



[Home page](#)

[News Archive](#)

[History](#)

[Dhivehi](#)

[Maps](#)

[Fanditha](#)

[Glossary](#)

[Links](#)

[Zipped](#)

[E-mail](#)

Catch figures fishy

Recalculation reveals falling global fish stocks

Helen Pearson

from [Nature](#)

29 November 2001

Inaccurate reporting of fish catches has created a false impression that fish stocks are plentiful, suggests a new model. Recalculation reveals a global industry and food supply in peril.

Despite local evidence that fishing industries are over-exploiting the seas, globally fish stocks look rosy. Rising catch sizes are consistently reported by the single source of statistics, the United Nations' Food and Agriculture Organization (FAO).

Over-reporting of catches, particularly by China, may have distorted the numbers and hence policy, say Reg Watson and Daniel Pauly of the University of British Columbia in Vancouver. They estimate that there has been an alarming decline in the size of fish catches since 1988.

"The results are stunning," says marine biologist Jane Lubchenco of Oregon State University in Corvallis. "We're on a trajectory of significant decline," she says - one that only a drastic overhaul of fishery management can halt.

Dropping stocks threaten not only the fishing industry but world food production. Fish provide around 17% of the world's animal protein and many developing countries in particular rely on it.

Taking stock

In the 1970s, fish ecologists predicted catch figures would level off in the 1990s, explains Andrew Rosenberg of the University of New Hampshire in Durham, when the biological capacity of the oceans was reached. Rosenberg was previously deputy director of the US National Marine Fisheries Service.

Many fish stocks, such as the North Atlantic cod, have already crashed. The FAO currently deems nearly 70% of major marine fisheries - industries based around a particular fish type or region - fully or overexploited. The anomalously healthy catch statistics were conventionally put down to discovery of new stocks, explains Rosenberg.

From FAO figures collected since the 1950s, Watson and Pauly have constructed a map of regional fish catches. Using this, they built a



Tuna stacked in dhoani
hold

Photo: MIFCO

nature

[Free registration](#)

[Nature magazine](#)

statistical model to predict catches based on factors such as food abundance and water depth. The model accurately mirrors actual figures in most regions - China shows the biggest discrepancy.

China's reported catches, which account for 15% of the global harvest, are twice the recalculated figure.

Local officials, whose promotion is linked to their ability to exceed production targets in China's socialist economy, may be responsible for the over-reporting, believes Pauly. The central Chinese government placed a cap on the figures in 1998 in an attempt to prevent the practice.

The artificially high FAO figures have encouraged government investment in fisheries, which may have worsened over-fishing. International action to cut catch quotas and shrink fleets is required, the experts agree, to promote sustainable fishing. This means, for example, enforcing the currently nonbinding FAO International Plan of Action for the Management of Fishing Capacity, says Rosenberg.



Reserves raise fish stocks Fishing thrives alongside protected areas

John Whitfield
from [Nature](#)
30 November 2001



Maldivian fishing vessel
(Sails have been rarely used since the introduction of engines in 1980s)

Banning fishing in some areas boosts catches in others, say researchers. Fisheries in the Caribbean and Florida have become more productive since marine reserves were established - despite fishermen having fewer areas to fish in.

The idea that such reserves help fishing has been controversial. "There hasn't been good evidence that reserves will benefit surrounding fisheries," says Callum Roberts, a conservation researcher at the University of York, UK. He thinks his latest research provides that evidence.

Roberts and colleagues studied a coral reef off the Caribbean island of St Lucia where a network of small marine reserves was set up in 1995. They found that, since then, stocks in the reserve have quadrupled, and those in the neighbouring sea have trebled, reversing a previous decline. Fishermen are spending less time on the water, but are catching more fish.

The team also looked at an estuary near Cape Canaveral in Florida

that became off-limits to people in 1962 to protect the rocket-launching site. The waters around the reserve "have become a honey-pot site for catching spectacular fish", says Roberts. More record-sized fish are caught here than in all the rest of Florida, he says, and the sizes are continuing to grow.

Some fishermen doubt the benefits of protected areas. "Reserves take the focus from where it should be, which is good conservation throughout the fishery," says Rick Farren, communications director of the Coastal Conservation Association Florida, an anglers' group "adamantly opposed" to marine reserves.

But the tide seems to be turning against this viewpoint. Reserves "have captured the imagination of a great many people", says John Ogden, director of the Florida Institute of Oceanography in St Petersburg. The new study is "a hard case for recreational fishers to answer", he adds.

Reserve judgement

In the United States, marine reserves have political as well as academic momentum - a scheme to set up protected areas nationwide has won government support. "The idea is snowballing, the more we study reserves, the more compelling the arguments for them are becoming," says Roberts.

Fisheries are traditionally managed with limits on the amount and size of fish caught and on the equipment used to catch them. But these have failed to arrest the drastic decline in catches around the world, partly because limits tend to get stretched during political haggling.

Many researchers argue that marine reserves are crucial to restoring fisheries. Reserves conserve the entire marine ecosystem in addition to fish stocks, they say, and the complete protection they provide is an insurance policy against management failures elsewhere.

But the ultimate goal must be to care for the land and ocean as a whole, says Ogden. "The problems in the ocean are about a whole lot more than fishing," he says, pointing out that pollution from the land probably does an equal amount of damage to the marine environment.

[top](#)

MaldivesJournal is an independent internet magazine of Maldivian cultural issues.

Editors and translators: friends and Michael O'Shea, Australia

We invite contributions from Maldivians and others interested in Maldives.

[Contributions and comments - moshea@metz.une.edu.au](mailto:moshea@metz.une.edu.au)

