to hear such cases unless sufficient detail in a trust relationship can be shown.[12]

B. *How Should the Government Account for Its Fishery Management Practices?*

As a citizen of the United States, each of us can don our "beneficiary" cap, and legitimately ask: "what's in it for me?" If I have been fenced out of the fisheries because I do not have the requisite history that will provide me with a license or an IFQ, how can the government account for its actions? They seem to have taken even my "right" of access—never mind my "right" to some share of the actual fish. The careful reader of federal fishery laws realizes quickly however, that, while he may be a beneficiary of a fish-laden trust, he has no recognizable property right to the fish. The drafters of the Magnuson Act were at least wise enough to characterize the legal interest of any indi-

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[11] *See, e.g.*, Ransom E. Davis, *Individually Transferable Quotas and The Magnuson Act: Creating Economic Efficiency in Our Nation's Fisheries*, 5 DICK. J. ENVTL. L. & POL'Y 267 (1996); Harry N. Scheiber & Christopher J. Carr, *From Extended Jurisdiction to Privatization: International Law, Biology, and Economics in the Marine Fisheries Debates, 1937–1976*, 16 BERKELEY J. INT'L L. 10 (1998); Alex Tynberg, *The Natural Step and Its Implication for a Sustainable Future*, 7 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 73 (2000).

[12] In *United States v. Navajo Nation*, the Supreme Court ruled that to state a claim for breach of trust, a tribe, as the beneficiary of a trust managed by the federal government (as trustee), "must identify a substantive source of law that establishes specific fiduciary or other duties, and allege that the Government has failed faithfully to perform those duties." *See* 537 U.S. 488, 490 (2003). The Court noted that, "[a]lthough 'the undisputed existence of a general trust relationship between the United States and the Indian people' can 'reinforce' the conclusion that the relevant statute or regulation imposes fiduciary duties, that relationship alone is insufficient" to support a claim for breach of fiduciary duty based on violation of statute. *See id.* (internal citation omitted).

vidual or group allowed access to an otherwise limited-access fishery as a "privilege."[13] Having explicitly distinguished such an interest from a property "right," the government protected itself against a future claim that any restriction or abolition of the interest should be compensable as a violation of the Takings Clause of the Fifth Amendment.

Further, a claim of loss of beneficial interest might prompt an arguably legitimate response from the government in the form of a reference to seafood prices. A studious government representative could point to the variety of seafood available and the reasonable prices they command. The beneficial interest, they might suggest, comes in the form of a retail price unburdened by a royalty that might otherwise be charged to fishers. But is that benefit achieved by allowing uncompensated access to a limited number of fishers? Or is it the result of invading the principal, rather than living on the interest, of the fishery trust? If it is the latter, my benefits are likely to disappear quickly. Alternatively, my benefit also seems to evaporate if I cannot fish and I do not eat fish.

Is it time for our fisheries managers to quantify what they have left in the trust, rather than what has been taken out in the form of landings figures and market prices? In the realm of a trust discussion, it seems sensible, if not obligatory, to have the trustees provide the beneficiaries with something beyond a statement of withdrawals. A statement that includes a beginning balance, a description of investments made, a reference to losses sustained due to influences beyond the trustees' control—for example, weather or "outsider" fishing in straddling areas, a list of withdrawals taken, and an ending balance might be nice.

III. Oil[14]

Offshore drilling in the United States began over 100 years ago as piers were constructed and extended from the coast of California.[15] Individual states, notably California, Texas, and Louisiana, claimed

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[13] 16 U.S.C. § 1851(a)(4).

[14] The discussion on oil is taken in part from a previous work. *See* John Alton Duff, *Royalty Relief Act Spurs Oil and Gas Exploration in Deep Waters of the Gulf of Mexico: United States Ratifies Maritime Boundary Treaty with Mexico*, *in* 14 Ocean Yearbook 203–31 (Elisabeth Mann Borgese et al. eds., 2000).

[15] *See* Charles Lester, *Contemporary Federalism and New Regimes of Ocean Governance: Lessons from the Case of Outer Continental Shelf Oil Development*, 23 Ocean & Coastal Mgmt. 7 (1994) (citing Minerals Mgmt. Serv., U.S. Dept. of Interior, Offshore Resource Evaluation Program: Background & Functions, OCS Report MMS 85-0091, 9 (1986)).

title to the submerged lands and obtained the revenue from such lands leased to oil and gas companies.

