

Newsweek

A Growing Coral Crisis

Overfishing And Global Warming Are Killing Reefs Around The World. Is It Too Late To Save Them?

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Always wanted to go scuba diving on a coral reef but never quite found the time? You might want to book your flight fast, like right now. Hit hard by pollution, destructive fishing and rapidly warming seas, coral reefs are among the most endangered ecosystems on the planet. How bad is it? According to a report released this week at a meeting of coral-reef scientists in Bali, fully a quarter of the world's reefs are already effectively gone. If global warming continues as expected, says Australian marine biologist Ove Hoegh-Guldberg, "there's a very good probability that coral reefs as we know them now will be gone in 30 to 50 years."

Reefs are being hammered by a daunting array of really poor resource-management choices. (One example: fishers in Indonesia and the Philippines use cyanide or dynamite to stun live reef fish--highly prized in Cantonese cuisine and the aquarium trade--then smash the reefs apart to pull the comatose animals from the crevices where they hide.) Less than 1 percent of reefs are protected from such practices worldwide, says Jane Lubchenco, a marine ecologist at Oregon State University, making strict "no take" marine reserves "the single most useful action we can take" to preserve them. But all the local conservation efforts in the world--and there are many--may not be enough on their own to save reefs from an even more menacing threat: global warming.

Corals are odd creatures, and that may be their undoing. The tiny animals, living by the millions on the rocky structures they produce, capture single-celled algae, forcing the plants to make their food like galley cooks on a slave ship. Maybe global warming is the algae's revenge: heat boosts the plants' metabolism, so they generate more oxygen. At about 85 degrees, the animal cells start to suffer from oxygen poisoning, so they spit out the algae. The corals are left chalky-white--it's called bleaching--and unable to grow. If the water stays warm, the corals eventually die.

In 1998 scientists got a disturbing look at what might lie ahead. The strong El Nino that year warmed tropical waters from Africa through Indonesia and the Philippines and out into the Pacific, leading to the worst bleaching episode on record. Clive Wilkinson, a marine biologist at the Australian Institute of Marine Science and the lead author of the new report, says that with time, 20 to 50 years say, many of the areas hit in 1998 should eventually recover. Unless they're hit by another heat wave or a bad storm first. Given that water temperatures in the tropical Northern Hemisphere have jumped upward by nearly a degree per decade since 1984--10 times the global average--and both El Ninos and severe storms are expected to be more frequent with global warming, they almost certainly will be. "If you get bleaching mortality every three or four years," says Hoegh-Guldberg, "you simply don't have corals anymore."

Incomplete scientific data and the fuzzy nature of climate models provide easy ammunition for skeptics, but many scientists are convinced that the crisis is real. "It's all too easy to get lost in a maelstrom of ambiguity," says California State University, Northridge, marine biologist Peter Edmunds. "We need a strong statement to motivate politicians to do something about global warming." Hoegh-Guldberg hopes that's exactly what he'll get from the 1,400 scientists gathering in Bali this week--after sharing their latest data, the group will draft a "clear, near-universal statement" on the connection between global warming and bleaching. After surveying data collected by thousands of researchers and volunteers, the scientists are ready to sound the alarm. The question is, will anyone be listening?

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