

# Saving the coral reefs off Melaka

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CORAL reefs are sparsely found along the Straits of Malacca. Known areas with coral reef ecosystems are Pulau Payar Marine Park, Pulau Langkawi Archipelago and Pulau Perak in Kedah, Pulau Sembilan and Pulau Jarak in Perak, and Tanjung Tuan also known as Cape Rachado which has a shared border between Negri Sembilan and Melaka.

Coral reefs are generally poorly-developed in the Straits of Malacca because of the highly turbid water which is widely attributed to coastal development. High levels of suspended materials combined with relatively strong tidal currents result in poor penetration by sunlight into the coastal waters.

Therefore, reefs are only found in shallow waters less than 10m deep. This is especially true in coastal waters off Melaka where the Straits becomes narrower, and it is also one of the busiest maritime highways in the world. Coral species diversity in this area is low with only 41 species recorded, of which dominant species are from the Porites, Gonostreia and Gonospora genera. Patches of seagrass and seaweeds are also found in this area.

There is no regular coral reef health monitoring at Tanjung Tuan although the area has been gazetted as a Fisheries Prohibited Area since 1994 under the Fisheries Act 1985 by the Department of Fisheries.

In 1987-1988, live coral cover estimates were between 27% and 60%. However, a study in 2004 showed that the average live coral cover near Tanjung Tuan had declined to 16.8%.

Despite the low species diversity and coverage, a study in 2000 estimated that coral reefs in the Straits of Malacca and Straits of Singapore would generate an annual value of US\$563mil for their economic potential and ecosystem services.

The main threats to the coral reef at Tanjung Tuan are driven by the rapid tourism development along the coast. Threats to the reefs also include increased sedimentation from land clearing activities, increased disposal of sewage (*pic*) and domestic waste, and pressures on the reef by tourists to the site.

Fishing is allowed in this area for fishermen with valid permits issued by the director-general of the Fisheries Department. Long-term risks which the area faces are the collapse of the tourism industry due to lack of aesthetic value, collapse of the fishing industry due to permanent damage of coral reef ecosystems as well as human health hazards from the direct sewerage discharge into the waters.



Another species affected by the destruction of coral reefs is the hawksbill turtle. Coastal beaches and islands in Melaka are also important hawksbill turtle nesting beaches in Malaysia. This is the largest nesting population in peninsular Malaysia and is second only to Sabah's Turtle Islands.

Hawksbill turtles have been categorised as critically endangered by the International Union for Conservation of Nature (IUCN). The main diet of these turtles is sponges which are found in the coral reef ecosystem. They spend most of their life in coral reefs and return to beaches only for nesting. Therefore, it has become even more important to protect reefs adjacent to their nesting beaches to prevent further decline of this species.

Hawksbill turtles are found to nest in Pulau Upeh, Kem Terendak, Padang Kemunting and the Tanjung Dahan-Tanjung Serai stretch. The fifth National Report to the Convention on Biological Diversity reported that there is an average of 389 hawksbill turtle nests annually, which is mainly recorded from Melaka.

A study by WWF Malaysia, Fisheries Department and Southeast Asian Fisheries Development Center (Seafdec) in 2008

tracked the migration pattern of hawksbill turtles using satellite telemetry technology. The study found that hawksbill turtles from Melaka migrated to the Riau Islands Archipelago. It will not be surprising if the turtles that migrated to Indonesian waters do not come back to Malaysian waters as their source of food continues to decline in Melaka.

It is still possible to halt coral reef habitat decline in this area. Steps such as diverting sewerage water away from the coastal areas, adopting a proper garbage disposal system and proper management of tourists' nocturnal activities especially during turtle nesting seasons should be considered.

Coastal development needs to be well planned and properly managed to ensure sustainability of coral reefs. Initiatives such as reducing use of plastics and prohibiting waste disposal into the sea would prevent ingestion of marine debris by marine organisms. These conservation measures are very crucial and need immediate attention. Further delay in taking action would cause irreversible damage to our precious coral reefs and eventually population decline of our marine resources which depend on the

reefs to survive.

In 2016, during the 13th Conference of Parties to the Convention on Biological Diversity, this area was deemed to meet the criteria of Ecologically or Biologically Significant Marine Areas (EBSAs) for its importance as hawksbill turtle nesting and foraging as well as one of the last frontiers of coastal coral reefs in the west coast of peninsular Malaysia.

The Marine Park Department of the Natural Resources and Environment Ministry did propose to gazette and manage the area as a marine park in 2014 but to date, the proposal has yet to receive any support or acceptance. The department will continue to pursue this objective as it would allow proper management of this area to ensure sustainability of our natural treasures. It is our utmost hope that Tanjung Tuan and turtle nesting beaches in Melaka receive the protection status it truly deserves.

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