

Huge buzzwords of today – ‘carbon offset’, ‘conservation’, ‘eco-friendly environment’, ‘sustainable environmental management’, etc. It shows just how high up the agenda of world affairs environmental awareness has reached. As divers, we have followed sound practices enshrined in these ‘new-found doctrines’ for years. It seemed well overdue for me to experience life at the ‘coal face’ by joining an environmental expedition, based around environmental management and monitoring of coral reef systems, this one in Central America.

Scientists have known much about the changing conditions in our seas for a long time, but their work is often obscure or lacks a layperson’s interpretation. This type of environmental work is under-funded and has to compete with a myriad of other projects, all aimed at making our world a better place to live in. To mount such an expedition, like the one in Honduras, would be monstrously expensive and there would simply be insufficient marine biologists available to dedicate their resource to such a scheme. Enter Biosphere Expeditions (www.biosphere-expeditions.org), who formed a plan to take out research workers and a) teach them to make real-time observations on a reef by recording species counts in controlled areas (using 100 metre transects) and b) collate all information gathered and merge it into a worldwide picture from which well-informed deductions can be made. The door is open for you and I to join in.

Biosphere Expeditions is based in Norfolk and has offices in Germany, France and the USA. They operate a number of expeditions with varied environmental concerns as their key focus. The Honduran reef project is run in partnership with the worldwide Reef Check

Eco-divers on the front line



Divers are at the forefront of marine conservation, and Tony Woodward joined a group of enthusiastic amateurs as they assisted with fish counts and reef mapping in Honduras.

Text and photographs by **Tony Woodward**

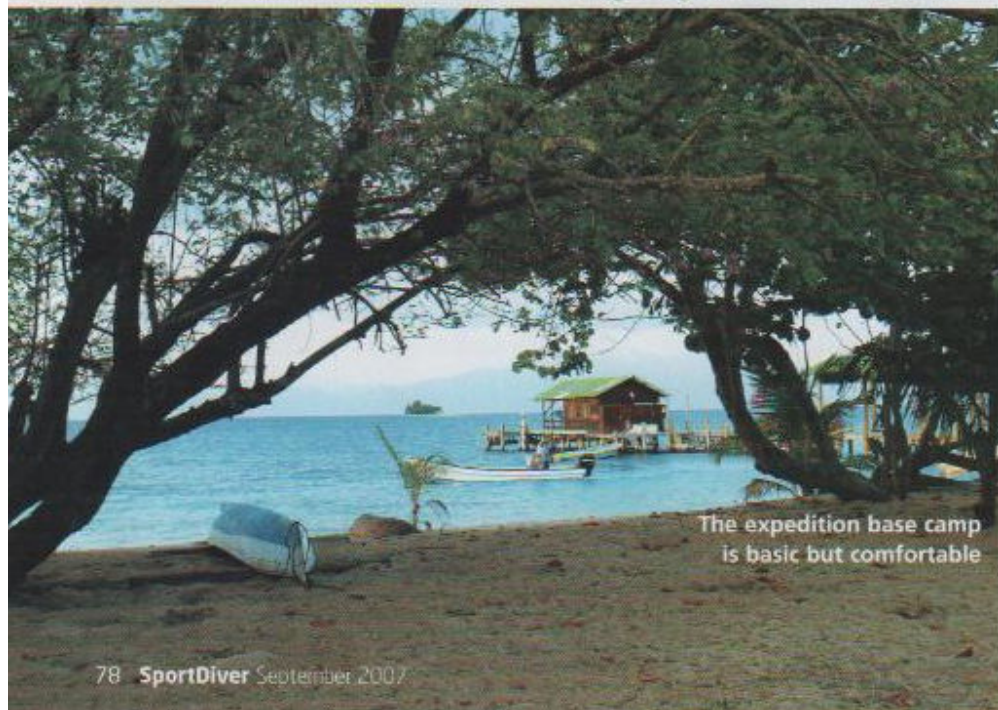
Foundation (www.reefcheck.org), which was formed in 1997 as a non-profit organisation dedicated to marine conservation. Apart from reporting on the health of reefs in general by providing counts of target species, there is a secondary task of monitoring coral diseases, several of which have manifested themselves in recent years. Coral bleaching, black-band disease, white-band disease, white plague and Aspergilliosis (a fungal condition affecting sea fans) are being closely watched. I joined their expedition based in Cayos Cochinos in the Bay Island area of Honduras to report on their work, as well as taking a glimpse at some of the detailed scientific programmes in progress.

