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Predator Fish in Freefall; Anchovies and Sardines Taking Over

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"Humans have always fished. Even the ancestors of humans fished. The thing is, we've gotten so much better at it."

That's how Reg Watson, a senior scientist at the University of British Columbia, opened a panel at the American Association on the Advancement of Sciences on Friday, entitled "2050: Will there be Fish in the Ocean?"

The forecast: Overfishing is robbing the oceans of large predator fish, like tuna, cod and grouper, and leaving the sea packed instead with smaller prey, like anchovies, while drastically altering ocean ecosystems.

"Prey fish will increase and predators will decrease," said Villy Christensen, also from the University of British Columbia. "It will be like Serengeti without the lions."

In other words, humans are fishing down the food chain.

It's hard to say how fast wild fisheries are collapsing, but researchers did dole out the following facts: Big saltwater fish have declined by more than two-thirds and small fish have doubled over the past century. And more than half of that decline occurred in the last 40 years, as fisheries expanded geographically, unchecked.

Overfishing is the cause, Christensen said. And pollution, rising ocean acidity, and warming ocean temperatures due to climate change will only add to the problem.

Studies on the subject have varied. One from 2006 concluded that by 2048, all commercial fish stock will have collapsed. Another study published in the journal *Science* in 2009 was less dire, and found that conservation efforts may be effective at turning things around.

In 2006, 78 million tons -- that's some 7 trillion fish -- were removed from oceans worldwide. And the energy consumption that went into fish catch is staggering. In 2006, 17 billion watts of energy was consumed by catching fish. That's equivalent to 90 miles of Corvettes, lined bumper-to-bumper, with their engines revving, and equals nearly 4 percent of the entire energy consumption in the U.S., Watson said.

If humans alter their behavior even marginally, we may be able to reduce biomass declines, researchers said on Friday. This would involve less fishing, more protected areas, restored coastal habitats and cutting back on pollution.