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## **Deep Coral Areas Urgently Need Protection to Help Save Global Reefs**

[Seattle, WA] Marine scientists from Australia and the US today called for global efforts to protect deeper coral reefs as insurance against the widespread destruction of shallow reefs and their fish populations now taking place around the world. In the well-respected climate journal, *Nature Climate Change*, lead author Dr. Tom Bridge from the ARC Centre of Excellence for Coral Reef Studies at James Cook University, Dr. John Guinotte, and colleagues point out that global conservation policies have so far failed to prevent the widespread destruction of shallow coral reefs and their fish life, which now threatens the food security of millions of people. They propose that deeper coral reefs may be able to function as refuges for some coral and fish species that are threatened at shallower depths.

With more than 60 per cent of the world's shallow reefs under immediate threat from human activity, the researchers argue that efforts to identify and protect reefs lying deeper --30-150 meters below the surface-- should be stepped up, so as to provide a secure refuge for fish and corals that can also live in deeper areas. Many reef species which inhabit shallow waters are also found on reefs at depths of 30 meters or more, amid lower light conditions. This makes these deep reefs a potential refuge for both corals and other sea life when shallow reefs are

degraded.

These deeper reefs are relatively insulated from global warming and other direct human pressures for the time being – but there are signs that overfishing, pollution and other forms of degradation are now starting to affect them too, making their protection urgent, they warn.

“We recommend acting quickly to identify and protect these deeper areas because pressure to over-exploit deep reefs will inevitably grow as shallow reefs become almost universally degraded from growing human populations, climate change, and ocean acidification” says co-author Dr. John Guinotte from the Marine Conservation Institute.

In China, coastal development and overfishing has destroyed 80% of coral cover in just the past 30 years. In Australia, coral cover on coastal reefs is also plummeting and the World Heritage Listing of the Great Barrier Reef (GBR) is now under review.

“The area of these deep reefs may in fact be quite large. On the Great Barrier Reef recent surveys have revealed up to 20,000 square kilometres of deep reef – equal in size to the combined area of all the shallow reefs,” Dr. Bridge says.

While many species inhabit both shallow and deeper waters, the extent to which this occurs is as yet poorly understood. However, they may form an important source of replenishment for shallow reefs and their fish populations, given the destruction that is occurring on the shallow reefs themselves and in the surrounding mangroves and sea-grass beds which are nurseries for juvenile fish.

At present very few of these deeper reef systems receive any form of protection around the world because reef management – where it exists – tends to focus on shallow reefs, the scientists say. Mid-level and deeper reefs are not generally included in Marine Protected Areas – an oversight that needs to be amended. Adopting a broader ecosystem-scale approach that incorporates deep reefs around the world would have

multiple and long-term social and economic benefits.

“Identifying the locations of deep reefs globally and establishing protection measures for them should be a high priority for resource managers and conservation groups. Unfortunately this has not taken place. The status quo needs to change because time is not on our side,” says Dr. Guinotte.

Their article “The need to protect all coral reefs” by Tom C.L. Bridge, Terry P. Hughes, John M. Guinotte and Pim Bongaerts appears in the journal *Nature Climate Change* on May 29, 2013.

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Bridge, T. and Guinotte, J. (2013) Mesophotic coral reef ecosystems in the Great Barrier Reef world heritage area: their potential distribution and possible role as refugia from disturbance, Research Publication no.109, Great Barrier Reef Marine Park Authority, Townsville.

[http://www.marine-conservation.org/media/filer\\_public/2013/05/01/bridge\\_guinotte\\_2013.pdf](http://www.marine-conservation.org/media/filer_public/2013/05/01/bridge_guinotte_2013.pdf)

**About Marine Conservation Institute**

Marine Conservation Institute is a nonprofit organization dedicated to protecting marine ecosystems. We work with scientists, politicians, government officials and other organizations around the world to fashion sustainable solutions compatible with healthy, living oceans.

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