Biosphere Expeditions offer this unique opportunity a couple of times per year and it really is at the forefront of eco-conservation efforts. I was to witness a metamorphosis from ten random souls into one working team. Our team would be reporting on the current status of a

protected reef system. No mainstream diving, commercial fishing or other exploitation is permitted, and hence reefs around these protected islands are in pristine condition. The tiny archipelago of Cayos Cochinos, however, like elsewhere in this coastal region to far inland, was devastated by Hurricane Mitch a few years ago. Thousands were killed in Honduras as well as neighbouring Nicaragua and Belize. In addition to the loss of life, Mitch did immense environmental damage. Honduras is the second largest country in Central America, yet has a relatively tiny population. Bay Island province lies off the east coast of this mountainous country, which is known for its agricultural exports and limited mineral wealth.

A plethora of environmental and charitable organisations operate here and are valued by the Honduran government for the work they do. I met several groups involved with charities providing everything from welfare of children to forestation and, of course, marine life protection projects.

Unseasonably wet weather greeted my arrival and whether we are witnessing the start of a new ‘el Niño’ or not remains unsure, but the boatmen think it might be an indicator. My journey from the airport at San Pedro Sula to the coastal town of La Ceiba was uneventful, save for the suicidal anarchy that pervades local driving conditions. This three-hour trip can be undertaken by luxury bus, but I was taken in a pick-up with two other members of our team, as well as a driver, co-driver and a very large iguana. On the way I passed endless shantytowns clustered around banana and pineapple plantations. It reminded me of just how poor an average Honduran is. There is a massive wealth gap here and most of the population



The expedition base camp is basic but comfortable

I witnessed a metamorphosis from ten random souls into one working team.

Divers set out to map and measure the coral reef

subsists on about \$400 per year, as opposed to a small and extremely wealthy elite. Most Honduran land is in government hands, and there is an omnipresent US interest so it is very difficult to get some programmes off the ground, especially when they are sponsored by the government and require co-operation from local people.

Food served to the previous expedition comprised a spectacularly monotonous diet of refried beans (a brown pap) served with a processed cheese slice and tortilla with a hard-to-describe attempt at sour cream. This is standard fare for a Honduran and was also served for our first meal. Often supplemented with scrambled eggs or fried Spam, it is very bland. It seems paradoxical in a country where the climate would see a fossilised stump take root and flower that fresh fruit and veg is rarely ever served at meal times. This year, however, there has been much negotiation on our base camp and it has had some real effect. Meal times are more varied now, despite the best attempts of



Tony was astounded by the healthy coral reefs he saw in Honduras

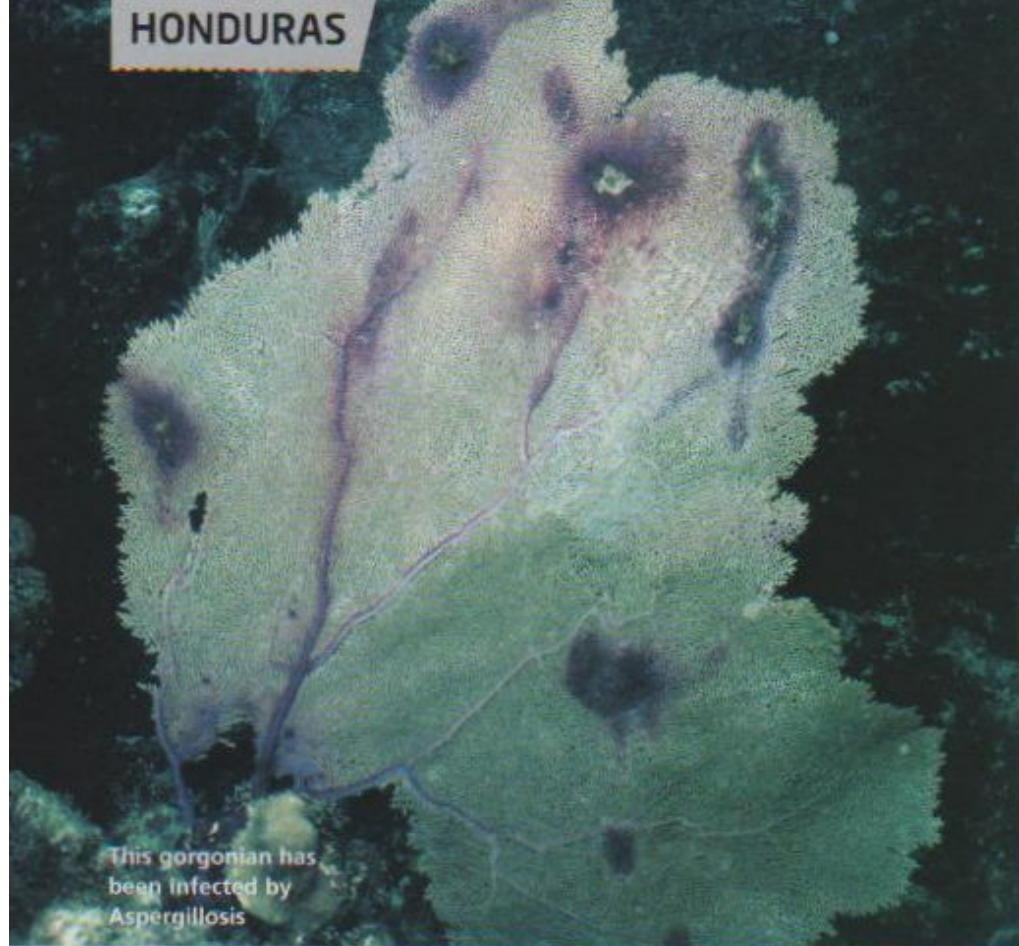
the local cooks to persuade visitors of the merits of a Honduran diet. If you are suspecting a calorie overdose, the 103 steps up to the dining area will soon blow that theory away.

