

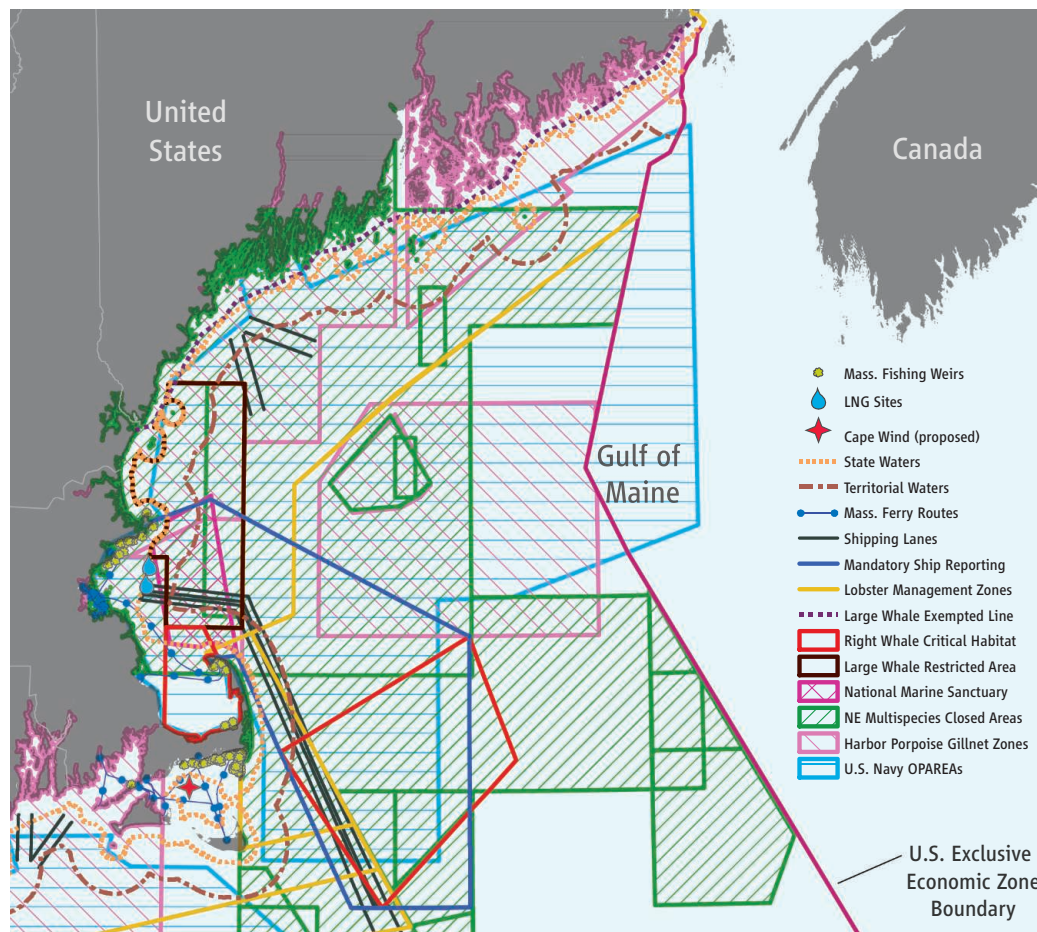
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Legal Bedrock for Rebuilding America's Ocean Ecosystems

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Recent discussions about ocean policy reform have focused on ecosystem-based management, which fully incorporates humans and considers the cumulative impacts of their activities on ecosystems and the services they provide (1). This approach is logical given the highly interconnected social-ecological systems of the ocean (2) and may be best realized through comprehensive marine spatial planning and ocean zoning (3). But U.S. ocean governance as currently configured cannot easily accommodate ecosystem-based management (4).

Federal waters, which include the territorial sea and the Exclusive Economic Zone (EEZ), reach from the 3- or 9-nm (nautical mile) borders of state waters out to the 200-nm outer boundary of the EEZ, an ocean area in which the United States has rights to explore, exploit, and manage living and nonliving resources (5–7). Because of the United States' extensive coastlines and territorial holdings, these waters cover 3.6 million nautical square miles (11.4 km²), an area that is larger than the combined land area of the 50 states. Over 20 federal agencies operating under dozens of laws regulate activities, support ocean-based commerce, and protect marine species and habitats in the territorial sea and EEZ (8) (see figure, right). These agencies separately manage parts of marine ecosystems, without any



Uncoordinated sectoral ocean governance. A cacophony of activities, most regulated by separate federal agencies, crowd ocean waters in the Gulf of Maine. A federal public trust doctrine extended to all U.S. ocean waters would identify these agencies as trustees of the U.S. ocean public trust, unifying them for the first time under a common mandate to manage marine resources sustainably. LNG, liquified natural gas; OPAREAs, Operating areas.

systematic effort to coordinate their actions for the public good (9).