In 1945, President Truman proclaimed exclusive jurisdiction over the resources on and below the OCS of the United States.[16] He did so as part of an effort to put the nations of the world on notice of the territorial claim. Officials in the United States indicated that the OCS claimed pursuant to the Truman Proclamation amounted to approximately 750,000 square miles, but that the reach of the claim was likely limited to the 600-foot isobath.[17] The U.S. State Department indicated that the Truman Proclamation was made, in large part, based on the belief that the submerged lands of the United States, particularly those in the western Gulf of Mexico, constituted a potential wealth of petroleum deposits.[18] They also acknowledged the role

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[16] Proclamation No. 2667, 10 Fed. Reg. 12,303 (Sept. 28, 1945), *reprinted in* 4 Whiteman DIGEST § 2, at 756–57. President Truman stated, in part:

> Now, Therefore, I, Harry S. Truman, President of the United States of America, do hereby proclaim the following policy of the United States of America with respect to the natural resources of the subsoil and sea bed of the continental shelf.
>
> Having concern for the urgency of conserving and prudently utilizing its natural resources, the Government of the United States regards the natural resources of the subsoil and sea bed of the continental shelf beneath the high seas but contiguous to the coasts of the United States as appertaining to the United States, subject to its jurisdiction and control. In cases where the continental shelf extends to the shores of another State, or is shared with an adjacent State, the boundary shall be determined by the United States and the State concerned in accordance with equitable principles. The character as high seas of the waters above the continental shelf and the right to their free and unimpeded navigation are in no way thus affected.

Id.

[17] Press Release, White House (Sept. 28, 1945), *reprinted in* 4 Whiteman DIGEST § 2, at 757–58. The Press Release stated:

> The policy proclaimed by the President in regard to the jurisdiction over the continental shelf ... will ... make possible the orderly development of an underwater area 750,000 square miles in extent. Generally, submerged land which is contiguous to the continent and which is covered by no more than 100 fathoms (600 feet) of water is considered as the continental shelf.

Id.

[18] *Id.* The White House Press Release also stated:

> Petroleum geologists believe that portions of the continental shelf beyond the three-mile limit contain valuable oil deposits. The study of sub-surface structures associated with oil deposits which have been discovered along the Gulf coast of Texas, for instance, indicates that corresponding deposits may underlie the offshore or submerged land. The trend of oil-productive salt domes extends directly into the Gulf of Mexico off the Texas coast. Oil is also being

of advancing technology as a reason for claiming the appurtenant submerged lands.[19] As the value of offshore oil and gas resources became apparent, a domestic dispute arose in the United States between the state and federal governments.

Federal officials interpreted the Truman Proclamation as a claim against the individual states as well as against foreign nations. They argued that lease revenues ought to accrue to the federal rather than state treasuries. Less than one month after Truman claimed the submerged lands appurtenant to the United States as against the rest of the world, the United States Attorney General claimed the seabed and its minerals as against the individual states.[20]

In a case pitting the federal government against the State of California, the United States Supreme Court ruled in favor of the federal government, effectively placing into federal hands what the states had been managing since 1896.[21] Subsequent Supreme Court cases in 1950 affirmed the fact that the federal government, and not the individual states, owned and controlled the submerged oil and gas reserves of the U.S. portions of the Gulf of Mexico.[22]

The individual states, particularly those states adjacent to the Gulf of Mexico, sought to reclaim the submerged lands in some manner. They mounted a series of efforts in Congress to have the submerged lands transferred from federal to state ownership. Congress was eager

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> taken at present from wells within the three-mile limit off the coast of California. It is quite possible, geologists say, that the oil deposits extend beyond this traditional limit of national jurisdiction.

Id.

[19] *Id.* Additionally, the Press Release noted:

> The advance of technology prior to the present war had already made possible the exploitation of a limited amount of minerals from submerged lands within the three-mile limit. The rapid development of technical knowledge and equipment occasioned by the war now makes possible the determination of the resources of the submerged lands outside of the three-mile limit. With the need for the discovery of additional resources of petroleum and other minerals, it became advisable for the United States to make possible orderly development of these resources. The proclamation of the President is designed to serve this purpose.

