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Study in Nature provides startling new evidence of declines in global fisheries since late '80's

Vast over-reporting by China to United Nations has masked falling catches

Leading scientists raise serious concerns about world food supply of fish and management and economic decisions based on flawed data

Contrary to the statistics published by the Food and Agricultural Organization of the United Nations (FAO), which indicate that the global fisheries catch is stable, leading fisheries scientists reveal that catches have actually been declining for over a decade. This new evidence means that the true state of the oceans is far worse than anyone has previously realized.

The study published in the November 29th issue of Nature shows that vast over-reporting by the People's Republic of China combined with the large and wildly fluctuating catch of a small fish, the Peruvian anchoveta, have painted a false picture of the health of the oceans by inflating the catch statistics and implying that "business as usual" is sustainable.

"The global catch trend is not increasing, it is not even stable, but rather it has been decreasing steadily since the late 80's," states one of the study's authors, Dr. Reg Watson. "The bottom line is that the downward trends in global fisheries catches have been obscured. Fisheries management and economic decisions are being based on flawed data," says Dr. Daniel Pauly, the other author.

"These earthshaking findings are the most significant fishery and food security results in decades," says Dr. Jane Lubchenco, a Distinguished Professor at Oregon State University and former president of the American Association for the Advancement of Science. "They call into question the very basis of international fisheries management."

Presently only a single institution, FAO, maintains global fisheries statistics. As a UN organization, FAO receives but is not able to verify the statistics reported by member countries, even when they are suspected of being wrong. No mechanism exists for independent verification of catch reports.

"I have been troubled a long time by the mismatch between what we know is the case for various fisheries—that they are going downhill—and the triumphalist reports of a global catch that continues to increase," says Daniel Pauly, a renowned international authority on global fisheries. "This study reconciles what we see at the local level - failing fisheries - with what is

happening at the global level - falling catches.”

Using FAO's catch data and a massive statistical analysis that compared the predicted fisheries against those reported, the authors showed errors in the official fishery statistics. These inflated statistics have led to complacency about the need to more effectively manage fisheries and have resulted in unwise investment decisions by banks and industry.

Over the past 30 years there have been dramatic increases in the exploitation of world fisheries including more species being marketed and new fishing areas opening up. Increased effort and fishing pressures are devouring the accumulated “old growth” riches of the sea. Despite scientists' widespread expectations that world fisheries would plateau at values of around 80 million tons, global catches reported by FAO generally increased through the 1990's - driven largely by catch reports from China.

The huge discrepancy between what is reported and the true state of global fisheries is largely due to misreporting by countries with large fisheries. “Many countries over and under-report their catch statistics, but none has as big an impact as China,” explains Pauly. Although Chinese waters covers only 1 percent of the world's water surface, China accounts for 40 percent of the deviation between reported and corrected.

The study highlights anomalies of in the 1990's of as much as 10 tonnes/km² when compared to reported amounts for Chinese waters. “The same state entities devoted to monitoring the economy are also tasked with increasing its output. Our studies showed that whatever leaders set as production targets is what is officially reported. If you dictate fisheries to increase by 5 percent then it is reported to increase by 5 percent.”

“Regardless of ‘whodunnit’ the message here is that our overfishing problems are far more urgent than we even realized,” says Andy Rosenberg, Dean of the College of Life Sciences and Agriculture at the University of New Hampshire and the former deputy director of the National Marine Fishery Service. “It's not a case of ‘lets gradually phase in some solutions.’ It's rather more urgent than that. Overfishing is not a just a Chinese problem. We have serious overfishing problems here as does Europe and we need to come to grips with them as urgently as the Chinese do. This is a global problem, not a case of a few bad actors.”

This new picture of the state of the oceans raises serious concerns about the supply of fish and world food supply, and its ability to keep up with a rising world population. Some governments and industries believe that aquaculture is the solution. But Watson and Pauly warn that it is a fallacy to believe that aquaculture can make up the shortfall, and caution against their results being used to call for more aquaculture.

“Aquaculture cannot replace wild seafood because so much farmed seafood relies on wild fish for fishmeal,” Watson says. “Currently a third of all fish landed globally goes into fishmeal and oil. Half is used for aquaculture and half is used for agriculture.

The aquaculture component is increasing rapidly because we are using fishmeal to raise carnivorous fish like salmon. If aquaculture is going to help the situation, you have to raise vegetarian fish – like carp, tilapia and shellfish – and not supplement their food with fish meals or oils.”

Fisheries are the most globalized food industry that exists. Over 75 percent of the world marine fisheries catch (over 80 million tons per year) is sold on international markets.

This means that what happens in one country matters to another. Many people do not realize the extent to which fish sold in the U.S. are caught elsewhere in the world. "A lot of the fish eaten in the US now are being imported from New Zealand, the Pacific, West Africa and Antarctica," Pauly says. In terms of value the US catches shrimp, sea cucumbers and now even jellyfish, and exports much of it to East Asia."

Pauly hopes that the study will remove a psychological weapon (the distortions in the global reports submitted to FAO) that industry has used to justify putting out more boats and building bigger trawlers.

"The United Nations FAO must have a stronger position in the future when negotiating the supply of accurate data from the nations of the world, and those data must be evaluated," he emphasizes. "Fisheries management and economic decisions must be based on the best available data."

"I think the high seas must be managed, not simply watched," Watson says. "We must insist that nations provide statistics that can be verified."

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ATTENTION JOURNALISTS: To obtain the studies, maps, graphics and contact information go to: www.seaweb.org/NatureNovember29.html or contact Jessica Brown at SeaWeb, phone 202-483-9570, cell 202-437-5502, or email jbrown@seaweb.org

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