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# Perceptions of wilderness and their application to ocean and coastal waters



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#### ABSTRACT

Over the last few decades, there has been some debate within the conservation community regarding whether places in ocean and coastal waters can and should be considered "wilderness." While there have been numerous marine protected areas around the world that have been self-identified as "wilderness," there is no widely-held, consensus definition of what makes these areas "wilderness," nor have the human uses that would be compatible, and incompatible, with preserving important wilderness attributes, values and qualities been identified and evaluated. A survey of conservation practitioners and scientists was conducted in 2011 to begin to systematically address these questions to better inform the identification, establishment and management of ocean wilderness. The results of this survey confirm that respondents believed that ocean and coastal waters could be considered wilderness, and that the spatial dimensions of wilderness in these places included everything from the seabed to the airspace above the sea surface. Survey findings identified the most important wilderness attributes as amount of boat traffic, amount of noise, presence of human-made structures, 'naturalness', opportunities for solitude, and opportunities for preserving ecosystems and biodiversity. The survey also suggested that recreational uses and those involving Indigenous use related to preserving cultural heritage as most compatible in wilderness waters, while finding that commercial shipping and fishing most incompatible. Survey respondents also emphasized the importance of preserving the non-use values of places identified as ocean wilderness.

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#### 1. Introduction

Over the past few decades, there has been a sporadic yet consistent flirtation with the idea that places in the ocean and along its margins can possess wilderness values and qualities. A number of places in the oceans have been self-identified as "wilderness" (Barr, 2001), both by those who are responsible for the stewardship of these places, and by others who seek to make the public more aware of the exceptional natural and cultural resources of these places set aside as marine protected areas, and garner support for their preservation. These self-identified areas may or may not be

"ocean wilderness." No consensus-based, widely held definition has been codified in law or policy anywhere in the world explicitly for what constitutes "wilderness" in ocean and coastal waters (Barr, 2008). Without such a definition, whether these self-identified areas are or are not wilderness is a matter of speculation.

According to Hendee and Dawson (2002), core wilderness values include:

- protecting air, water and wildlife habitat quality
- preserving biodiversity and healthy ecosystems
- protecting unique or endangered plants and animals
- preserving "wildness" and "naturalness," scenic beauty
- providing opportunities for solitude, spiritual growth, education, science recreation, economic benefits, subsistence
- preserving cultural and historical attributes of these areas.

Even a cursory analysis of this list would suggest that most, if not all, of these core wilderness values could be embodied in places both on the land and in the sea. In fact, this could be a list of core values of many marine protected areas already established, but not

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formally recognized as wilderness, nor managed and protected as part of our wilderness stewardship programs. One would suspect that wilderness could therefore be found in both places, but only wilderness on the land has been formally recognized, except for a few places where waters adjacent to designated wilderness have been included in that designation (Barr, 2008).

The words we use to identify and describe a place are important. These words impose a kind of common perception of what that place represents to us, what we value about that place, and what we, as a society, envision as a framework for its use and appreciation. Definitions establish priorities for what and how we manage and protect these places. Hendee and Dawson (2002) have suggested, somewhat provocatively but perhaps insightfully, that in the spectrum of potential definitions, "wilderness is what people think it is." Without some deeper understanding of "what we think it is", what we believe wilderness to be, places in the ocean and along its coasts that may truly possess exceptional wilderness values and qualities are unlikely to be effectively preserved. If this label of "wilderness" is to have meaning and be applied appropriately, consistently, and robustly to these places that fall outside what we traditionally believe wilderness to be (i.e. remote land areas outside the direct influence and control of humans), it is essential to more clearly understand how people perceive wilderness in ocean and coastal waters; to identify "what people think it is."

A survey was conducted in 2011 to better understand and identify human perceptions of wilderness as it might be applicable to ocean and coastal waters. The questions posed in this survey attempt to discover and illuminate:

- what attributes of areas of coastal and ocean waters contribute to their being perceived as wilderness
- what ocean uses may be compatible or incompatible with maintaining the essential character of wilderness, and
- what values and beliefs give rise to these perceptions.

As stated in the preamble to the survey instrument, this survey and analysis was conducted "to better understand what characteristics of areas of the ocean and coastal waters seem to be consistent with our perceptions of wilderness generally. This information will help to better define what 'ocean wilderness' is and how, like our deeply-valued wilderness areas on land, these areas might be effectively identified and preserved for future generations."