Id.

[20] *See* JOSEPH J. KALO ET AL., COASTAL AND OCEAN LAW 287 (1994) (noting that on October 19, 1945, the U.S. Attorney General filed suit on behalf of the United States against the state of California).

[21] United States v. California, 332 U.S. 19 (1947).

[22] *See* United States v. Texas, 339 U.S. 707 (1950); United States v. Louisiana, 339 U.S. 699 (1950).

to resolve the dispute. Legislative history indicates that the federal legislators recognized the strategic importance of oil and gas development, particularly from the submerged lands of the Gulf of Mexico, and sought to put to rest "the interminable litigation over these areas involving the Federal and State governments."[23] The first attempts to solve the dispute were vetoed by President Truman.[24] The states ultimately succeeded in 1953 as Congress passed, and newly-elected President Eisenhower signed the Submerged Lands Act (SLA), which established state title in the submerged lands out to three miles.[25]

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[23] H.R. REP. No. 83-215 (1953), *reprinted in* 1953 U.S.C.C.A.N. 1385, 1386. Legislative history for the bill that would ultimately become the Submerged Lands Act of 1953 made particular note of reconciling the federal-state dispute and establishing a stable framework upon which industry could rely. *Id* at 1385–86. The Legislative History states that:

> In this almost interminable debate over the disposition of these submerged lands, one area of agreement shines like a beacon in this sea of debate—that is the acute and vital necessity of the immediate enactment of legislation to promote the exploration and development of the petroleum deposits known to be located in these areas.
>
> The need for oil in the United States at the present time is commonly known. The strategic importance of oil to our economy and our defense efforts demand immediate action to alleviate a growing menace to our national welfare. Today, as in the past, persons, regardless of their views as to the proper solution of the disposal of these lands, have urged immediate enactment of legislation to permit development.
>
> Moreover, the interminable litigation over these areas involving the Federal and State Governments as well as individual applicants has added nothing but confusion and controversy toward a proper solution of the problem. Such a state must not be permitted to exist indefinitely for the best interests of all parties involved.
>
> In view of such conditions and circumstances, it is the opinion of the committee that to perpetuate this intolerable delay in the improvement of these lands because of the absence of legislation must not be continued.
>
> Since the court decisions in the cases involving the States of California, Louisiana, and Texas, new development of the vast potentialities located in these lands has been brought almost to a complete standstill, particularly in the Gulf of Mexico. The litigation which was the primary cause of these stoppages threatens to further retard any progress. Therefore, the committee feels that permanent legislation covering all phases of this litigation must be enacted.

Id. at 1386.

[24] For a brief history of the legislative attempts of 1951 and 1952, see *id.* at 1386–87. For a veto message of President Harry S. Truman, see Tidelands Bill Veto, 1952 U.S.C.C.A.N. 908–13.

[25] Submerged Lands Act, 43 U.S.C. §§ 1311–1312 (2000); *see also* Lester, *supra* note 15, at 10 (noting that one of President Eisenhower's campaign pledges in 1952 was to return ownership of the submerged lands to the states). The state submerged lands off the gulf coasts of Florida and Texas extend approximately nine miles pursuant to their original sovereign charters. *See* United States v. Louisiana, 363 U.S. 121 (1960).

A. *Leasing on the Outer Continental Shelf*

While engineering technology up to that time had limited oil and gas production technology to the three-mile band that was once again in the hands of the states, Congress foresaw the time when the federal government would be leasing the federal submerged lands three miles and further from shore. Shortly after conferring the near-shore submerged lands to the states, Congress enacted the Outer Continental Shelf Lands Act (OCSLA) which, inter alia, delegated to the Secretary of Interior the power to lease and regulate the resources of the OCS.[26] OCSLA codified and modified the Truman Proclamation of 1945. It claimed exclusive federal jurisdiction of the resources in the OCS seaward of the submerged lands conferred to the states via the SLA. OCSLA established policies that would govern leasing of the federal submerged lands for oil and gas exploration and production.[27]

The most lucrative offshore oil and gas extraction takes place in the western and central Gulf of Mexico, which provide approximately one sixth of the nation's domestic oil and one fourth of its natural gas. Under the federal leasing system, a company seeking access to OCS lands in the U.S. area of the Gulf of Mexico must make payments to the federal government in two ways. First lease tracts are "sold" at auction. The successful bidder obtains the right to explore for, as well as develop and produce, minerals from the lease tract.[28] The initial lease period for a tract is between five and ten years with a subsequent extension if oil and gas continue to be produced "in paying quantities."[29] The second type of payment is the royalty payment due on each barrel of oil (or gas equivalent) actually extracted.

