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## Study: Only 10 percent of big ocean fish remain

By Marsha Walton  
CNN

**(CNN) --A new global study concludes that 90 percent of all large fishes have disappeared from the world's oceans in the past half century, the devastating result of industrial fishing.**

The study, which took 10 years to complete and was published in the international journal Nature this week, paints a grim picture of the Earth's current populations of such species as sharks, swordfish, tuna and marlin.

The authors used data going back 47 years from nine oceanic and four continental shelf systems, ranging from the tropics to the Antarctic. Whether off the coast of Newfoundland, Canada, or in the Gulf of Thailand, the findings were dire, according to the authors.

"I think the point is there is nowhere left in the ocean not overfished," said Ransom Myers, a fisheries biologist at Dalhousie University in Halifax, Nova Scotia and lead author of the study.

Some in the fishing industry took issue with the tone of the report.

"I'm sure there are areas of the world with that level of depletion, but other areas are in good shape," said Lorne Clayton, with the Canadian Highly Migratory Species Foundation, a foundation that supports the sustainable development of the tuna industry.

He said some abuses of the past have ended: Long drift nets are illegal, untended longlines are illegal, and many countries adhere to elaborate systems of licensing, quotas and third party observers working on boats.

Yet Clayton agreed that there remains much room for improvement.

"It's important to keep these issues in front of the public. That puts pressure on the fisheries and agencies to keep cleaning up their act," he said.

According to the report, the big declines in the numbers of large fishes began when industrial fishing started in the early 1950s.

"Whether it is yellowfin tuna in the tropics, bluefin in cold waters, or albacore tuna in between, the pattern is always the same. There is a rapid decline of fish numbers," Myers said.

Co-author Boris Worm said the losses are having major impacts on the ocean ecosystems.

The predatory fish are like "the lions and tigers of the sea," said Worm, a marine ecologist with the Institute for Marine Science in Kiel, Germany.

"The changes that will occur due to the decline of these species are hard to predict and difficult to understand. However, they will occur on a global scale, and I think this is the real reason for concern."

## Going the way of the dinosaurs?

In many cases, the fish numbers plummeted fastest during the first years after fleets moved into new areas, often before

anyone knew the drops were taking place.

A few decades ago, longline fishing would catch about 10 big fish per 100 hooks. Now the norm is one fish per 100, with fish about half the weight of earlier years, Myers said.

Longlining, among the most widespread of fishing methods, uses miles of baited hooks to catch a wide range of species.

Myers warned that the world's great fish could go the way of the dinosaurs if immediate action is not taken.

"Humans have always been very good at killing big animals," Myers said. "Ten thousand years ago, with just some pointed sticks, humans managed to wipe out the woolly mammoth, saber tooth tigers, mastodons and giant vampire bats. The same could happen in the oceans."

Some representatives of the fishing industry say the picture is not as bleak as the Nature authors indicate.

"For tuna, the analysis is restricted to data from longline fisheries that catch only relatively old individuals, which comprise a small part of the stock," said Robin Allen, of the Inter-American Tropical Tuna Commission.

According to the commission, a greater reduction would be expected in that age-group compared to the tuna stock as a whole.

Worm said he hopes this "big picture" study of the world's fish populations will serve as a wake up call to governments, global fishing conglomerates and environmental groups.

"People haven't before seen how bad this is," said Worm. "It doesn't make any sense, economically or ecologically, to ignore this."

## Solutions in the water

While the numbers are alarming, Worm said there are solutions.

In the past when certain fishing areas have been declared off limits and fishing restrictions have been enforced, certain fish and shellfish populations rebounded "amazingly quickly," he said.

Haddock, yellowtail and scallops have recovered in different regions.

"The ocean is full of surprises," Worm said. But with numbers down so dramatically in every part of the world, the situation cannot be ignored for long, he said.

Myers said many of the world's fishing commissions and governments have tried to wish away the problem for years. Reversing the decline, he suggested, would require cutting back fishing by as much as 60 percent.


Clayton said that technological advances were already responsible for improvements. Hi-tech equipment on fleets from many developed countries reduce the by-catch, the fish and other animals caught as by-products of the target fish.

But a huge technological gap still exists between the fishing fleets of rich and poor nations, Clayton said.

He said it makes economic sense for the fishing industry to adhere to conservation measures, and to look at the expansion of aquaculture (fish farming) as part of the answer to dwindling fish numbers.

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