#### 1.1. Existing terrestrial wilderness surveys and research

There is a relatively rich literature related to human perception of wilderness. All but one study (Shafer and Benzaken, 1998) addressed terrestrial wilderness. The majority of these studies focused on the direct-use, recreational value of wilderness, but a significant number also addressed and attempted to quantify the non-use values (i.e. bequest, existence, option, and quasi-option) of wilderness areas. A number of wilderness surveys in the literature have focused on the importance of these non-use values (Porter and Tarrant, 2005; Rolston, 1985; Virden, 1990; Walsh et al., 1984), but many other surveys published over the last three decades have included some questions related to these values (Brown and Alessa, 2005; Cordell et al., 1998, 2003; Higham et al., 2000; Johnson et al., 2004; Shuster et al., 2006; USDA Forest Service and NOAA, 2000). All of these studies found that non-use values were perceived as important, particularly "bequest" and "existence" values, although often not given sufficient attention and importance in wilderness research, or in guiding stewardship actions.

In the United Sates, one of the more valuable sources of data and information on terrestrial wilderness perceptions is the National Survey of Recreation and the Environment (NSRE). This survey has been conducted periodically in the United States since 1960 (USDA Forest Service and NOAA 2000) to better understand the views and opinions of recreationists regarding the activities in which they participate, their views of current management of recreation areas. and their beliefs, values, and perceptions of the natural environment. It is an extensive survey of public attitudes, activities, and aspirations, sampling over 75 000 households across the US. The findings of the most recently conducted NSRE, completed in 2000, suggest that the public is only moderately aware of and understand wilderness management programs in the US. A large majority of respondents felt it was "extremely important" or "very important" for benefits of wilderness designations to include "protecting water quality" (91%), "protecting wildlife habitat" (87%), "preserving unique wild plants and animals" (80%), "protecting air quality" (92%), "protecting rare and endangered species" (83%). 70% of respondents "strongly favor" or "somewhat favor" the designation of new wilderness areas (in their state). This survey also included a number of questions specifically focused on marine recreation, reported in Leeworthy et al. (2005). This analysis generally suggested that demand for recreation in marine waters is increasing although the actual number of recreationists appears to be decreasing.

Internationally, perceptions of wilderness are reported to vary from country to country, attributed to the life experience of the respondents and factors that contribute to their "sense of place" unique to that country and its citizens. In Canada, Lutz et al. (1999) reported that both urban and rural respondents valued preserving wilderness areas, but their perception of the wilderness qualities of images presented in the survey differed considerably, with rural respondents evaluating the images as "less wild" than their urban counterparts.

The Swiss possess a more "utilitarian" view of wilderness, often perceiving it "not useful to people," contrary to findings in many other Western countries (Bauer, 2005). Further, this survey found that perception of value is highly linked to the natural state of the area and how much it appears to have been influenced by human activities. The author also concluded that "feeling free from rules and regulations" was an important element of Swiss perception of wilderness.

There are differences in perceptions of designated wilderness based on the nationality of tourists visiting New Zealand wilderness (Higham, 1998; Higham et al., 2000). This research developed and calculated a "wilderness purism scale" (1 = "non-purist" to 4 = "strong purist") based on survey results of international visitors' preferences regarding various human activities and their desirability in designated wilderness. It was found that of the eleven nationalities represented in the list of respondents, visitors from Japan and Israel tended more toward the "non-purist" end of the scale, whereas visitors from Australia, Britain, and the US exhibited more "strong purist" perceptions of wilderness. In Finland, Fyhri et al. (2009) reported similar differences in a comparison of wilderness values of tourists and native Finns.

Another wilderness landscape preference survey from Finland (Hallikainen, 2000) identified virgin forests and open bogs as most emblematic of wilderness in this country. Around 96% of the respondents perceived wilderness preservation and protection to be important and the three most significant values identified were species conservation, wilderness preservation for future generations ("bequest value"), and wilderness recreation.

Clearly, what we perceive as wilderness is "in the eye of the beholder." Our life experience and values help to shape that perception. Indeed, the places we, as a society, choose to preserve

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