Status of Coral Reefs in Malaysia 2025

Reef Check MALAYSIA

Jabatan Perikanan Malaysia

THE BOARD OF TRUSTEES OF THE SABAH PARKS

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Content

Executive Summary

1. This report presents data from coral reef surveys conducted in Malaysia during 2025 using the Reef Check survey protocol. Reef Check is a coral reef monitoring methodology used to assess the health of coral reefs in over 95 countries and territories worldwide, and in Malaysia since 2007. Surveys were carried out by trained volunteers – members of the public, dive operators, non-profit organisations and government officials from Department of Fisheries Malaysia and Sabah Parks. The participation of the latter is evidence of the continuing commitment of the Government in further improving management of Malaysia's coral reefs.

2. A total of 297 sites were surveyed in 2025 (2024: 315): 140 in Sunda Shelf eco-region; 13 in Malacca Strait eco-region; and 144 in North Borneo eco-region. The surveys are a continuation of a successful National Reef Check Survey Programme that has now run for 19 years. Survey sites, mainly near islands, include both established Marine Protected Areas (MPAs) and non-protected areas.

3. The results indicate that, on average, the coral reefs surveyed have a "fair" level of living coral, at 39.94%. This is a decrease compared to 2024 (44.65%). This deterioration can be attributed to several factors, key among which are the 4th Global Coral Bleaching Event that occurred during 2024, unsustainable tourism, pollution and fishing activities.

4. Abundance of most indicator fish and invertebrates remains low. Historical over-harvesting and low natural populations might be reasons for this, but many of the sites surveyed, particularly in Sunda Shelf region, are in marine protected areas, where protection might be expected to encourage populations to grow.

5. Indicators of disturbance are high in many reef areas – 82.50% of the locations surveyed are impacted by trash, 80% by discarded fishing nets, and 57.50% by boat anchor damage. Bleaching was documented at 67.50% of the locations surveyed. In Sabah, 33.33% of the locations surveyed recorded dynamite fishing damage.

6. The report recommends taking action to **improve management of marine resources** by addressing local impacts and **strengthening the role of local communities** in management. This gives local stakeholders a stronger voice in decisions that affect their livelihoods, and numerous studies exist to suggest that this can lead to **improved conservation outcomes**.

7. Particular emphasis is given to **building resilience** – both ecological and economic. Resilient reefs are more likely to **withstand or bounce back** from the growing threats of climate change. Resilient communities have **diversified economies** and do not rely entirely on coral reefs for their livelihoods. This reduces human pressures on reefs, particularly from tourism.

8. The government is asked to consider introducing a more **sustainable tourism model**, moving away from the "mass" tourism model to a more environmentally friendly tourism industry. The government is also asked to consider establishing a **joint management body** to integrate local communities into the management of Malaysia's marine protected areas.

Each Annual Survey Report is written as a stand-alone document that can be read without having to refer to previous reports. As such, much of this and the following section, which remains valid and relevant, is a repetition from previous reports, copied here to provide the reader with an uninterrupted flow of argument and rationale.

1. Introduction

Coral reefs are an important ecological and economic resource in many countries around the world, providing a range of valuable ecosystem services to millions of people. Coral reefs provide jobs, food and coastal protection, among other benefits, to hundreds of millions of people (Souter et al. 2021). They are the most diverse marine ecosystems on earth. Despite being recognised for their economic and aesthetic value, coral reefs are being damaged by a variety of both local and global threats.

- Between 2009 and 2018, there was a progressive loss of about 14% of world's coral reefs (Souter et al. 2021).

The loss was mainly due to frequent large-scale coral bleaching events, combined with other local threats. The local threats are:

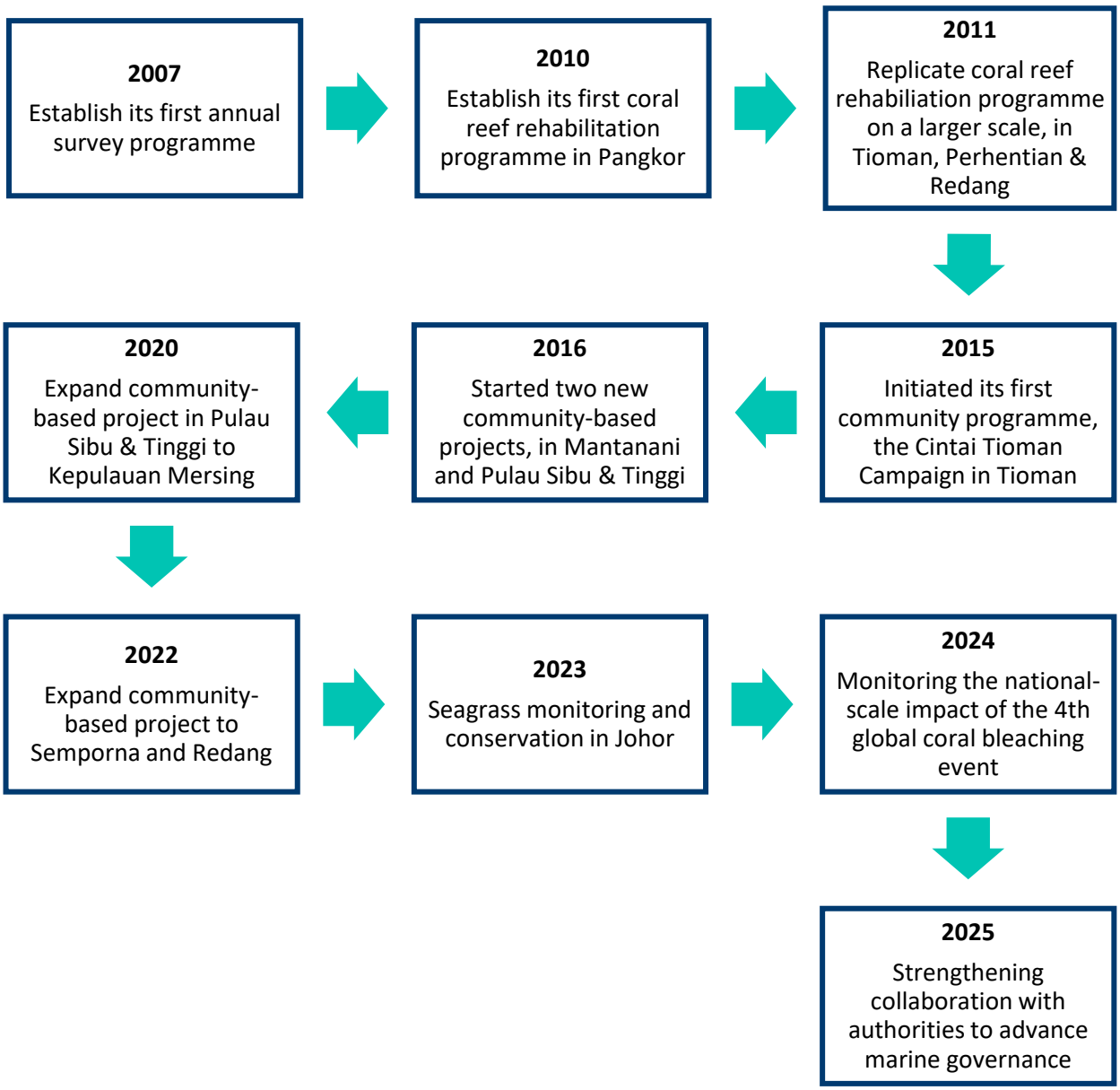
- Unsustainable fishing
- Coastal development
- Land-based and marine pollution
- Tropical storms

In Malaysia, the Department of Fisheries Malaysia, Sabah Parks and Sarawak Forestry are tasked with managing these local threats to their protected reef areas. Meanwhile, Reef Check Malaysia (RCM) works with various stakeholders to conserve coral reefs. Since it was registered in 2007, RCM has established an annual, national coral reef monitoring programme. This report presents the results of coral reef surveys conducted in Malaysia during 2025, the 19th year of surveys.

2. Reef Check

Background

Reef Check Malaysia (RCM) is part of the world-wide Reef Check network. Established in 1997 in the USA, Reef Check now has Coordinators in over 95 countries worldwide. Reef Check was established by a group of scientists who developed a simple, rapid method of surveying coral reefs. It is the name of the organisation and the survey methodology. RCM was registered in Malaysia as a non-profit company in 2007, and since then has established an annual survey programme to assess the health of coral reefs around Malaysia (reports are available for download from the website: www.reefcheck.org.my). Since 2007, RCM has trained over 1000 divers to conduct reef surveys at over 250 permanent monitoring sites on coral reefs off the coast of Peninsular Malaysia and at sites around East Malaysia. RCM is also active in education and awareness programmes. This report is the 19th annual Malaysia coral reef survey report and details the results of Reef Check surveys carried out during 2025. It represents a continuation of the reef monitoring effort started by RCM in 2007. The information shown highlights key concerns and identifies steps that need to be taken to contribute to the conservation of Malaysia's coral reefs.



Survey Sites

A total of 297 sites were surveyed, 140 of which were in Sunda Shelf region, 13 in Malacca Strait region and 144 in North Borneo region. As far as possible, the same sites are visited each year to provide consistent data over time. In Sunda Shelf and Malacca Strait regions, a large percentage of the surveys were conducted by RCM together with Department of Fisheries Malaysia (DoFM), RCM's volunteers and non-profit organisations. In North Borneo region, a large percentage of the surveys were conducted by RCM together with Sabah Parks, RCM's volunteers, non-profit organisations and a few dive operators. This is one of the success stories of getting local stakeholders to be involved in monitoring and management of their own local reefs. The list of sites surveyed is shown in Appendix 1.

Methodology

Reef Check surveys are based on the philosophy of "Indicator Species". These are marine organisms that:

- are widely distributed on coral reefs,
- are easy for non-scientists to identify, and
- provide information about the health of a coral reef.

Using a standardized methodology, data from surveys in different sites can be compared, whether it be on an island, regional, national, or international basis (see www.reefcheck.org for more details).

The Reef Check monitoring methodology allows scientists and managers to track changes to coral reefs over time. By surveying reefs on a regular basis, deleterious changes can be highlighted early, before they become problems. This gives managers the opportunity to intervene, carry out additional more detailed studies and/or initiate management actions to try to reverse the change before permanent damage is done to the reef.

A 100m transect line is deployed and along it four 20m transects are surveyed, each separated by 5m, which provides 4 replicates per transect for statistical analysis (see figure below).

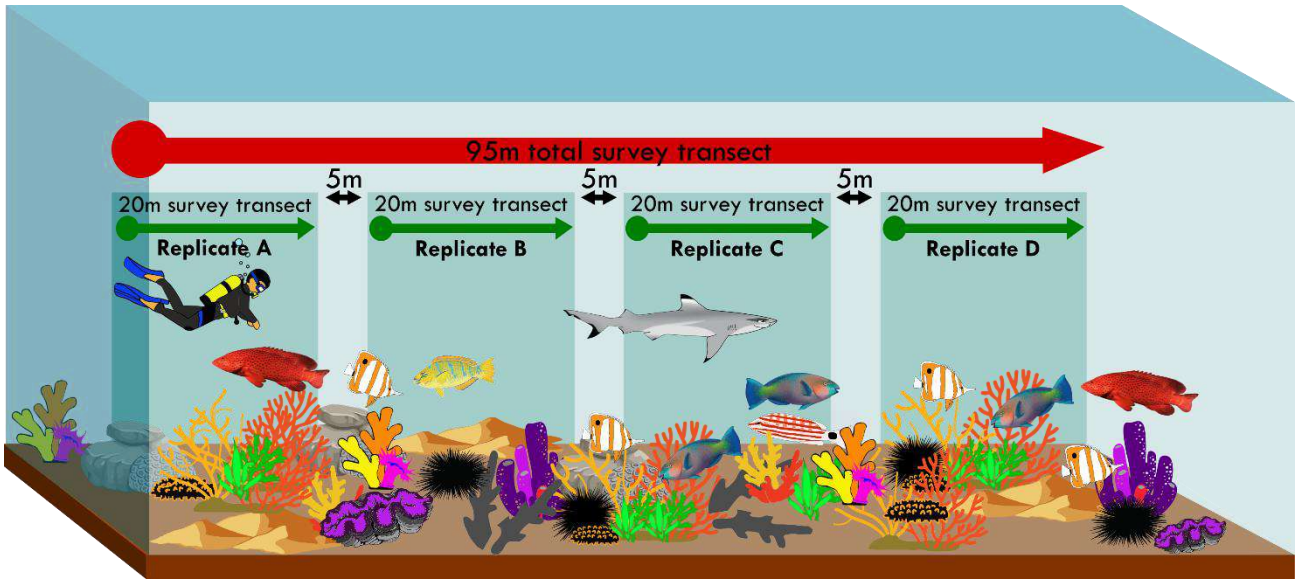


Figure showing the transect – the basic idea of the Reef Check protocol is to swim along a 100m measuring tape (transect) and count organisms in four 20m long transect.

Four types of data are collected:

Fish

Divers count the indicator fish along the four 20m long x 5m wide x 5m high corridors by swimming slowly.

Reef Check indicator fish species were chosen on the basis of targeted demand for:

- Aquarium trade: Butterflyfish (BF)
- Food fish: Sweetlips (SL), Snapper (SN), Barramundi Cod (BC), Parrotfish (PF), Moray Eel (ME), Grouper (GR)
- Live-food fish trade: Humphead Wrasse (HW), Bumphead Parrotfish (BP)

Invertebrate

Divers count the indicator invertebrates along the four 20m x 5m belts.

The invertebrate indicators are targeted for different reasons:

- Collected for Curio trade: Banded Coral Shrimp (BCS), Pencil Urchin (PU), Triton Shell (TR)
- Collected for Food: Collector Urchin (CU), Sea Cucumber (SC), Lobster (LO), Giant Clam (GC)
- Ecological Imbalance/Predator Outbreaks: *Diadema* Urchin (DU), Crown of Thorns (COT)

Substrate

Using Point Intercept method, substrate category is noted at every 0.5m.

The categories are: hard coral (HC), soft coral (SC), sponge (SP), nutrient indicator algae (NIA), recently killed coral (RKC), coral rubble (RB), rock (RC), sand (SD), silt (SI) and other (OT). These are divided into categories that reflect their impact on reef health:

Live Coral Cover: HC + SC
Other: OT
Available Substrate: RC
Sand: SD
Disturbance Indicators: RKC + RB + SI
Pollution Indicators: NIA + SP

Impact

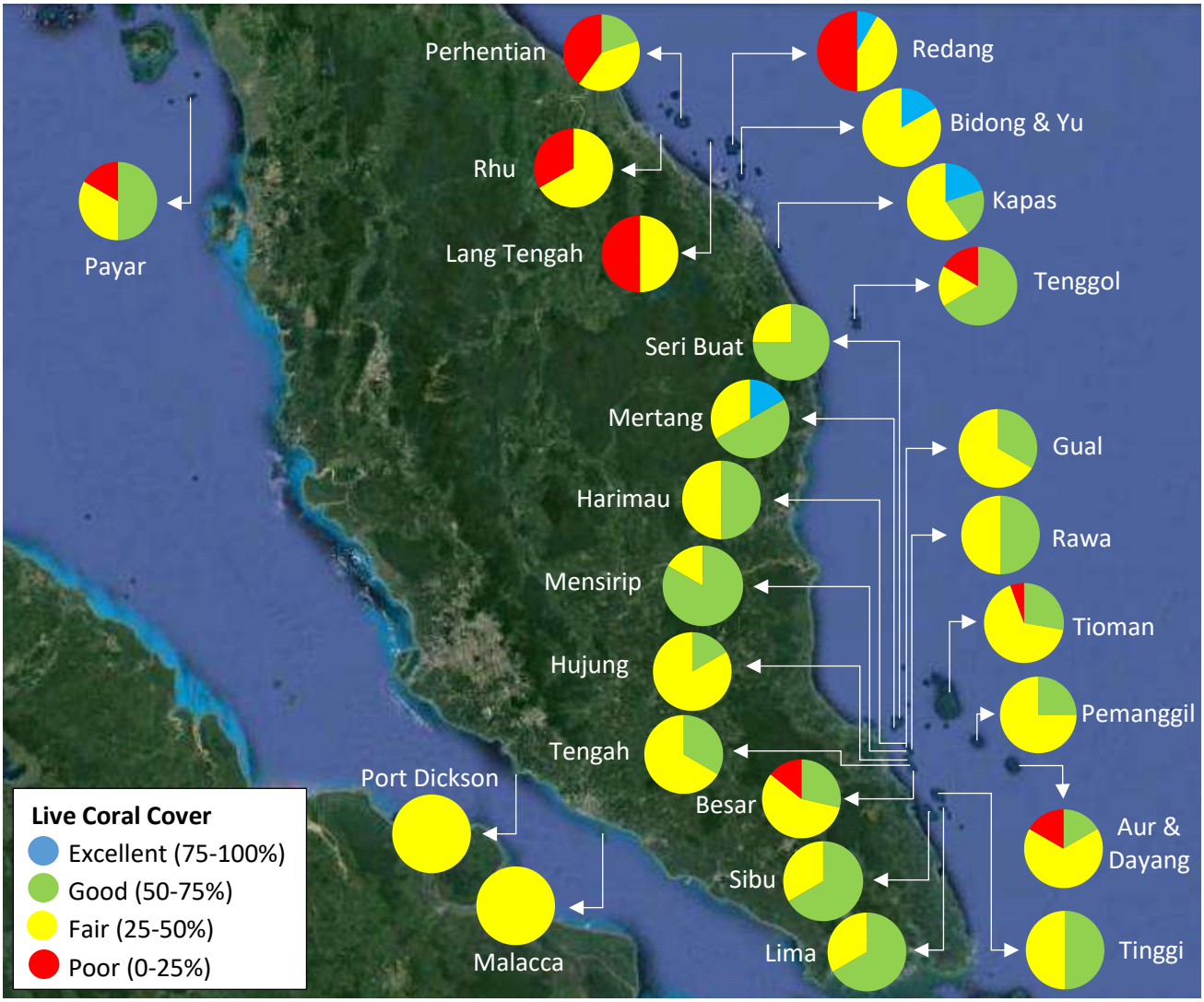
Assess the damage to coral from bleaching, anchoring, destructive fishing, corallivores (such as *Drupella* snail or Crown-of-Thorns starfish), and trash.

3. Survey Results & Analysis

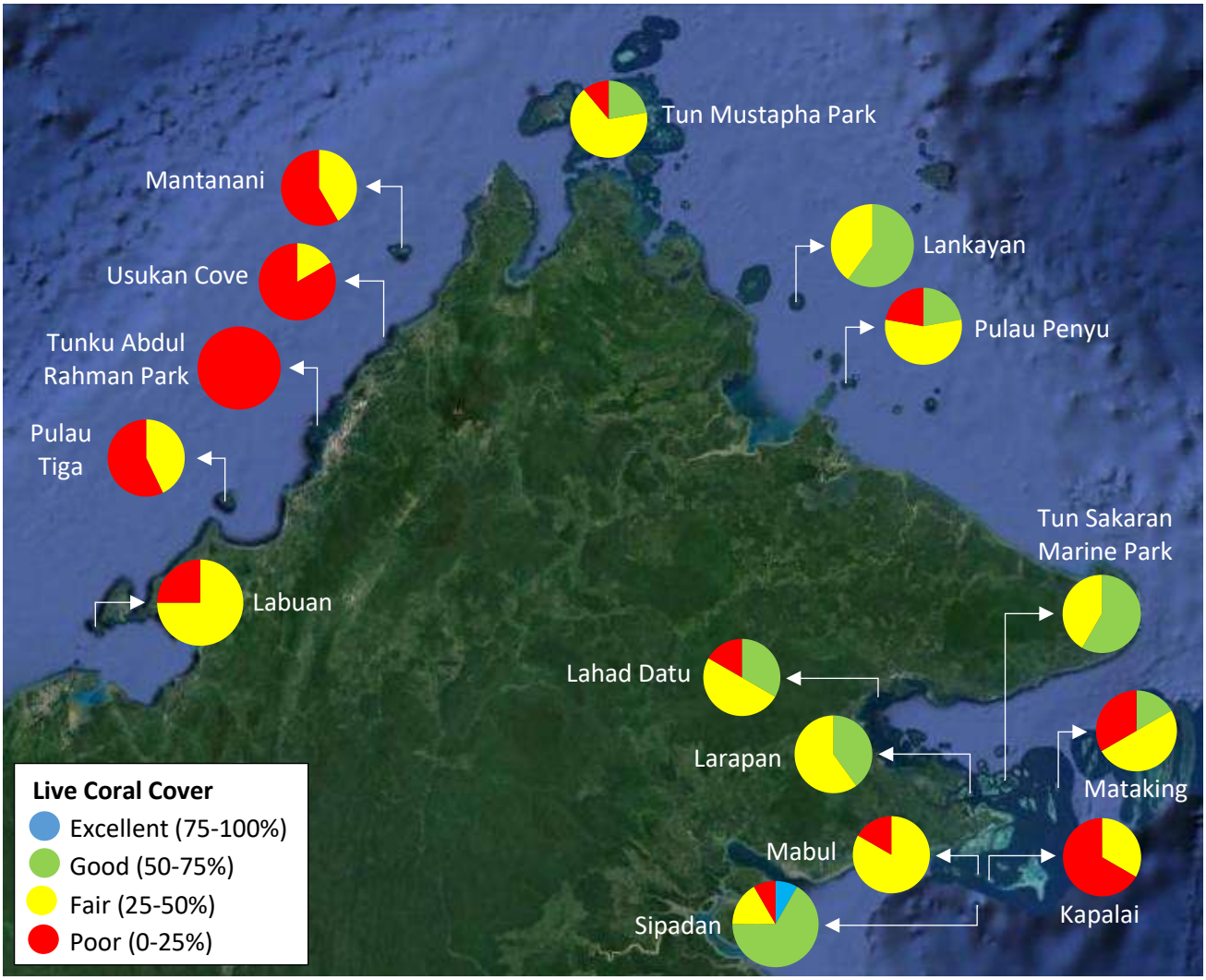
This section presents the results from surveys conducted in 2025, providing an overview of the condition of coral reefs in Malaysia as a whole, and a detailed analysis of the health of reefs in areas surveyed.

