TWO DISAPPEARING ACTS: THE CORAL ON THE REEF AND CHRIS STROTHER IN INDO. PHOTO: D. HUNT

Coral Companions

Disappearing polyps and what it means to surfers

Whether we surf over them, dive down to them or eat the fish teeming about them, coral reefs impact everyone reading these pages. Therefore, the fact that reefs around the world are dying at a quickening pace is an immediate concern. During October of 2000, scientists collaborating through the Global Coral Reef Monitoring Network, coordinated by Clyde Wilkinson of the Australian Institute of Marine Science in Townsville, Australia, released a global summary report showing that 25 percent of the world's coral has been severely damaged by humans and that an equal amount is facing a similar sentence in the coming decades.

We are trashing reefs from every direction. The destruction of coral colonies is usually unintentional, a consequence of overfishing and insensitive development. Over-fishing and pollution from populated islands shift the balance of the ecosystem, damaging corals or killing them. Seaweed, once present in small amounts, will often smother corals when seaweed-eating species are overfished. Seaweed will also smother corals when nutrient-rich runoff inspires disproportionately large blooms of the macro algae.

In some regions, the destruction is wanton, especially in the case of the seriously endangered reefs of the Indonesian archipelago where fishermen obliterate whole sections of reef using such indelicate techniques as dynamite depth charges to kill fish. Another universally banned method still practiced in remote, unregulated areas is the dousing of fish, and consequently of reefs, with cyanide. The cyanide stuns the fish so that they can be captured and transported abroad to enliven saltwater aquariums, but doses of cyanide that merely stun fish wipe out coral colonies.

Beyond these exasperating practices, scientists are focused on the nebulous array of threats posed to our coral reefs by global warming. Though they disagree about the impact of global warming on coral reefs just as they do about the degree of human culpability in this warming trend, most scientists agree that global warming threatens an increase in the frequency of coral bleaching. This blight occurs when warmer-than-usual water temperatures kill off the algae that live on corals and provide them food in exchange for a place to settle and soak up sunlight. Scientists fear that the bleaching will become too extensive for coral colonies to renew themselves. They also fear that high atmospheric levels of carbon dioxide, which cause global warming, will change the chemistry of the oceans in such a way that coral growth is slowed.

As with most environmental concerns, there are fluctuations. Many of the reefs referred to in the global report will see some recovery in the coming years, and positive steps (such as the policing of reefs) have been taken. But, the bottom line is that in a growing number of areas around the world, reef communities—corals and the animals that depend on them—are losing ground.

It's not surprising that scientists haven't gotten around to studying the critical question of what this will do to reef breaks. Gregor Hodgson, a marine biologist at UCLA, says that he can imagine scenarios where reef damage could affect surf.

"It's quite possible that some better-known breaks could be damaged by bleaching, coral death and the breakdown of the reef," Hodgson says, but adds that this is hugely speculative.

Ricky Grigg, surf pioneer turned coral reef biologist at the University of Hawaii, doesn't think line-ups will be affected but insists that surfers should take interest.

"Surfers are pretty dedicated to the ocean, but only to the wave part," he says. "Once they start seeing that the ocean has another dimension, there's an awakening, and that will enrich appreciation of their sport."

A growing number of surfers have experienced that awakening and contributed to coral reef research through a program called Reef Check. Scientists need information about the condition of reefs around the world in order to spot emerging problems. Reef Check, founded in 1997 by Hodgson, uses volunteer divers and snorkelers to survey the health of the world's reefs. The program has spread to more than 50 countries.

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When Quiksilver started putting together its Crossing, an ongoing expedition aboard the trawler *Indies Trader*, in 1999, it made Reef Check a part of the journey. Because most reefs around populated areas have been damaged, it's difficult for scientists to imagine what they'd look like without human influence. Given the exploratory nature of the Crossing, the *Indies Trader* puts researchers on site at the world's least-disturbed reefs.

Grigg and other scientists have been aboard for various legs of the Crossing. They've generated substantial information about virgin reefs, which, by way of comparison, elucidates the problems of beleaguered coral reef habitat.

Scientists are using the global coral report, which relied heavily on information provided by Reef Check, including data from the *Indies Trader*, to influence governments around the world. In response to the report, the U.S. government announced new funding for reef research and plans to increase protection of reefs in the Flower Garden Banks in the middle of the Gulf of Mexico and off the Dry Tortugas in the Florida Keys. If you live near reefs or plan on traveling to a tropical venue and would like to volunteer to help with a survey, go to www.reefcheck.org or email rcheck@ucla.edu.

— Mark Schrope