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Empty Oceans? Not yet, but the trend is worrisome

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For years, any environmentalist who warned about the dangers of overfishing could be dismissed as just another fear monger a Chicken Little with fins. Not any more, perhaps. Last week two mainstream scientists, writing in a prestigious international journal, confirmed what the fraidy-catfish types have been predicting all along: The fish are dwindling, and with them one of the planet's principal food supplies.

Over the past decade, the Food and Agriculture Organization of the United Nations has reported a healthy upswing in the worldwide seafood harvest. The agency's numbers, long considered the most reliable around, are generated through voluntary estimates from individual countries. However, they have never been subject to independent verification.

Until now. Writing in the journal *Nature*, fisheries scientists Reg Watson and Daniel Pauly of the University of British Columbia at Vancouver conclude that overreporting by China has severely skewed the global catch totals. Rather than rising by an average of 700 million pounds per year, the authors say, seafood harvest has actually been plummeting by about 800 million pounds a year.

Exclude the Peruvian anchoveta, a fish that is numerous but is not used for human consumption, and the annual harvest decline almost doubles, to 1.5 billion pounds. Over the next two decades, the scientists predict, total seafood harvest could drop by another 35 percent half of what it was in 1988.

"The results are stunning," marine biologist Jane Lubchenco of Oregon State University in Corvallis told *Nature's Science Update*. "We're on a trajectory of significant decline." Such a decline holds dire portents in a world whose growing human population derives almost one-fifth of its protein intake from ocean products.

Optimists often cite increased yields from aquaculture fish farming as reason to doubt that overall seafood production is in any sort of danger. But Watson and Pauly note the major emphasis is on farming carnivorous fish species, which themselves require enormous amounts of ocean-caught seafood. Up to four pounds of fish meal is required to produce one pound of farmed salmon. Other agricultural products may not be able to pick up the slack, either.

U.N. figures show worldwide fish and mutton production as essentially stagnant through the 1990s. And the U.S. Department of Agriculture says the world grain harvest has actually declined during each of the last three years.

No, the sky isn't falling. But what's happening in the oceans may be a warning of something much worse.