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Fishy stats hide global decline

Anna Salleh

New findings support the claim that the global fish catch has been falling since the late 1980s, challenging more optimistic figures published by international authorities.

According to the study published in this week's *Nature*, over-reporting of fish catch by China and a failure to account for wildly fluctuating catch of certain small fish (Peruvian anchoveta) have inflated statistics published by the Food and Agriculture Organization, which give the impression that the global fish catch is stable.

"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 researcher Dr Daniel Pauly of the University of British Columbia in Canada.

Dr Pauly and colleague Dr Reg Watson argue that a major problem is that the global fisheries statistics collected by the FAO from member countries of the UN cannot be verified, even when they are suspected of being wrong.

Despite evidence from other regions that fish stocks are overexploited, and wide expectations that global catches would plateau in the 1990s at around 80 million tonnes, reported global catches have risen throughout the 1990s — driven largely by catch numbers from China. "This study reconciles what we see at the local level — failing fisheries — with what is happening at the global level — falling catches," said Dr Pauly.

Pauly and Watson made maps of world fisheries catches on the basis of statistics gathered since the 1950s by the FAO, and used them to build a model that predicted catch size in different ocean regions.

The model accurately predicted catches in most areas of the world — except China. "Many countries over and under-report their catch statistics, but none has as big an impact as China," write the researchers.

They suggest that political pressures may be driving the over-reporting. "The same state entities devoted to monitoring the economy are also tasked with increasing its output," they write.

"Our studies showed that whatever leaders set as production targets is what is officially reported. If you dictate fisheries to increase by 5 per cent then it is reported to increase by 5 percent."

Implications

Pauly and Watson warn that the false picture of catch statistics has implied that “business as usual” is sustainable, when future catches are actually at risk.

“This reinforces the importance of accurate and verifiable catch information,” commented Dr Keith Sainsbury of CSIRO Fisheries.

He said catch statistics fed into decisions on whether to invest in further fishing fleets. “Not only is it a waste of money if a bigger-than-needed fleet is built, but it will transfer to the pressure to fish elsewhere. Northern hemisphere fleets often transfer their excess capacity elsewhere.”

Dr Sainsbury said that the method used by Pauly and Watson to check the FAO catch statistics was “perfectly reasonable but indirect”.

“However they do point to a problem,” he said.

“The point is, we shouldn’t have to rely on an indirect method of verifying catch. Ecologist Dr Roger Banbury of the Australian National University commented that Pauly and Watson’s analysis was part of a “new wave” of fisheries science.

“It stands back from the catch statistics and asks who collected this and what does it mean?” he said.

“It is important to do what they have and include the evolutionary, historical and political context of fish catches.”

Watson and Pauly warn against the belief that aquaculture can make up for any shortfall in fish stocks, since much farmed seafood relies on wild fish for fishmeal — unless vegetarian fish like carp, tilapia and shellfish are farmed instead.