As the technology developed and the demand for oil and gas increased, the industry pushed exploration further offshore until, in 1947, the first rigs were placed out of sight of land.[30] The move to deeper waters required significant technological advancements. In 1952, state-of-the-art technology still limited drilling to 100 feet of wa-

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[26] Outer Continental Shelf Lands Act, 43 U.S.C. §§ 1331–1356 (2000).

[27] *Id.* §§ 1334–1356.

[28] *Id.* § 1331(c). For statutory definitions of the terms "exploration," "development," and "production" see *id.* § 1331(k)–(m). The term "minerals" is defined at § 1331(q). A "lease tract" is an area not exceeding 5760 acres. *Id.* § 1337(b)(l).

[29] *Id.* § 1337(b)(2).

[30] Leonard LeBlanc, *1947 Shaking the Bounds of Land, 1997 Probing 10,000 ft. Depths*, OFFSHORE, May 1, 1997, at 82, 82.

ter.[31] The technology for offshore drilling did not advance dramatically at first. Eventually offshore barge drilling—whereby a barge was sunk to the bottom and could be refloated to move from drillsite to drillsite—allowed for oil and gas extraction in water depths up to 300 feet. Drilling at 300 foot-plus-depths required floating drillships with equipment capable of being moored to withstand wind and currents as well as stabilizing equipment to compensate for the roll and pitch of a surging sea.[32]

Exploration in 1000 foot-plus-depths required another quantum leap in engineering technology. Dynamic stationing, first used in 1961 and successfully used in 20,000 feet of water by the Glomar Challenger in 1969, allowed mooring without anchors.[33] This anchorless method of mooring uses position referencing systems to feed information to a drillship's thrusters to maintain the ship's location relative to the subsea well.[34] By 1970, the technology existed to drill in 2000 feet of water, and actual exploratory drilling was taking place at 1400 feet.[35] The oil embargo of 1973 and 1974 focused national attention on the need to better develop domestic oil and gas supplies in an effort to minimize dependency on imports. OCS lands, especially those off the coasts of Texas and Louisiana were increasingly explored and exploited to maintain a healthy domestic production level.

In the early 1980s a number of firms embarked on efforts to construct and install production platforms in one thousand foot-plus depths. Exxon succeeded in 1983.[36] While the technology existed to drill at depths measured in miles rather than feet, the economics involved did not justify most deepwater activity. The labor and capital costs, along with leasing and royalty payments, exceeded the revenue and acceptable profit that could be derived from deepwater drilling. The technology continued to advance, but the progress further offshore was theoretical rather than practical.

By 1983, companies were drilling in one-mile-plus depths of water and the engineers boasted of the ability to reach beyond two miles in depth.[37] In 1988, Shell contracted with Sonat Offshore Drilling to

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[31] *See* Dillard Hammett, *Deepwater Drilling—Foresight, Risk, and Reward*, 22 EXPLORATION & ECON. PETROLEUM INDUSTRY 227, 231 (1984).

[32] *Id.* at 232–33.

[33] *Id.* at 233–34.

[34] *Id.* at 234–35.

[35] *Id.* at 231.

[36] *See* C.L. Wickizer, *Challenges of Future Deepwater Operations Examined*, OIL & GAS J., Oct. 24, 1988, at 64.

[37] *See id.*

drill a well in the Gulf of Mexico 7520 feet under the water. In recent years, advances have been made in both exploration techniques and platform design and construction. Three-dimensional seismic sensing technology provided a finer and more detailed look at prospective oil and gas reserves lying under submerged lands.[38] At the same time, platforms such as Shell's *Auger* proved that oil can successfully be extracted from wells more than half a mile below the water's surface.[39]

Today the western portion of the Gulf of Mexico remains one of the few open and productive areas for production.[40] As supplies from relatively shallow—less than 200 meters—depths were depleted, the costs of exploration and exploitation rose. As a result, oil and gas production in the Gulf of Mexico waned in the 1980s and early 1990s and with it the regional economies of Texas and Louisiana. Nevertheless, exploration continued.

