Study: Big ocean fish nearly gone

Scientists use fishing data to estimate that just 10 percent left

By Miguel Llanos
MSNBC

May 14 - In just 50 years, commercial fishing has emptied the oceans of more than 90 percent of all tuna, swordfish, marlin and other large predatory fish, according to two scientists who reported their estimate Thursday in the journal Nature.

‘Do we want a world without white sharks and giant tunas? Do we want a world without mako sharks? Industrial large-scale fishing is making that choice for all of humankind.’

— BARBARA BLOCK

‘FROM GIANT blue marlin to mighty bluefin tuna, and from tropical groupers to Antarctic cod, industrial fishing has scoured the global ocean,” study co-author Ransom Myers said in a statement accompanying the study. “There is no blue frontier left.”

Myers and colleague Boris Worm wrote in Nature that while “it is now widely accepted that single populations can be fished to low levels, this is the first analysis to show general, pronounced declines of entire communities across widely varying ecosystems.”

The authors said the data might come as a shock to most scientists and fisheries managers but attributed it to the fact fisheries have been regulated based on data compiled after most of the reduction took place in the early years of industrial fishing.

Myers, a marine biology professor at Dalhousie University in Canada, and Dalhousie research fellow Worm also estimated that it generally takes less than 15 years for industrial fishing to kill 80 percent of a new fishing ground’s abundance.

FOCUS ON LONGLINES

Myers began work on the report a decade ago, collecting data from Japanese records for longline fishing between 1952 and 1999. Longlines — used on the open oceans to catch tuna, marlin and swordfish — float for miles with baited hooks, often catching unintended species as well.

The Japanese caught 10 fish per 100 hooks just after World II as large-scale fishing fleets began spreading globally and when no marine fish stocks were known to be overfished.

Now, Myers found in the records, they are lucky to catch one per 100. The study uses other research and surveys to verify the results and expand them to other species.

“This means that the larger, more sensitive species like the sharks will go extinct unless we reduce fishing in a very large-scale manner,” Myers said.

U.S., INDUSTRY CRITICAL

The Bush administration met the study with caution.

“There’s nothing that assures us that the data they are using is representative of all populations in the world,” said Michael Sissenwine, head of fisheries science at the National Oceanic and Atmospheric Administration.

He agreed that commercial fishing can cause big reductions in populations quickly, typically reducing a species’ population by at least 50 percent.

“We shouldn’t, on the other hand, conclude that a substantial reduction is a problem,” he said. “The point is we shouldn’t be thinking we can have fisheries and leave the ecosystem in a pristine state.”

The International Coalition of Fisheries Associations, a trade group, had similar criticism of the study.
"It's contradicted by most of the fisheries management organizations in the world," said spokeswoman Linda Candler, quoting a U.N. report that said 75 percent of commercial fish are at sustainable levels.

Candler also criticized the authors' assertion that managers are using flawed data taken after much of the fish were caught. "You can only address the issue in the context of the best science currently available," she said.

"Research shows fisheries are more productive when fished," she added, noting that "fish populations respond by reproducing more" when a new predator, i.e., man, is introduced, as long as that predator doesn't overdo it.

CONSERVATIONISTS ALARMED

Conservationists, on the other hand, reacted to the study with alarm.

"Because longlining technology has improved, the authors' estimates are conservative," Daniel Pauly, a fisheries scientist at Canada's University of British Columbia, said in a statement. "If the catch rate has dropped by a factor of 10 and the technology has improved, the declines are even greater than they are saying."

Two investigators with a research project that tags large open-ocean animals to track their movements were equally worried.

"The magnitude of the threat is startling," said Randy Kochevar, who is also with the Monterey Bay Aquarium in Monterey, Calif. "Even if the authors' numbers are off by as much as 50 percent, this is a big, big problem."

"We think about the oceans as being a source of endless bounty and look on the idea of hunting animals to extinction as a folly from the distant past," Kochevar said in a statement responding to the study. "The fact is that ocean ecosystems are fragile, and we're using cutting-edge technologies to empty them of life in ways the buffalo hunters of the American West could never have imagined."

Barbara Block, a Stanford University marine biologist and one of the world's leading tuna researchers, likened the losses of big fish to the devastating population declines of great whales in the past century.

"What the paper is doing is bringing to the public the reality of what's happening in our seas," she said. "We're systematically removing the large carnivores from the seas."

"Do we want a world without white sharks and giant tunas?" asked Block, who also runs. "Do we want a world without mako sharks? Industrial large-scale fishing is making that choice for all of humankind."

SCIENTISTS' ADVICE

The trends outlined in the study echo a 1994 estimate by the U.N. Food and Agriculture Organization that almost 70 percent of marine fish stocks were overfished or fully exploited. A U.N.-sponsored world summit in South Africa called for restoration of global fisheries by 2015.

Myers and Worm, who hope their data serves as a guide for those efforts, said nations must reduce fish quotas, cut subsidies to commercial fishermen, reduce bycatch of unwanted fish and create marine reserves to allow fish space to reproduce.

One recent success story is the rebuilding of North Atlantic swordfish populations to 94 percent of what they should be, up from 65 percent, because of stricter management since 1999, according to the International Commission for the Conservation of Atlantic Tunas.

"If stocks were restored to higher abundance, we could get just as much fish out of the ocean by putting in only one-third to one-tenth of the effort," Myers said. "It would be difficult for fishermen initially — but they will see the gains in the long run."

The Associated Press and Reuters contributed to this report.

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