

Research shows fishermen, divers agree coral reefs need stronger management: Broad support exists for new Caribbean ocean policies

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WASHINGTON, D.C. - In their [recent paper](#) Dr. Ayana Elizabeth Johnson and co-author Dr. Jeremy Jackson argue that the coral reef crisis has brought fishermen and professional SCUBA divers on Curaçao and Bonaire (two notoriously independent groups) to a historic consensus: the essential coral reef fisheries of the Caribbean are in serious trouble and stronger government action is needed. This has provided motivation for the [Waitt Institute](#), a US non-profit organization, to partner with the government of Curaçao to improve the island's ocean management through the [Blue Halo Initiative](#).

In the past 45 years, Caribbean coral cover has declined from 35 percent to 16 percent. Fish populations have plummeted due to overfishing. And fishers are having a hard time making a living, in turn bringing down the prevalence of a historically important livelihood in across the Caribbean. Meanwhile, SCUBA dive tourism has increased dramatically.

"We found that 94% of divers acknowledged that their diving damages the reefs," said Dr. Jackson. "That industry needs to be regulated too if reefs are going to have a chance at recovering."

The situation is better on the islands of Curaçao and Bonaire than elsewhere, but they have not escaped the degradation. In the course of her graduate research in 2009 and 2010, Johnson interviewed 388 fishers and SCUBA instructors. She set out to understand how fishers and divers are using the ocean, how they perceive the reefs and fisheries, and what types of management they would support. Their answers give cause for hope: that the social climate of these islands is primed for policymakers to put strong conservation measures in place, for the benefit of both groups.

According to Dr. Johnson's research, fishermen are more aware than divers of the degradation of their reef ecosystem, but don't acknowledge much of the blame for it. SCUBA divers in Curaçao and Bonaire have a rosier view of the reefs, but point to fishers as the primary culprits behind its destruction. Yet the divers are also to blame -- especially as their numbers grow -- because of poor behavior under water. Many novices kick the reefs, and tourist demand for local seafood has depleted the very fish they want to see when they dive.

"Most jarring were the words of a 15 year old fisher who told me that fishers used to show the size of their catch vertically [holding his hands off the ground]," said Johnson. "Now they show fish size horizontally [holding his hands shoulder width apart]. And this all happened in the past few decades."

As she journeyed through the islands, fishermen told Johnson that they used to be able to use the oceans around their islands as a supermarket, setting out to catch a specific fish and bringing it home for dinner. "Today, too often, they come back empty handed," she said. Meanwhile, dive instructors say showing visitors seahorses and rare marine life is great for their business -- but that the halo of reef damage left behind by tourists bumping sensitive corals continues to degrade the already damaged environment.

The study found that most fishers (89%) perceived catching fewer fish than previous generations. An overwhelming 96% of fishers and 94% of divers with over five years of local experience reported that some species they used to catch or see are rare or missing now.

The numbers of large grouper, snapper, and parrotfish populations have indeed plummeted across the region, along with the coral itself, as a recent analysis by the Global Coral Reef Monitoring Network showed. Meanwhile, invasive species like lionfish have been able to establish themselves throughout the region, further threatening endemic fisheries.

"Island residents are committed to finding ways to restore their reefs and fish populations. And through the [Blue Halo Initiative](#) the [Waitt Institute](#) is partnering with the government and people of Curaçao to envision, design, and implement new ocean management that is grounded in science and based on community priorities," said Johnson, now executive director of the Washington, D.C.-based Waitt Institute. The Initiative is also active on Barbuda and Montserrat.

Most importantly, this study shows that both fishers and divers are ready for meaningful management actions. The authors offer up a number of policy reforms they believe would be well-received on Curaçao and Bonaire. These include the establishing large marine reserves that are closed to both fishing and diving, limiting the number of fishers and divers, and easing the transition to more sustainable use of coral reef resources.

"The social climate is ripe for balanced and strong restrictions on both groups for reef recovery and sustainable use," said Johnson. "These measures would be a major step forward towards the long-term conservation of reef resources."

Additional information and resources:

Full article (open access): <http://www.sciencedirect.com/science/article/pii/S2351989415000402>

Waitt Institute: <http://www.WaittInstitute.org>

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Dropbox folder with press photos: <http://bit.ly/WIrelease-4Sep2015>

For more information or to set up interviews, contact:

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Waitt Institute: The [Waitt Institute](#) endeavors to ensure ecologically, economically, and culturally sustainable use of ocean resources. The Institute partners with governments committed to developing and implementing comprehensive, science-based, community-driven solutions for sustainable ocean management. Our goal is to benefit coastal communities while restoring fish populations and habitats. Our approach is to engage stakeholders, provide the tools needed to design locally appropriate policies, facilitate the policymaking process, and build capacity for effective implementation and long-term success.

Blue Halo Initiative: A "Blue Halo" describes the waters encircling an island where ocean resources are used sustainably, profitably, and enjoyably. The Institute partners with governments, communities, and scientists to create and implement policies, including sustainable fishing and comprehensive ocean zoning. The Institute provides the toolkit, and partner governments provide the political will. The Blue Halo Initiative deeply engages stakeholders through a science-based, community-driven approach.