

New Research in *Science* Shows It's Not Too Late for Troubled Fisheries

Study Sheds New Light on Data-Poor Fisheries and How Recovery Can Boost Seafood Supply

Washington, D.C. – September 27th, 2012 – A study published in *Science* magazine contains new population assessments for thousands of fisheries around the globe, providing insight on the health of data-poor fisheries that account for more than 80 percent of the world's catch. The research confirms suspicions that these fisheries are in decline, but it also highlights hope for the future: most of these fisheries have not yet collapsed. If we act quickly to prevent overfishing and allow depleted stocks to recover to sustainable levels, they could provide more seafood over the long-term. This could increase the amount of fish brought to shore by 8-40 percent on average - and more than double it in some areas - compared to yields predicted if we continue current fishing trends.

"Until now, our sense of how fisheries are doing has been based on a minute fraction of the world's fisheries – the large, valuable stocks for which we have lots of data," says UCSB scientist Steve Gaines. "This represents only a few hundred of over 10,000 fish stocks. It's a tiny slice that can give us a skewed view."

"For most fisheries, we simply didn't know how many fish were out there and whether their populations were trending up or down," adds lead author and economist Christopher Costello. "Without good information on fish populations, managing sustainably can be a hard thing to do. It's like trying to decide how far you can drive your car without knowing how much gas is in the tank."

The study provides a new global status report that includes these previously unmeasured fisheries. It brings thousands of what managers call "unassessed" fisheries into focus, using new methods to estimate fish populations. The results show that over half the world's fisheries are in decline. Across the globe, stocks with robust data are doing better than those less-studied, regardless of the country that manages them.

"If we look at assessed stocks we can be pretty satisfied that fishery management systems are generally working to assure long term sustainability," says University of Washington scientist Ray Hilborn, a co-author of the study. "For unassessed stocks, this doesn't appear to be true."

The scientists found that for large-scale fisheries, the stocks that we measure and track are at similar levels as those that we have not formally measured. However, under current fishing pressure their futures look very different: the assessed stocks are starting to show signs of recovery, while large, data-poor populations continue to decline. In small scale fisheries, the data-poor or "unassessed" stocks are in far worse shape than their studied counterparts, and many are plummeting at alarming rates. These fisheries are critical to local food security in many parts of the world.

"Without good population estimates, political pressure tends to dominate decision making, and we end up catching too much," says Costello. "Over time, this can lead a fishery to collapse."

"The impact on food security is most significant for local-level fisheries in poorer countries, but this isn't just a developing world problem," explains UCSB ecologist, Sarah Lester. "Small, unassessed fisheries in the U.S. and Europe are often in as bad a shape as those in the developing world."

The scientists caution that the new method cannot take the place of formal assessment programs for individual fisheries, but their approach provides accurate global and regional information that they hope will inform fisheries

management decisions. “At a regional scale, we can gain up to 80 percent of the insights of traditional assessment approaches with just 1 percent of the cost,” says Gaines.

The Benefits of Recovery – Environmental and Economic Gains

The closer a fishery is to collapse, the harder and more uncertain its recovery. However, the researchers say that with prompt action the majority of the world’s fish populations could still rebound.

“Strong management could increase the number of fish in the ocean by over 50 percent,” says Gaines. “When fish populations are healthy they produce more young. It may seem paradoxical, but we can get more fish on our plates by leaving more in the water.”

The gains expected from recovery are most pronounced for small scale fisheries, many of which are in countries that face rapid population growth and depend on fish for local food security. Even in North America and Europe, recovery would bring both economic and environmental benefits.

“The good news here is that it’s not too late,” explains Costello. “These fisheries can rebound. But the longer we wait, the harder and more costly it will be to bring these fisheries back. In another ten years, the window of opportunity may have closed.”

Getting to Recovery – Changing the Race for Fish to a Race for Sustainability

The new study in *Science* is embedded in a larger study, *Charting a Course to Sustainable Fisheries*, released this week by the consulting firm, California Environmental Associates. This broader study evaluates the successes and gaps in fishery management and conservation programs around the world. It points to the fact that we know how to bring back dwindling fisheries, but political battles often trump putting these concepts into action.

“We know what works. Fishery management policies and practices have been tried, tested, and proven,” says report author Matthew Elliott.

In the U.S., for example, many large fisheries are starting to recover. The report’s analysis shows that these gains result from a combination of efforts: relying on strong science to set total allowable fishing levels, closing some areas to allow for rebuilding, and using sustainable seafood markets and policies that help fishermen have secure access to a proportion of catch. While there is not a one-size-fits-all solution to eliminate overfishing, the report shows that many of the same principles are applied in successful, local management efforts around the world.

“The key is to use and share these practices more broadly,” says Elliott. “In many areas of the world, particularly in the tropics and sub-tropics, we see fisheries expanding quickly with little in the way of management. This research fills an important information gap for these fisheries. We hope it will draw more international attention to fisheries management in the many parts of the world that we have historically ignored.”

The scientists and economists involved in the research echo this call for international collaboration. “This isn’t something where we need another twenty years of science,” says Gaines. “We know what it takes.”

“Healthy ocean fisheries hold the potential to feed a growing population without destroying the supporting ecosystems to the point where they no longer produce seafood,” adds Elliott. “Within our lifetime, we can make sustainable global fisheries the norm rather than the exception.”

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