

MARINE PROTECTED AREAS

by jeff pollack

For many of us, surfing is more than merely an adrenaline sport. It is an opportunity to commune with the natural world, to seek solace and an excuse to travel to exotic places. These aspects of surfing are enhanced by wild surfing locations. We often go the extra mile to surf in wild places. It is the draw of these wild places that motivated surf films such as *The Endless Summer* and *The Lost Island of Santosha*. Although many of our favorite surfing areas have become closer to the deadzone off the Mississippi River than the thriving wilderness of Fiji, we have a new opportunity to protect ocean wilderness here in the US, so that next time you go surfing, fishing or diving off your favorite coast, you will be able to enjoy a healthy and wild ocean. -Chad Nelsen, Environmental Director



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National recognition and protection of wilderness in areas like the Alaskan Arctic are familiar to each of us. Most of us derive a certain comfort from knowing that those areas exist in their natural state, even if we might never see them with our own eyes. So why don't we demand the same degree of safe keeping for our marine wilderness areas? Surely all of the justifications for preserving the Denali National Park in Alaska or Yosemite in California can be applied to Rincon, Trestles or other ocean wilderness. Around 10% of the public lands in the United States are protected as reserves, but less than 1% of our coastal waters are securely protected in this way. While an oceanic equivalent to our country's national park system does exist in the form of the National Marine Sanctuaries System, the degree of environmental protection afforded by different sanctuaries is inconsistent, and restrictions only target certain high profile destructive activities, such as oil drilling.

There are both tangible economic and fundamental philosophical reasons for setting aside areas of undisturbed ocean wilderness. Like the Grand Canyon or Arches National Park, there are certain marine habitats whose natural splendor represents a unique part of our natural legacy, the loss of which would mean more than what can be expressed in economic terms.

The range of animal and plant species that thrive in wilderness areas represents the biological diversity that naturally exists in a healthy ecosystem. The complex interactions of these species define what scientists refer to as the food web. The overall stability of the entire ecosystem is directly related to the level of complexity that characterizes these interactions. The loss of key species from overfishing or other human disturbances of the system eliminates essential links in the food web, undermining the stability of the ecosystem. As a result, the system becomes more vulnerable to disturbances, both human and natural, and takes longer to recover when disturbances occur. Unimpacted wilderness areas are our only reserves of the ocean's biodiversity. They serve as the model of the ocean's natural state and provide a metric by which we can evaluate our level of impact, and they provide opportunities for scientific exploration and education for which there are no substitutes.

Scientific studies have revealed that local populations of many marine species depend on stock replenishment from other areas of the ocean. Animal larvae or juveniles may migrate or be

transported hundreds of miles by ocean currents before settling in the habitat where they will mature. Studies have also shown that overall species diversity, population density, and average animal size are higher inside areas of the ocean that have been protected from high impact activities like fishing and oil exploration. Thus, the designation of strategically selected habitats for preservation as marine wilderness is a powerful conservation tool: The high numbers of animals that are born in the safe haven of the marine preserve will serve as a source of new individuals for populations far outside the designated wilderness area. Overall biological diversity, including stocks of both commercially and recreationally targeted species, will increase in the long run.

A number of cases can be cited to support the utility of marine preserves and sanctuaries as a conservation and fisheries replenishment tool: Rockfish populations in both central California and Washington State have rebounded substantially since the inception of the Point Lobos Ecological Reserve and the Hopkins Marine Life Refuge. Ling Cod stocks have also showed signs of recovery in and around the marine reserves in Puget Sound. In the North Atlantic, the restriction of fishing in sections of Georges Bank has yielded a drastic increase in the sea scallop population.

The creation of pockets of protected marine wilderness is a proactive way for us, the guardians of the living ocean, to enhance the resilience of marine ecosystems. Many types of human activities, such as ocean dumping of solid and chemical waste, dredging and drilling, and mismanaged commercial harvesting, cause major ecological disturbances. The compounded stress of these disruptions limits marine systems' ability to recover from climatic variability and other natural sources of stress, like El Niño events and major storms. By protecting selected habitats from the damaging effects of certain human activities, we can increase the resilience of the entire ecosystem.

Surprisingly, much of the public opposition to the creation of a network of marine protected areas comes from traditional

users of marine resources. Commercial fishermen fear a loss of revenue from the closure of primary fishing grounds, and recreational fishers are wary of restrictions that are obstacles to their enjoyment and open access to marine resources. However, these concerns result largely from experiences with emergency fisheries closures. Emergency closures are typically attempts to salvage critically endangered stocks after a long history of mismanagement. The creation of marine preserves represents the type of predictive foresight that could help to prevent dire situations and the need for this type of drastic mitigation measure.

While short-term adjustments will be necessary in response to the creation of preserve areas, the long-term increases in whole ecosystem productivity and fisheries yield will far offset the short-term costs. In fact, surveys of spiny lobster, Yellowtail snapper, and grouper in the Florida Keys indicate that substantial population increases were evident within two years of the imposition of "no-take" zones. In addition to the quantifiable economic benefits of increasing fisheries productivity, the importance of preserving the cultural integrity of historical regional fishing heritage cannot be overstated.

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