

In Caribbean, push to create no-take reserves

12 July 2013, by David Mcfadden



In this June 13, 2013 photo, warden Owen Turner patrols the Bluefields Bay marine reserve in southwestern Jamaica. This long stretch of water, patrolled daily by a small team of wardens and marine police, is one of a growing number of no-fishing zones in the Caribbean, where most coastal reefs have been severely damaged by overfishing, pollution, and more recently global warming. (AP Photo/David McFadden)

Young fish leap in the wake of a warden's patrol boat as it motors through waters off Jamaica's southwest coast that are a brilliant palette of blues. Beneath the surface, reefs bristle with spiny lobsters, and rainbow-colored parrotfish graze on algae and seaweed.

After rampant destruction of local [fish](#) habitats over decades, marine life is gradually rebounding in Bluefields Bay now that every minnow and mullet, each sea urchin and snapper is protected from spear guns and nets. This 6½-mile (10-kilometer) long stretch of water, patrolled daily by a small team of wardens and marine police, is one of a growing number of no-fishing zones in the Caribbean, where most coastal reefs have been severely damaged by overfishing, pollution, and more recently global warming.

"If we want to protect our future, setting up more places like this is a no-brainer. If we keep destroying areas with thousands of baby and [juvenile fish](#), where will the big fish come from tomorrow?" said Wolde Kristos, chairman of the Bluefields Bay Fishermen's Friendly Society that lobbied Jamaica's government to create the reserve, the biggest and most robustly enforced of the island's 14 fish sanctuaries.

Across the Caribbean, governments and fishing communities are beginning to use such "no-take" zones to help rebuild severely depleted [fish stocks](#) and make coastal ecosystems more resilient to a warming planet and acidifying oceans.

No-take areas that expand on less-restrictive [marine protected areas](#) have become a growing trend, with U.S. states and nations across the world barring [fishing boats](#) from areas that sometimes cover well over 100,000 square miles (300,000 square kilometers).



****CORRECTS PHOTOGRAPHER'S BYLINE **** In this June 13, 2013 photo, fisherman Nicholas Clark stands next to his catch of small fish which he hopes to sell to passing motorists in the Belmont district of Bluefields Bay in southwestern Jamaica. In Jamaica alone, reef fisheries support up to 20,000 subsistence fishermen and not all of

them see the value of the sanctuaries of no-fishing zones in the Caribbean, even though they recognize how badly depleted the sea has become. (AP Photo/David McFadden)

In the tourism-dependent Caribbean, conservationists say about 17 million acres (6.8 million hectares), or just over 2 percent, of marine and near-shore resources such as mangroves are protected in some way. And no-take reserves with the highest level of protection are starting to catch on.

The Bahamas boasts the region's largest fishery reserve with the 176-square mile (455 square kilometer) Exuma Cays Land & Sea Park. They're also found in places such as the U.S. Virgin Islands, Belize and the Cayman Islands.

But many protected areas now amount to little more than lines on a map. A recent study by the World Resources Institute, a Washington, D.C.-based environmental think tank, found that many marine protected areas are essentially "paper parks," without adequate resources to enforce various restrictions.

Even in well-patrolled reserves such as Bluefields Bay, poachers still try to sneak in at night. And just outside the boundaries, a few subsistence fishermen occasionally blow up reefs with dynamite in order to send fish belly up, Kristos said.

While most of the Caribbean reserves are relatively tiny, "There's little question that small reserves can help recover a number of important species, including grouper. This can help with biodiversity and keeping reefs healthier inside the reserves," said Peter Mumby, a marine ecologist who has studied the Exuma Cays no-take zone.

His team found that coral cover grew significantly faster inside the reserve than outside. That's a big deal in the Caribbean, where the International Union for Conservation of Nature says live coral coverage on reefs is down to an average of just 8 percent, from 50 percent in the 1970s.

Such protected, intact coral reef systems have been shown to be "more resistant to ocean warming and other effects of climate change," according to Mark Hixon, a marine biologist at the University of Hawaii. That's largely because they have more and more varied living creatures.

Research also indicates that fishermen eventually haul in bigger catches when a marine reserve nearby provides a safe haven for fish to grow. Bigger fish mean more fish since large fish lay more eggs. A 2010 study of no-take reserves in Australia's Great Barrier Reef showed the amount of fish doubling within reserves, as well as a significant increase in marine species in nearby zones.

In St. Lucia, local fishermen strongly resisted when the government closed 35 percent of coral reef fishing grounds in the mid-1990s. For two years, the total catch was severely reduced. But within five years, the catch had soared, increasing by as much as 90 percent in some areas.



In this June 6, 2013 photo, a fisherman's catch lays on a pier in the historic town of Port Royal in southeastern Jamaica. In Jamaica alone, reef fisheries support up to 20,000 subsistence fishermen and not all of them see the value of the sanctuaries of no-fishing zones in the Caribbean, even though they recognize how badly depleted the sea has become. (AP Photo/Andres Leighton)

"We used to get threatened by fishermen, but now

they have been asking for more reserves to be created because they have seen such big improvements," said St. Lucia's chief marine warden, Peter Butcher.

In other regions, commercial and sport fishing interests have criticized some no-take zones, especially on the open sea, as unnecessarily restrictive and badly planned. But the Caribbean's reserves are focused along shores and reefs. They mainly affect poor communities who fish to survive.

In Jamaica alone, reef fisheries support as many as 20,000 subsistence fishermen and not all of them see the value of the sanctuaries, even though they recognize how badly depleted the sea has become.

In the Belmont district of Bluefields Bay, where the azure sea is framed by forested mountains heavy with fruit trees and hardwoods, Nicholas Clark and other frustrated young men insist they are not seeing any increase in fish in the abutting areas where they dive with spear guns.



In this June 6, 2013 photo, fishermen navigate their boat back to shore near the historic town of Port Royal in southeastern Jamaica. Across the Caribbean, governments and fishing communities are beginning to understand that such "no-take" zones can help rebuild severely depleted fish stocks and make coastal ecosystems more resilient to a warming planet. (AP Photo/Andres Leighton)

with fish and lobster I caught in that place (the reserve). Now, we have to go further out and we're suffering," said Clark, who was among a group of about 10 young men holding up small [parrotfish](#) and a few palm-sized red snappers they had caught outside of the protected area and were trying to sell to motorists on a coastal road.

Still, the roughly four-year-old reserve at Bluefields Bay is already visibly teeming with marine life, even if the scientific studies are not yet finished. Spiny lobsters and darting bonito fish can even be seen right at the dock, something almost unheard of in severely overfished Jamaica.

Conservationists say they hope the growing evidence that reserves boost fisheries and protect tourism attractions will lead to more reserves across the Caribbean.

"The idea was always to start small, do it properly and be able to show success to all, especially the skeptics," said Llewellyn Meggs, conservation director at the non-profit Jamaica Environment Trust. "We could then have justification for expanding."

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"I used to be able to send my two kids to school

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