CHAPTER 12: Reef Check, drops in the ocean and underwater worlds

Reef Check is both a methodology and an NGO, based in California, and dedicated to the conservation of two reef ecosystems: tropical coral reefs and temperate kelp forests. It is also the bedrock upon which all diving projects of Biosphere Expeditions are built.

An e-mail in 2004 gets this going. Would Biosphere Expeditions like to help in the management of Cayos Cochinos, a Marine Protected Area (MPA) in Honduras? Sure, how? By scuba diving and using a methodology called Reef Check. I can't dive and I have no idea what Reef Check is, so I learn to dive and find out about Reef Check, which turns out to be both a methodology and an NGO, based in Los Angeles, and dedicated to the conservation of two reef ecosystems: tropical coral reefs and temperate kelp forests. In 1997 Reef Check was the first to conduct a global survey of coral reef health using one standard method. The data confirmed that coral reefs were in crisis due to overfishing, pollution and other human impacts. When this was published in 1999, it caused a stir and unsettled the coral reef scientific community, which had until then thought that reefs were doing fine.

For Biosphere Expeditions, Reef Check seemed like a great partner, not least of all because it comes with a ready-made methodology for citizen scientists, complete with teaching materials, certification paths, instruction manuals, datasheets and data analysis tools. Whereas we usually have to develop the research methodology ourselves in a fairly laborious process, here it was all packaged, ready to go and immediately providing local and global relevance to the datasets collected by our expeditioners. Reef Check is also run by great people who welcomed us with open arms.

So far, so good. A year later, in 2005, I am on Cayos and Italo Bonilla, the irrepressible Honduran marine biologist and dive instructor, takes me to his underwater realm and certifies me as a scuba diver, opening the diving chapter with Reef Check in Biosphere Expeditions' history.

Previous page:

Checking a reef - using hand signals and a slate to record substrate, Musandam peninsula, Oman, 2012.
© Kelvin Aitken.

Opposite page:

A Cayos Cochinos expedition team in 2007. Italo Bonilla is on the right, standing.

So off we went together. In Honduras, we assisted the Cayos Cochinos MPA with managing and protecting their coral reefs from 2006 until 2011, first together with Italo and later with Dr. Jonathan Shrives, a British marine biologist who had done his PhD there. The Cayos Cochinos, by the way, are two small islands and 13 coral cays off the coast of Honduras. This reef complex of 460 km^2 was declared an MPA in 1994 and is part of the Mesoamerican Barrier Reef, the world's second largest after the Great Barrier Reef.

A couple of years later, I proposed to Reef Check that we set up an expedition to the coral reefs of the Musandam peninsula in Oman, where we were already working on big cats and I had gone for a dive, discovering - to my surprise - healthy reefs. So I invited the founder of Reef Check, Dr. Gregor Hodgson, to join us to help set up the expedition. Greg, having done extensive work on coral reefs in Kuwait, was initially very dubious of this location, but it took just one dive to change his mind. He was amazed at the high percentage of living coral, the abundant grouper and the beautiful colours of the numerous angelfish found there. He enthusiastically agreed that Oman was a great choice for an expedition and our relationship with Reef Check deepened in the process.

The Oman expedition ran from 2008 to 2017 and resulted in the declaration of two protected areas in the region, as well as the creation of local NGO Reef Check Oman, with the help of one-in-a-million Jenan Alasfoor, a local diver, who initially joined the expedition as part of the Biosphere Expeditions placement and capacity-building programme for local people.

The diving expedition to Tioman Island, Malaysia, started in 2012 and ran until 2016. There we provided vital data on coral reef health and human-induced threats within the Tioman archipelago – data that were previously unavailable. We also helped build the foundation for 'Cintai Tioman', a long-term programme to increase social and ecological resilience on the island.

This page:

Jetty of the research station and expedition base on Cayo Menor, Honduras.

Opposite page:

Musandam reconnaissance visit with Dr. Gregor Hodgon (third from right), 2008.

Jenan Alasfoor (left) being studious during the Musandam expedition 2015.

Colourful reefs ot Tioman Island. © Alvin Celliah.

Finally, on the Maldives , we started in 2011 and have not stopped. Working with Dr. Jean-Luc Solandt of the UK's Marine Conservation Society, who had experience of citizen science in the Maldives, this expedition has thus far trained and certified over 100 people in Reef Check surveying, 25 or so of them Maldivians, some of them now teaching Reef Check themselves, or employed by government agencies, international NGOs and private consultancies to undertake reef management and surveillance. We also produced a colouring and educational booklet for local schools and our data have helped local authorities set up a new Maldivian MPA.

This page:

Hard expedition life. The Maldives expedition base is a none too shabby liveaboard boat.

Dr. Jean-Luc Solandt (left) discussing reefs. Maldives, 2018.

These are the bare bone results that belie what lies underneath. Under the skin are the friendships that have developed: Unique Jenan in Oman and later Malaysia and the Maldives. One-of-a-kind Jean-Luc in the Maldives and Oman. And so many more outside the black and white. Biosphere Expeditions would not be diving without you, would not slip underneath the blue ripples, weightless, with life all around you, a New York under the waves with everyone just trying to make a living in their towers and crevices, their nooks and crannies, hiding, hunting, surviving and building this most beautiful, varied and amazing habitat. But like everything else, it is threatened by what we humans do. This is one of the many reasons why our expeditions are vegetarian. We just cannot bemoan the lack of fish downstairs and then tuck into them upstairs. Instead we do what we can, along the 100 m transect line that is the handrail for our efforts. Lay it down, dive along it - two for fish, two for invertebrates and impacts, two for substrate. How many groupers, butterflyfish, lobsters, coral-banded shrimp, hard and soft corals, sponges and rocks? One hour downstairs, one upstairs, typing in the data, generating pie and bar charts, then months later a full report. Some are read, some are ignored. But both scientists and citizen scientists are affected by their expedition experience, through learning, exchange and seeing the reef in a different way, with the detailed look of science, delighting in the little creatures and big interactions. Gone are the days of the tourist diver who thinks only deep is good and is only interested in the turtles, sharks and big fish. That alone is success and often results in icing-on-the-cake MPAs being created or gaining more local support. More drops in the ocean, like teardrops in a sea of lament. Perhaps. Or more. Time will tell and we will keep trying.

This page:

Underwater New York of the Maldives. © Volker Lottmann.

A Maldives expedition team 2012.