

**The New York Times** Reprints

This copy is for your personal, noncommercial use only. You can order presentation-ready copies for distribution to your colleagues, clients or customers [here](#) or use the "Reprints" tool that appears next to any article. Visit [www.nytreprints.com](http://www.nytreprints.com) for samples and additional information. [Order a reprint of this article now.](#)



July 15, 2011

## A Look Into the Ocean's Future

There is simply no exaggerating the importance of the oceans to earth's overall ecological balance. Their health affects the health of all terrestrial life. A new report by an international coalition of marine scientists makes for grim reading. It concludes that the oceans are approaching irreversible, potentially catastrophic change.

The experts, convened by the International Program on the State of the Ocean and the International Union for Conservation of Nature, found that marine "degradation is now happening at a faster rate than predicted." The oceans have warmed and become more acidic as they absorbed human-generated carbon dioxide from the atmosphere. They are also more oxygen-deprived, because of agricultural runoff and other anthropogenic causes. This deadly trio of conditions was present in previous mass extinctions, according to the report.

The oceans' natural resilience has been seriously compromised. Pollution, habitat loss and overfishing are dangerous threats on their own. But when these factors converge, they can destroy marine ecosystems.

The severity of human impact was reinforced last week when scientists concluded that seven commercially important species, including marlin, mackerel and three tuna species, were either vulnerable to extinction, endangered or critically endangered according to I.U.C.N. standards. The solutions that might help slow further degradation include immediate reduction in carbon dioxide emissions, a system of marine conservation areas and a way to protect ocean life that goes beyond national jurisdictions.

This is the work of nations, but such goals require pressure from ordinary citizens if there is to be any hope of bringing them about in the face of opposing political and economic interests. As the new study notes, changes in the oceans, caused by carbon emissions, are perhaps "the most significant to the earth system," particularly because they will further accelerate climate change.

