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Vital corals under threat

Pictures by ANDREW SIA & courtesy of THE DIVER'S DEN, CASSANDRA DRAGON & TANG YEW KIT

How's this for the ultimate 4-in-1: become an amateur underwater scientist, help in scuba clean-up, learn excellent buoyancy and...take part in an underwater wedding! ANDREW SIA got wet during the marine marriage last week. Now here's the rest of the story.

Want to play marine scientist for four days? On Pulau Redang two weeks ago, a score of divers got to do just that with the international programme known as Reef Check. Meanwhile, another three dozen plus divers got a free "peak performance buoyancy" course so that they would not knock themselves and their equipment all over delicate corals.

The occasion was an environmental campaign organised by the Diver's Den and Redang Kalong Resort as a PADI (the Professional Association of Diving Instructors) Project AWARE (Aquatic World Awareness, Responsibility and Education) programme.

Amateur scientist

Reef Check helps organise simple surveys on the eco-health of reefs worldwide. Basically, a 100m line is laid out along the best reef in the area and scuba volunteers count certain species of marine life along it.

"We hear divers' stories of reefs getting worse, but there is often no hard data," explained Badrul Hisham, a regional Reef Check coordinator based at the Institute of Biological Sciences, Universiti Malaya (UM).

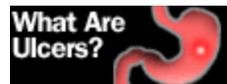
"Corals are crucial for our supply of fish," he said. "They are breeding grounds for young fish before they swim off into the seas (and our fishing nets)."



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Divers carrying out a survey to determine the health of the coral reef.

Obviously, reefs are also the foundation of the multi-million ringgit dive and snorkelling tourism industry in Malaysia. They are the “rainforests of the sea”, an incredible biodiversity reservoir and a source of new medicines. They also serve as wavebreakers and prevent coastal erosion.

Sadly, reefs are facing an unprecedented global crisis due to overfishing, blast and poison fishing, sedimentation, global warming and pollution. About 16% of the world’s reefs have been lost in the last five years alone, with another 27% severely threatened.

In Malaysia, cyanide is often squirted into reef crevices to stun fish such as *sou mei* and *chat sing pann* – prized delicacies in Chinese restaurants. It makes one wonder whether folks know exactly what they’re paying top ringgit for . . .

A Reef Check survey helps monitor just how many of these commercially valuable marine creatures – barramundi cods, coral groupers, lobsters, sea cucumbers and giant clams – are left in a particular reef. It also examines how many other key indicator species such as butterfly fish, snappers, sea urchins and coral shrimps are around.

“Everybody should not go down all at once,” advised Affendi Yang Amri, our other Reef Check coordinator from UM. “You have to count the fish. Don’t scare them all away.”

And so we took our turn submerging ourselves quietly in buddy teams of two. The first team laid out the line along the “house reef” just offshore from the resort and reported on the general health of the reef (coral disease, damage from anchors etc).

The next three teams – with waterproof paper, pencils and clipboards in hand – then took their turn counting fish, the other creatures (invertebrates) and finally the corals themselves.

So what good is all this data?

According to the Reef Check website, in 1997, over 850 volunteer scuba divers and scientists completed the first worldwide survey of coral reefs. It finally provided solid evidence that coral reefs had been damaged on a global scale.

By 1998, with even more volunteers, Reef Check surveys confirmed that the El Nino heat wave had caused a 10% death rate in corals worldwide. Which ultimately means that the threat of global warming is real and we had better wake up.

“There simply aren’t enough scientists to study reefs worldwide,” Badrul briefed participants. “The programme helps to raise awareness about the value of our corals and the threats to it. By volunteering, it gives us all a feeling of being involved in conservation, that we too are owners of our reefs.”

Despite all the recent bad news about overdevelopment, siltation and pollution in Pulau Redang, the two reefs surveyed (the Redang Kalong “house reef” and Black Coral Garden near the nearby islet of Pulau Lima) looked like extensive gardens of vibrant marine health. Were mere appearances deceiving?

“The reefs were generally in good shape,” revealed Affendi after analysing the results. “There was no fleshy seaweed, a sign that fertilisers or sewage are leaking into seawater. That’s good.”

