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Scientists assess effectiveness of a global network of marine protected areas **World's coral reef left vulnerable by paper parks**

First-ever analysis reveals that most coral reef protected areas are too small, far apart and are at risk from poaching and external human threats

Although 18.7% of the world's coral reefs are within "Marine Protected Areas" (MPAs) less than 2% are within MPAs with sound management, reports a Census of Marine Life analysis published in *Science Magazine* June 23.

MPAs are designed to limit human activities in a particular location to protect the marine ecosystem within their boundaries. This new analysis provides an evaluation of the world's coral reef MPAs based on their regulations on extraction, prevention of poaching, incidence of external human threats [such as pollution, coastal development and overfishing](#), [MPAs their](#) size and [their](#) distance to neighbor protected areas.

"Although coral reefs are declining worldwide, actions to reverse such a crisis are woefully inadequate in most countries," says Dr. Camilo Mora, a scientist at Dalhousie University and lead author of the study. "Clearly, lines on the map are not enough to protect the world's coral reefs."

Census of Marine Life News Release

The authors recommend that protected areas need to be enforced to prevent poaching and should be expanded to include the management of external threats [such as pollution, coastal development and overfishing](#). Furthermore, the authors suggest that MPAs should be bigger and should be linked to other protected areas to be more effective. “The future of coral reefs worldwide relies on countries and conservation agencies seriously embracing these objectives” adds Dr. Mora.

“We were expecting a poor result, but not numbers of this magnitude,” adds co-author Dr. Mark A. Costello of the University of Auckland and head of the Census’ global database – the Ocean Biogeographic Information System. “This study of protected areas worldwide suggests we are not reaping their potential [positive benefits and stemming the current decline of coral reefs worldwide.](#)”

Comment [CM1]: I do not know where the statistic about protecting 5% of the world comes from.

The international team of researchers from seven countries conducted the first-ever global assessment of coral reef conservation. The team built a database of MPAs for 102 countries, including satellite imagery of reefs worldwide, and surveyed more than 1,000 MPA managers and scientists to assess the conservation performance of MPAs.

“What we found, in essence, is that we are creating paper parks,” explains co-author and fellow researcher Ransom Myers of Dalhousie University. “The establishment of Marine Protected Areas is rarely followed by good management and enforcement. And while management of MPAs varies worldwide, it was particularly low in areas of high coral diversity such as the Indo-Pacific and the Caribbean.”

“This new study combines a simple approach with detailed large-scale databases to provide the first such global assessment of biodiversity protection,” says co-author Dr. Serge Andréfouët, a scientist with the Institut de Recherche pour le Développement in New Caledonia. “We lack similar global assessment for other marine habitats, including kelp forests, seagrass beds, and deep-sea corals; but we have no reason to believe these may be better protected than tropical coral reefs”.

“This paper reminds us that despite recent successes in protecting coral reefs, our actions to date fall far short of what is required to save these most diverse of all marine habitats,” [adds Dr. Nancy Knowlton, head of the Census of Coral Reefs project and a scientist at Scripps Institution of Oceanography.](#) ~~[adds Prof. Peter Sale Environment and Health United Nations University and Biological Sciences, University of Windsor.](#)~~

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The Census of Marine Life

More than 1,700 scientists from 73 countries are at work on the Census, designed to assess the diversity, distribution and abundance of ocean life and explain how it changes over time. The scientists, their institutions and government agencies are pooling their findings to create a comprehensive and authoritative portrait of life in the oceans today, yesterday and tomorrow.

The Census' database, the **Ocean Biogeographic Information System (OBIS)**, now publishes almost 10 million location records of more than 60,000 species. This data, originating from over 110 databases around the world, is freely available online at www.iobis.org.

Support for the Census of Marine Life comes from government agencies concerned with science, environment, and fisheries in a growing list of nations as well as from private foundations and companies. The Census is associated or affiliated with several intergovernmental international organizations including the Intergovernmental Oceanographic Commission of the UN, the Food and Agriculture Organization of the UN, the UN Environment Programme and its World Conservation Monitoring Centre, the Global Biodiversity Information Facility, the International Council for the Exploration of the Seas, and the North Pacific Marine Science Organization. It is also affiliated with international nongovernmental organizations including the Scientific Committee on Oceanic Research and the International Association of Biological Oceanography of the International Council for Science. The Census is led by an independently constituted international Scientific Steering Committee, whose members serve in their individual capacities, and a growing set of national and regional implementation committees.

Leigh Marine Laboratory at the University of Auckland, where the study was conducted, has been studying marine reserves for more than 30 years. New Zealand leads the world in that 30 of its 50 MPAs are "no-take" marine reserves.