Malaysia

The results from all 297 surveys were compiled to provide an overview of the status of coral reefs around Malaysia. Sites surveyed off Peninsular Malaysia are mostly islands which are important tourist destinations while the islands and reefs off Sabah are less frequently visited but face other problems such as destructive fishing practices.

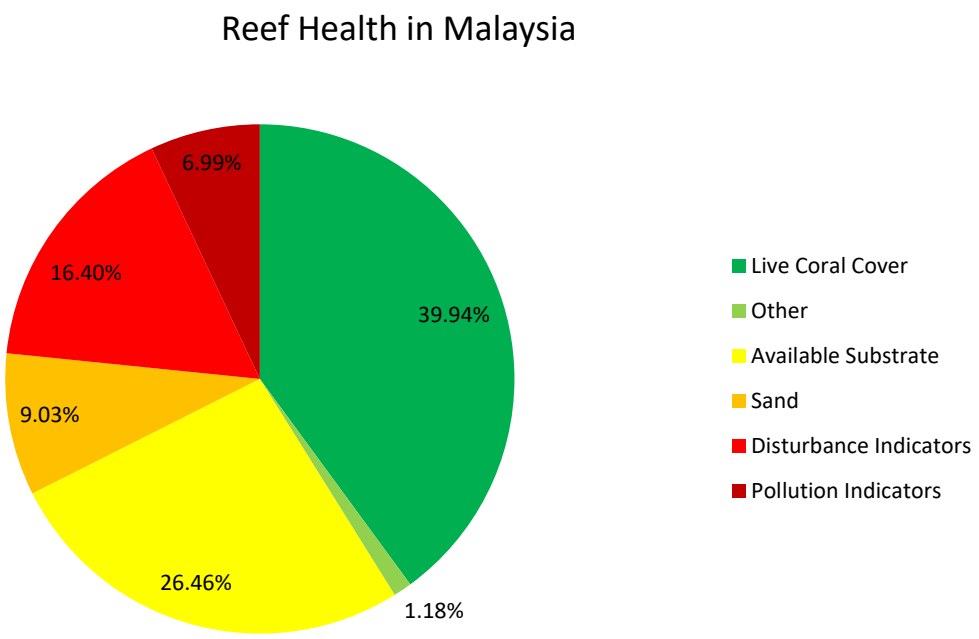


Map showing the reef health composition of each survey location in Peninsular Malaysia based on Live Coral Cover.



Map showing the reef health composition of each survey location in Sabah based on Live Coral Cover.

Coral Cover and Health



- On average, reefs in Malaysia are in 'Fair' condition.
- Mean hard coral (reef builder) cover is 36.56%.
- Available substrate for coral recruits to attach is high.
- Sand level is high.
- Indicators for disturbance are high.

INDICATORS FOR DISTURBANCE

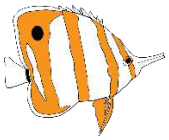
- In all regions.
- Over 40% recorded in Port Dickson and over 30% in Redang, Rhu and Mantanani.
- Over 20% recorded in Malacca, Tioman, Mertang, Mataking, Pulau Tiga, Tunku Abdul Rahman Park, Tun Mustapha Park and Usukan Cove.

INDICATORS FOR POLLUTION

- Mainly in Malacca Strait and Sunda Shelf regions.
- Over 30% recorded in Labuan.
- Over 10% recorded in Malacca, Port Dickson, Lang Tengah, Aur & Dayang, Pulau Besar, Pulau Lima, Pemanggil, Tinggi and Usukan Cove.

Fish Abundance in Malaysia
(Individuals per 500m^3)

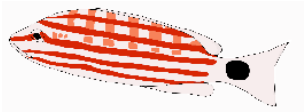
Targeted for aquarium trade



4.99

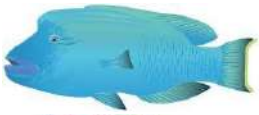
Targeted for food

0.30



4.58

Targeted for live-food fish trade



0.03

3.27

0.07

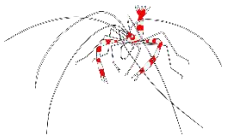
0.03

0.70

- All types of fish are recorded in low abundance.

Invertebrate Abundance in Malaysia
(Individuals per 100m^2)

Collected for curio trade



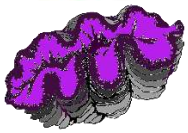
0.03

Collected for food

0.01

2.25

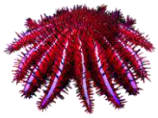
0.02



0.78

Ecological Imbalance/Predator Outbreaks

44.02



0.16

- Banded coral shrimp, invertebrate targeted for curio trade, is recorded.
- All types of invertebrates targeted for food are recorded but the abundance is very low, except for sea cucumber.
- On average, crown-of-thorns are not an issue in Malaysia, but they are a problem in some individual locations.

CROWN-OF-THORNS

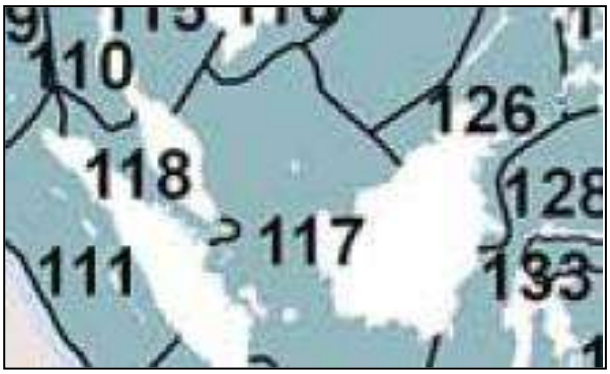
- Tioman, Bidong and Yu and Lahad Datu are facing crown-of-thorns issues.

Eco-regions in Malaysia

The data below provide an overview of the health of coral reefs surveyed in three Eco-regions in Malaysia. An Eco-region is defined as an area of relatively identical species composition, clearly distinct from adjacent regions. The marine eco-regions relevant to Malaysia are based on the "Marine Eco-regions of the World" system (Spalding et al, 2007). They are:

- Sunda Shelf (East coast of Peninsular Malaysia and Sarawak, Eco-region 117)
- Malacca Strait (West coast of Peninsular Malaysia, Eco-region 118)
- North Borneo (Sabah, Eco-region 126)

Focusing management efforts at an eco-region level can provide benefits as reefs in each region are similar; therefore, the results of this report have been delineated into these three eco-regions. The results highlight the different problems each island/area is facing. Islands/regions covered in each eco-region are shown in table below.



Eco-regions of Malaysia; 117 = Sunda Shelf, 118 = Malacca Strait and 126 = North Borneo

Site Coverage by Ecoregion

Eco-region	State	Islands/Areas	No. of sites	Protection Status	LCC (%)	Average (%)
Sunda Shelf	Pahang	Seri Buat	4	Marine Park	54.22	43.73
	Pahang	Tioman	18	Marine Park	42.99	
	Terengganu	Bidong & Yu	6	Marine Park (Yu only)	48.02	
	Terengganu	Kapas	5	Marine Park	52.63	
	Terengganu	Lang Tengah	4	Marine Park	26.72	
	Terengganu	Perhentian	10	Marine Park	32.44	
	Terengganu	Redang	12	Marine Park	25.89	
	Terengganu	Rhu	3	No protection	27.92	
	Terengganu	Tenggol	6	Marine Park	54.17	
	Johor	Aur & Dayang	6	Marine Park	35.42	
	Johor	Besar	7	Marine Park	43.04	
	Johor	Gual	6	Marine Park	45.31	
	Johor	Harimau	6	Marine Park	48.96	
	Johor	Hujung	6	Marine Park	41.77	
	Johor	Lima	3	Marine Park	51.88	
	Johor	Mensirip	6	Marine Park	54.17	
	Johor	Mertang	6	Marine Park	58.33	
	Johor	Pemanggil	4	Marine Park	43.75	
	Johor	Rawa	6	Marine Park	48.85	
	Johor	Sibu	6	Marine Park	52.81	
	Johor	Tengah	6	Marine Park	45.73	
	Johor	Tinggi	4	Marine Park	52.50	

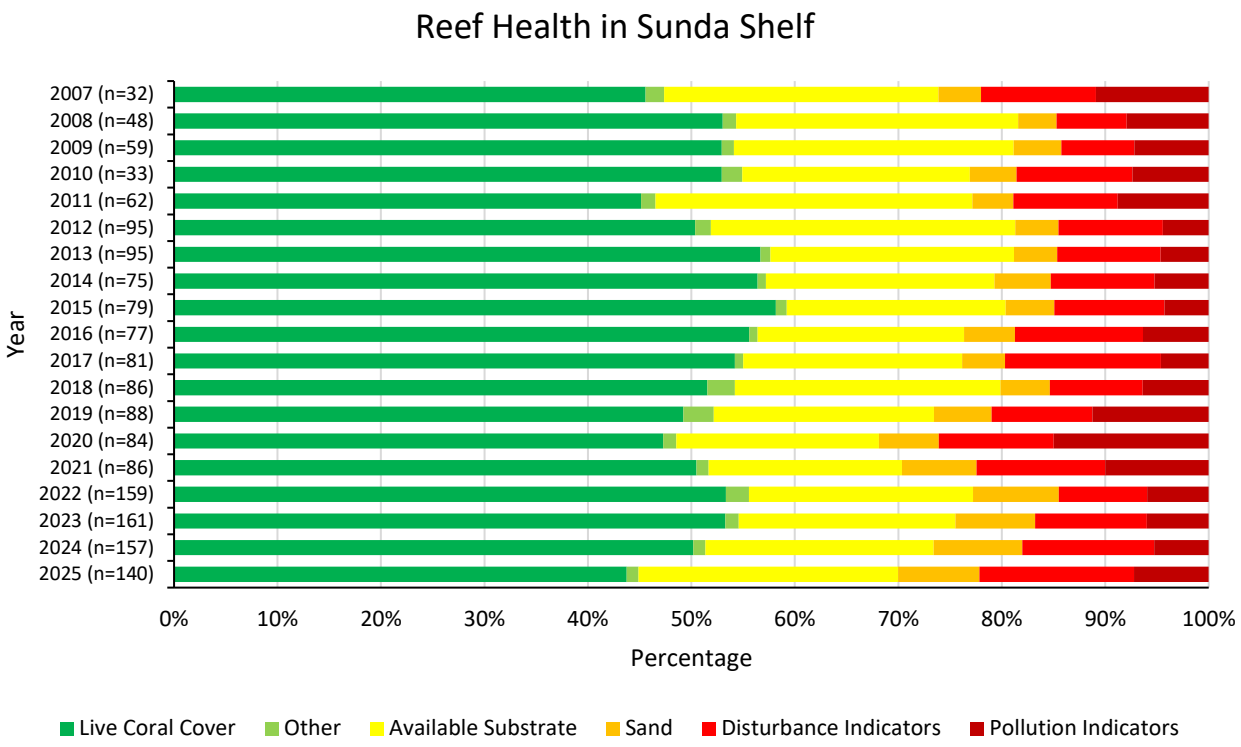
Coral Reef Health: **Blue** – excellent; **green** – good, **yellow** – fair, **red** - poor

Eco-region	State	Islands/Areas	No. of sites	Protection Status	LCC (%)	Average (%)
Malacca Strait	Kedah	Payar	6	Marine Park	42.29	37.26
	Malacca	Malacca	5	Marine Park	32.13	
	Ng. Sembilan	Port Dickson	2	Fisheries Prohibited Area	35.00	
North Borneo	Sabah	Kapalai	6	No protection	14.69	36.49
	Sabah	Labuan	4	Marine Park	24.22	
	Sabah	Lahad Datu	18	No protection	41.42	
	Sabah	Lankayan	15	SIMCA	51.04	
	Sabah	Larapan	5	No protection	50.88	
	Sabah	Mabul	6	No protection	26.56	
	Sabah	Mantanani	12	No protection	22.55	
	Sabah	Mataking	6	No protection	28.75	
	Sabah	Pulau Penyu	9	Sabah Parks	37.78	
	Sabah	Pulau Tiga	7	Sabah Parks	21.52	
	Sabah	Sipadan	12	Sabah Parks	55.21	
	Sabah	TARP	8	Sabah Parks	13.13	
	Sabah	TMP	18	Sabah Parks	40.35	
	Sabah	TSMP	12	Sabah Parks	51.77	
	Sabah	Usukan Cove	6	No protection	15.94	

Coral Reef Health: **Blue** – excellent; **green** – good, **yellow** – fair, **red** - poor

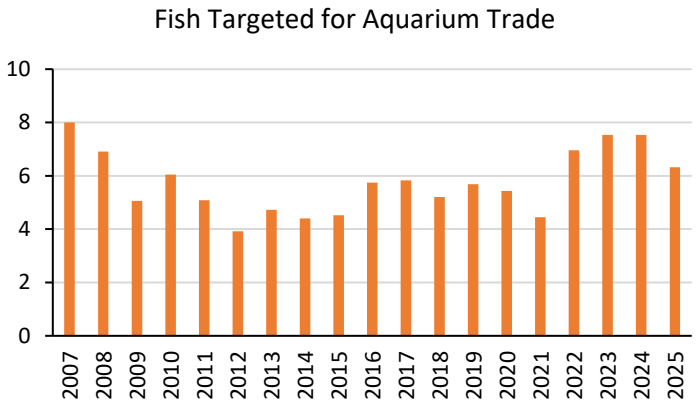
Sunda Shelf

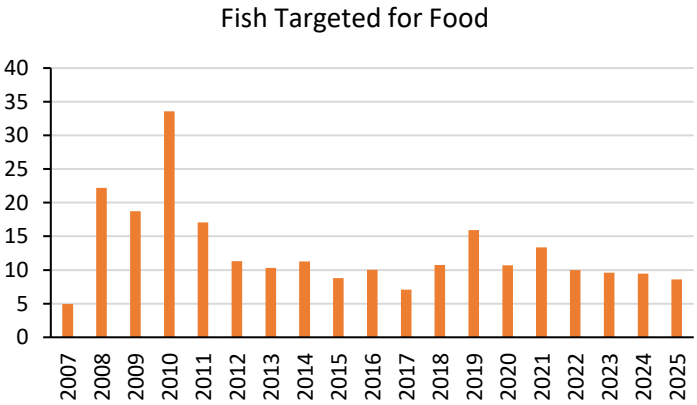
Coral Cover and Health

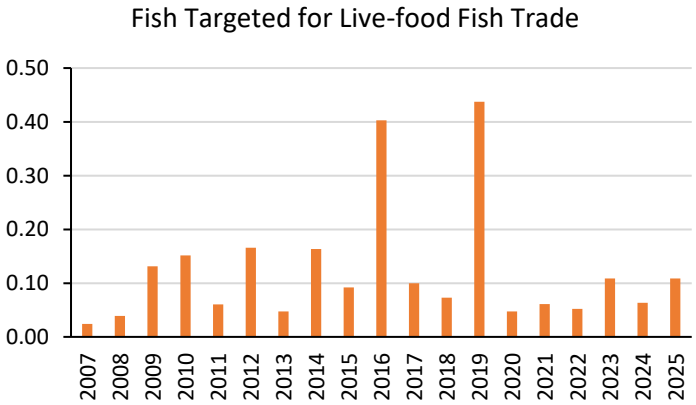


- The deterioration of Sunda Shelf reefs in 2011 was probably due to 2010 Mass Coral Bleaching Event. From 2012 onwards, the reefs showed improvement.
- From 2016 to 2020, the reefs deteriorated due to raised level of nutrient in the waters. In 2019, the Tropical Storm Pabuk contributed to the deterioration, particularly reefs in Bidong & Yu, Perhentian, Redang and Tenggol.
- In 2021, reefs health showed improvement. The improvement was mainly attributed to recovery of Terengganu reefs. In 2022, reefs health continued to improve. One reason for this could be the restrictions on tourism during the Covid-19 pandemic, pointing to a possible management measure that would see reef areas closed temporarily to allow them to recover.
- In 2023, reefs health deteriorated. The deterioration was likely due to physical damage caused by human activities and/or storm. Another reason for this could be resumption of tourism.
- In 2024, the 4th Global Coral Bleaching Event further deteriorated the reefs.
- The deterioration in 2025 is due to a combination of several factors – impacts from the 4th Global Coral Bleaching Event, storm damage during 2024-2025 monsoon, increase in tourist arrivals, crown-of-thorns predation and elimination of some survey sites.
- Available substrate for coral recruits to attach to is very high, indicating possible chance of reef recovery if human impacts are dealt with.

Fish

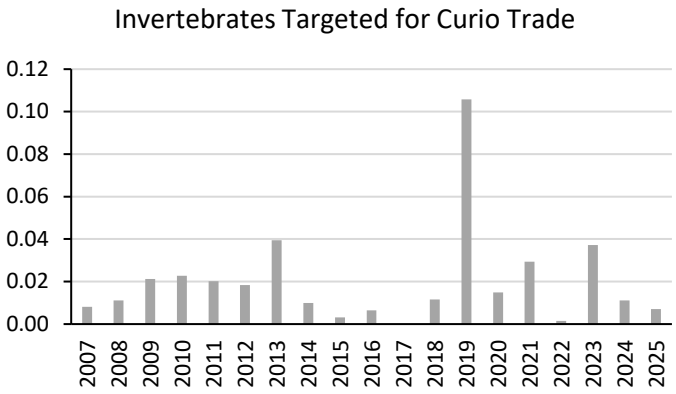


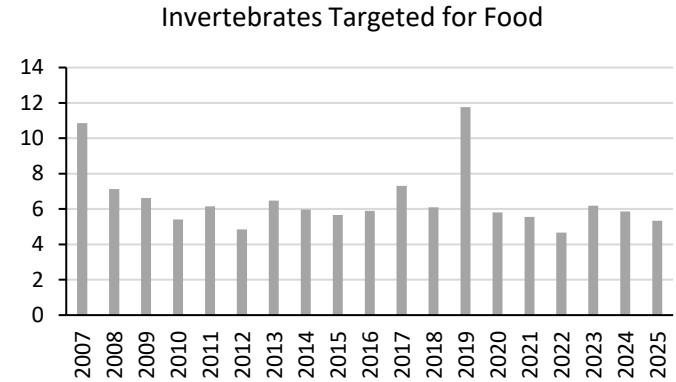


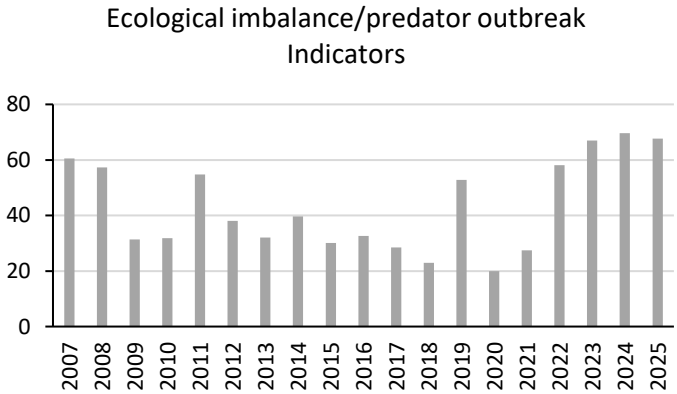


- The abundance of fish targeted for aquarium trade and food does not change much. The high abundance fish targeted for food from 2008 to 2011 was contributed by snappers.
- Very low abundance of fish targeted for life-food fish trade, with spikes in 2016 and 2019 which were attributed to non-resident bumphead parrotfish communities.