My first day on the expedition was spent getting to know everyone and understanding the work expected of us. I had anticipated we would be made up of

a group of students and wannabe eco-warriors, but what transpired was just one student, a couple of adventurers and the rest young professionals, all wanted to give something back to our environment as thanks for the sport they so enjoy.

Visiting the centre was John Shives, a PHD student, studying coral diseases at Oxford University. John was joined by Greg Cowie, a senior lecturer from Edinburgh University. Greg is studying the effects of agricultural practices by monitoring pollutants. When freshwater run offs mix with seawater, a cocktail of toxins gets carried far out to sea. He was here to take water samples and try to detect any pollutants coming from rivers which may get carried out as far as our study area.

So, what is this expedition all about? Let us start with the basics. Biosphere Expeditions has a watchword, well three in fact: Safety, Science and Satisfaction. Expedition leader Kathy is based in Norwich and co-ordinates all the admin required to put a team together. She tries to meet their intolerable (joke) demands



This gorgonian has been infected by *Aspergilliosis*

and look after them during their stay. In partnership with the Reef Check Foundation, she is responsible for co-ordinating all activities with Reef Check. The choice of Cayos Cochinos was established some time back and Biosphere Expeditions stepped in when a breakdown in relations between the Honduran Government and the Smithsonian Institute occurred. The Smithsonian tried to impose draconian measures on the

area, including a blanket ban on fishing. It would have deprived local Garifuna people of their subsistence-level lifestyles. Their relationship ended, but not before several scientific papers had been written. These were raised in conjunction with HCRF (Honduras Coral Reef Foundation), a local government body overseeing all conservation work in Honduras. Following the disengagement with the Smithsonian, HCRF decided to work with



Volunteers work hand-in-hand with scientists on reef examinations

overseas universities and invite volunteer students to work with professional scientists. As a result, they were prepared to share any credit for further scientific papers with the donor university on a 50/50 basis. Such co-operation is still actively being sought and there has been some enthusiastic uptake so far. I hope it continues apace.

Cochinos (a word derived from 'pig' and believed to emanate from the practice of keeping pigs on the island by British ships 2-300 years ago) is actually a small archipelago, with a topographical height of circa 350 metres max. The islands are densely covered in mature trees and home to a large, elusive, pink boa snake. They are an hour offshore from the coast and protected as part of a marine park where

MEET THE BIOSPHERE EXPEDITION TEAM

Eric Frasier, a film producer and professional photographer from San Francisco is an accomplished pro photographer above water. He wanted to understand marine eco-systems better and contribute something back of value, as a way of saying thanks for the many happy hours spent diving.

Sue, from London, felt the need to be part of the conservation movement by passing on knowledge gained in a project of this sort. She just loves to dive and naturally wanted to know more about marine life.

Matt, an IT manager from London, was also looking for something different and this Biosphere Expedition ticked all the right boxes



for him. Matt has a love of all things marine and needed an adventure to counter the rigours of work.

Dörthe has lived in Atlanta, Georgia, for two years, although originally from Germany. She is a soil and agriculture scientist and wanted a better appreciation of marine life and ecology

Alex is a gap year student hoping to study marine biology at Edinburgh University. He wanted to get an appreciation of work in the field to help him in his quest for a future in our marine world.

Kate found Biosphere Expeditions when looking for a group of people to dive with. She is from Toronto and thought this expedition sounded exciting and different.

Rachel is from California and a real water baby. She is just 18 and trying to obtain her Divemaster qualification. Her mother and younger sister are also diving nuts and she wanted to get experience of an expedition.

Rachael and Alistair, or 'Alfi', are both environmental lawyers from London. They liked



the sound of this expedition and wanted to do something different as part of a payback to conservation.

Kathy Wilden was our expedition leader, Divemaster and co-director of Biosphere Expeditions. She has three children under five who all visited the islands last year – and survived to tell the tale!