He added that there was a “good coverage” of 60% of hard corals over the area. This is important as hard corals are reef builders, a base for other species to live on.



When will people change their attitudes about rubbish?

But the 60% figure is not exactly A-grade either. One has to remember that the Reef Check procedure calls for scrutiny of the “best reefs” in the area.

The normal figure for Pulau Redang is usually at only 40-50% (a C-grade if you like, which is quite poor considering that it’s a marine park). A-ratings of between 80-90% are usually found in truly pristine areas.

According to Affendi, the presence of many butterfly fish on the two sample reefs was another healthy indicator. However, there was an absence of indicator species such as bumphead parrotfish, humphead wrasse and lobsters.

“There might be overfishing in areas outside the marine park. We have to do more reef checks to confirm this,” suggested Affendi.

“Many reef checks on Redang were done in the past. We’re still not sure

of the long-term impact of current development projects on the corals.”

Work and play

Want to pick up trash underwater? Here are the rules:

“If you see fish inside bottles, leave it. If corals are growing on top of it, don’t touch it,” AB Lee, the Diver’s Den master scuba instructor, briefed participants.

With some 60 divers at work near the Redang marine park headquarters, three large bags were eventually collected. The haul included cans, bottles, instant coffee wrappers, biscuit tins, cigarette boxes as well as an engine fan belt, a *sarong*, a pair of sunglasses and pieces of linoleum.

“At least we didn’t see golf score cards unlike last year,” said Sheila Chan, one of the volunteers.

This is the 7th year running that the Diver’s Den is doing the environmental AWARE programme.

“We hope that participants will pass on the messages learnt here to their friends,” added Lee.

There were two more *gotong-royong* clean-ups, another scuba one and a beach version. But it wasn’t all work. There was the chance to be part of Malaysia’s first and largest underwater wedding plus group games.

Apart from beach volleyball and canoeing, a telematch featuring water balloons ended predictably in the splashy joys of a mini *songkran* (Thai water festival). Another race to pick up polystyrene alphabets was an exercise in creative logo-making and everybody got a most memorable souvenir by painting their own marine-themed fridge magnets!

Peak performance bouyancy

But honestly, why would a diver pay RM460 for a 4D/3N package when they have to pick up trash? Apart from the privilege of, *ahem*, helping to “save the world” that is?

More “practical” reasons included the chance to dive at a discounted price, gifts like T-shirts, caps and magazines (Asian Geographic and Scuba Diver Australasia) and a free course on scuba buoyancy control (worth about RM200). While clean-ups are common, Lee is one of the few offering this course as part of an environmental AWARE programme.

Many divers lose touch and, when they take to the sea again, become potential coral destroyers with their clumsy underwater control. The ideal is to finetune movement to such an extent that divers can



Because there are people who care, bagging rubbish becomes a holiday.

lower their faces to within centimetres of tiny shrimps and nudibranchs, enjoy the sights, and then gently float upwards again.

The most common fault is to wear too many lead weights on their belts and then overcompensate by inflating their dive vests like balloons. With the weights dragging their waists down and the over-inflated vests pulling their torsos upwards, divers are then positioned “like seahorses”. Swimming forward, it’s obvious that a lot of resistance is generated and diver ends up using a lot of energy and air.

Another common fault is that divers often leave their depth gauges and spare regulators dangling – these end up being dragged through, and damaging, sensitive corals.

Lee also went into some finer points:

“You must adjust the weights on the belt for proper balancing. If you have just three weights, place the third in the centre, the buckle doesn’t always have to be there,” he explained.

“Also, many divers don’t realise that certain fins and thick booties are buoyant. So when they swim, we can see their legs starting to float up.”

Apart from eco-preservation, mastering buoyancy is also important for serious underwater photography – a diver has to depend solely on breath control and feet movement (finning) when positioning himself for a shot since both his hands are on the camera. Lee, an award-winning marine photographer himself, not only revised the divers’ basic fin-pivoting exercise; he also made them swim through hoops and showed them how to go into “reverse gear” using only fins! W

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