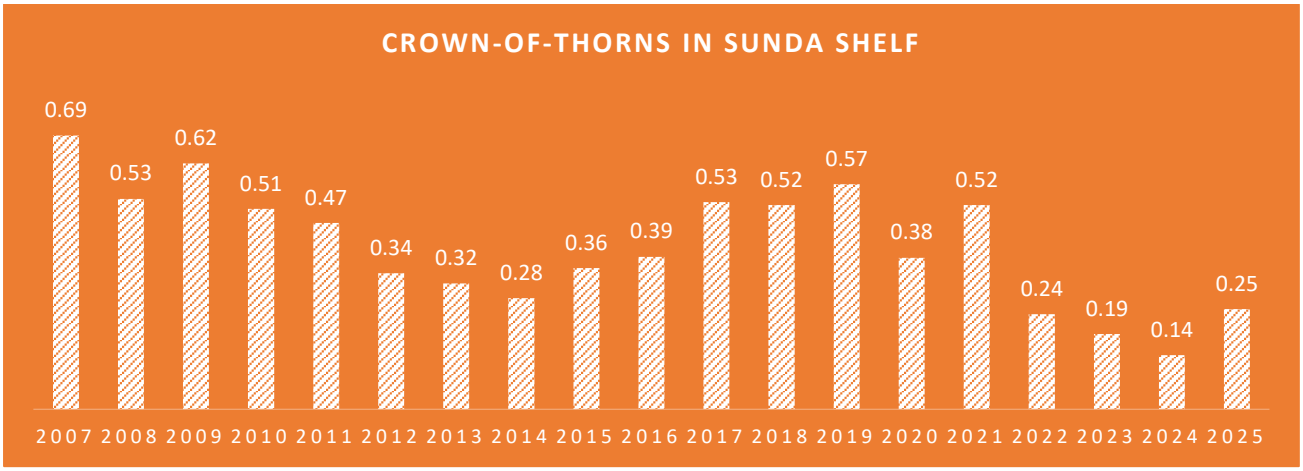
Invertebrate







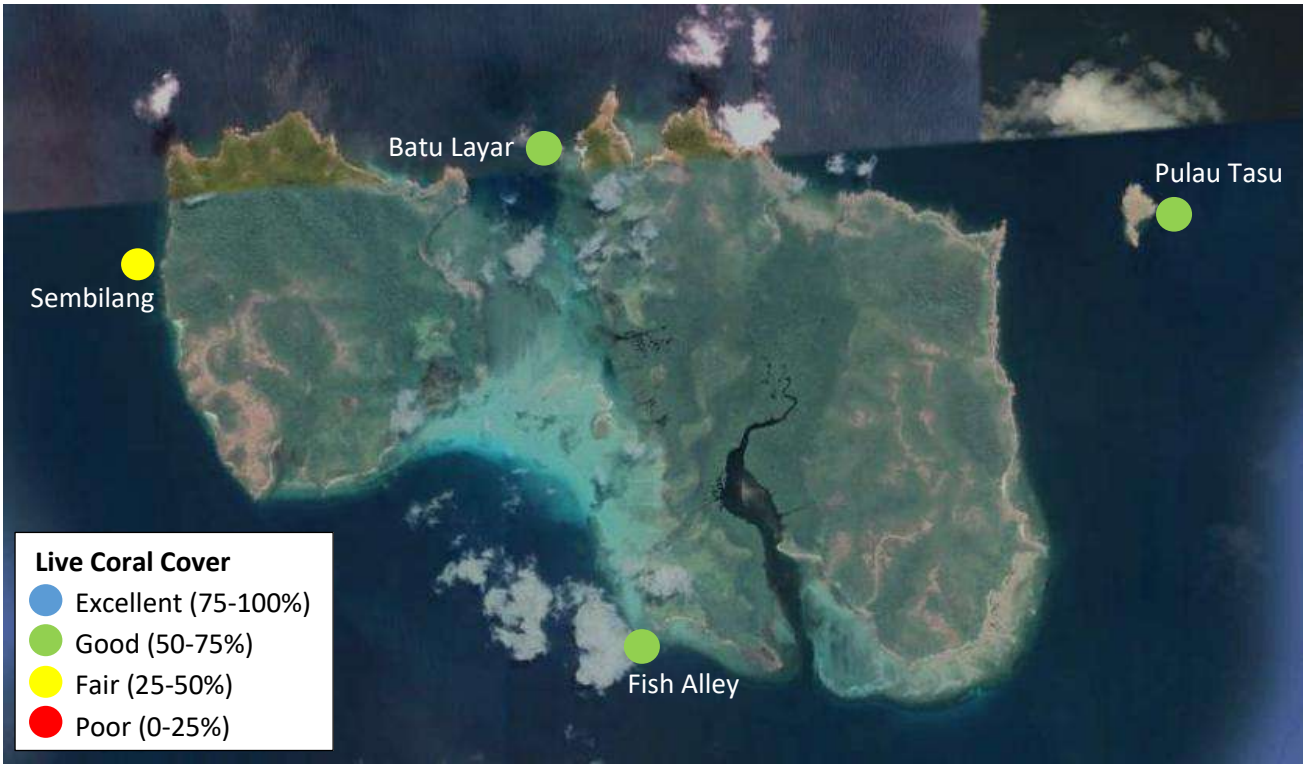
- Very low abundance of invertebrates targeted for curio trade.
- Abundance of indicators targeted for food have remained similar over the years.
- Indicators for ecological imbalance/ predator outbreaks have been increasing since 2021.
- Since 2022, the abundance of crown-of-thorns has reduced and is within what a healthy reef can support (0.2-0.3 individual per 100m^2).



Pahang – Seri Buat

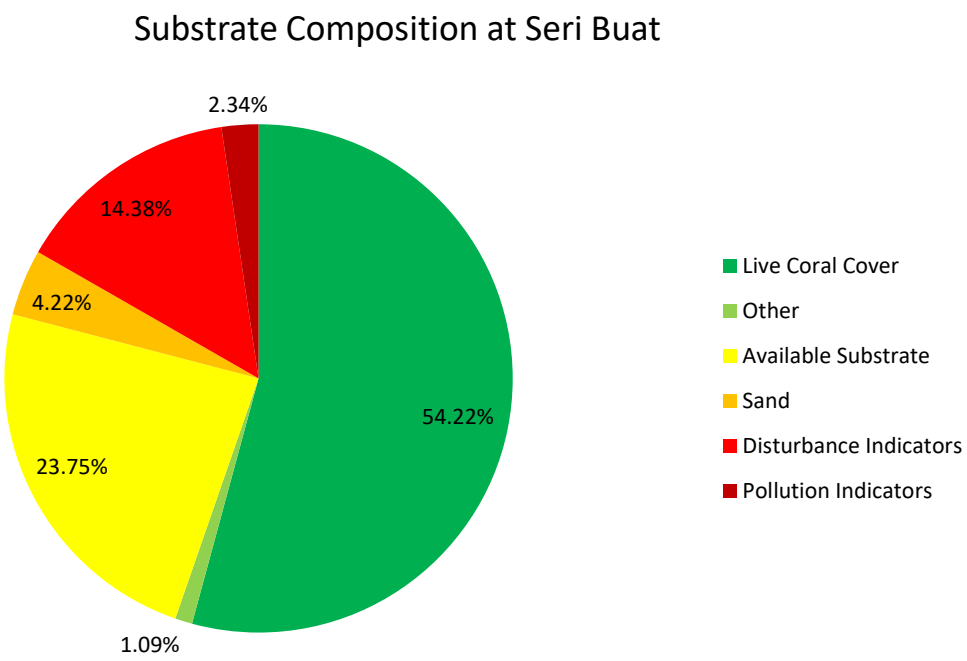
Seri Buat Island is located off the East coast of Pahang, Malaysia. It is part of a group of nine islands that form the Tioman Island Marine Park. The island archipelago and its surrounding waters are gazetted as Marine Park under the Fisheries Act 1985.

Seri Buat Island is uninhabited, the nearest accommodation is on Tioman Island. The reefs around the island are idyllic for snorkelling and diving. Apart from water activities, tourists can hike the peak of the island. However, the island is not popular among tourists.



Map showing the health categories of each survey site based on Live Coral Cover: 3 sites have 'Good' coral cover and 1 is in 'Fair' condition.

Coral Cover and Health



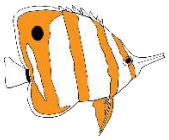
- Seri Buat reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 51.56%.
- In 'Good' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Disturbance indicators are high.
- Rubble level is especially high at Batu Layar (18.75%) and Sembilang (23.13%).

CORAL IMPACTS

- Boat anchor damage, discarded fishing nets and trash are recorded at many sites.
- Drupella predation is recorded.

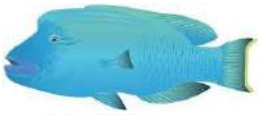
Fish Abundance at Seri Buat
(Individuals per 500m^3)

Targeted for aquarium trade



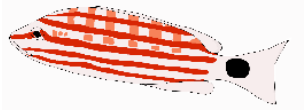
13.69

Targeted for live-food fish trade



Targeted for food

0.06



0.81

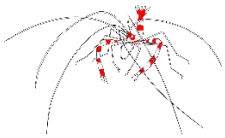
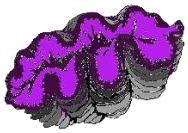
1.69

0.06

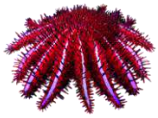
0.88

- Butterflyfish, indicator for aquarium trade, abundance is very high.
- Fish targeted for live-food fish trade are absent.
- For fish targeted for food, only barramundi cod is absent. The abundance of fish targeted for food are low.

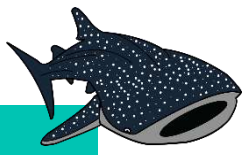
Invertebrate Abundance at Seri Buat
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	X		X
	X		0.31
	X		0.06
			0.56

Ecological Imbalance/Predator Outbreaks

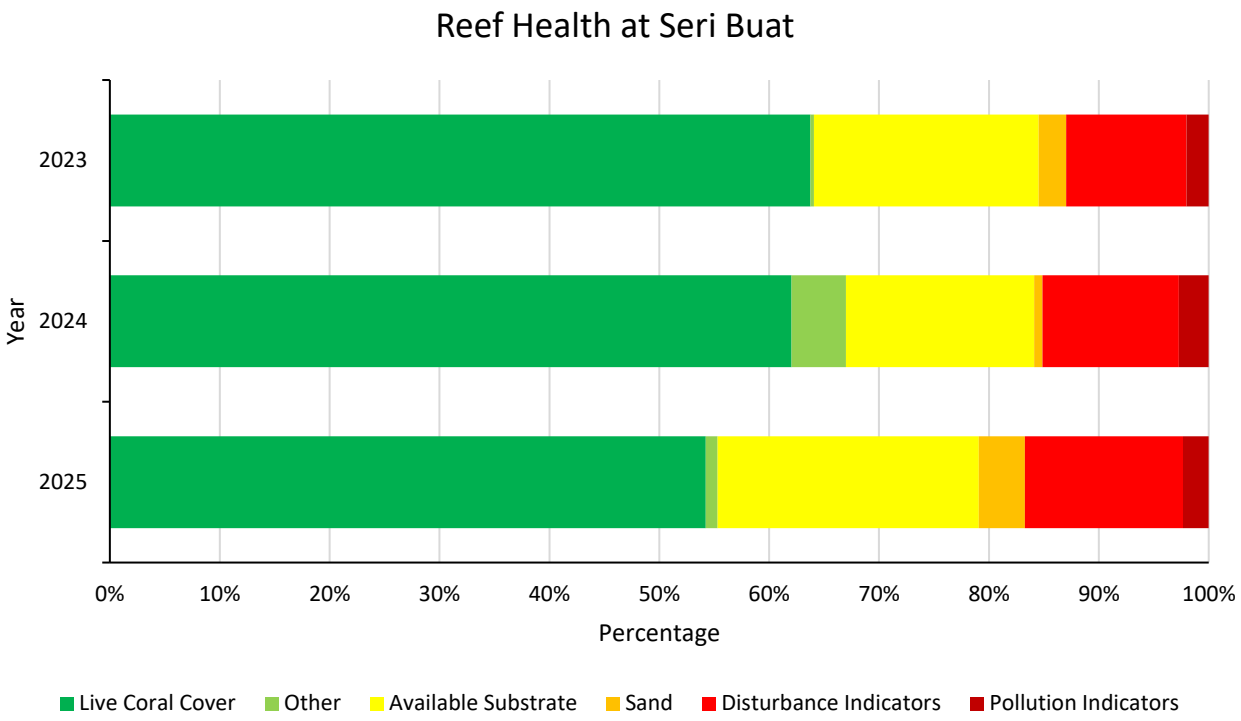
	36.50
	X

- Indicators for curio trade are absent
- Invertebrates targeted for food are very low in abundance.



RARE ANIMALS

- Shark is recorded.



- Seri Buat reefs have deteriorated.
- The deterioration was due to physical damage caused by human activities and/or storm.
- Available substrate for coral recruits to attach to is very high, indicating possible chance of reef recovery if human impacts are dealt with.

Pahang – Tioman

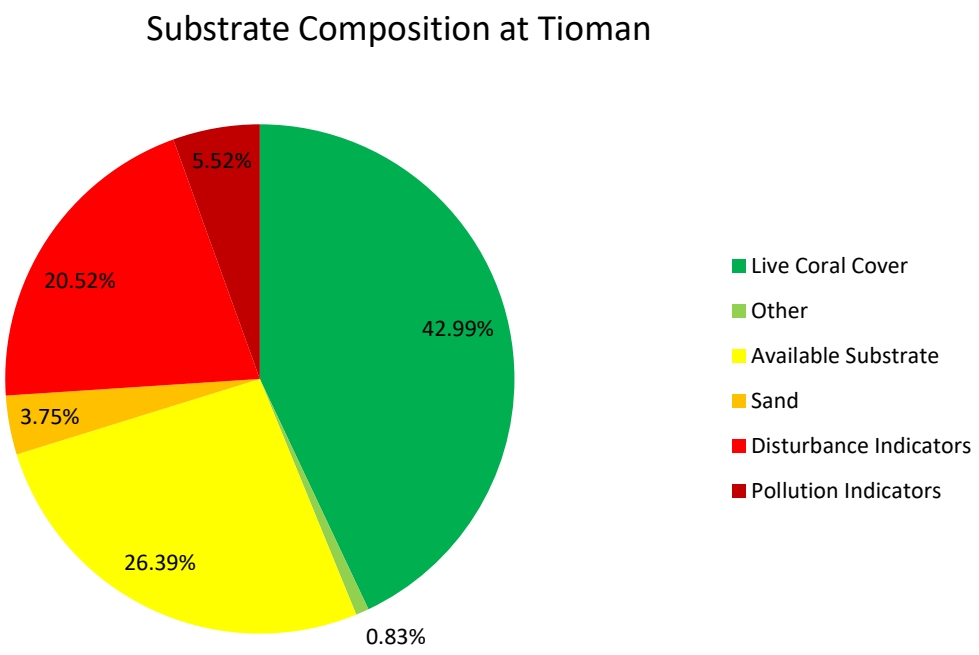
Tioman Island is located some 50km from Mersing, off the East coast of Pahang. It is the largest island off the East coast of Peninsular Malaysia. The island has seven villages, with a total population of approximately 3,700 most of whom work in the tourism industry, the main industry on the island. The island has been gazetted as a Marine Park since 1994. Reefs are mainly fringing offshore reefs with some submerged reefs.

Diving and snorkelling are the main tourist activities. The island has long been a popular tourist destination, though at one point it was eclipsed by other destinations (particularly Redang and Perhentian). However, in recent years, tourism on Tioman Island has picked up again and now there are over 100 resorts and 40 dive operators on the island.

There is a small power generation station on the island, supplying electricity to all areas. Freshwater on the island depends mainly on several river systems coming from the hilly forested areas. A municipal incinerator was constructed some years ago. The island is served by an airport as well as ferry services from the mainland.

Map showing the health categories of each survey site based on Live Coral Cover: 5 sites have 'Good' coral cover, 12 are in 'Fair' condition and 1 shows 'Poor' health.

Coral Cover and Health



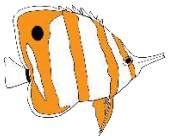
- Tioman reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 39.27%.
- In 'Fair' condition and below the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Disturbance indicators are very high.
- Rubble level is especially high at Batu Nipah (57.50%), Soyak North (49.38%) and Soyak South (34.38%). The level ranges from 10% to 27% at many sites.
- Pollution indicators are not high in Tioman in general, but the level of nutrient indicator algae is very high at Nayak (21.25%) and Teluk Kador (10%), and the level of sponge is very high at Renggis (15.63%).

CORAL IMPACTS

- Boat anchor damage, discarded fishing nets and trash are recorded.
- Crown-of-thorns predation, warm water bleaching and storm damage during 2024-2025 monsoon are recorded at many sites.

Fish Abundance at Tioman
(Individuals per 500m^3)

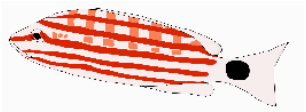
Targeted for aquarium trade



4.33

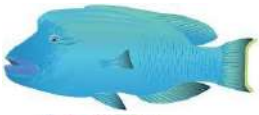
Targeted for food

0.03



3.92

Targeted for live-food fish trade



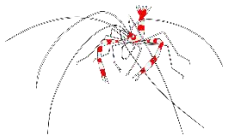
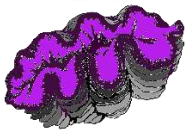
2.24

0.04

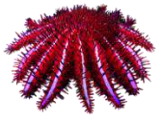
0.75

- Butterflyfish, indicator for aquarium trade, is recorded.
- Absent of fish targeted for live-food fish trade.
- For fish targeted for food, only barramundi cod is absent. The abundance of fish targeted for food are low.

Invertebrate Abundance at Tioman
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	✗		✗
	✗		5.26
	✗		0.03
			0.68

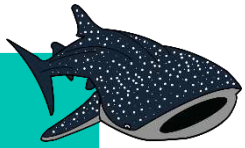
Ecological Imbalance/Predator Outbreaks

	70.32
	1.68

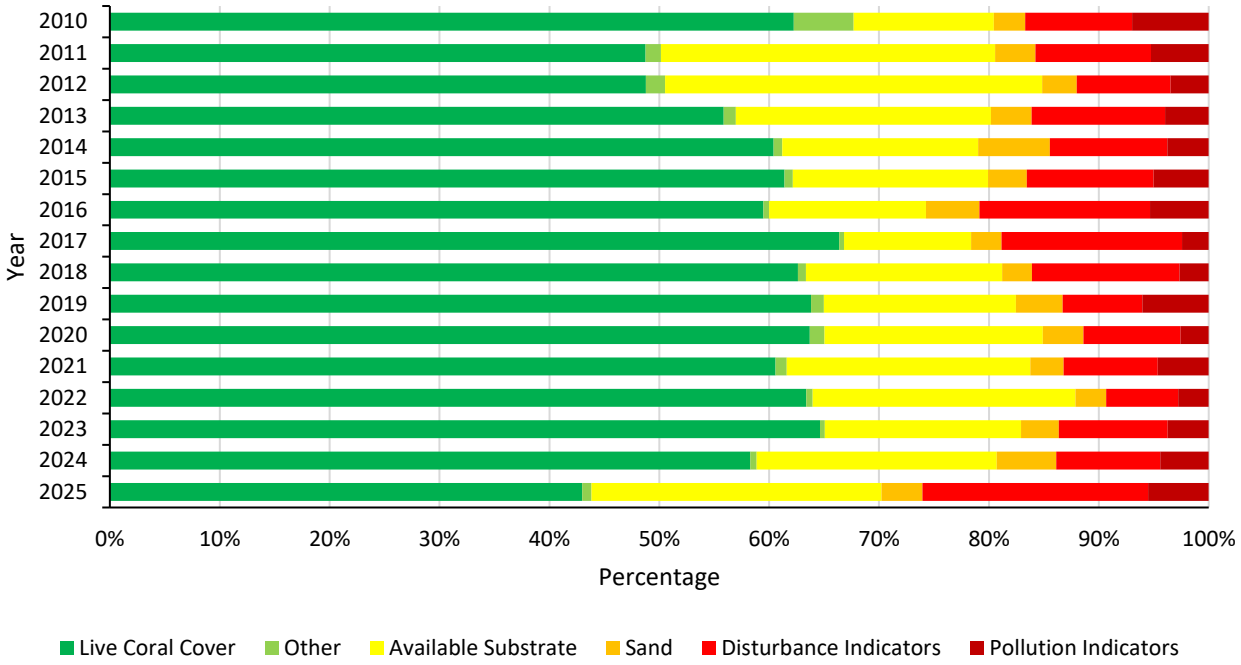
- Absent of invertebrates collected for curio trade.
- Crown-of-thorns is an issue in Tioman. A healthy coral reef can support a population of 0.2-0.3 individuals per 100m^2, Tioman recorded 1.68.
- Invertebrates targeted for food are low in abundance, except for sea cucumber.
- Sea cucumber abundance in Tioman is high.

