

# Traditional fisheries management approach jeopardizes marine ecosystems worldwide

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Credit: NOAA

In a Perspectives article, "The Risks of Overfishing," published in the journal *Science*, Dr. Ellen K. Pikitch, executive director of the Institute for Ocean Conservation Science and professor at Stony Brook University, cautions against continuing traditional fisheries management. According to Dr. Pikitch, current and recent studies demonstrate the need for "a more precautionary approach to fisheries management, in which fishing is restricted to those places and amounts where it can be conducted safely and with minimal risk of jeopardizing the integrity of marine ecosystems."

Commenting on a study published in the same issue by Costello et al., which found that globally, the abundance levels of [fish populations](#) are well below those recommended by conventional fisheries management guidelines, Dr. Pikitch writes, "Of even greater concern, most species are on a continuing trajectory of decline."

Costello et al. found that fisheries that represent 80 percent of the world's catch are in worse shape than those on which global status reviews have been conducted. Dr. Pikitch writes, "Costello et al.'s findings are even more alarming in the context of the evolving understanding of fishing and its ecological effects." Dr. Pikitch explains that traditional fisheries management focuses on obtaining maximum sustainable yield (MSY), which is a single-species approach that does not take into consideration the effects of the fishing on the entire ecosystem, including declines of other fish and [marine animal](#) species.

The findings of a recently published report, "Little Fish, Big Impact: Managing a Crucial Link in Ocean Food Webs," by the Lenfest [Forage Fish](#) Task Force, found that moving away from a single-species management approach toward an ecosystem-based approach requires more precautionary management. The task force, of which Dr. Pikitch is the chair, determined that the amount of information available about the ecosystem and the fishery should establish the level of precaution managers should apply, requiring a shift in the burden of proof for [fisheries management](#). In the Perspectives article, Dr. Pikitch writes "[This shift] is justified not least because the risks of continuing fishing when it results in serious negative consequences are generally much greater than the risks of curtailing fishing when it does not have a deleterious impact."

**More information:** *Science* [www.sciencemag.org/lookup/doi/...  
1126/science.1229965](http://www.sciencemag.org/lookup/doi/10.1126/science.1229965)

Provided by The Institute for Ocean Conservation Science

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