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Reef screening

By TAN CHENG LI

chengli@thestar.com.my

A unique project that relies on volunteers to survey coral reefs has produced startling results on the status of this marine habitat.

DAZZLING, colourful, unique, but slowly dying. This sums up the health of coral reefs in four East Coast islands. Over-fishing, sewage and rubbish pollution, illegal trawling, ecologically adverse development and unchecked tourism are some of the ills plaguing this rich and diverse marine ecosystem.

Surveys by non-profit group Reef Check Malaysia (RCM) last year show that reefs in the islands of Perhentian, Redang, Tenggol and Tioman rank only “fair”, with 42% live coral cover. In fact, some of the 21 sites assessed have more dead than live corals. Algae smothered some reefs, pointing to nutrient pollution that is likely to have come from poor sewage treatment.

Reefs are in poorest condition in Perhentian; its live coral cover amounts to a mere 34% . Tioman has the healthiest reefs, with 55% live coral cover. Tenggol is a close second at 52%, followed by Redang, with 50%.



The Reef Check relies on volunteer divers to survey coral reefs. Such data is collected worldwide and compiled into an annual report which states the health of the world's reefs.

Founded in 1996, Reef Check is an international coral reef monitoring programme involving volunteer recreational divers and marine scientists. The Malaysian chapter was set up last year.

RCM project manager Julian Hyde says the Reef Check programme allows scientists and volunteers to survey reefs regularly so that changes can be detected and corrective action taken to avert further deterioration of the reef.

To gauge how reefs are faring, divers look for “indicator species” which include fish, invertebrates and corals as well as observe damage to the reef caused by bleaching, anchoring, destructive fishing and pollution.

In their surveys last year, divers found low numbers of popular market fish such as the parrotfish and grouper in most areas surveyed. Prized fish such as sweetlips and humphead wrasses were a rare sight, while the barramundi cod was not seen at all. This indicates that these species have been over-fished in the past and populations have yet to recover.

Popular food and aquarium invertebrates (including the lobster, banded coral shrimp, collector urchin and pencil urchin) are uncommon in East Coast waters but their complete absence from the reefs is a sign of over-fishing. An abundance of *Diadema* urchins, particularly in Tioman, implies excessive pollution.

The surveys, though not exactly comprehensive since most sites were assessed only once, nevertheless give an indication of how reefs are faring. The RCM evaluation found that development pressures threaten the coral reefs of all four islands. In Perhentian and Tenggol, the mushrooming of resorts has worsened sewage pollution, leading to the spread of coral-smothering algae. In Redang, hordes of tourists trample over reefs while in Tioman, various development schemes, including the ongoing beach replenishment project, have clouded the sea and choked the reef with silt. And proper rubbish disposal is absent in all the islands.

“Although we got limited results, they do show what the problems are and we can then find the solutions. Our surveys did find instances where good marine park management is having an impact. In Tioman especially, there are sites with good hard corals and high fish population,” says Hyde.

To protect the reefs, RCM suggests: wise use of freshwater (use seawater for flushing toilets and store rain water); have recycling bins and improve rubbish collection; improve sewage treatment systems; better signage to inform visitors that the marine park covers all areas and not just the area adjacent to marine park centres; establish an environment rating system for resorts in marine parks; and conduct more awareness campaigns and talks by marine park staff on islands.

Although Reef Check surveys have been carried out in previous years, a lack of planning and coordination have resulted in insufficient data to accurately identify trends in the status of coral reefs of the East Coast Islands. An extended survey programme is required, and this is one of the targets of RCM this year.

Oddly enough, the Fisheries Department and the Natural Resources and Environment Ministry have never comprehensively surveyed the nation's reefs.

The task has largely been left to concerned marine scientists and nature groups such as the Malaysian Nature Society and now, RCM. But with some 4,000sqkm of reefs skirting the country's coasts and islands, these groups are in dire need of support if they are to screen more reefs and run marine conservation projects.

Support

Last year, RCM trained 15 Ecodiver trainers and 58 Ecodivers in reef monitoring. It hopes to extend its partnership with other companies so as to train more volunteers and survey more reefs.

Support can be in two ways:

- Coral reef conservation projects: RCM is seeking funding partners for its Island Community Programme, Schools Awareness Programme and National Survey Programme.
- Adopt a Reef: There are four types of sponsorship programmes, ranging from RM1,000 to RM5,000, RM10,000, RM20,000 and RM50,000. Funds will support a Reef Check survey team or train a survey team in your company or an annual survey of a coral reef.

RCM raised over RM60,000 in sponsorship last year, which was largely used for training and reef surveys in association with a network of partner dive centres. Its major sponsors are BP, HSBC, KPMG, Sime Plantations, Russell Bedford LC & Co, Kota Budaya Lions Club and

Defra. To find out how you can support RCM, call 03-2164 5407 or go to www.reefcheck.org.my or wecare@reefcheck.org.my.

This year is International Year of the Reef, a declaration made to raise awareness about the value and importance of coral reefs and threats to their sustainability, and to motivate people to take action to protect them. Despite their importance as a source of food and revenue, habitat and breeding ground for fish and natural barrier for coastal protection, 70% of the world's reefs have succumbed to human impact and climate change.

- *To find out more about the International Year of the Reef, go to www.iyor.org*