RARE ANIMALS

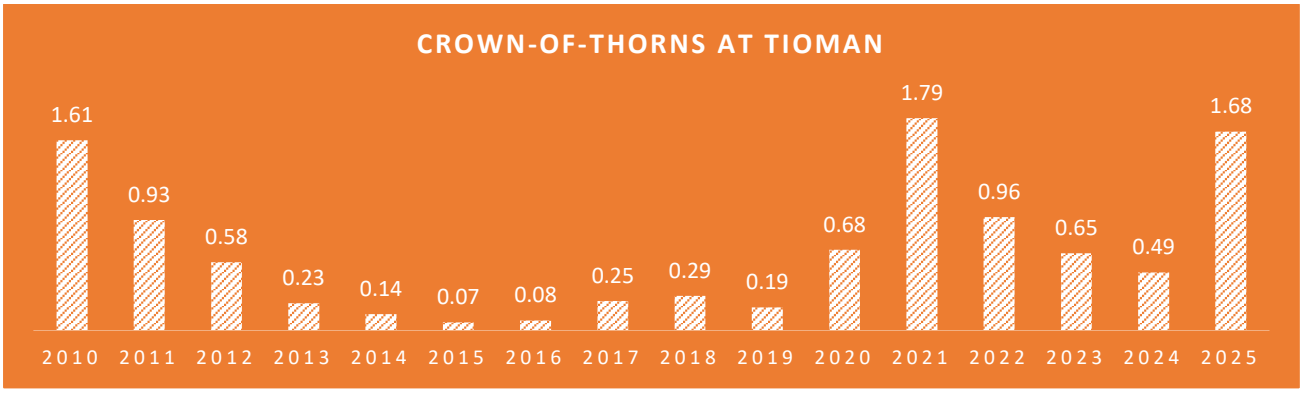
- Sharks and turtles are recorded at few sites.



Reef Health at Tioman



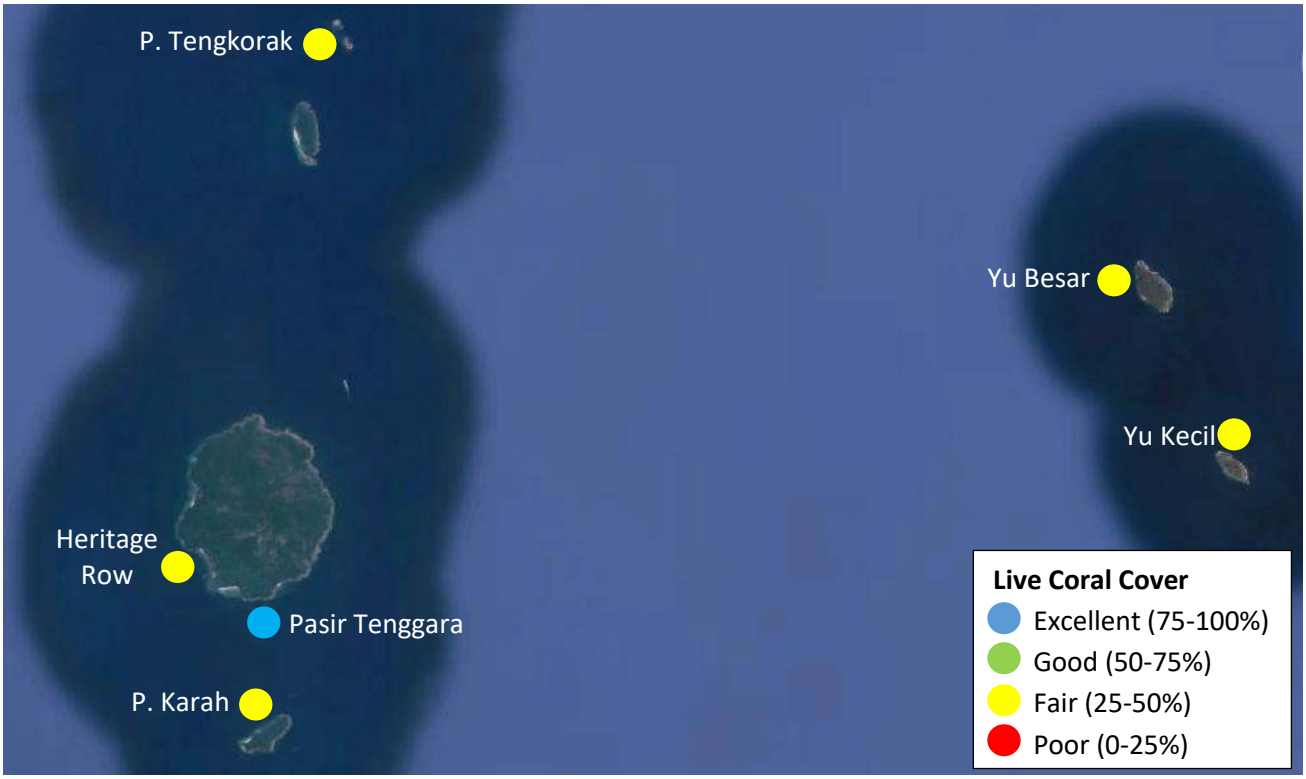
- Tioman reefs have deteriorate from good to fair condition.
- In 2024, the deterioration was due to raised level of nutrient in the waters and the 4th Global Coral Bleaching Event.
- In 2025, the deterioration is due to impacts from the 4th Global Coral Bleaching Event, storm damage during 2024-2025 monsoon and crown-of-thorns predation.
- Starting in 2020, the population of crown-of-thorns is above what a healthy reef can support (0.2-0.3 individual per 100m^2). The high abundance is a cause for concern and existing efforts by reef managers to control the population need to be heightened.



Terengganu – Bidong & Yu

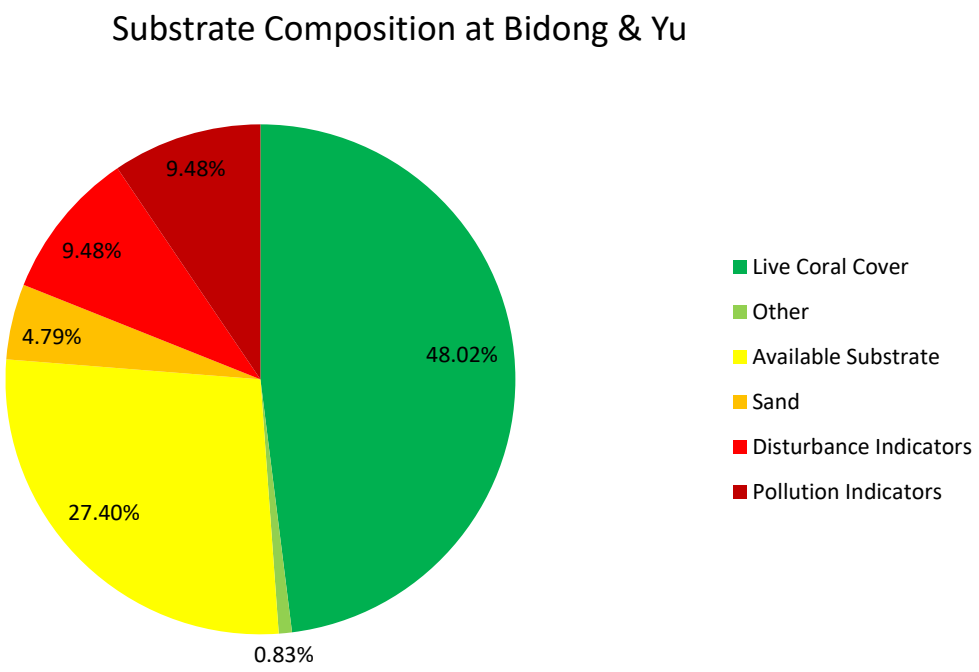
The Bidong and Yu archipelago comprises several small islands, located 15-25km from Marang, off the East coast of Terengganu, Malaysia. The islands are unpopulated, though from 1978 to 1991 Bidong was a centre for Vietnamese refugees. Yu islands are gazetted as a Marine Park under the Fisheries Act 1985 and Bidong is in the process of being gazetted as State Park.

Bidong has mainly been used as a research base for University Malaysia Terengganu but has recently grown in popularity as a diving destination. Bidong has some sandy beaches and fringing reefs while Pulau Yu Besar and Kecil are mainly small rocky islands, with boulder slopes dropping to 25-30m, with some coral reef areas.



Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Excellent' coral cover and 5 are in 'Fair' condition.

Coral Cover and Health



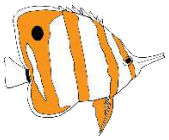
- Bidong and Yu reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 35.10%.
- In 'Fair' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Disturbance indicators are quite high.
- Rubble level is high at many sites, ranging from 8% to 15%.
- Pollution indicators are quite high.
- Nutrient indicator algae level is especially high at Pulau Karah which recorded 19.38%.
- Although the site Pasir Tenggara has 'Excellent' coral cover, the live coral cover is solely attributed by soft coral (zoanthid). Hard coral cover is 0%. Zoanthid had colonised the reef. While the category appears "healthy," the reef had shifted to a less stable state.

CORAL IMPACTS

- Discarded fishing nets are recorded at one site.
- Trash is recorded at many sites.

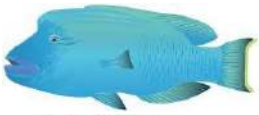
Fish Abundance at Bidong & Yu
(Individuals per 500m^3)

Targeted for aquarium trade



3.04

Targeted for live-food fish trade

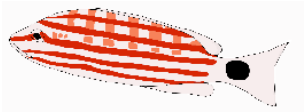


✗

0.42

Targeted for food

0.08



35.92

✗

3.63

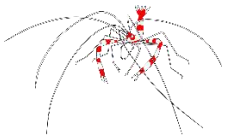
0.17

2.13

- Butterflyfish, indicator for aquarium trade, is recorded.
- Bumphead parrotfish, fish targeted for live-food fish trade, is recorded.
- The abundance of fish targeted for food is good.
- Snapper abundance in Bidong & Yu is high.

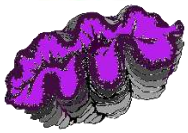
Invertebrate Abundance at Bidong & Yu
(Individuals per 100m^2)

Collected for curio trade



Collected for food

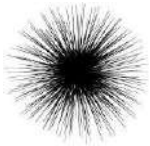
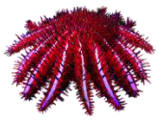


2.13

1.00

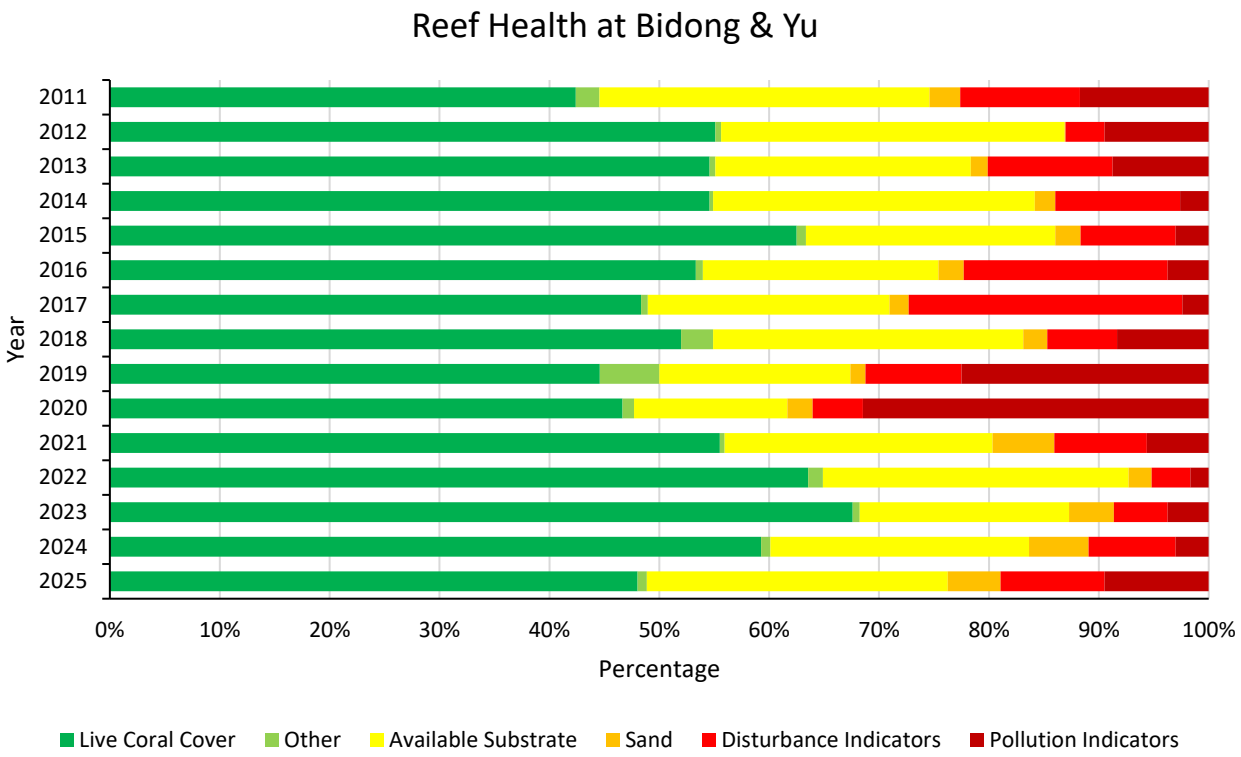
Ecological Imbalance/Predator Outbreaks

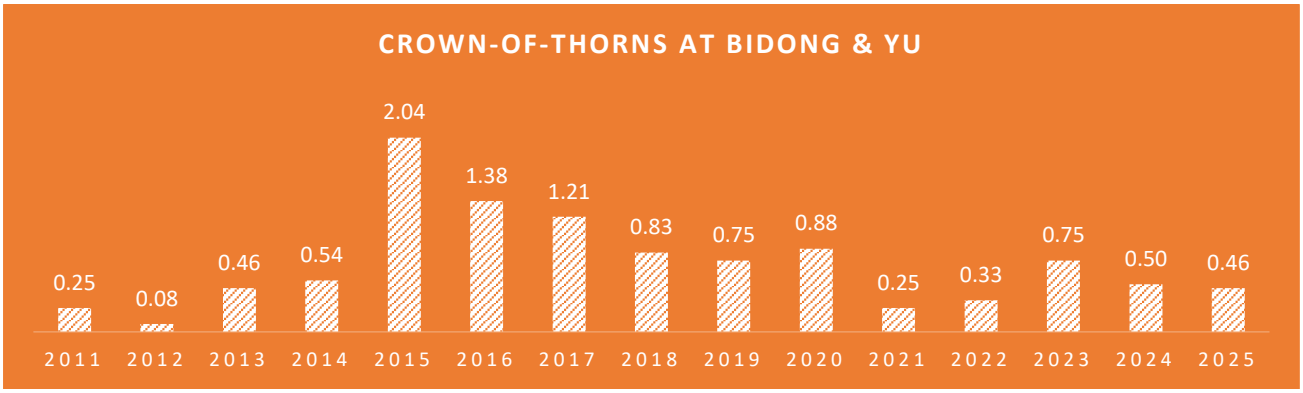
2.50

0.46

- Indicators for curio trade are absent.
- Crown-of-thorns is an issue in Bidong and Yu. A healthy coral reef can support a population of 0.2-0.3 individuals per 100m^2, Bidong and Yu recorded 0.46.
- Invertebrates targeted for food are low in abundance.



- From 2015 to 2019, the declining reefs health in Bidong & Yu were due to physical damage caused by human activities and/or storm.
- The deterioration in 2019 was due to Tropical Storm Pabuk which struck Bidong and Yu in January that year, causing major physical damage to shallow reefs and sharp increase in pollution indicators in 2019 and 2020. Storm brings high rainfall and watershed runoff which increase external nutrient loads. It also causes sediment resuspension contributing to increase internal nutrient loads.
- Disturbance indicators had reduced significantly since 2018 and pollution indicators since 2021. Reduced disturbance and pollution indicators allow Bidong and Yu reefs to recover.
- In 2024, the reefs had deteriorated. The deterioration was due to physical damage caused by human activities and/or storm and the 4th Global Coral Bleaching Event.
- In 2025, raised level of nutrient in the waters further deteriorated the reefs.
- The abundance of crown-of-thorns is still above what a healthy reef can sustain (0.2-0.3 individual per 100m^2). Existing efforts by reef managers to control the population need to be heightened.

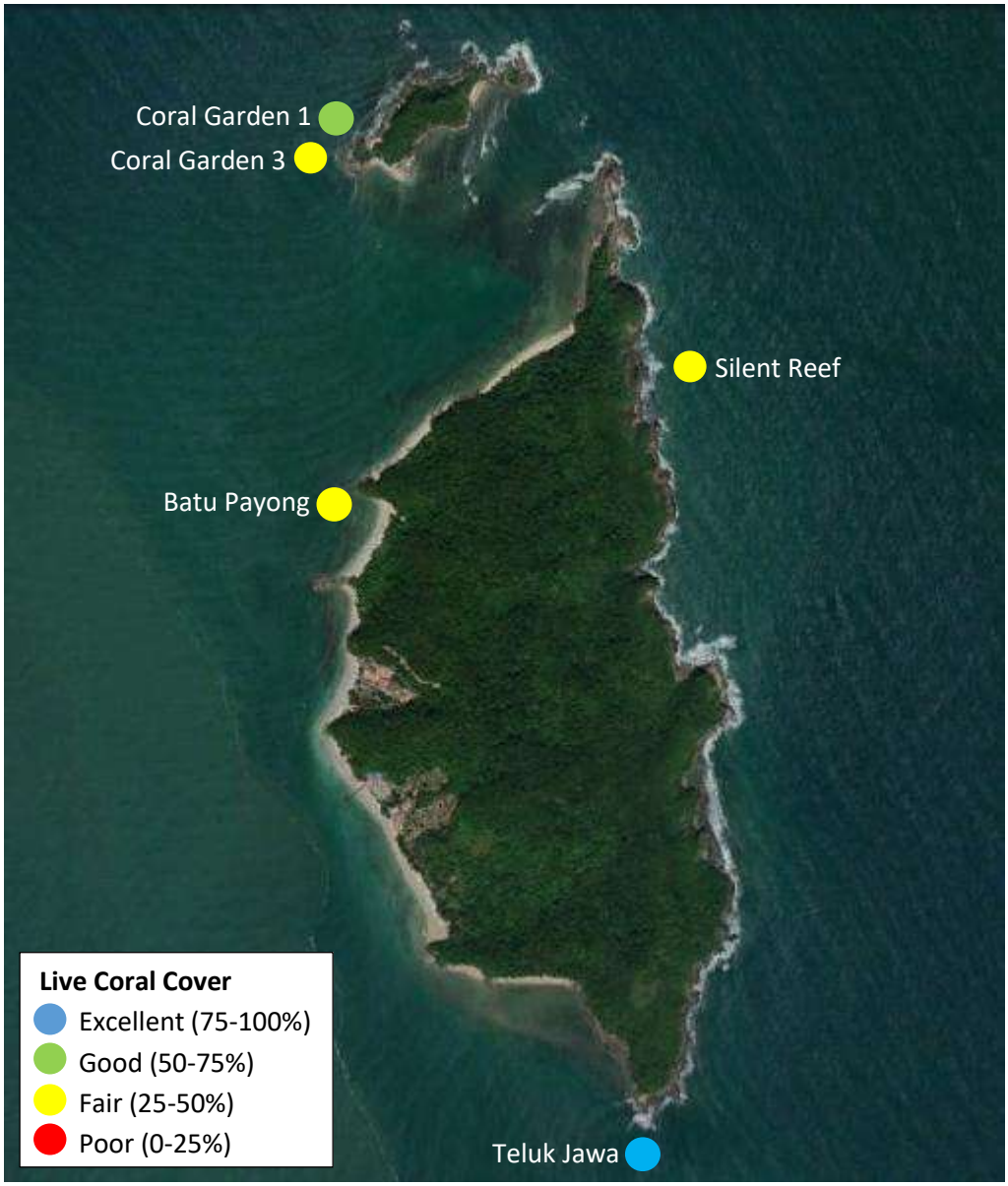


Terengganu – Kapas

Kapas is a small island located just 6km from Marang, off the East coast of Terengganu, Malaysia. There is no resident local population, but several resorts provide accommodation for tourists. The island is gazetted as a Marine Park since 1994 under the Fisheries Act 1985 (Amended 1993).

