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Developing an Ocean Ethic: Science, Utility, Aesthetics, Self-Interest, and Different Ways of Knowing

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Narrow Set of Values Drives Ocean Conservation

The ocean science and policy communities articulate two prevailing arguments to encourage changes in human behavior that will result in conservation of marine biological diversity. The first is utilitarian and includes encouraging the sustainable use of exploited ocean resources (i.e., prudent use of the public commons) and conserving particular attributes of the environment that provide ecosystem services such as processing wastes from human activities. The other is ethical and includes valuing biological diversity for its inherent properties and believing in its conservation for its own sake. Are these two approaches alone sufficient to build the social consensus needed to alter human behavior and implement programs to preserve and restore the world's oceans?

The utilitarian approach encourages efforts directed at changing attitudes within the management and stakeholder communities, such as developing and accepting greater precaution in decision making. Conserving wetlands for their assimilative capacities can lead to higher

real estate values of adjoining lands and lower public costs as a result of damage from storms. Precautionary cuts in allowable catch of fisheries, reductions in bycatch, and improved habitat protection can increase the probability of maintaining exploitable populations at levels that allow long-term economic benefits (e.g., jobs, sustainable coastal communities, fresh seafood in the marketplace, ecotourism) to society. Nested within this utilitarian view is a focus on conserving biological diversity by maintaining suitable habitat conditions for species of economic importance. This focus promotes marine reserves that allow communities of organisms in the ocean commons to exist in the absence of human exploitation.

The utilitarian approach is about maintaining the benefits of extracting ecological goods and maintaining services from the sea and the ethical approach is about valuing organisms and ecosystems simply because they exist. The public approves of both approaches, as evidenced by the passage and refinement of conservation-oriented laws (e.g., in the United States the Marine Mammal Protection Act, Sustainable Fisheries Act, Endangered Species Act,

Coastal Zone Management Act, and in many other nations there are similar laws and treaties that reflect these values), and by shifts in attitudes that embrace sustainable seafood, green labeling, and the designation of marine protected areas. Despite these successes, humanity remains on a trajectory that will result in continued degradation of coastal habitats, extinction of species, and a wide range of reductions in the ecological goods and services derived from the sea (Jackson et al. 2001; Pandolfi et al. 2005). The conservation science and policy community needs to develop a wider constituency to reverse these trends. In addition to promoting wise laws and regulations related to human uses of the oceans, action must be taken to shift public attitudes in ways that enhance marine conservation efforts that will result in local conservation efforts and increase political will for broader conservation actions. That is, behaviors that flow from many cultural traditions and values that conceive of the oceans, their ecological processes, and their resources as infinite must be changed.

Diverse motivations, perspectives, and value systems influence our personal and collective decisions on numerous matters affecting the environment. The utilitarian and intrinsic-value arguments typically motivate conservation efforts. Yet, are there other approaches that could expand the public's understanding and motivation to save the world's oceans? The many facets of human viewpoints on nature need to be explored so that new pathways for effective communication with a much broader audience can be opened. Many more people must be informed of and engaged in a central challenge of our times: to ameliorate and reverse the declining state of the world's oceans. Here we explore multiple avenues and rationales to expand the scope of stakeholders involved in ocean conservation and suggest that we in the ocean science and conservation community step out of our comfort zone to work with new and unfamiliar groups on this critical issue.

Linking Multiple Values to the Message

The value humans attach to nature (Kellert & Wilson 1993; Kellert 2005) range from the strictly utilitarian (exploitation) to the dominionistic (mastery and control), to the negativistic (fear), and to the aesthetic (beauty or inspiration of nature). Many active ocean scientists and conservationists trace their motivation and deep emotional commitment to preserve the sea to their early experiences with nature. Their inspiration comes from one or a combination of the following value systems: aesthetic, ecological, moral, naturalistic, humanistic, or utilitarian. A sense of loss, a desire to protect what remains, and a will to restore what is gone drives many to act. The conundrum for the ocean conservation community is how

to explain to the broader public, which often lacks such a strong attachment to the sea, why they should also care about the state of the oceans.

Social values can change rapidly. Indeed, several such revolutions have occurred in the last few decades. For example, there has been a general change of societal attitudes in the United States toward civil rights, littering, smoking, environmental protection, and the treatment of animals. Such broad changes in outlook seldom if ever emanate from legislation alone. Instead, they usually can be traced to attitude changes motivated by eloquent or charismatic leaders (teachers, community activists, clergy, statesmen) or widely publicized events that engendered conversations across dinner tables and in houses of worship, classrooms, and local gathering places. New legislation may arise from this public discourse and synthesis. The base-line shifts in societal attitude reflect economic and moral considerations.