In late 1996, twenty-three rigs operated in Gulf of Mexico waters exceeding 1000 feet. In addition, Conoco recently contracted with a Korean ship manufacturer for a vessel capable of drilling in 10,000 feet of water.[41]

Technological advances aside, deepwater drilling faced a major economic impediment in the form of royalty payments due immediately upon extracting oil and gas from federally leased offshore sites. These up-front and continuous costs, claimed the industries, constituted the final barrier to reaching vast amounts of previously untapped energy resources.[42] Oil and gas producers argued that royalty relief was necessary to allow the potential of technological advances to be unleashed. In the mid-1990s, the oil and gas industries were making a concerted effort to restructure the economic burdens in order to unleash the technological potential.

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[38] Hillary Durgin, *A New Day for Oil*, HOUSTON CHRONICLE, June 30, 1996, at A16.

[39] The *Auger* recently surpassed the 100,000 barrels-per-day mark. *See Shell's* Auger & Mars *Platforms Pass Mark*, ENERGY ALERT, Aug. 20, 1997, 1997 WL 9037228. The *Auger* is Shell's tension platform in the Gulf; *see also* Marshall De Luca, *Seventy U.S. Gulf Deepwater Fields Awaiting Development; Twenty-six in Production*, OFFSHORE, Sept. 1997, at 38 (describing discoveries during 1997 and records set in water depth production, tieback distance to a platform, and subsea installation).

[40] The western portion of the Gulf, those areas referred to as the western and central planning areas, lie west of 87°30' in the U.S. Exclusive Economic Zone (EEZ).

[41] *Gulf Production Has Serious Challenges of Equipment, Technology, Regulations*, THE ENERGY REPORT, May 19, 1997, 1997 WL 8928018.

[42] *The Outer Continental Shelf Enhanced Exploration and Deep Water Incentives Act: Hearings Before the Oceanography, Gulf of Mexico and OCS Subcommittee, Merch. Marine and Fisheries Comm.*, 103rd Cong. 65–76 (1993) (testimony of Robert B. Stewart, President, National Ocean Industries Association).

Until 1996, the means by which the Secretary of Interior could encourage deepwater production was limited to the offer of an extended initial lease period—for example, an offer of an eight- or ten-year lease rather than a five-year lease.[43] Royalties, however, would still be due and payable upon production. As a result, companies seeking to develop deepwater tracts might incur higher initial capital costs along with higher variable costs for producing at great depths, but they would be required to pay the same royalty rate as a producer on a substantially shallower tract. While the Secretary could apply a higher royalty rate, the minimum was set at 12.5 percent by statute.

B. *Accommodating the Exploiters to Serve the Beneficiaries—The Move for Royalty Relief*

Members of Congress from the states whose economies stood to benefit most from continued oil and gas development sought opportunities to jump start oil and gas exploration in the Gulf of Mexico. "Royalty relief," or a method of allowing a certain amount of royalty free production, seemed to offer a solution. But the concept faced a three-and-a-half-year battle through three different sessions of Congress, two presidential administrations, and the "Republican Revolution" of 1994, before it was finally enacted in November of 1995. Royalty relief was a hotly contested concept in Congress and came to fruition only after years of debate and political strategic drives by the affected industries. Opponents of the idea labeled it "corporate welfare" and argued that it was an unnecessary economic incentive to an industry which would have proceeded with deep water drilling with or without royalty relief.[44] The critics argued that the oil and gas industries would reap windfall benefits at U.S. taxpayers' expense. The financial benefit to, or the drain on, the federal treasury was open to conjecture.

C. *The Mechanics of Royalty Relief*

The Department of Interior, through the Minerals Management Service (MMS), administers the leasing of OCS lands to oil and gas companies. The MMS operates under an obligation to lease the lands through a competitive bid process and to charge a royalty rate for all oil and gas extracted. Under the OCS leasing provisions, the minimum royalty rate is 12.5 percent of the value of the oil and gas ex-

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[43] *Id.* § 1337(b)(2)(B).