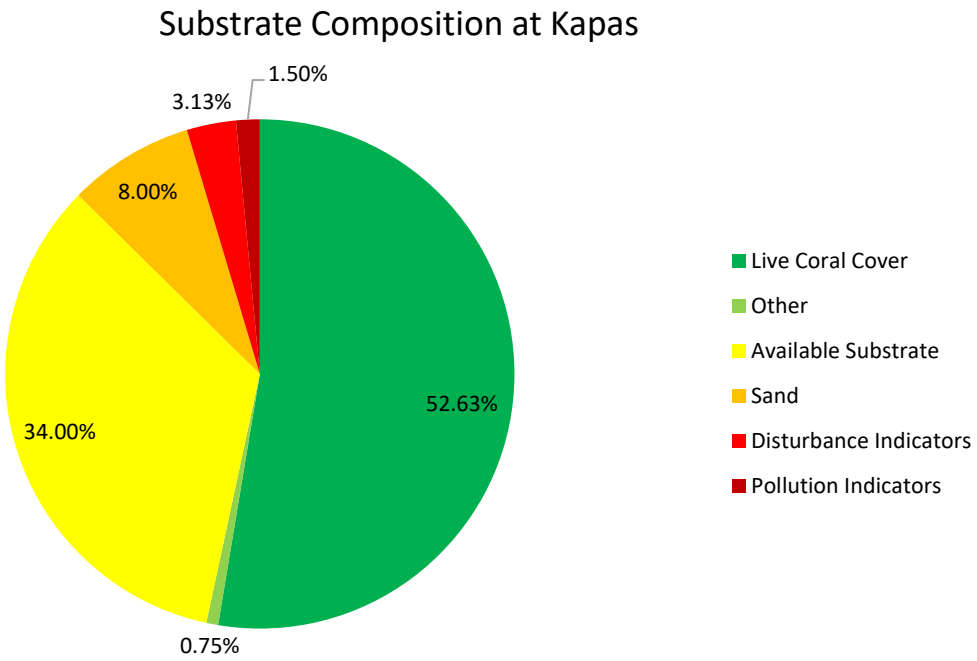
The island is not a major tourism destination due to its small size, but does have an established tourist market, with less than ten resorts and one dive operator. Diving and snorkelling are the main tourist activities. Electricity on the island is supplied by a hybrid solar station which was built in 2010. Groundwater supplies are limited and there is no centralised sewage treatment, each resort having its own sewage treatment facilities.

Reefs are mainly fringing offshore reefs, with some submerged reefs.



Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Excellent' coral cover, 1 is in 'Good' condition and 3 show ‘Fair’ health.

Coral Cover and Health



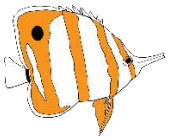
- Kapas reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 51.75%.
- In 'Good' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Sand level is high. The level is especially high at Batu Payong which recorded 23.75%.

CORAL IMPACTS

- Discarded fishing nets are recorded.

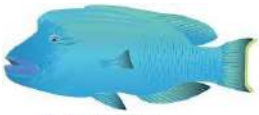
Fish Abundance at Kapas
(Individuals per 500m^3)

Targeted for aquarium trade



3.05

Targeted for live-food fish trade

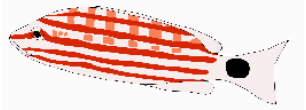


✗

0.05

Targeted for food

0.20



2.75

✗

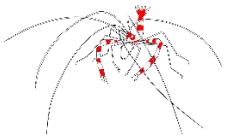
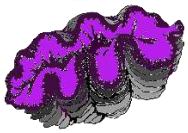
3.20

0.05

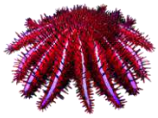
1.70

- Butterflyfish, indicator for aquarium trade, is recorded.
- Bumphead parrotfish, indicator targeted for live-food fish trade, is recorded.
- For fish targeted for food, only barramundi cod is absent. Good abundance of fish targeted for food.

Invertebrate Abundance at Kapas
(Individuals per 100m^2)

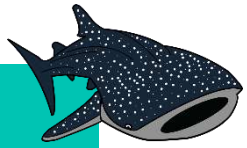
Collected for curio trade		Collected for food	
	✗		✗
	✗		8.80
	✗		✗
			0.10

Ecological Imbalance/Predator Outbreaks

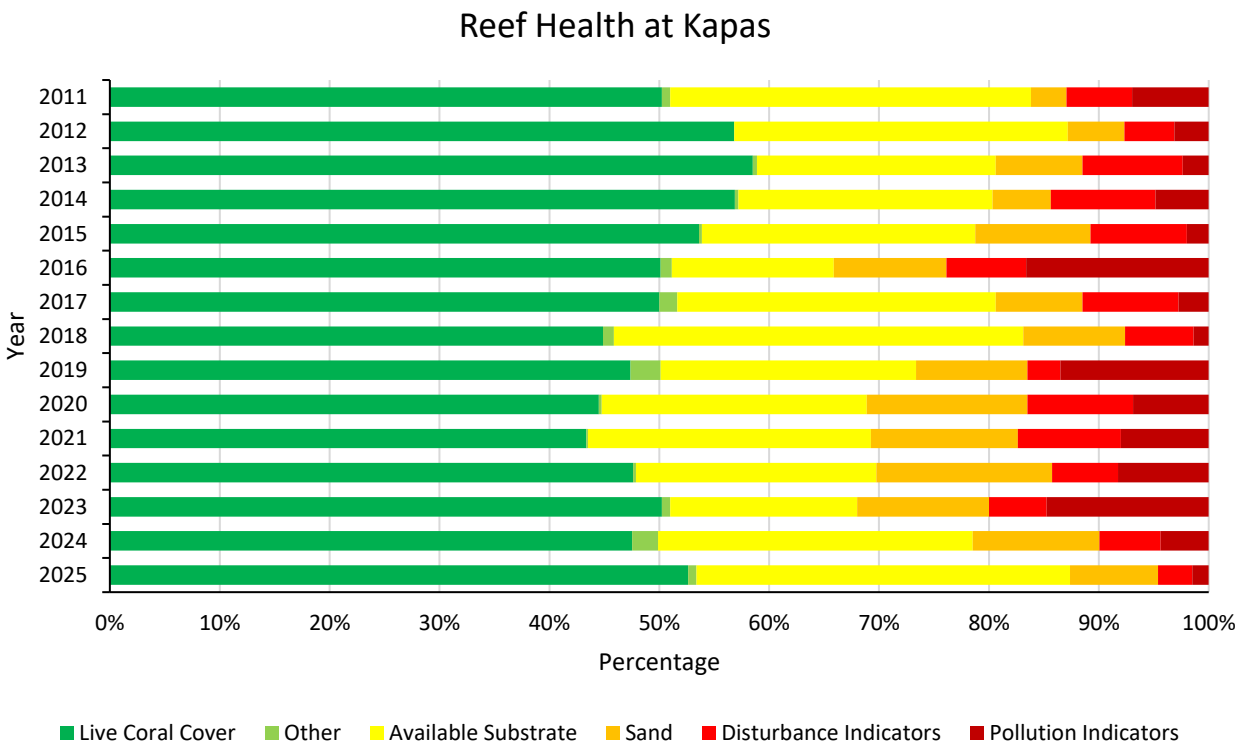
	17.00
	0.15

- Indicators for curio trade are absent.
- Crown-of-thorns is not an issue in Kapas.
- Invertebrates targeted for food are very low in abundance, except for sea cucumber. Sea cucumber abundance is high in Kapas.

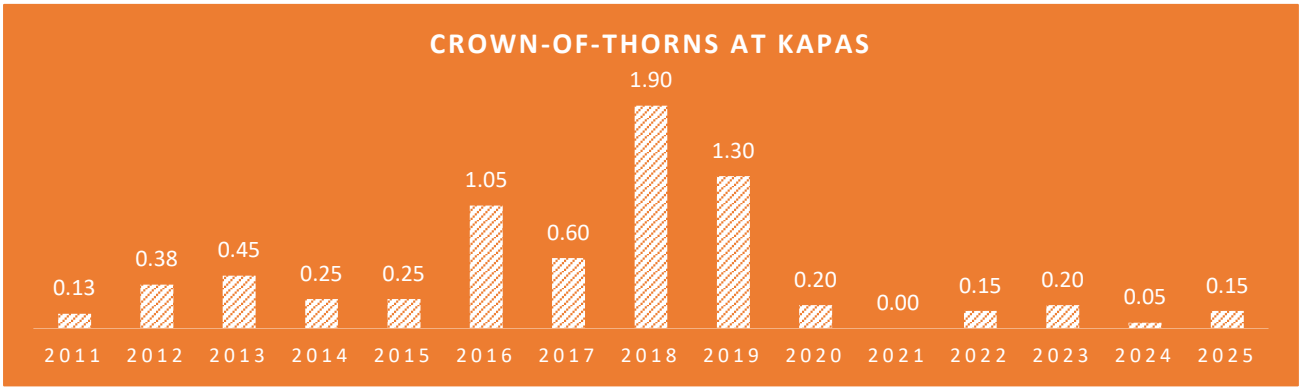
RARE ANIMALS



- Turtles are recorded.



- From 2014 to 2021, the declining reefs health in Kapas were due to raised level of nutrient in the waters around the island, as reflected by the increase in pollution indicators and crown-of-thorns outbreak.
- From 2022 onwards, the reefs show improvement. The improvement is likely due to reduced physical damage and nutrient in the waters.
- The deterioration in reef health in 2024 was due to the 4th Global Coral Bleaching Event.
- The abundance of crown-of-thorns is now within what a healthy reef can sustain (0.2-0.3 individual per 100m^2).
- Available substrate for coral recruits to attach is high, possible chance of further recovery if human impacts are dealt with.



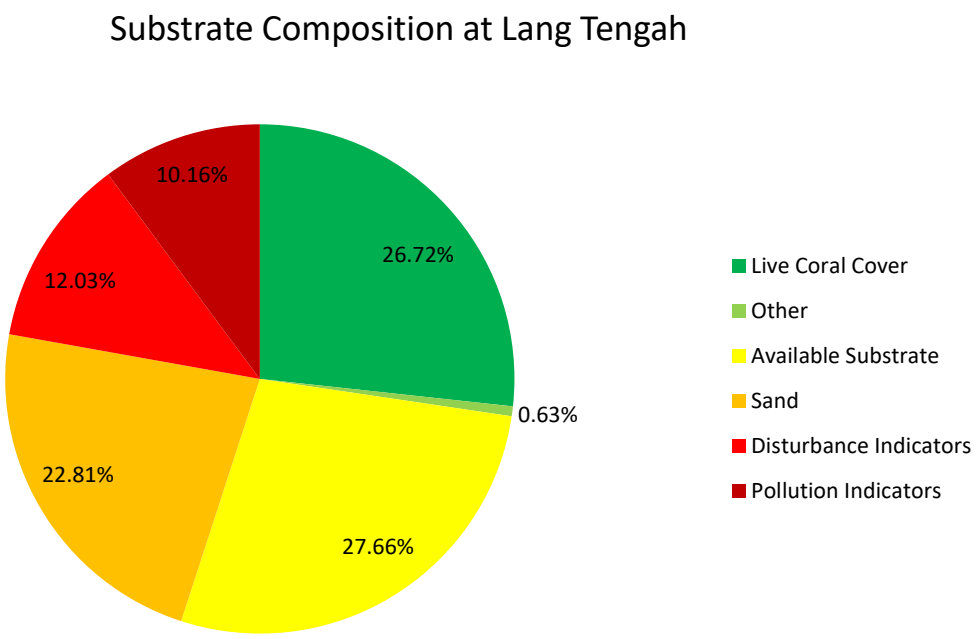
Terengganu – Lang Tengah

Lang Tengah is located about 40km northeast of Kuala Terengganu on the east coast of peninsular Malaysia. It was gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993). It is connected to the mainland by ferries to Merang. Lang Tengah appeals to holiday goers who are looking for a quiet tropical island getaway. Lang Tengah is much quieter, with less development, compared to nearby islands. There are 3 resorts and 1 camp site located on the island.

Coral reefs on Lang Tengah are teeming with fish life and occasional sharks and rays. The island has nesting green turtle from April to October. Occasionally, hawksbill turtle will also nest on Lang Tengah. The island is also covered with primary forest and has a wide variety of flora and fauna.

Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Good' coral cover and 2 are in 'Fair' condition.

Coral Cover and Health



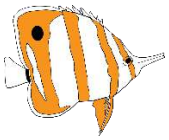
- Lang Tengah reefs are dominated by available substrate, which is rock, for coral recruits to attach.
- Mean hard coral (reef builder) cover is 24.22%.
- In 'Fair' condition and below the Sunda Shelf region average (43.73%).
- Sand level is very high. It is especially high at Summer Bay House Reef which recorded 63.13%.
- Disturbance indicators are high.
- Rubble level is high at Tanjung Telunjuk (21.88%) and Summer Bay House Reef (17.50%).
- Pollution indicators are high.
- Nutrient indicator algae level is high at Batu Bulan (15%) and Tanjung Telunjuk (12.50%).
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is very high, high level of disturbance and pollution indicators may deter coral growth if they are not dealt with.

CORAL IMPACTS

- Boat anchor damage and discarded fishing nets are recorded.
- Trash is recorded at all sites.
- Black band is recorded.
- All sites are impacted by warm water bleaching.

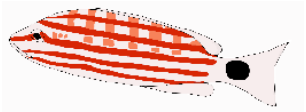
Fish Abundance at Lang Tengah
(Individuals per 500m^3)

Targeted for aquarium trade



8.13

Targeted for food



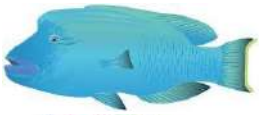
2.50

4.44

0.06

0.63

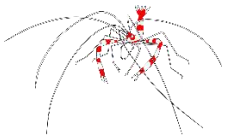
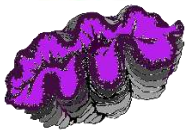
Targeted for live-food fish trade



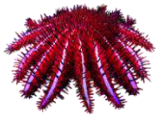
0.06

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Bumphead parrotfish, indicator targeted for live-food fish trade, is recorded.
- The abundance of fish targeted for food are low.

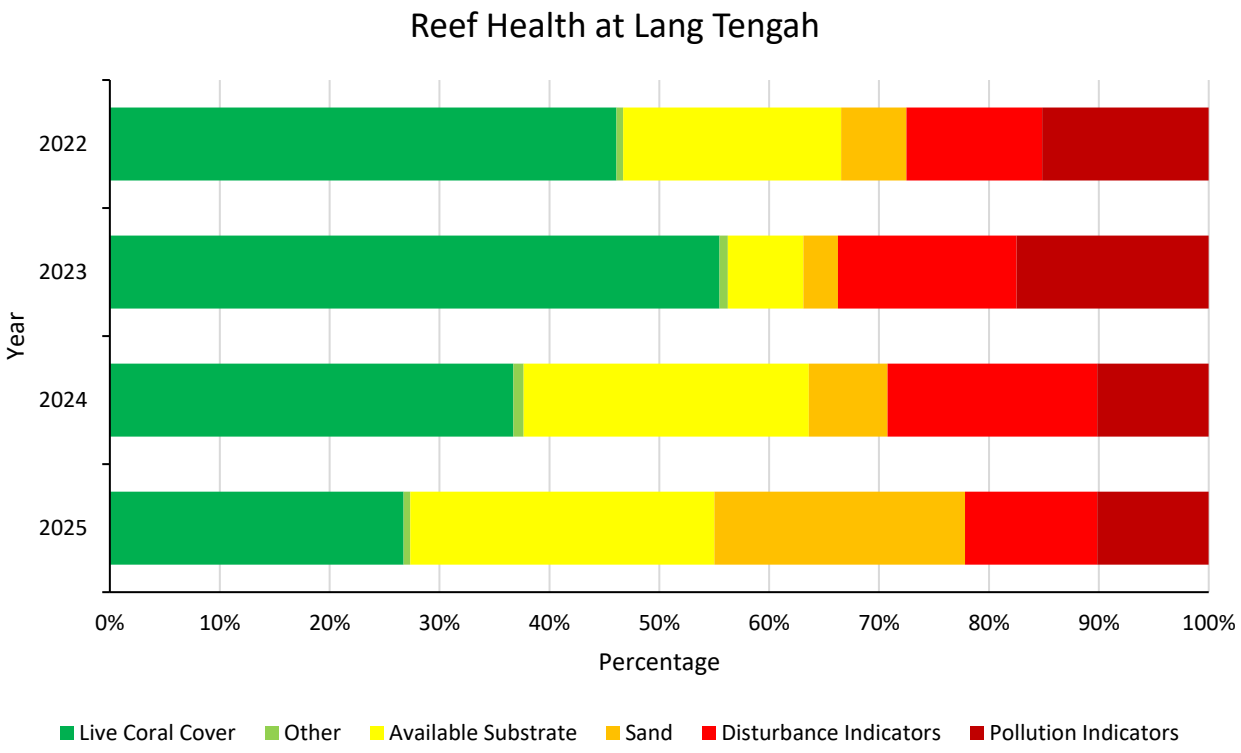
Invertebrate Abundance at Lang Tengah
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	0.06		0.06
	✗		45.94
	✗		✗
			9.56

Ecological Imbalance/Predator Outbreaks

	7.13
	✗

- Banded coral shrimp, indicator for curio trade, is recorded.
- Good abundance of invertebrates targeted for food. Sea cucumber and giant clam are very high in abundance.



- Lang Tengah reefs have deteriorated.
- The deterioration is due to impacts from the 4th Global Coral Bleaching Event and storm damage during 2024-2025 monsoon.

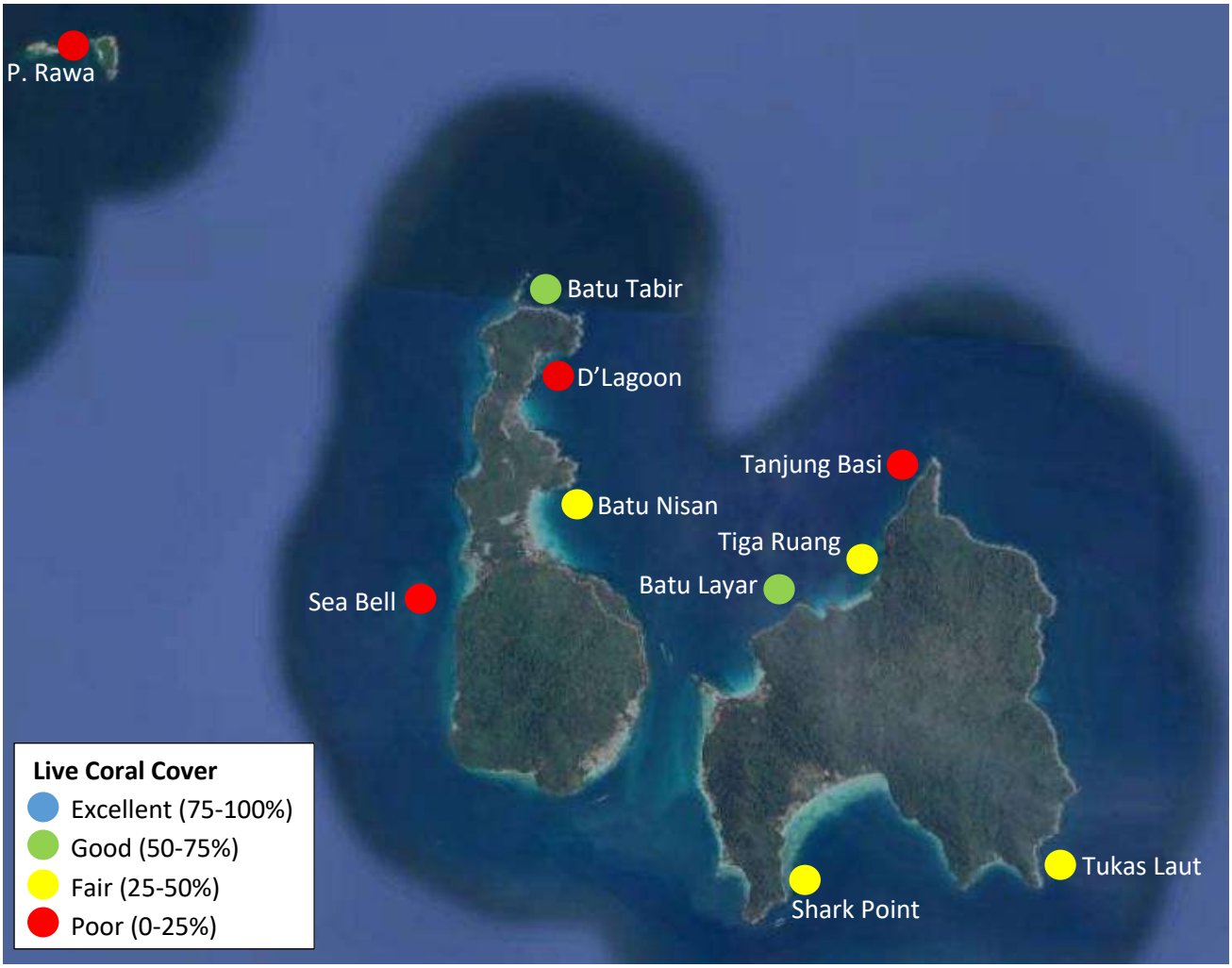
Terengganu – Perhentian

The Perhentian islands are located some 20km from Kuala Besut off the East coast of Terengganu, Malaysia. The islands have one village with a population of approximately 2,300, most of whom work in tourism, the main industry on the islands. The islands are gazetted as a Marine Park since 1994.

A popular tourist destination, particularly among backpackers, there are over 40 resorts, mainly small, family run chalets with a growing number of large resorts to cater for a changing tourist market. There are now over 20 dive operators, spread around the two main islands. Diving and snorkelling are the main tourist activities.

