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Daniel Pauly: Fishing for a Perfect Ocean

A 2003 *SciAm* 50 finalist researches tools to help mend the ocean's broken ecosystem

By [Katherine Harmon](#)



DANIEL PAULY
MARTIN DEE

Editor's Note: In mid-May, Scientific American will announce the winners of this year's [Scientific American 10](#). Every Monday, starting April 13, we will profile a previous Scientific American 50 winner.

Year in Scientific American 50: [2003](#)

Recognized for: His work [documenting](#) and analyzing the world's collapsing fisheries. In the 1990s he and a handful of other researchers created [FishBase](#), a searchable online database that now has information on more than 30,000 species. In the 2003 book he co-authored, [In a Perfect Ocean: The State Of Fisheries And Ecosystems in the North Atlantic Ocean](#), [Daniel](#)

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[Pauly](#) argued that entire marine ecosystems in the North Atlantic had been altered nearly beyond recognition.

What's happened to his work: Pauly credits the *SciAm* 50 award for giving his career a boost by putting his work on the radar for other awards and recognition. And 2003 also marked his promotion to director of the Fisheries Center at the University of British Columbia (U.B.C.).

Today, the free service FishBase gets more than 30 million hits a month, Pauly notes. Like some of the fish it tracks, however, it's struggling. "It's almost like the air—everybody uses it, breathes it, and no one wants to pay for it," he says.

Pauly has also been working with [Ecopath](#), a free ecosystem modeling software which was originally created by scientists at the National Oceanic & Atmospheric Administration (NOAA) but later developed by U.B.C.'s Fisheries Center. The program has more than 6,000 registered users worldwide and was named by NOAA in 2007 as one of the "[Top 10 Breakthroughs](#)" of the past 200 years.

What he is doing now: Pauly recently won the [Excellence in Ecology prize](#) from the International Ecology Institute in Germany, which comes with a book deal. His upcoming book, which he calls *Gasping Fish and Panting Squids*, will look at how ocean temperatures (which also determine the amount of dissolved oxygen in the water) affect marine life. "I'm developing a physiological theory of growth and oxygen requirement," he tells *ScientificAmerican.com* from Germany where he is on sabbatical to work on the book. "If it's well-understood how fish require oxygen to grow, then we can understand how to deal with [the impact of global warming](#)."

Although fisheries research and interest has picked up pace in the past several years, thanks in part to Pauly's research and tools, there is still much more to be done before marine ecosystems are back in balance. "The crisis of the fisheries is similar to our economy," Pauly says. "This is not one fishery failing, but the whole system."

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