With new leadership in place in Washington, U.S. ocean policy is poised for a long-overdue transformation. Since two national ocean commissions highlighted the need for dramatic reform 5 years ago (8, 10), progress has been made toward understanding how to rebuild ocean ecosystems [e.g. (11, 12)]. But implementing a new, ecosystem-based policy regime for federal ocean waters will require a solid legal foundation that provides the authority for, and imposes responsibility upon, disparate federal agencies to collaborate in their management of ocean resources.

The public trust doctrine would provide a powerful framework for restructuring the way we manage U.S. oceans.

The public trust doctrine would provide this critical foundation.

The doctrine is a simple but powerful legal concept that obliges state governments to manage certain natural resources in the best interests of their citizens (13). More generally, a “trust” is a legal relationship in which a person or entity (the “trustee”) manages a property or resource for the benefit of another person or group. The trustee is legally bound to preserve the assets of the trust, allowing only judicious use of the assets and repairing the trust should it be harmed. The trustee must also manage the trust exclusively in the interests of the beneficiaries (14). The beneficiaries of states’ public

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trusts include living and future citizens (15). Thus, inherent to the doctrine is the idea of intergenerational equity; trustees must manage trust assets so that needs of current beneficiaries are met without sacrificing needs of future beneficiaries. A federal public trust doctrine, if formally extended from state waters to the outer edges of the EEZ, would identify federal agencies as having responsibility for marine resources as trustees of the U.S. ocean public trust and U.S. citizens as the sole beneficiaries.

Many analysts, including the presidentially appointed U.S. Commission on Ocean Policy, have assumed that the doctrine already encompasses the vast space of the territorial sea and EEZ (8) [supporting online material (SOM) text]. But our recent review (16) reveals that the legal authority and responsibility of the federal government to manage marine resources in the best interests of U.S. citizens as a trustee under a federal public trust doctrine have not been formally articulated by the courts or established in statutory law. Instead, the doctrine is well established in the United States only at the state level (15), where courts have consistently held that the public trust doctrine requires state agencies and attorneys general to seek legal action against private parties infringing on the public trust. Furthermore, state trustees cannot abdicate their responsibility to manage the trust; if they do, the doctrine enables citizens to seek judicial review of their actions [or inaction (SOM text)]. In some states, courts have used the public trust doctrine to protect coastal ecosystem services (17, 18), and Massachusetts recently passed the first state law mandating a comprehensive ocean management plan “to ensure its effective stewardship of the ocean waters held in trust for the benefit of the public” (19). Although states do work cooperatively with federal agencies on issues such as coastal zone and fisheries management, they alone cannot protect U.S. ocean resources and the services they provide. Ocean ecosystems are interconnected across state and federal political lines, and states have limited authority in federal waters (SOM text).

In addition to providing a consistent framework for federal ocean agencies implementing ecosystem-based management, a public trust doctrine for U.S. federal waters would be a policy backstop for these agencies to enforce the public trust against infringing parties. The doctrine would also extend greater standing to U.S. citizens to protect their interests in the management of ocean trust resources in the instance of abuse or neglect of the trust (SOM text). And, with the

current scientific understanding of the necessity of coordinated, comprehensive action to stem the widespread decline of U.S. marine ecosystems (9), it would be difficult for a federal agency operating under a public trust mandate to avoid working cooperatively with agencies that manage other components of the ocean ecosystem. Therefore, explicitly mandating the common responsibility of these agencies to protect the ocean public trust could catalyze interagency ecosystem-based management in U.S. oceans.

A federal public trust doctrine for U.S. ocean waters could be established in a number of ways:

Executive order: The president could make expanding the doctrine a signature of his administration through an executive order that directs all federal ocean agencies to apply their resources toward cooperatively and sustainably managing the ocean public trust (SOM text).

Judicial interpretation: Federal judges could extend the doctrine into the territorial sea and EEZ by invoking the same instruments relied upon by state courts to enlarge the reach of the doctrine—judicial precedents, language in existing statutes, and the common law (SOM text).

Congressional mandate: The Congress could unambiguously write the doctrine into federal oceans law. As one example, the National Oceanic and Atmospheric Administration (NOAA) could be given the following directive: “NOAA’s mission is to manage and protect public trust resources within the waters and atmosphere of the U.S. with the cooperation of other federal and state agencies.” Once mandated, the doctrine could be put into practice via agency memoranda—a top-down approach to implementing broad changes in agency practice for which there is ample precedent [e.g. (20)]—directing all workers to carry out the legislated work of their agencies under their newly articulated duties as trustees of the ocean public trust.

Just as assets in our economy are inextricably linked, assets in our ocean trust portfolio are linked with one another. To move past the failing status quo in U.S. ocean management and to build a vigorous mandate that provides both the authority and the responsibility for federal agencies to jointly work to manage U.S. oceans as whole ecosystems will require that we answer, as soon as possible, two critical questions: For whom should our country’s oceans be managed, and for what purpose? The public trust doctrine answers both of these questions. By insisting that federal agencies manage the U.S. ocean public trust for the long-term benefit of all American citizens,

citizens and the governments they elect can begin to harmonize the concepts of representative democracy and sustainable resource use and stewardship.

References and Notes

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