



Press Release on behalf of the International Programme on the State of the Ocean

Multiple ocean stresses threaten “globally significant” marine extinction

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– LONDON – An international panel of marine experts warns in a report released today that the world’s ocean is at high risk of entering a phase of extinction of marine species unprecedented in human history.

The preliminary report arises from the first ever interdisciplinary international workshop to consider the cumulative impact of all stressors affecting the ocean. Considering the latest research across all areas of marine science, the workshop examined the combined effects of pollution, acidification, ocean warming, over-fishing and hypoxia (deoxygenation).

The scientific panel concluded that:

- The combination of stressors on the ocean is creating the conditions associated with every previous major extinction of species in Earth’s history
- The speed and rate of degeneration in the ocean is far faster than anyone has predicted
- Many of the negative impacts previously identified are greater than the worst predictions.
- Although difficult to assess because of the unprecedented speed of change, the first steps to globally significant extinction may have begun with a rise in the extinction threat to marine species such as reef-forming corals

Dr Alex Rogers, Scientific Director of the International Programme on the State of the Ocean (IPSO) which convened the workshop said: “The findings are shocking. As we considered the cumulative effect of what humankind does to the ocean the implications became far worse than we had individually realized. This is a very serious situation demanding unequivocal action at every level. We are looking at consequences for humankind that will impact in our lifetime, and worse, our children’s and generations beyond that.”

Marine scientists from institutions around the world gathered at Oxford University under the auspices of IPSO and the IUCN. The group reviewed recent research by

world ocean experts and found firm evidence that the effects of climate change, coupled with other human-induced impacts such as over-fishing and nutrient run-off from farming, have already caused a dramatic decline in ocean health.

Increasing hypoxia (low oxygen levels) and anoxia (absence of oxygen, known as ocean dead zones) combined with warming of the ocean and acidification are the three factors which have been present in every mass extinction event in Earth's history.

There is strong scientific evidence that these three factors are combining in the ocean again, exacerbated by multiple severe stressors. The scientific panel concluded that a new extinction event was inevitable if the current trajectory of damage continues.

As examples, the panel point out:

- the rate at which carbon is being absorbed by the ocean is already far greater now than at the time of the last globally significant extinction of marine species, some 55 million years ago, when up to 50% of some groups of deep-sea animals were wiped out.
- A single mass coral bleaching event in 1998 killed 16% of all the world's tropical coral reefs.
- Overfishing has reduced some commercial fish stocks and populations of by-catch species by more than 90%.
- New science also suggests that pollutants including flame retardant chemicals and synthetic musks found in detergents are being traced in the Polar Seas, and that these chemicals can be absorbed by tiny plastic particles in the ocean which are in turn ingested by marine creatures.

The experts agreed that adding these and other threats together means that the ocean and the ecosystems within it are unable to recover, being constantly bombarded with multiple attacks.

The report sets out a series of recommendations and calls on states, regional bodies and the United Nations to enact measures to better conserve ocean ecosystems, and in particular demands the urgent adoption of better governance of the largely unprotected high seas which make up the majority of the world's ocean.

Dan Laffoley, Marine Chair of IUCN's World Commission on protected Areas and Senior Advisor on Marine Science and Conservation for IUCN, and co-author of the report, said: "The world's leading experts on oceans are surprised by the rate and magnitude of changes we are seeing. The challenges for the future of the ocean are vast, but unlike previous generations we know what now needs to happen. The time to protect the blue heart of our planet is now, today and urgent".

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The report's Executive Summary, entitled "International Earth System expert workshop on ocean impacts and stresses", as well as case studies on its main findings, images and AV soundbites, are available at:

<http://www.stateoftheocean.org/> from the embargo lift.

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About the report's authors:

Alex Rogers is Professor of Conservation Biology at the Department of Zoology, University of Oxford and a Fellow of Somerville College. He is a marine biologist with special expertise on deep-sea ecosystems, particularly cold-water coral habitats, seamounts and hydrothermal vents and has recently led scientific expeditions to the Indian and Southern Oceans. He also has a special interest in sustainable use of the oceans and human impacts on marine ecosystem. Alex is also Scientific Director of the [International Programme on State of the Ocean](#), an NGO that is specifically analysing current impacts on marine ecosystems globally (see below).

Professor Dan Laffoley is a key figure at the global scale on marine conservation, and widely recognized for his leadership on Marine Protected Areas and innovative conservation approaches. For over 25 years he has been involved in leading marine protection efforts at UK, European and global scales creating many of the key initiatives and concepts that underlie our modern approaches to protecting the ocean.

About the Workshop sponsors:

IPSO: The International Programme on the State of the Ocean is a unique consortium of scientists and other Ocean experts, including those from the legal, communications and political arenas, created to identify the current problems affecting the global ocean, project the future outcomes of these problems and develop workable solutions to alter the trajectory of degradation.

www.stateoftheocean.org

IUCN: The International Union for Conservation of Nature, is a global environmental network with more than 1,000 government and NGO member organizations, and almost 11,000 volunteer scientists in more than 160 countries. www.iucn.org

WCPA: The World Commission on Protected Areas (WCPA) is the world's premier network of protected area expertise (www.protectplanetoocean.org). It is administered by IUCN's Programme on Protected Areas and has over 1,400 members, spanning 140 countries.