



**Australian Government**

**Department of the Environment, Water, Heritage and the Arts**

June 24, 2008

## **MEDIA ALERT**

### **PROTECTED FISH STAGE A COMEBACK**

Dramatic evidence that protected fish populations can bounce back rapidly from the impact of years of heavy fishing has been obtained by a team of marine scientists working on Australia's Great Barrier Reef (GBR).

A spectacular recovery in coral trout numbers on unfished reefs has been reported by researchers following the imposition of a strict no-fishing policy across 33 per cent of the total GBR area in 2004, to form the world's largest network of no-take reserves.

A team led by Professor Garry Russ of the ARC Centre of Excellence for Coral Reef Studies and James Cook University, Dr Hugh Sweatman of the Australian Institute of Marine Science and supported by the Australian Government's Marine and Tropical Sciences Research Facility (MTSRF), has found coral trout numbers rebounded by 31-75 per cent on a majority of reefs which had been closed to fishing for as little as 1.5 to 2 years.

Their results, which are reported in the latest issue of the journal *Current Biology*, have international significance in a world in which most major fisheries are in decline, according to the United Nations Food & Agriculture Organisation. This has led international scientists to warn of a possible collapse in global seafood harvests by the 2040s.

Closing reefs to fishing is controversial, both politically and socially, and there has been huge public interest in the outcome, the researchers say. This makes accurate assessment of the effects of closure essential.

"We were very agreeably surprised at the speed at which coral trout populations recovered – and also the sheer scale and consistency of the response," Prof. Russ says.

Closed inshore reefs in the Palm and Whitsunday islands showed increases in coral trout population densities of 65 and 75 per cent respectively compared with paired reefs left open to fishing. Closed reefs offshore of the cities of Townsville (64%), Cairns (53%) and Mackay (57%) also showed marked improvements.

However densities of coral trout on the reefs left open to fishers showed little or no change in fish density. On only one closed reef was there a decline in the trout population - the Keppel Islands which, in March 2006, were hit by a devastating coral bleaching episode.



**Australian Government**



**AUSTRALIAN INSTITUTE  
OF MARINE SCIENCE**



**ARC Centre of Excellence  
Coral Reef Studies**



The team said that angling effort displaced from the closed reefs onto open reefs probably had little effect, as there was at the same time a decline in commercial fishing on these reefs.

In time, they say, the higher fish populations on closed reefs may lead to improvements in fish numbers on open reefs, as juveniles from closed areas settle on open ones.

“The results are very convincing, because we surveyed such a huge area – 56 reefs spread over more than 1000 kilometers from north of Cairns to the Capricorn-Bunker islands in the south,” Dr Peter Doherty, Research Director of AIMS, says.

“The data from these reefs was remarkably consistent – and we were pleasantly surprised to observe such rapid improvements in fish densities. Though it is still early days, it certainly looks as if the no-take marine reserves are working as hoped.”

Professor Russ adds: “The GBR is an Australian and international icon, the largest and most complex of marine ecosystems. Our findings provide encouraging evidence that bold political steps to protect such ecosystems can be successful.”

“We now have greater protection for the tourism industry on the GBR, which is worth in excess of \$5bn - and the extra protection may also enhance the sustainability of reef fishing in the longer term.”

“This means a great deal. A major precedent has been set. Our findings show that large scale reserve networks, set up to protect biodiversity and ecosystems, can produce rapid positive responses for harvested species. It is an important lesson for the entire world.”

The research was undertaken by a team led by Professor Garry Russ from the ARC Centre of Excellence for Coral Reef Studies and James Cook University, and Dr. Hugh Sweatman from the Australian Institute of Marine Science.

This work has been funded through the Australian Institute of Marine Science, James Cook University, the ARC Centre of Excellence for Coral Reef Studies and the Australian Government’s Marine and Tropical Sciences Research Facility.

**More information:**

Prof. Garry Russ, CoE CRS and JCU, ph 0419 422 815 or +61 (0)7 4781 4432 [garry.russ@jcu.edu.au](mailto:garry.russ@jcu.edu.au)

Dr Peter Doherty, AIMS, +61 (0)7 4753 4282  
[p.doherty@aims.gov.au](mailto:p.doherty@aims.gov.au)

Dr David Souter, Marine and Tropical Sciences Research Facility, 07 4781 6013,  
[David.Souter@rrrc.org.au](mailto:David.Souter@rrrc.org.au)

Jenny Lappin, CoE CRS, + 61 (0)7 4781 4222

Wendy Ellery, AIMS Media Liaison, +61 (0)7 4753 4409 or 0418 729 265  
[w.ellery@aims.gov.au](mailto:w.ellery@aims.gov.au)

Jim O’Brien, James Cook University Media Office, +61 (0)7 4781 4822

Photos available from:  
[www.coralcoe.org.au](http://www.coralcoe.org.au)  
[www.aims.gov.au](http://www.aims.gov.au)