

# Starfish strike at coral kingdom

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Outbreaks of the notorious crown of thorns starfish now threaten the “coral triangle” – the richest center of coral reef biodiversity on Earth. That’s the finding of recent scientific surveys by the ARC Centre of Excellence for Coral Reef Studies and the Wildlife Conservation Society based at the Bronx Zoo, USA.

The starfish – a predator that feeds on corals by spreading its stomach over them using digestive enzymes to liquefy tissue – was discovered in large numbers by the researchers on reefs in Halmahera, Indonesia, at the heart of the Coral Triangle, which lies between Indonesia, Malaysia, the Philippines, Papua New Guinea, Palau and the Solomon Islands.

The Coral Triangle is considered the genetic fountainhead for many corals found on Australia’s Great Barrier Reef, Ningaloo and other reefs in the region.

The surveys confirmed that while Halmahera’s reefs are still 30-50 percent richer than nearby reefs, some areas were almost completely destroyed.

“The heart of the Coral Triangle is broken,” says Tasrif Katawijaya from the Wildlife Conservation Society’s Marine Program in Indonesia (WCS-IP).

Scientists fear the outbreak is caused by poor water quality, and could be an early warning of widespread reef decline.

“The main cause of damage to the corals was the Crown of Thorns Starfish,” Dr. Andrew Baird of the ARC Centre of Excellence for Coral Reef Studies and James Cook University. “We witnessed a number of active outbreaks of this coral predator. There was little to suggest that the reefs have been much affected by climate change as yet: the threats appear far more localized.”

The team also saw first-hand evidence of recent blast-fishing which, according to locals, accompanied the break down of law and order following communal violence in Halmahera between 2000-2003. At the same time many reef lagoons have been mined of their corals for use in construction.

“This is clearly a complex human environment, and effective management of the marine resources must seek to understand and address the causes of conflict among communities,” says Dr Stuart Campbell, Program Leader for the WCS-IP.

The researchers pointed out that there were still healthy populations of certain species – and still time to reverse the damage.

“The good news is that the reef fish assemblages are still in very good shape” said Tasrif Katawijaya from WCS-IP. “We saw napoleon wrasse and bump head parrot fish at almost every site. So these reefs have the capacity to recover if we can address the current threats.”

The Coral Triangle Initiative (CTI) announced by six regional governments at the Bali Climate Change Conference recently offers hope for the reefs in the region, the researchers say. However, there are few details of how it will work and in particular, there is, as yet, no mention of the fundamental role of research in the conservation programme.

“We are disappointed that a comprehensive research programme is yet to be outlined in the CTI. The success of large marine parks, like the Great Barrier Reef Marine Park, is due to the primary role of science in understanding what’s going on, so managers can make good decisions,” said Baird.

“It isn’t enough just to document the diversity of the region. Large scale research is required to understand the Coral Triangle ecosystems and to decide how best to respond to threats such as poor water quality and overexploitation,” Campbell added.

Source: ARC Centre of Excellence in Coral Reef Studies

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