In recent years the ocean conservation community significantly advanced the agenda for changes in fisheries management legislation and formed partnerships with multiple groups to address endangered species, high-seas conservation, and other issues. Nevertheless, the constituency committed to ocean conservation remains limited, and there is an urgent need to identify sources of authority across a broader spectrum of society. Many conservation scientists may feel uncomfortable with unfamiliar venues in which conservation strategies and successes stem explicitly from human values. But the current environmental crisis demands that conservation scientists move beyond their comfort zone to build a larger constituency.

Any societal mandate to view conservation and management of marine biological diversity in a holistic sense must come from the larger public. Emotive notions of nature's grandeur and beauty and human spiritual connection to untamed wilderness (rather than scientific data or arguments *per se*) drove the creation of the U.S. national park system. More than 130 years ago, the artistic talents of landscape artist Thomas Moran and photographer William Henry Jackson reinforced in 1880 by the perceived closing of the American frontier greatly influenced public attitudes and the U.S. Congress. This led quite directly to the designation of the first national parks, even in the face of a huge westward human expansion. Can similar approaches focused on the sea likewise resonate today with leaders and the public? Can public emotions be stirred again, this time in the service of protecting marine biodiversity? Creating such feeling and action will require engrossing ways to reveal the otherwise hidden biological treasures beneath the surface of the world's oceans. A public environmental ethic for the seas would enable genuine environmental protection (legislative or otherwise).

Although a deep understanding and appreciation of the natural world motivates conservation scientists, other

people with many outlooks and backgrounds should also find a common cause in marine conservation. For example, faith-based perspectives on biodiversity inspire many religious people. Charismatic religious leaders could effectively articulate the spiritual value of preserving nature and recruit legions of additional voices to the environmental choir.

Self-interest also provides a context for an ocean ethic. Conservation biologists need to speak to a wider audience and explain why it is often necessary, even in strictly self-interested terms, to protect marine environments. Self-interest should motivate those seeking access to a clean and healthy ocean for recreation. But improved water quality of coastal oceans will also serve the economic interests of realtors, developers, coastal residents, and the tourist industry, as well as those who make their living directly from the sea. Such constituencies may have little scientific background and do not see themselves as conservationists, but many value and identify closely with, for example, aesthetic and naturalistic values.

Another promising route for raising public awareness about marine conservation could involve “green” advertisements and practices that allow businesses that operate to specified environmental standards to brand themselves and their products as environmentally friendly. Many consumers react positively to such ads. Thus, a largely untapped opportunity exists (expanding greatly from pioneering work on green labeling of seafood) for conservation organizations and others to influence public attitudes on marine conservation by linking with such businesses. Nevertheless, conservationists must use caution to avoid supporting companies who might be “greenwashing” or advertising themselves as “green” to cover up antienvironmental practices. In general, linking messages to values can help identify groups and leaders that may help achieve conservation goals and expand conservation constituencies.

Searching for Leaders

What motivates people to act on issues beyond their immediate self-interest or to point out a perspective of self-interest? Although most people will never visit the Arctic National Wildlife Refuge, a groundswell of public support coalesced to keep it closed to oil and gas drilling. Twenty million people raised their voices to give legal standing to human blastocysts (3- to 5-day-old masses of human

cells from which stem cells can be derived). The evangelical community used evidence of climate change to develop political influence on this issue (McKibben 2006). Because political and religious leaders can motivate millions of people to act on these value-driven issues, such leaders could persuade millions to embrace and practice an ocean ethic. The right leaders, armed with the right messages, talking points, and political organizations can affect large-scale change in public awareness and activism necessary to achieve ocean conservation at an appropriate scale.

Emerging ambassadors from the ocean science and conservation community need to build and work with new constituencies. Moving conservation efforts forward reflects a fundamental truth about human self-interest and the value of healthy ocean ecosystems. The ocean can seem vast and remote, but it is nonetheless connected to all of human life. Marine conservation scientists must reach not only inward to identify the values that engender their strong personal connections to the sea but also reach outward to articulate how those connections might be identified and motivated in groups with seemingly different values. Our ultimate success in preserving and restoring the oceans depends on a more inclusive ethic for the seas.

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