Conserve Forage Fish Species in U.S. Waters

We, the undersigned marine scientists, call on the National Marine Fisheries Service to revise its methods and procedures for setting optimum yield and annual catch limits to preserve the key role of forage fish species as food for other species in the marine food web.

The 2006 Magnuson-Stevens Fishery Conservation and Management Reauthorization Act contains provisions requiring precautionary, science-based catch limits for federally managed fisheries, and the fisheries service has initiated a process to revise its implementing regulations accordingly. This revision process is an opportunity to address the central role that forage fish play in marine ecosystems, incorporate specific conservation criteria into federal fisheries regulations, and promote wider application of ecosystem-based principles in fishery management.

Currently there is no explicit policy or regulatory framework within U.S. fishery law to ensure that there are adequate numbers of forage fish in the ocean to preserve ecosystem food web integrity. The key role of forage fish in marine food webs is not accounted for in conventional single-species fishery stock assessment advice and is not reflected in the annual catch limits for these critical species. The single-species fishery approach, based on maximum sustainable yield (MSY), aims to reduce spawning stock by 50% or more from the average spawning biomass in the absence of fishing, by design.

Reducing key forage species to less than half of pre-exploitation stock size by design is not an appropriate management target. As a step toward integrating ecosystem-based management objectives in fishery management, federal regulations should recognize the special role that forage fish play and provide guidance on how to account explicitly for the needs of predators when setting catch limits so that adequate prey are available for fish, birds, mammals, and sea turtles. This recommendation follows from the findings of the National Research Council's Committee on Ecosystem Effects of Fishing, Phase II (NRC 2006), which concluded that if the United States is to manage fisheries within an ecosystem context, food web interactions, life-history strategies, and trophic effects will need to be explicitly accounted for when developing fishery harvest strategies.[1]

A more precautionary approach to forage fish management is needed to provide buffers against multiple sources of uncertainty in the scientific advice and ensure that the integrity of the marine food web is not compromised by excessive removals of these key species. Such an approach should be guided by the following general principles:

1) Forage fish play a critical ecological role
2) There is uncertainty involved in measuring the impacts of forage fish fisheries
3) As a starting point, MSY is not an appropriate basis for setting catch levels for forage fish
4) Managing forage fish requires more conservative standards

[1] National Research Council, Committee on Ecosystem Effects of Fishing, Phase II. Dynamic Changes in Marine Ecosystems: Fishing, Food Webs, and Future Options. National Academies Press, Washington, D.C. (2006). 160 pp.

Forage fish are targets of some of the largest commercial fisheries in the United States and the world. The growth of global aquaculture is putting increased pressure on forage fisheries to expand in order to supply feedstock for farmed fish, among other uses, lending urgency to the need for action. We urge the Fisheries Service to act now and provide much-need regulatory guidance to preserve the role of forage fish in U.S. fishery management plans.

Sincerely,

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