

Hello Greg,

many thanks to concede to reefitalia magazine this interview, reefitalia's staff, the readers of our magazine and the forumists are grateful about that.

Thank you for asking.

Why did you have the idea to found reefcheck?

Please explain also if there was something in particular that gave you the impulse to do it.

In 1993 there was a large scientific meeting on global health of coral reefs in Miami . 250 of the world's top coral reef scientists attended. After one we realized we could not answer the question of "What is the health of the world's reefs?" because no one had designed a system to study this. Several scientists who knew my background in marine monitoring asked me to design such a program, but to make use of volunteer recreational divers. So designed the Reef Check protocol for coral reef monitoring and then asked other scientists to review it. We finalized it and tested it during the first International Year of the Reef in 1997, and with no funding, we were able to form teams in 31 countries to survey more than 350 coral reefs around the world. Everyone thought this was a valuable activity and so they asked that we continue this every year.

What's the situation of the reefs nowadays?

I published a scientific paper based on the 1997 surveys that stated for the first time that, "there is a global coral reef crisis." Up to that time, many scientists were still arguing about this. Our data showed that no matter where we looked in the world, reefs were in trouble due to multiple factors. The main cause of reef damage was overfishing which was destabilizing coral reef ecosystems by removing the herbivores (plant eaters). The result is that many reefs are overgrown with algae now. Other problems such as sewage pollution, sedimentation from agriculture and coastal development for forestry or housing are also serious. More recently, the issue of global warming and ocean acidification have come to center stage. In 1998/99 the world heated up due to a combination of El Nino and global warming. Weather patterns shifted, the ocean heated up and reefs began to "bleach" (lose their internal algae symbionts) and die. In some areas such as the Maldives , mortality reached 90% down to the base of the reef at 60 meters. The question is how well can corals adapt to global climate change? No one knows. We published our 5-year report for the World Summit on Sustainable Development in 2001 and are currently analyzing our ten-year dataset. It appears that reefs may have stabilized during the last few years and we may have more time than expected to fix these problems.

What's the first cause/problem of the reef's decay?

See above on fishing. But also in many areas illegal fishing using poison and explosives causes more damage.

Where in the world is the worst situation of reef's decay?

Jamaica is probably the worst example of how an entire ecosystem has changed between 1970 and 1990. The reefs in front of Discovery Bay Marine Lab used to be 85% living coral. Now there is 1% live coral and 80% algae. But the entire Caribbean has suffered during this period with the two most common species from the 1970s now on the US Endangered Species list (Acropora palmate and A. cervicornis) elkhorn and staghorn corals.

Which are the nations that are protecting better their own reefs?

Palau (in Micronesia) is a great example of a country that has decided that their reefs are critical to their culture and economy and they have done a great job of establishing a management system that is working to protect their reefs. Unfortunately, very few countries have a national coral reef management and monitoring plan. Reef Check is working hard to convince countries to set these systems up so that they can better protect this important ecosystem.

What could common people do for reefs in concret form?

2008 is the International Year of the Reef. We would like to encourage the general public to learn more about how valuable coral reefs are, the problems they are facing and work with Reef Check to protect them. In particular, non divers can join Reef Check, and can sign online the International Declaration of Reef Rights (reefcheck.org). The Declaration includes a list of specific activities that will help protect reefs. Four country presidents have signed the Declaration and we would invite the PM of Italy to sign. Snorkelers and divers can become trained as certified Reef Check EcoDivers and participate in expeditions to survey reefs around the world.

Do you think that reef aquarists might be an issue for

the reefs?

Corals and fish are living organisms that grow and reproduce. Theoretically, we should be able to collect a small percentage of reef organisms each year and they will replace themselves. In the future, ideally the trade for aquarium use will eventually rely on aquaculture rather than wild catch. Unfortunately, only 10% of the desirable species of fish can be cultured at this time, therefore Reef Check has been working with the marine aquarium trade for almost ten years to try to make it more sustainable. There are trade-offs between the educational value of home and commercial aquaria, the jobs of poor village fishermen, and the problem of unsustainable collecting of reef organisms contributing to reef damage. Reef Check has been helping to design coral reef management plans in the Philippines and Indonesia where we have been able to create new marine protected areas. So in this case, we use the trade to give the reefs more value and to leverage the government to set up a higher level of protection and to manage the collection effort. We do this by surveying the reefs, carrying out an analysis and then recommending sustainable catch levels to be adopted by the government fisheries authorities.

What do you think aquarists could do to help the safe
of reefs?

- 1) Don't buy fish and corals that are known to be difficult to keep. Why pay money for an animal that will die soon?
- 2) Try to become very well educated on how to keep reef organisms alive.
- 3) Participate in exchange programs for animals especially coral frags.
- 4) Buy manufactured live rock and aquacultured organisms where possible.
- 5) Support efforts to learn how to aquaculture reef organisms.
- 6) Join and donate funds to organizations like Reef Check that are working to protect reefs.
- 7) Sign the International Declaration of Reef Rights.

Many aquarists have a good preparation about how to
keep invertebrates in captivity, do you think that they
can be helpful in some way to the understanding of
reef ecology?

Reef aquarists have an incredible knowledge about the ecology and behavior of reef organisms. There needs to be more professional exchange between them and field ecologists about a variety of issues. Aquarists should attend major meetings like the International Coral Reef Symposium and make their voices heard.

Do you think that the aquarists research could be useful in some way to understand the reef?

Absolutely - see above.

It seems like that some reefkeepers had great success in the reproduction of some corals some fishes and other invertebrates, do you think that's could be helpful ?

Absolutely - -we need aquarists help to aquaculture more reef animals especially reef fish that broadcast spawn.

since you founded reefcheck did you notice any changes in the approach of people to the reef issues?

In 1997, we never saw an article in the newspaper about coral reefs. Now we see many. At the same time, the average person who is not an aquarist or a diver still may not be aware how important coral reefs are to our survival. Many drugs are now on the market or in medical trials that might save our own children's life, that were derived from reef organisms.

Scientists have only scratched the surface of this genetic treasure chest.

What's the best result that reefcheck has got?

In several countries, Reef Check has become the national monitoring program and has contributed to setting up marine protected areas that have been formally adopted by the government. While research and education are critical to this process, we feel very good when we see reefs actually being well managed due to our efforts. Two examples include Gilutongan MPA in Cebu , Philippines and Soufriere Marine Management Area in St. Lucia .

Interview by Luca Liboni aka (JackKerouac)