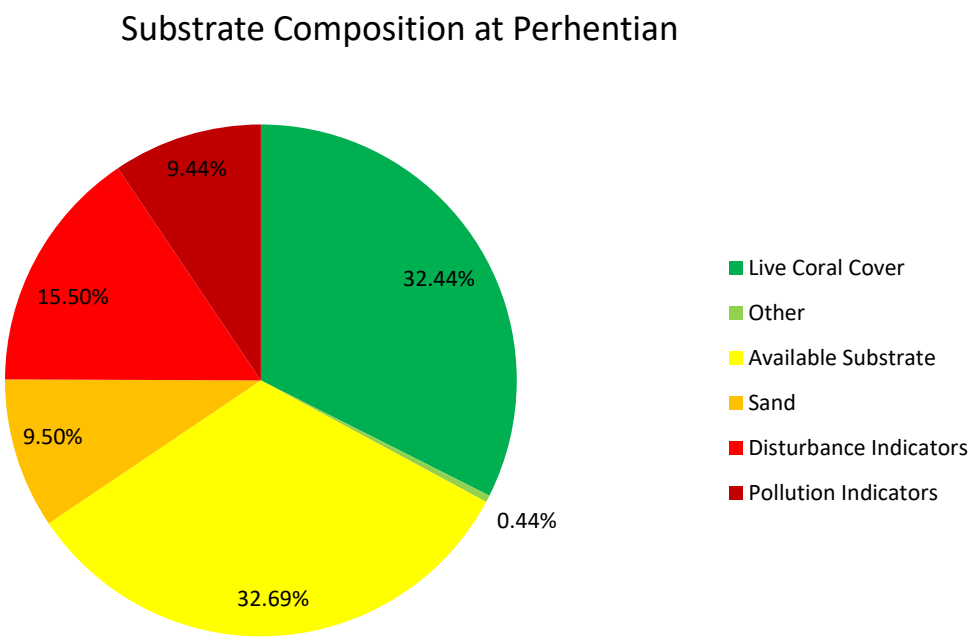
Growth in tourism has been rapid on the islands, and resort development continues. There is no grid-supplied electricity, nor centralised sewage treatment; groundwater supplies are limited in Perhentian and fresh water is supplied from the mainland.

Reefs are mainly fringing offshore reefs, with some submerged reefs.



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Good' coral cover, 4 are in 'Fair' condition and 4 show 'Poor' health.

Coral Cover and Health



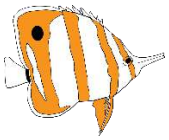
- Perhentian reefs are dominated by available substrate, which is rock, for coral recruits to attach.
- Mean hard coral (reef builder) cover is 28.25%.
- In 'Fair' condition and below the Sunda Shelf region average (43.73%).
- Sand level is high. The level is especially high at D' Lagoon (34.38%), Tiga Ruang (26.25%) and Sea Bell (16.88%).
- Disturbance indicators are high.
- Rubble level ranges from 21% to 30% at Batu Nisan, Pulau Rawa, Sea Bell and Tanjung Besi.
- Pollution indicators are quite high
- The level of nutrient indicator algae is especially high at Shark Point (23.13%), Pulau Rawa (22.50%) and Seabell (14.38%).
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is very high, high level of disturbance and pollution indicators may deter coral growth if they are not dealt with.

CORAL IMPACTS

- Discarded fishing nets and trash are recorded at many sites.
- Some sites are impacted by crown-of-thorns and drupella predations as well as warm water bleaching.

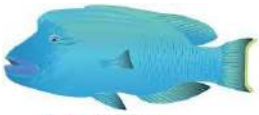
Fish Abundance at Perhentian
(Individuals per 500m^3)

Targeted for aquarium trade



4.48

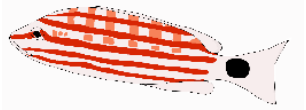
Targeted for live-food fish trade



0.05

Targeted for food

0.15



1.98

Targeted for live-food fish trade

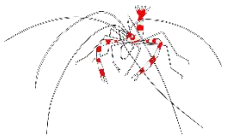
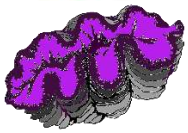
6.55

0.08

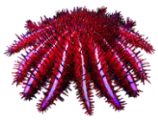
0.98

- Butterflyfish, indicator for aquarium trade, is recorded.
- Humphead wrasse, indicator targeted for live-food fish trade, is recorded.
- High abundance of parrotfish, fish targeted for food. Other fish targeted for food are low in abundance.

Invertebrate Abundance at Perhentian
(Individuals per 100m^2)

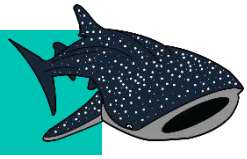
Collected for curio trade		Collected for food	
	0.03		✗
	✗		8.20
	✗		✗
			2.05

Ecological Imbalance/Predator Outbreaks

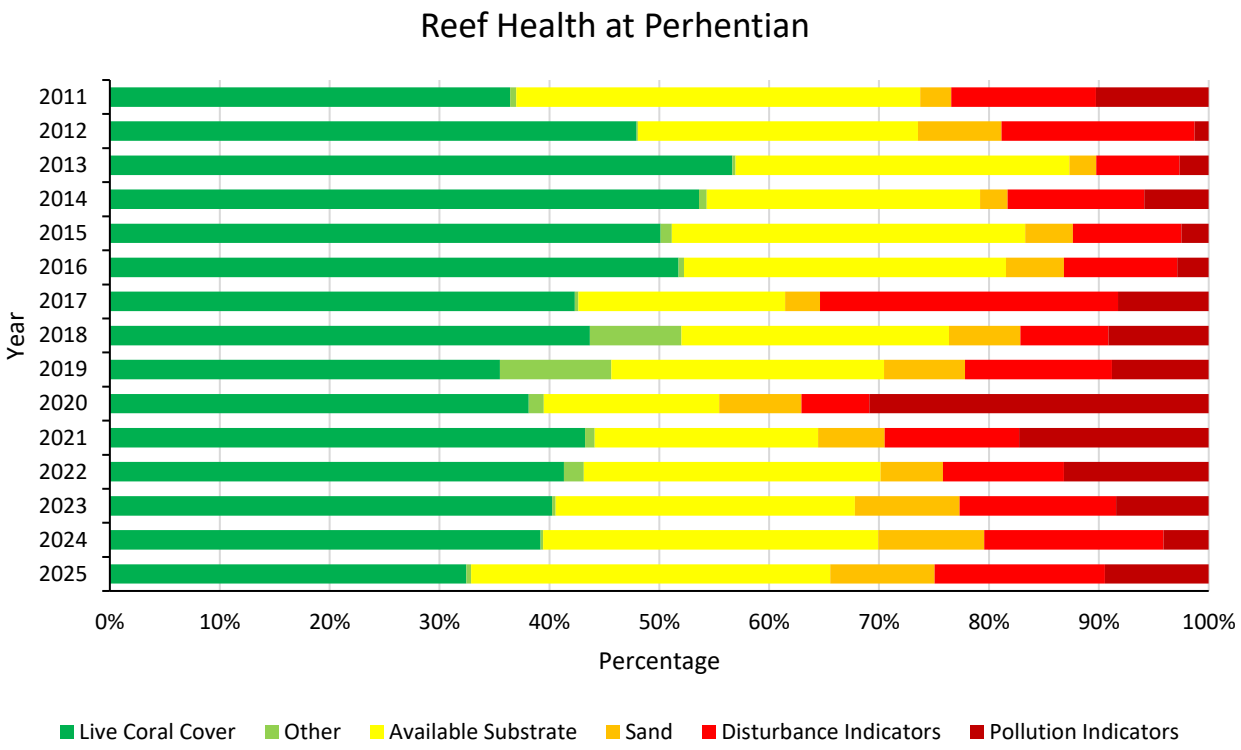
	11.05
	0.03

- Banded coral shrimp, indicator for curio trade, is recorded.
- Crown-of-thorns is not a concern in Perhentian.
- High abundance of sea cucumber and giant clam, invertebrates targeted for food.

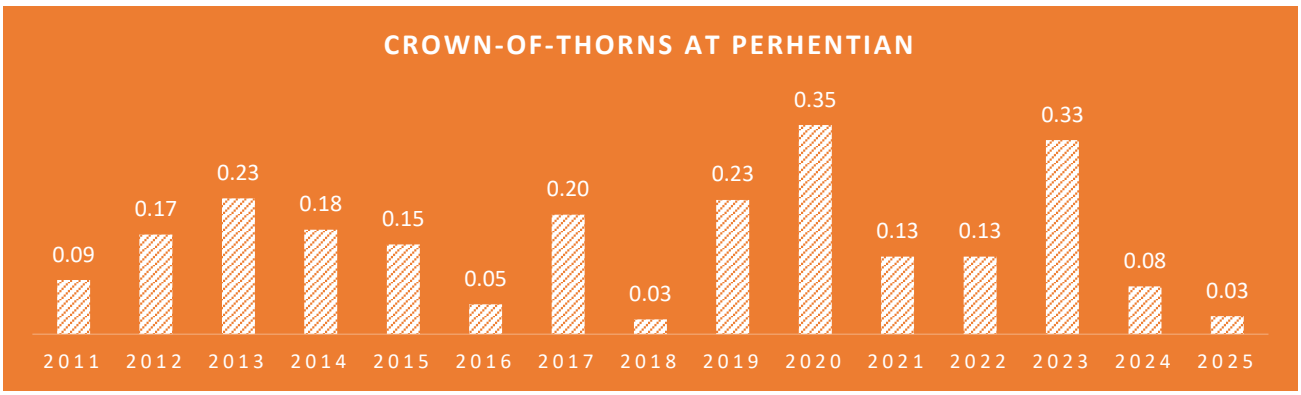
RARE ANIMALS



- Sharks and turtles are recorded.



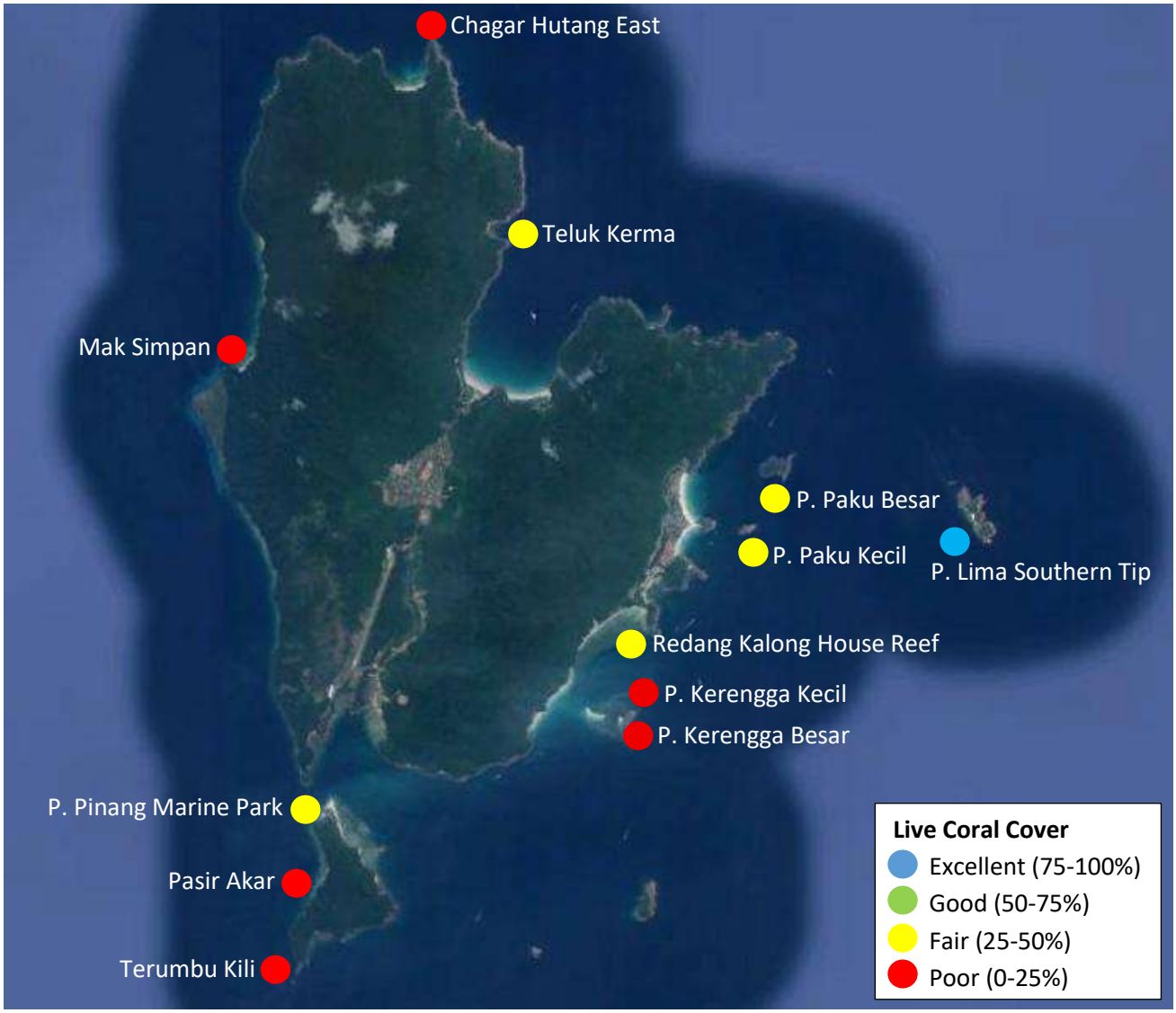
- Perhentian reefs have deteriorated from 'good' to 'fair' condition.
- The deterioration in 2017 was likely due to physical damage caused by human activities and the deterioration in 2019 was due to Tropical Storm Pabuk which struck Perhentian in January that year, causing major physical damage to shallow reefs. Both were reflected by the increase in disturbance indicators.
- In 2024, the deterioration was due to the 4th Global Coral Bleaching Event.
- In 2025, raised level of nutrient in the waters around the island further deteriorated the reefs.
- Crown-of-thorns abundance remained around what a healthy reef can sustain (0.2-0.3 individual per 100m^2).
- Available substrate for coral recruits to attach is very high, indicating possible chance of reef recovery if human impacts are in check.



Terengganu – Redang

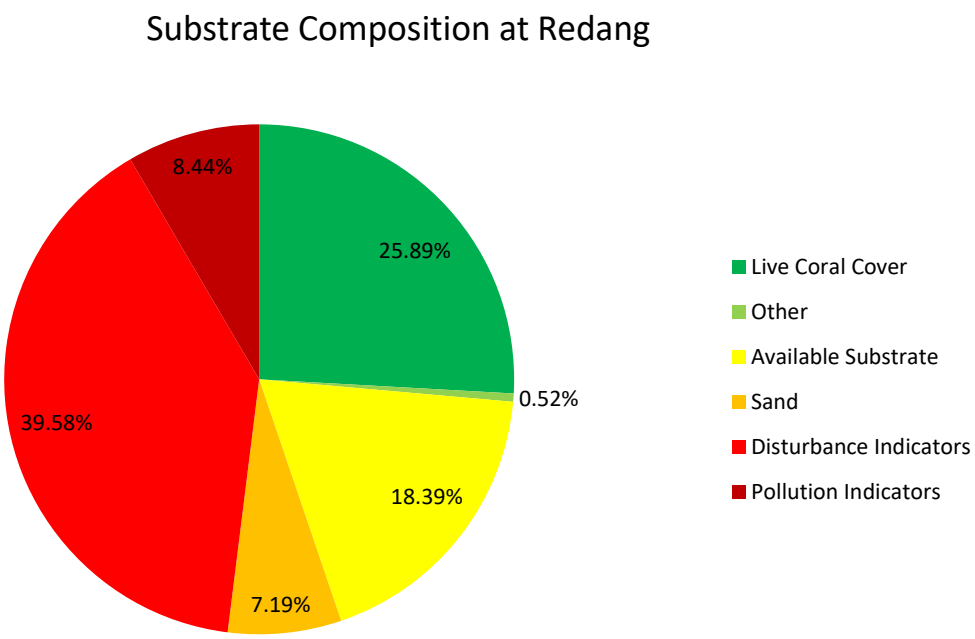
Redang Island is located some 25km from Merang, off the East coast of Terengganu, Malaysia. The island has a population of approximately 2,500, only a small proportion of whom work in tourism, the main industry on the islands. The islands are gazetted as a Marine Park since 1994 under the Fisheries Act 1985 (Amended 1993). Both fringing offshore reefs and submerged reefs can be found in Redang Island.

The island is a popular tourist destination. Diving and snorkelling are the main tourist activities. There are 13 medium-large size resorts, mainly on Pasir Panjang, and 1 campsite at Teluk Kalong. Most resorts have an in-house dive operator. There is only centralised electricity supply in the village, in Pasir Panjang resorts operate their own generators for power. Water is supplied either by tube well, spring or pipeline from the mainland and each resort has its own sewage treatment facilities. The island is served by an airport as well as boat services from the mainland.



Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Excellent' coral cover, 5 are in 'Fair' condition and 6 show 'Poor' health.

Coral Cover and Health



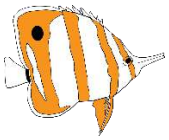
- Redang reefs are dominated by disturbance indicators.
- Rubble level is very high at most of the sites. Only Pulau Lima Southern Tip and Pulau Paku Kecil recorded less than 8% rubble. Rubble level at the rest of the sites ranges from 10% to 69%.
- Mean hard coral (reef builder) cover is 21.35%.
- In 'Fair' condition and below the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is high.
- Pollution indicators are not high in Redang in general, but the level of nutrient indicator algae is high at Pulau Kerengga Besar (11.25%) and the level of sponge is high at Pasir Akar (14.38%), Pulau Pinang Marine Park (10%) and Teluk Kerma (15.63%).
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is high, high level of disturbance indicators may deter coral growth if they are not dealt with.

CORAL IMPACTS

- Trash is recorded at many sites.
- Discarded fishing nets are recorded.

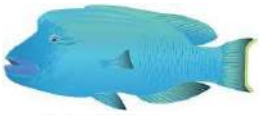
Fish Abundance at Redang
(Individuals per 500m^3)

Targeted for aquarium trade



3.65

Targeted for live-food fish trade

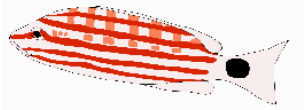


✗

0.52

Targeted for food

0.02



7.35

✗

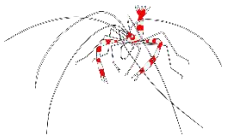
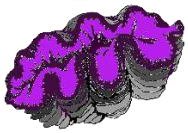
6.04

✗

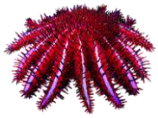
0.54

- Butterflyfish, indicator for aquarium trade, is recorded.
- Bumphead parrotfish, indicator targeted for live-food fish trade, is recorded.
- High abundance of snapper and parrotfish, fish targeted for food. The rest of the fish targeted for food is very low in abundance.

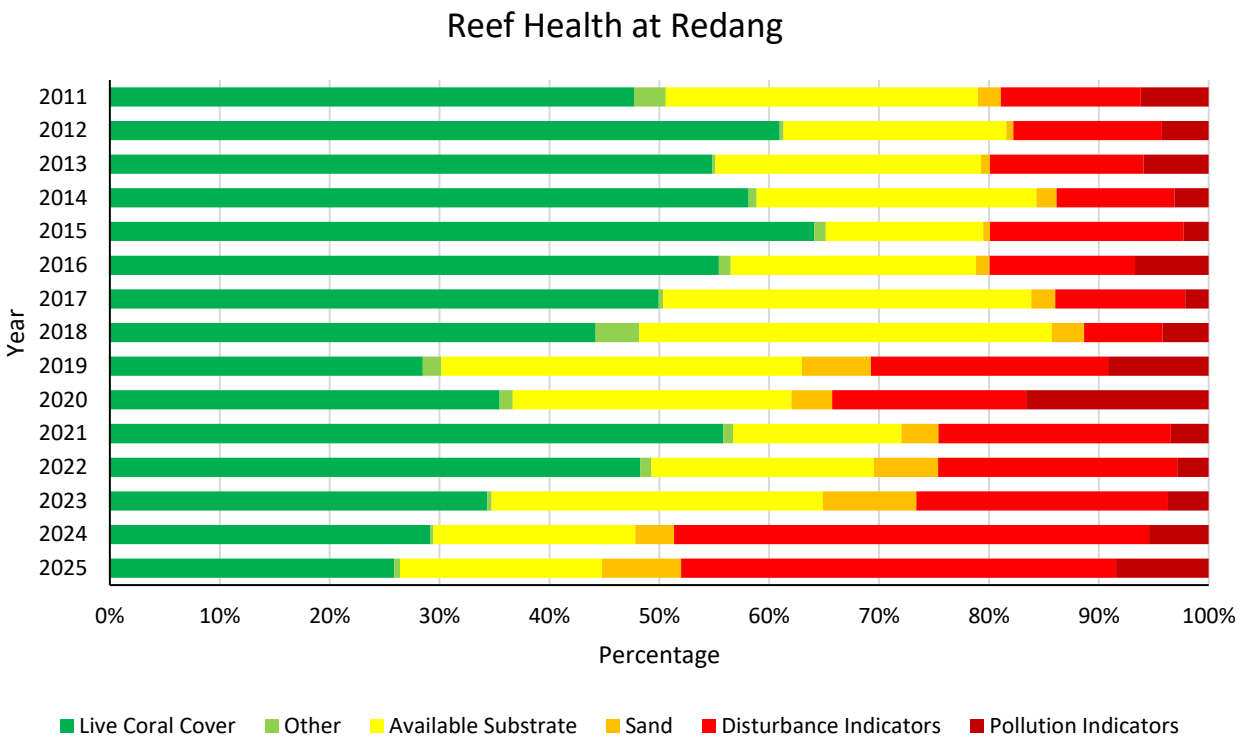
Invertebrate Abundance at Redang
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	0.04		✗
	✗		4.94
	✗		✗
			2.58

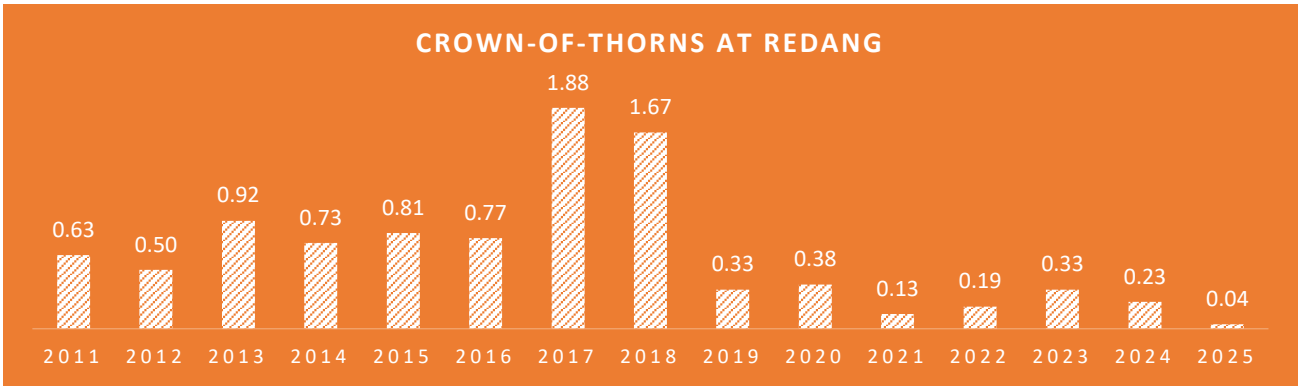
Ecological Imbalance/Predator Outbreaks

	5.21
	0.04

- Banded coral shrimp, indicator for curio trade, is recorded.
- Crown-of-thorns is not a concern in Redang.
- Good abundance of sea cucumber and giant clam, invertebrates targeted for food.



