

Meaningful Diving: An Initiative to Improve the Role of Dive Tourism in the Effective Conservation of Fisheries and Coral Reefs Ecosystems in the Caribbean

Buceo Con Propósito: Una Iniciativa para Mejorar el Role del Turismo de Buceo en la Conservación Efectiva de la Pesca y los Arrecifes de Coral en el Caribe

Plongée Significative: Une Initiative Visant à Améliorer le Rôle du Tourisme de Plongée dans la Conservation Efficace des Pêcheries et des Écosystèmes de Récifs Coralliens dans les Caraïbes

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EXTENDED ABSTRACT

The health of coral reefs has declined significantly over past decades, to the point where several sites in the Caribbean are not longer providing the tourism and fisheries services (Burke et al. 2011, Hoegh-Guldberg et al. 2007). Active conservation strategies have expanded in recent years to stop reef degradation and restore the ecological services associated with healthy and complex reefs (Rinkevich 2014). While restoration practitioners now use marketing strategies and field activities to raised awareness and engage multiple users in coral reef conservation actions (Cerrano et al. 2017, Hesley et al. 2017), dive tourism continues to play a small role in these actions.

I describe a social initiative focused on citizen science Meaningful Diving (Buceo con Propósito), which engages the diving industry through training in coral reef monitoring, reef restoration, and responsible diving, providing experiential learning opportunities collect information on reef health, rehabilitate degraded coral reefs, and reduce human impact. Corales de Paz, a Colombian based NGO, is leading the implementation of the Meaningful Diving initiative in the Caribbean and seeks to convert it into an opportunity to build technical capacity in coral reef research and conservation, serve as an early warning system of coral disturbances, and a research and management tool.

Since November 2016 Corales de Paz is the Reef Check coordinator for Colombia. Reef Check is a volunteer coral reef survey program with sites in over 80 countries and territories worldwide (Hodgson 2001). The Reef Check citizen science program was the first communication, dissemination and education strategy that allowed Corales de Paz to achieve its mission. The Reef Check EcoDiver training program and the Reef Check expeditions organized by Corales de Paz are the opportunity for recreational divers to contribute to the monitoring of coral reef health in Colombia. In just two years, Corales de Paz has certified 75 divers as Reef Check EcoDivers and organized five coral survey expeditions to three destinations in Colombia, collecting scientifically sound coral reef health data of 12 sites that has been shared with the public and the relevant authorities (Figure 1).

Corales de Paz, through its “Larger is Better” program is increasing national efforts to rehabilitate coral reefs by changing the magnitude of coral gardening in the country (cultivation and transplanted), going from hundreds to thousands of coral fragments transplanted over significantly large reef areas. The first milestone is the implementation in October 2017 of the pilot program “Large-scale community-based coral reef restoration at Seaflower Biosphere Reserve”, a joint effort between the Corporation for the Sustainable Development of the Archipelago (CORALINA), Colombia, the Provincial Government of San Andres, Providencia and Santa Catalina Archipelago, Conservation International Colombia, and Corales de Paz. This program has a stock of 13,468 nursery-growing corals and will commence outplanting in 2018. To assist in this process, Corales de Paz has developed the Reef Repair training program, a continuing education system based on the Reef Check EcoDiver system (Figure 2) but aimed at training divers and professionals in coral gardening who are capable of assisting scientific experts as field technicians in their active coral reef conservation actions.

In the wider Caribbean region, the reef-fish monitoring REEF program (Reef Environmental Education Foundation), the volunteer coral reef monitoring Reef Check program, and the recently created coral gardening RAR (Rescue a Reef) program (Hesley et al. 2017) are three successful citizen science programs Corales de Paz hopes to benefit substantially from a growing Meaningful Diving initiative. These programs have proven to be reliable to the scientific community, providing qualified support that can collect information and undertake field tasks with comparable results to those by scientific experts (Burke et al. 2011, Done et al. 2017, Hesley et al. 2017, Jackson et al. 2014).

By scaling up our initiative to enhance participatory public engagement, we hope it can improve the role that reef-based tourism can play in the effective conservation of fisheries and coral reefs ecosystems of the Caribbean region. Particularly, Corales de Paz hopes to increase the technical capacity and the human resource for the monitoring and restoration of Colombia’s coral reefs. In this context, the practice of Meaningful Diving can be very beneficial for the continuation and sustainability of Colombia’s largest coral reef restoration project. Simultaneously, we hope it rebuilds the image of Colombia as an attractive diving destination and provides an alternative livelihood to the 5 million Colombians who depend on the services provide by the coral reefs of the country.

KEYWORDS: Coral reefs, dive tourism, citizen science

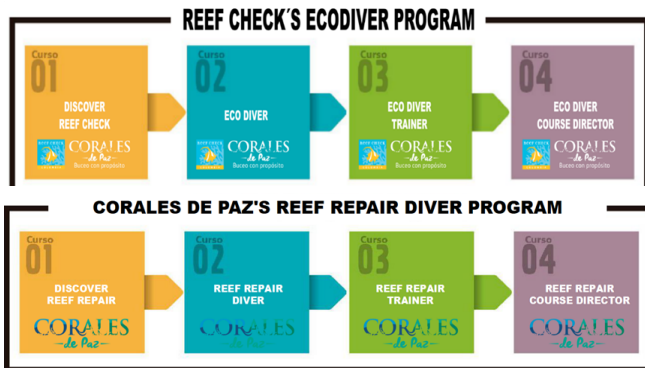


Figure 2. Reef Check EcoDiver and Corales de Paz Reef Repair continuing education systems. The first one was developed for training reef tourist in coral reef monitoring and the second one is being created by Corales de Paz to training certified divers in active coral reef restoration at different levels of skills development.

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Figure 1. An example of the coral reef health reports prepared from information collected by Reef Check Eco-Divers after partaking in a Reef Check expedition to San Andrés island. The reports are shared with the general public through social media and with the relevant authorities by email.