[44] *See, e.g.*, 141 CONG. REC. H7481, 7485 (1995) (statement of Rep. Miller).

tracted.[45] Royalties on OCS oil and gas production amount to hundreds of millions of dollars annually.

The royalty relief provisions enacted by Congress in 1995 seemed relatively straightforward. They are designed to "promote development or increased production" on existing lease tracts and to "encourage production of marginal resources" on existing and unleased tracts in the deepwater areas of the Gulf of Mexico.[46] They do so by removing the immediate royalty payments for a certain level of production based on the depth from which the oil and gas are recovered. As a result, oil and gas companies which would otherwise forego production in certain areas because immediate royalty payments were due, could now reduce their costs of production and drill in deeper waters.

Pursuant to the Act, royalty relief applies to the western and central planning areas of the Gulf of Mexico.[47] The "relief" was tiered such that greater depths afford greater relief. Accordingly, no royalties are due for tracts leased in the five-year period following the law's enactment for: (1) "17.5 million barrels of oil equivalent for leases of water depths of 200 to 400 meters;" (2) "52.5 million barrels of oil equivalent for leases in 400 to 800 meters of water;" and (3) "87.5 million barrels of oil equivalent for leases in water depths greater than 800 meters."[48]

The Act succeeded in spurring interest in leasing deepwater tracts of the western and central regions of the Gulf of Mexico. Over the course of the last eight years, leasing of tracts in waters less than 200 meters has declined. Yet deepwater tract leasing has risen dramatically and oil production in the Gulf of Mexico has risen by seventy percent.[49]

Offshore oil and gas management in the United States provides a substantial portion of the nation's fuel and accrues billions of dollars to the federal treasury in the form of lease payments and royalties. As a well-established and lucrative offshore resource management regime, a natural question emerges: can this model be employed in new or evolving marine resource management regimes? In particular, can it be employed as the United States looks seaward and considers offshore wind energy production?

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[45] 43 U.S.C. § 1337(a)(1)(4) (2000).

[46] *Id.*

[47] The EEZ in the Gulf of Mexico west of 87°30'.

[48] 43 U.S.C. § 1337 (a)(3)(C)(ii).

[49] *See* CHRIS OYNES, MINERALS MGMT. SERV., A REVIEW OF DEEPWATER OPERATIONS (Sept. 2003), *at* http://www.gomr.mms.gov/homepg/whatsnew/speeches/Deepwater%20-Operations.pdf (last visited Jan. 19, 2004).

IV. WIND

Unlike offshore resources such as fish or fossil fuels located below the nation's OCS, the notion of wind as a trust resource is relatively new. As indicated above, existing management regimes raise questions. In the case of offshore wind, no management regime currently exists, but the questions that are being asked could determine the contours of a regime designed to promote offshore wind to the benefit of the public *res.* Who owns the fish? Who owns the OCS and its oil and gas reserves? We have been detailing the answers to these questions for decades.

But who owns the wind? Is it a resource that ought to be managed by our sovereigns for the benefit of our people? And if so, which models can we employ? Is it an attribute of private property or is it *ferae naturae*? Is it a severable estate akin to mineral rights and surface rights? Does it become a public trust resource when it moves across public space? These questions no longer reside exclusively in the minds of property law students and professors.

The recent debate regarding the proposed siting of an offshore wind farm in Nantucket Sound highlights the need for an examination of wind as a natural resource. The proponents of the project, Cape Wind Associates, contend that the absence of a regulatory regime suggests that none was intended.[50] In comparison to the efforts to extract fish or fossil fuels there seems to be, at least at first glance, a basis for such a contention. Do wind farms pose a "Tragedy of the Commons" risk? Is there a danger that all the wind will be extracted? The casual observer might answer no. But the "Tragedy" does not become visible until some resource becomes readily available to a sufficient number of users. There is no doubt that for centuries sailors have moved their ships across the seas eager to steal another's wind or at least avoid the lee on a calm day.