- Redang reefs have deteriorated from 'good' to 'fair' condition.
- The deterioration from 2016 to 2018 was likely due to very high abundance of crown-of-thorns, which was above what a healthy reef can sustain (0.2-0.3 individual per 100m^2).
- The deterioration in 2019 was due to Tropical Storm Pabuk which struck Redang in January that year, causing major physical damage to shallow reefs and increase in pollution indicators. Storm brings high rainfall and water-shed runoff which increase external nutrient loads. It also causes sediment resuspension contributing to increase internal nutrient loads.
- Since 2019, the abundance of crown-of-thorns had decreased significantly and remained around what a healthy reef can sustain (0.2-0.3 individual per 100m^2).
- Reduced abundance of crown-of-thorns allow Redang reefs to recover. This is reflected by the increase in live coral cover in 2020 and 2021.
- Starting in 2022, the reefs showed a declining trend and pollution indicators showed an increasing trend.
- In 2024, the 4th Global Coral Bleaching Event and physical damage caused by human activities and/or storm further deteriorated the reefs.
- Available substrate for coral recruits to attach is high, indicating possible chance of reef recovery if human impacts are in check.

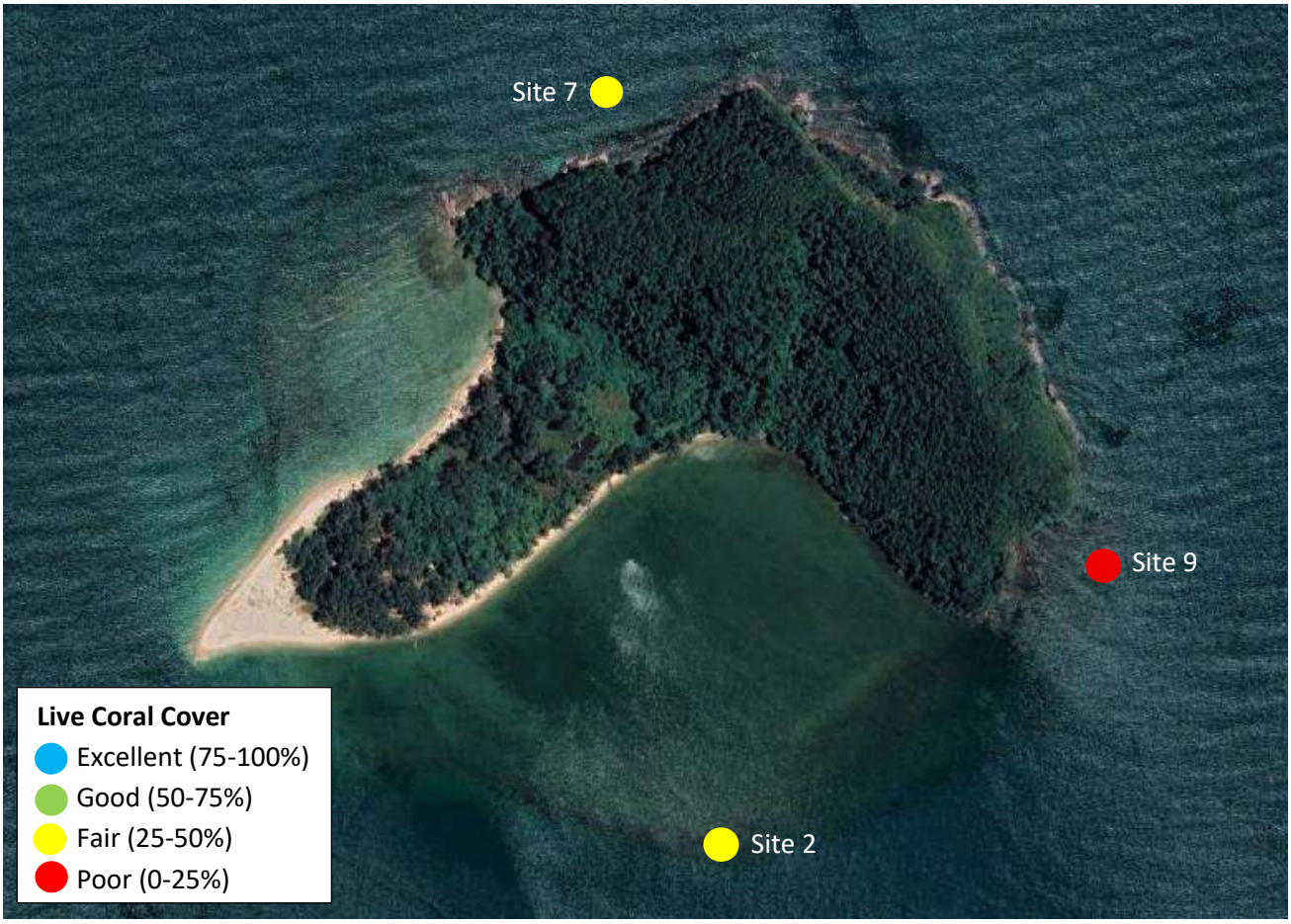


Terengganu – Rhu

Pulau Rhu is a small, heavily wooded island located approximately 6km south of Kuala Besut, and just 3km off the East coast of Terengganu, Malaysia. Measuring some 0.8 x 0.65km, the island is uninhabited.

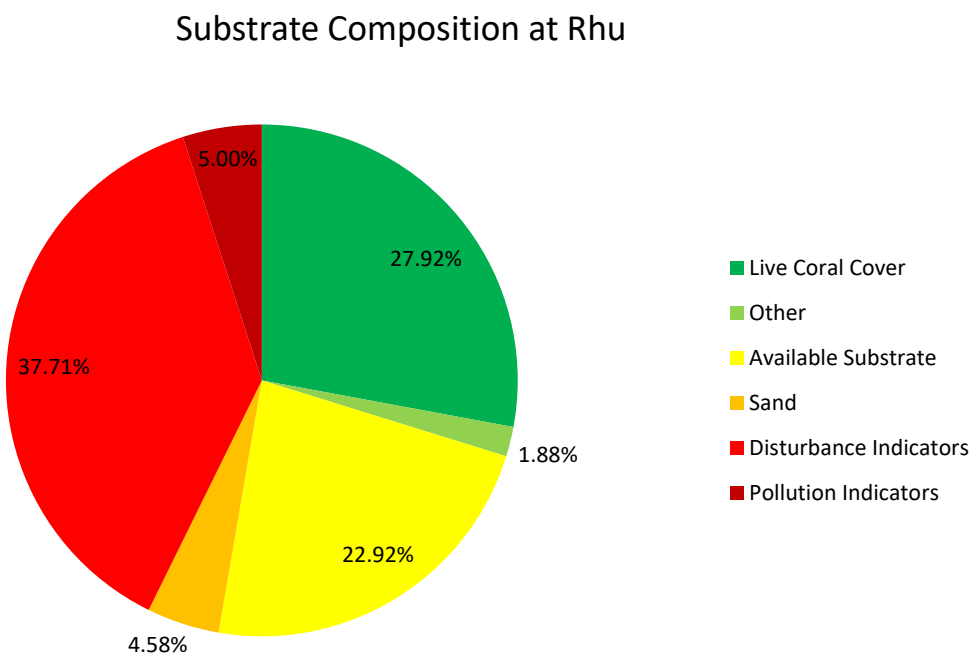
Pulau Rhu has fringing reefs and is a moderately popular tourism destination, due to its proximity to the mainland and Kuala Besut. It is also an important habitat for endangered flying foxes, which roost on the island. While it is not as popular as the more distant Perhentian islands, it is visited by island-hopping trips, snorkelers, recreational anglers and water sports operators such as banana boats, operating from the mainland.

The island has no protected status and is a popular fishing ground for local small scale, artisanal fishermen who lay nets and fish traps close to the island. Though there is no resort on the island, there is a camp site with toilet and shower facilities. No data are available on either the number of fishermen regularly using the area and their catches, nor the number of tourists visiting the island.



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Fair' coral cover and 1 is in 'Poor' condition.

Coral Cover and Health



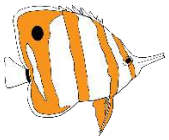
- Pulau Rhu are dominated by disturbance indicators.
- Silt level is very high at all sites, ranging from 28% to 44%.
- Mean hard coral (reef builder) cover is 27.29%.
- In 'Fair' condition and below the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is high, high level of disturbance indicators may deter coral growth if they are not dealt with.

CORAL IMPACTS

- Discarded fishing nets are recorded at all sites.

Fish Abundance at Rhu
(Individuals per 500m^3)

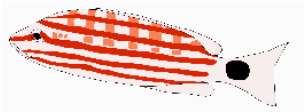
Targeted for aquarium trade



5.17

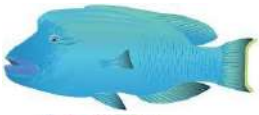
Targeted for food

0.50



1.92

Targeted for live-food fish trade



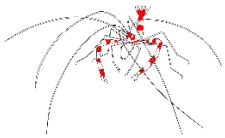
0.42

0.25

- Butterflyfish, indicator for aquarium trade, is recorded.
- Fish targeted for live-food fish trade are absent.
- Fish targeted for food are very low in abundance.

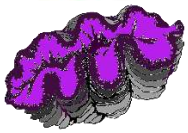
Invertebrate Abundance at Rhu
(Individuals per 100m^2)

Collected for curio trade



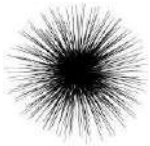
Collected for food



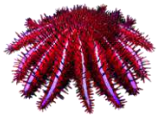



0.67

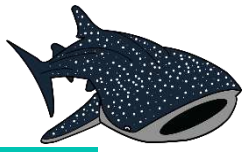
Ecological Imbalance/Predator Outbreaks



5.75

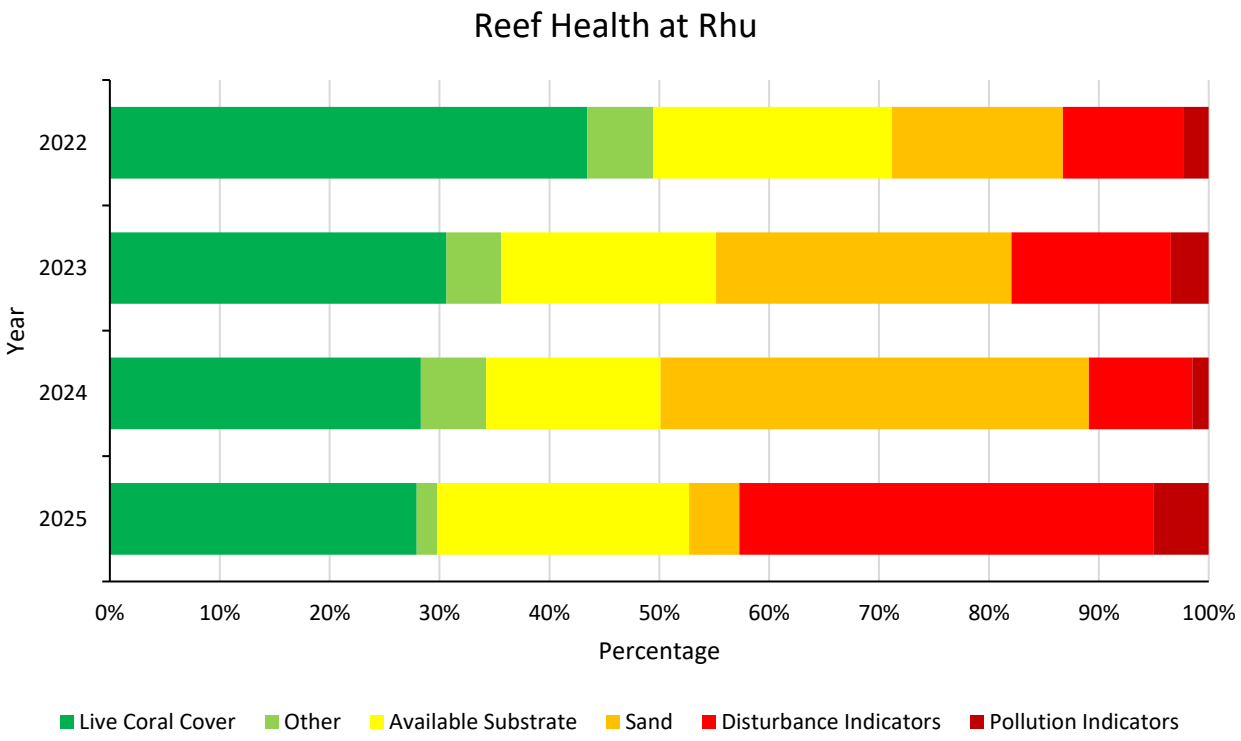


- Only diadema urchin and giant clam are recorded.



RARE ANIMALS

- Turtle is recorded.



- Rhu reefs have deteriorated.
- The decrease in live coral cover in 2023 was considered to reflect the elimination of 6 sites, rather than an actual decrease in live coral cover.
- In 2024, the deterioration was due to the 4th Global Coral Bleaching Event.
- In 2025, the deterioration was due to physical damage caused by human activities and/or storm.
- Available substrate for coral recruits to attach to is very high, indicating possible chance of reef recovery if human impacts are dealt with.

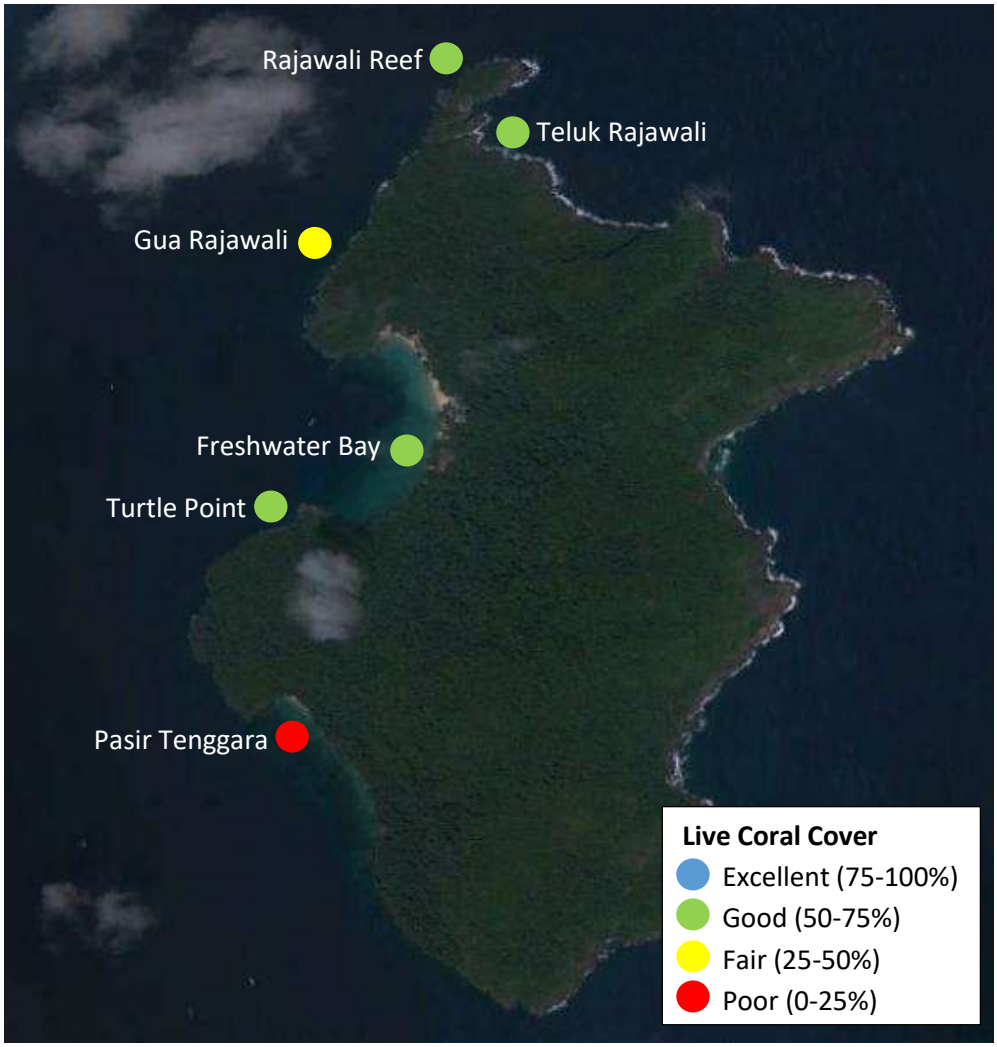
Terengganu – Tenggol

Tenggol Island is located approximately 30km from Dungun, off the East coast of Terengganu, Malaysia. This small island has no local population. The island is gazetted as a Marine Park since 1994.

The island is a popular diving destination due to the surrounding deep water which attracts more megafauna than other islands (whale sharks are common around the island). There are four resorts on the island, each with its own dive operator. There is no centralised electricity supply, resorts operate their own generators for power. Groundwater supplies are limited and there is no centralised sewage treatment, each resort having its own sewage treatment facility.

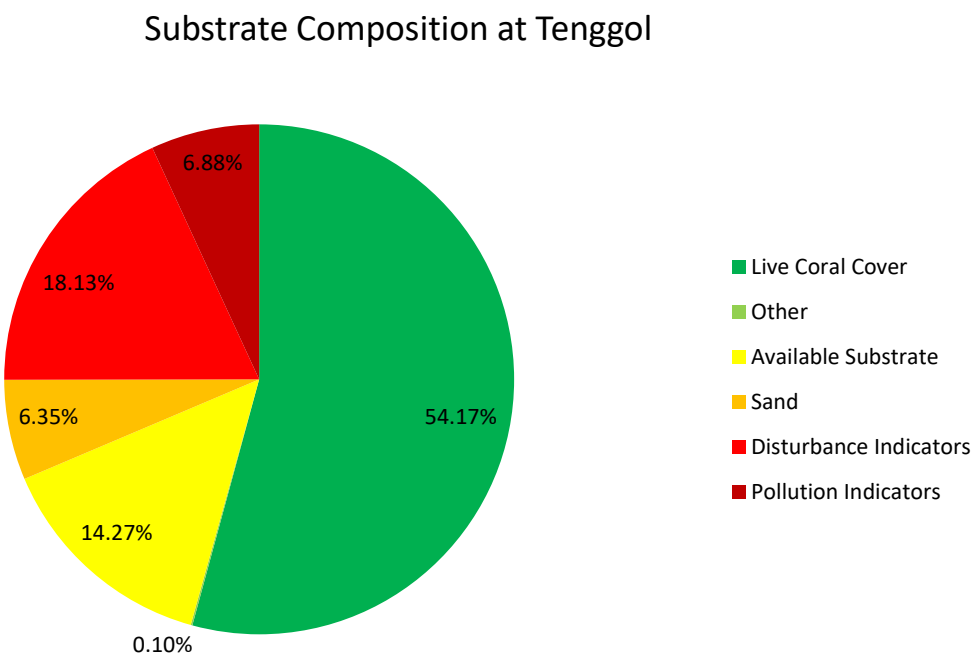
Tenggol Island has gained in popularity over the last few years and many dive and snorkel operators have started to operate from Dungun, the nearest town on the mainland, offering day trip packages to divers and snorkelers alike.

