Closing parts of the ocean to fishing not enough to protect marine ecosystems

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A University of Washington fisheries professor argues this week that saving biodiversity in the world's oceans requires more than banning fishing with marine protected areas, or oceanic wilderness areas. In a three-page editorial published this week in the journal *Nature*, he argues that this increasingly popular conservation strategy is not as effective as properly managing recreational and commercial fisheries.

"There's this idea that the only way you can protect the ocean is by permanently closing parts of the ocean to fishing, with no-take areas," said Ray Hilborn, a professor in the UW's School of Aquatic and Fishery Sciences. "You protect biodiversity better by regulating fisheries over the country's entire economic zone."

Marine protected areas have grown in popularity since the early 2000s.

Recent examples include an area twice the size of Texas in the central Pacific established in 2014 by President Barack Obama, and a proposal to close 25 percent of the Seychelles' exclusive economic zone, an island nation off Africa's east coast.

Several environmental organizations have set a longer-term goal of making 30 percent of the world's oceans into no-take marine protected areas by the year 2030. But Hilborn believes this is not the best way to protect global marine ecosystems.

"If the problem is overfishing or bycatch, then fisheries management is much more effective than establishing MPAs because you regulate the catch over the entire economic zone," Hilborn said. "I don't see how anyone can defend MPAs as a better method than fisheries management, except in places where you just can't do management."

In countries with functioning fisheries management systems, Hilborn believes, conservationists and the fishing industry should work together on large-scale protection of marine biodiversity and sensitive marine habitats.

For example, changes in fishing practices that allowed "dolphin-safe tuna" have cut dolphin deaths in the eastern Pacific by almost 100 times between 1986 and 1998, the article notes.

"You could never have reduced dolphin deaths that much by simply closing part of the ocean to fishing," Hilborn said.

He argues that working with the fishing industry to modify what types of gear are used and when and where different species are allowed to be caught can make more of a difference than establishing new marine protected areas.

"In Alaska, for example, more than 50 percent of the continental shelf waters are closed to specific kinds of fishing gear and the entire shelf is covered by species-specific catch restrictions," he writes. "This is much more protection than could be offered by turning 30 percent of the region into MPAs."

Hilborn said he worries that marine protected areas are being created without specific objectives, lacking input from affected communities, and without analysis of the larger-scale effects. Closing one area to fishing will just shift the pressure to a different area, Hilborn said, or cause people to seek other, more environmentally harmful sources of food.

In early September, world leaders will meet in Hawaii for the high-profile World Conservation Congress, held every four years by the International Union for Conservation of *Nature*. Hilborn hopes his article will prompt discussion about priorities for preserving the health of marine environments.

"The modern conservation movement is places too much emphasis on protected areas," Hilborn said. "The focus needs to shift. We can better protect biodiversity, and still provide food, by looking to fisheries management as the first defense."

More information: *Nature*, nature.com/articles/doi:10.1038/535224a

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