A. *Wind as a Compensable Property Interest*

The winds of Nantucket Sound hold tremendous potential. One day they may light the homes of New England. As a recreational resource they provide sailors, surfers, and overheated beachgoers with

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[50] Alliance to Protect Nantucket Sound v. U.S. Dep't of the Army, 288 F. Supp. 2d 64 (D. Mass. 2003). Proponents have acknowledged the requirement to acquire permits from the U.S. Army Corps of Engineers under "Section 10" of the Rivers and Harbors Appropriation Act of 1899 allowing placement of structures into the waters of the United States that may obstruct navigation. *Id.*

pleasure and relief. So long as they can reach the wind-swept area, users need not pay a fee for enjoying the breeze. But as a commercial resource, the winds of Nantucket Sound merit scrutiny. Some suggest that those who endeavor to turn wind currents into electrical currents ought to pay for the wind—or at least the access to it on public lands.

In fact, the Bureau of Land Management (BLM) recently outlined its approach to siting, managing, and regulating wind energy projects on BLM lands in a guidance document. The policy document "encourages the development of wind energy in acceptable areas" and includes provisions on right-of-way rental fees to be paid by operators of testing systems and wind-energy development projects.[51]

The move by the BLM supports the notion that the managers of public lands ought to construct siting criteria, payment systems, and compatibility analyses for any and all applications to construct wind energy data collection structures and ultimately wind turbines themselves. Managers of public lands and offshore areas would do well to examine the private wind market as well. Over the course of the last ten years, an increasing number of landowners whose lands are graced with consistent winds have negotiated contracts with wind energy developers.[52] The wind, it seems, is theirs to sell. Of course, there are risks to recognizing the wind as a compensable interest. In a 1997 land condemnation case in California, a state appeals court ruled that wind power rights are capable of segregation and therefore must be paid for in the event a state condemnation knocks the wind out of a property owner.[53]

Conclusion

As offshore resources become the subject of increasing economic desire, marine resource managers must contemplate their roles and responsibilities in managing offshore areas. Some have suggested that "ocean zoning" is the answer to ocean management issues, while traditional users of state and federal ocean space decry any efforts they

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[51] Kathleen Clarke, U.S. Dep't of the Interior, Interim Wind Energy Development Policy (Oct. 2002), http://www.blm.gov/nhp/efoia/wo/fy03/im2003-020.htm (last visited Jan. 19, 2004).

[52] Susan Warren, *Where the Wind Blows, Landowners Find Profits*, Wall St. J., Oct. 30, 1996, at T1 (citing an Alternative Energy Institute study indicating that "landowners can negotiate an up-front development fee of $5,000 to $10,000, and either a yearly fee for each turbine placed on the property, a royalty based on production (usually 2% to 5% of revenue), or a combination of both").

[53] Contra Costa Water Dist. v. Vaquero Farms, Inc., 68 Cal. Rptr. 2d 272 (Cal. Ct. App. 1997).

perceive as "fencing them out" of the areas they depend upon. But the fact is that "zoning" is a legal tool employed to characterize the types of activity/building/development/use that may take place on private lands. Ocean areas are public space. As a result, the more apt models that ought to be considered in assessing ocean space/resource management issues are those models that have been employed to manage other public areas and resources.

The history of public land management in the United States suggests that, as trustees of public areas and resources, our governments, both state and federal, would do well to look to the land as they consider stewarding our seas. Through processes of designation and withdrawal, sound use and appropriate conservation, we may be able to emulate some of our public land successes while avoiding certain of our public land debacles.

Given the long history of a wide range of uses of ocean areas, the general principles articulated in the federal government's Federal Land Policy and Management Act (FLPMA) are worth keeping in mind as ocean managers consider the increasing pressures on our offshore resources. In drafting the FLPMA, Congress established a set of principles—paraphrased here—to be employed in the management of millions of acres of federal land under the authority of the BLM:

- Don't sell public lands, do inventory them;
- Plan for present and future use;
- Establish rules and regulations after considering views of general public;
- Establish goals and objectives as guidelines for public land use planning;
- Manage on basis of multiple use and sustained yield;
- Manage to protect scientific/scenic/historical/ecological/environmental/ air and atmospheric/water resource/archeological values;
- Preserve and protect certain public lands in their natural condition;
- Obtain fair market value of the use of the public lands and resources.[54]

We have moved significant commercial and recreational interests out to sea, it is time to send our governance responsibilities out as well.

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[54] *See* Federal Land Policy and Management Act of 1976, 43 U.S.C. § 1701 (2000).