Italo, who acted as our dive instructor, guide and mentor, lived on Cayos Cochinos for five years. He hopes to get a place at Newcastle University to help him pursue a scientific career in Honduras.



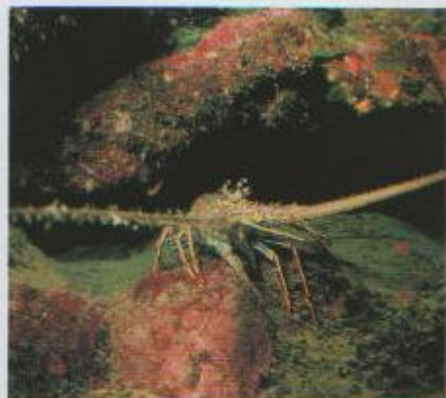
Lizardfish

no mainstream diving takes place and fishing is only permitted by hook and line – and then only for local people. So, what was the state of their reefs?

Having been in the Caribbean on a number of occasions, I found one of the best locations for high-quality reefs to be Klein Curacao, a small uninhabited island lying off the coast of Curacao. It remains in tip-top quality due to restricted diving. I am sure many readers will have their favourite places too. I was keen to find out how Honduran reefs compare, and I have to say they are vastly superior.

Vibrant coral life is supported with a foundation of reef builders, like porites and star coral, all covered with masses of soft corals, predominantly gorgonians. It provides superb underwater vistas. Together with associated gaps and overhangs in hard coral heads, there is plenty of fish and invertebrate life. They are simply the best I have seen in the Caribbean. Yes, there is some coral disease, chiefly Aspergillois, a purple manifestation due to fungal infection (Aspergillois can also infect humans, chiefly in the pulmonary system). Other than that, the reefs certainly looked superb. According to Italo, they suffer from a lack of predatory species such as barracuda and Nassau grouper, but we did find a few examples living close to shore on most dives. I can well understand why they are endangered, as they remain a key target for local fishermen.

Overall, a definite ten out of ten for the site and though the only way you will get there is by joining an expedition, that is no bad thing. Other local dive centres operate mainstream diving at all levels of competency outside the study area and



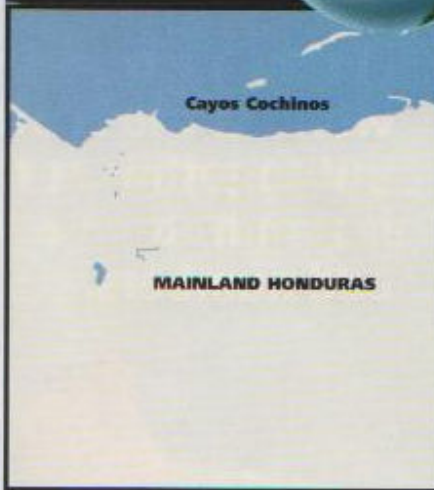
Spiny Caribbean lobster are a common sight on the Honduran reefs

are not hard to find. The reefs are in very sound condition and talking to other divers, they had fantastic experiences too. Hondurans are a friendly nation and US dollars are used extensively along with the local currency, Lempiros. The temperature is high 20s to mid-30s and the water is very warm. A 3mm wetsuit will suffice.

As I departed for San Pedro Sula, stopping off for a couple of hours at Guamilita market (worth it if you have some time), our team was still working hard on their respective study subjects. I wish them well as the work is of major importance. I can wholeheartedly recommend Honduras. It is a large country with a big heart and is well served by a number of airlines. Direct flights operate from Miami and principal US airports. Miami is, of course, well served from Europe. If you feel it is payback time and you want to contribute to the sport you love, you do not need to have a wealth of diving experience – 20-30 dives after qualifying would be sufficient – so what are you waiting for? ■

TRAVEL FACTS

HONDURAS CAYOS COCHINOS



WHERE IS IT?

Honduras is the largest country in Central America, and has a coastline on the Caribbean. Cayos Cochinos lie 20 miles off the mainland.

HOW TO GET THERE

You can fly from London to the capital Tegucigalpa via a number of US airports in about 11 or 12 hours.

ENTRY REQUIREMENTS

Departure tax is US\$30 (£15).

WHEN TO GO

The next available expedition to Honduras is in March/April 2008.

LANGUAGE

Spanish.

CURRENCY

Lempira. £1=L39.

TIME ZONE

GMT -6.

HEALTH

Vaccinations recommended for Hepatitis A and typhoid, plus malaria tablets.

CONTACT DETAILS

Biosphere Expeditions
www.biosphere-expeditions.org
 Ordinary people with no research experience are placed alongside scientists who are at the forefront of conservation work. Expeditions are open to all and there is no age limit on participants. Contributions start from just under £1,000, (excluding flights), for two weeks.