Much of the island's coastline is rocky, besides a couple of sandy beaches. The reefs are mainly fringing reefs and rocky reefs.



Map showing the health categories of each survey site based on Live Coral Cover: 4 sites have 'Good' coral cover, 1 is in 'Fair' condition and 1 show 'Poor' health.

Coral Cover and Health



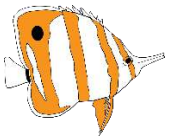
- Tenggol reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 41.15%.
- In 'Good' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is high.
- Disturbance indicators are high.
- Rubble level is especially high at Pasir Tenggara which recorded 48.75%. The level ranges from 7% to 15% at the remaining sites.
- Pollution indicators are slightly high.
- Nutrient indicator algae level ranges from 7% to 12% at Freshwater Bay, Gua Rajawali and Turtle Point.

CORAL IMPACTS

- Discarded fishing nets and trash are recorded.
- Some sites are impacted by warm water bleaching.

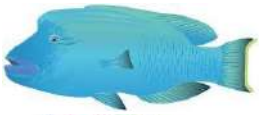
Fish Abundance at Tenggol
(Individuals per 500m^3)

Targeted for aquarium trade



6.00

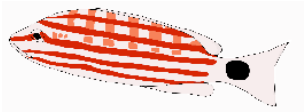
Targeted for live-food fish trade



0.63

Targeted for food

0.13



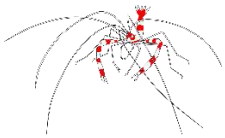
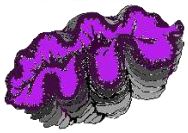
5.25

9.13

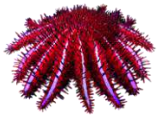
0.75

- Butterflyfish, indicator for aquarium trade, is recorded.
- Bumphead parrotfish, indicators targeted for live-food fish trade, is recorded.
- The abundance of snapper and parrotfish, fish targeted for food, is high. Other fish targeted for food are low in abundance.

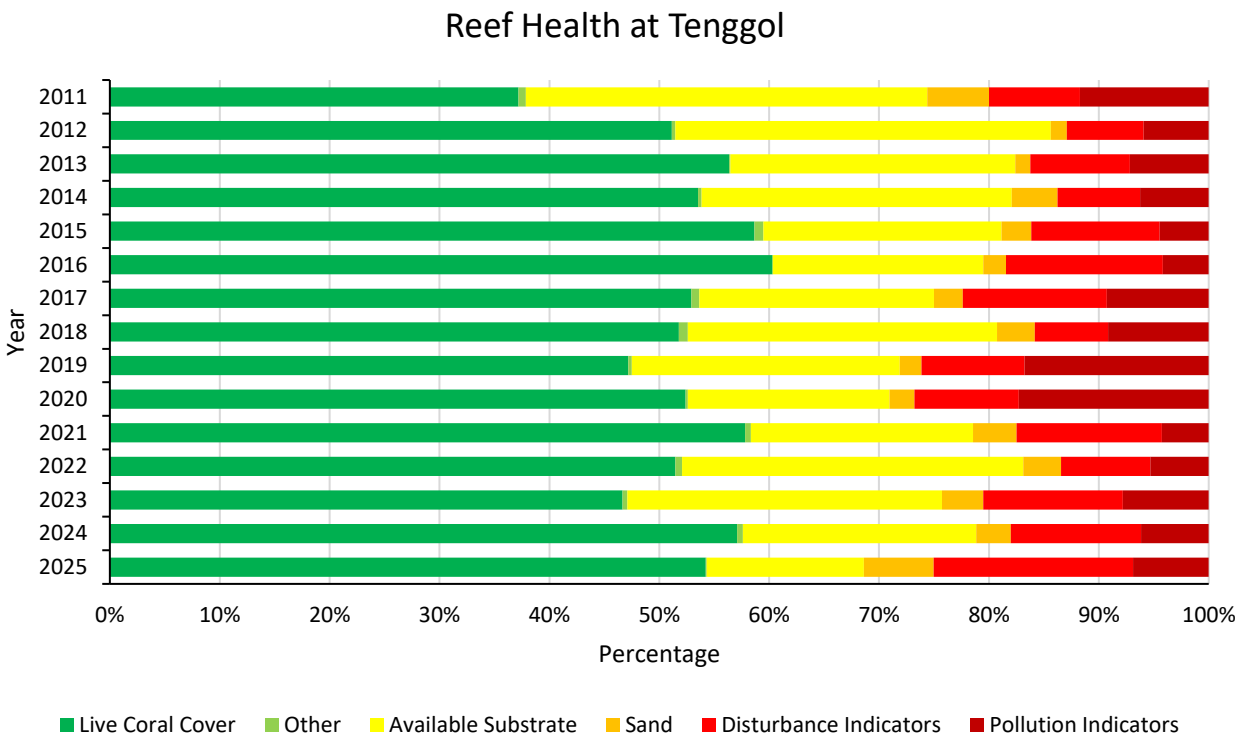
Invertebrate Abundance at Tenggol
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	✗		✗
	✗		2.71
	✗		0.04
			0.58

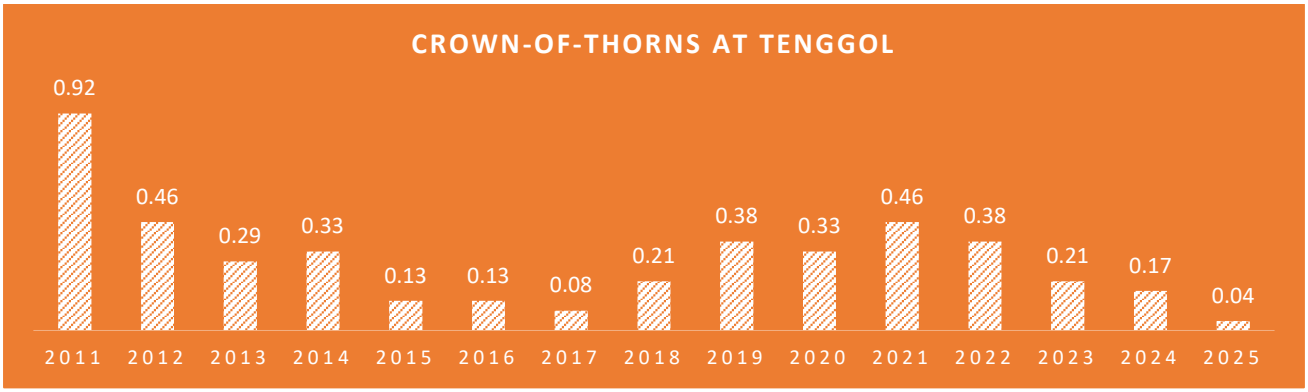
Ecological Imbalance/Predator Outbreaks

	0.88
	0.04

- Indicators for curio trade are absent.
- Crown-of-thorns is not an issue in Tenggol.
- Invertebrates targeted for food are very low in abundance, except for sea cucumber.



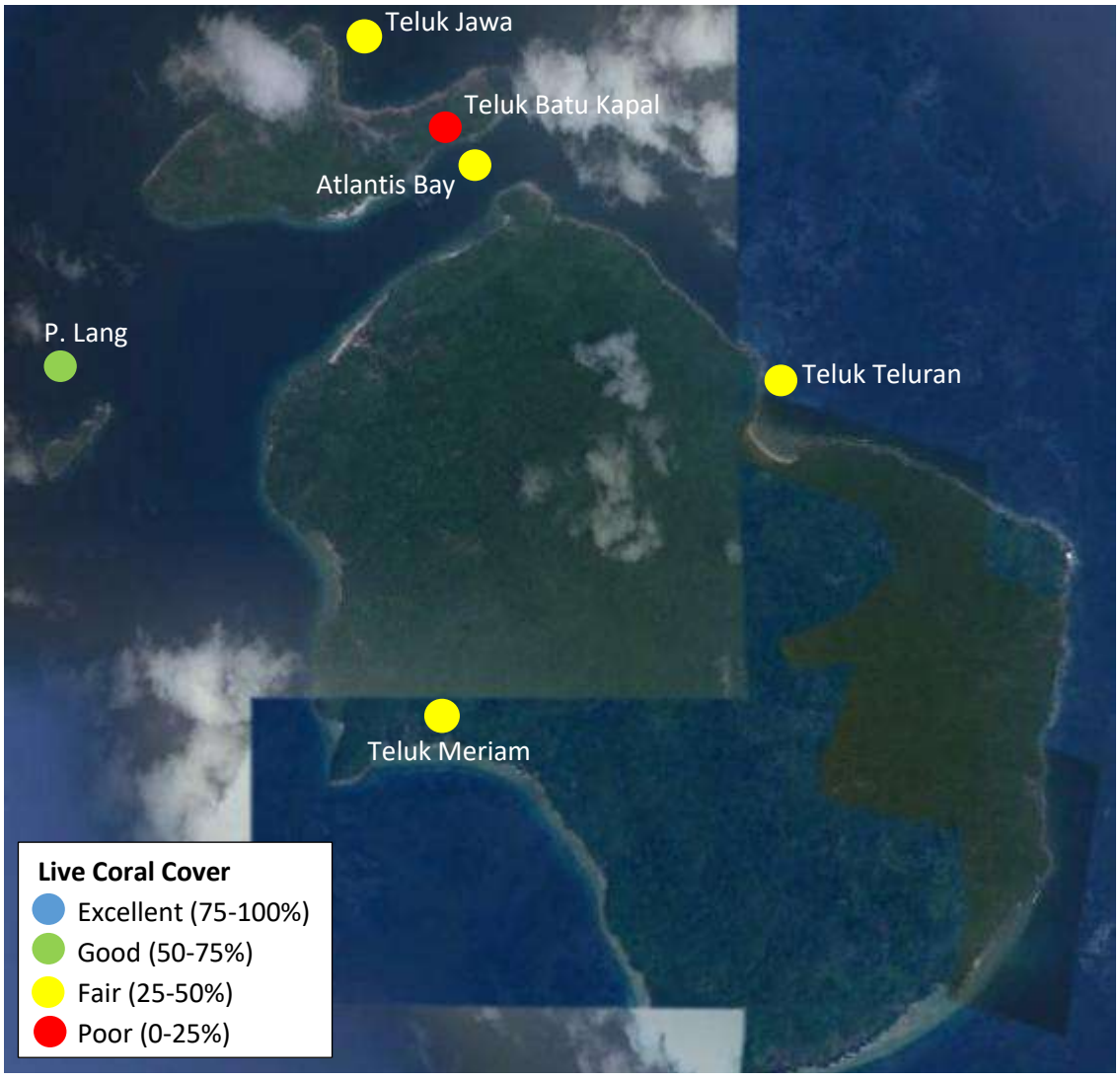
- Tenggol reefs show variation over the years.
- The deterioration in 2017 and 2018 was due to raised level of nutrient in the waters around the island. The deterioration in 2018 was also contributed by the increase in crown-of-thorns abundance.
- The deterioration in 2019 was due to Tropical Storm Pabuk which struck Tenggol in January that year, causing major physical damage to shallow reefs and sharp increase in pollution indicators. Storm brings high rainfall and water-shed runoff which increase external nutrient loads. It also causes sediment resuspension contributing to increase internal nutrient loads.
- In 2020 and 2021, the reefs recovered but deteriorated again in 2022 and 2023.
- In 2024, the reefs had improved.
- The deterioration in 2025 is due to physical damage caused by human activities and/or storm.
- From 2019 to 2022, the abundance of crown-of-thorns was above what a healthy reef can sustain (0.2-0.3 individual per 100m^2). Since 2023, the abundance had decreased to within the acceptable limit.



Johor – Aur & Dayang

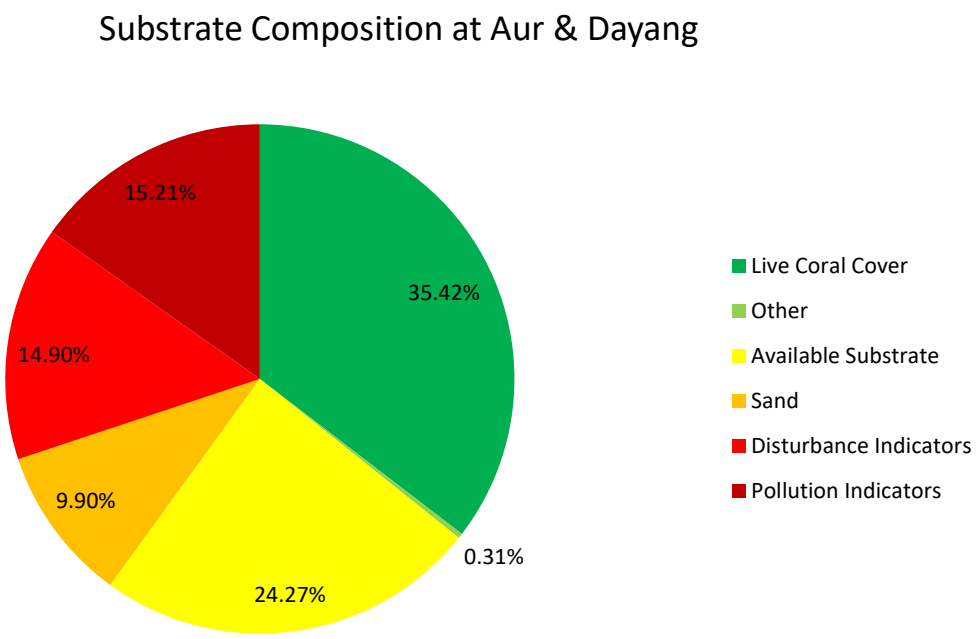
Pulau Aur and Pulau Dayang are adjacent islands in Mersing District, Johor. They lie about 76km east of Mersing off the East coast of Peninsular Malaysia and were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993).

Their corals, lagoons and offshore pools make these islands a tourist attraction. The islands are sparsely populated with few villages and have for many years been a frequent stopover point for fishermen. Pulau Aur and Pulau Dayang used to be a popular diving destination among tourists from Singapore.



Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Good' coral cover, 4 are in 'Fair' condition and 1 shows 'Poor' health.

Coral Cover and Health



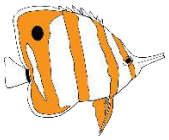
- Aur and Dayang reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 33.02%.
- In 'Fair' condition and below the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Sand level is high. The level is especially high at Teluk Meriam which recorded 33.13%.
- Disturbance indicators are high.
- Rubble level is high at many sites. The level ranges from 13% to 24% at Atlantis Bay, Pulau Lang, Teluk Batu Kapal and Teluk Jawa.
- Pollution indicators are high.
- Nutrient indicator algae level is high at many sites. The level ranges from 12% to 22% at Atlantis Bay, Teluk Batu Kapal, Teluk Jawa and Teluk Teluran.

CORAL IMPACTS

- Boat anchor damage, discarded fishing nets and trash are recorded at many sites.

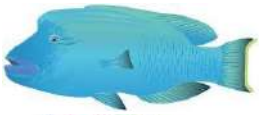
Fish Abundance at Aur & Dayang
(Individuals per 500m^3)

Targeted for aquarium trade



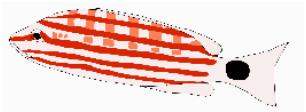
4.42

Targeted for live-food fish trade



Targeted for food

0.29



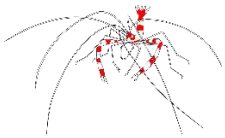
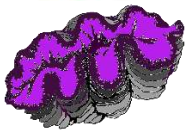
0.21

14.42

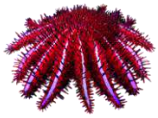
0.38

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is very low, except for parrotfish. Parrotfish abundance is high in Aur & Dayang.

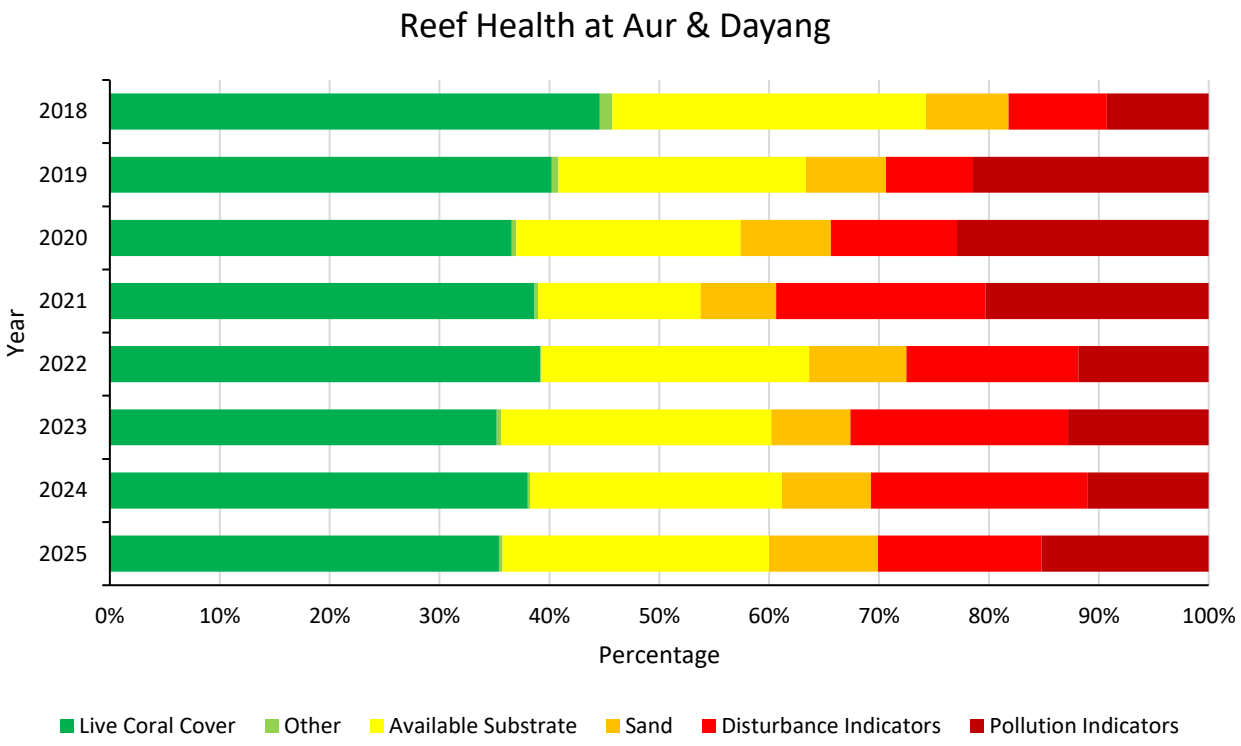
Invertebrate Abundance at Aur & Dayang
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	X		X
	X		4.71
	X		0.04
			0.63

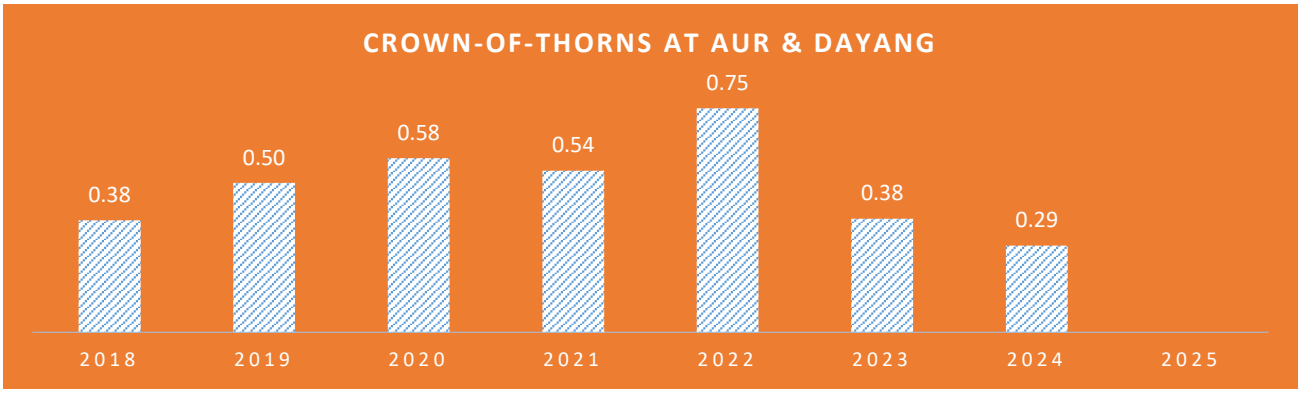
Ecological Imbalance/Predator Outbreaks

	X
	X

- Indicators for curio trade and ecological imbalance/predator outbreaks are absent.
- Invertebrates targeted for food are very low in abundance, except for sea cucumber.

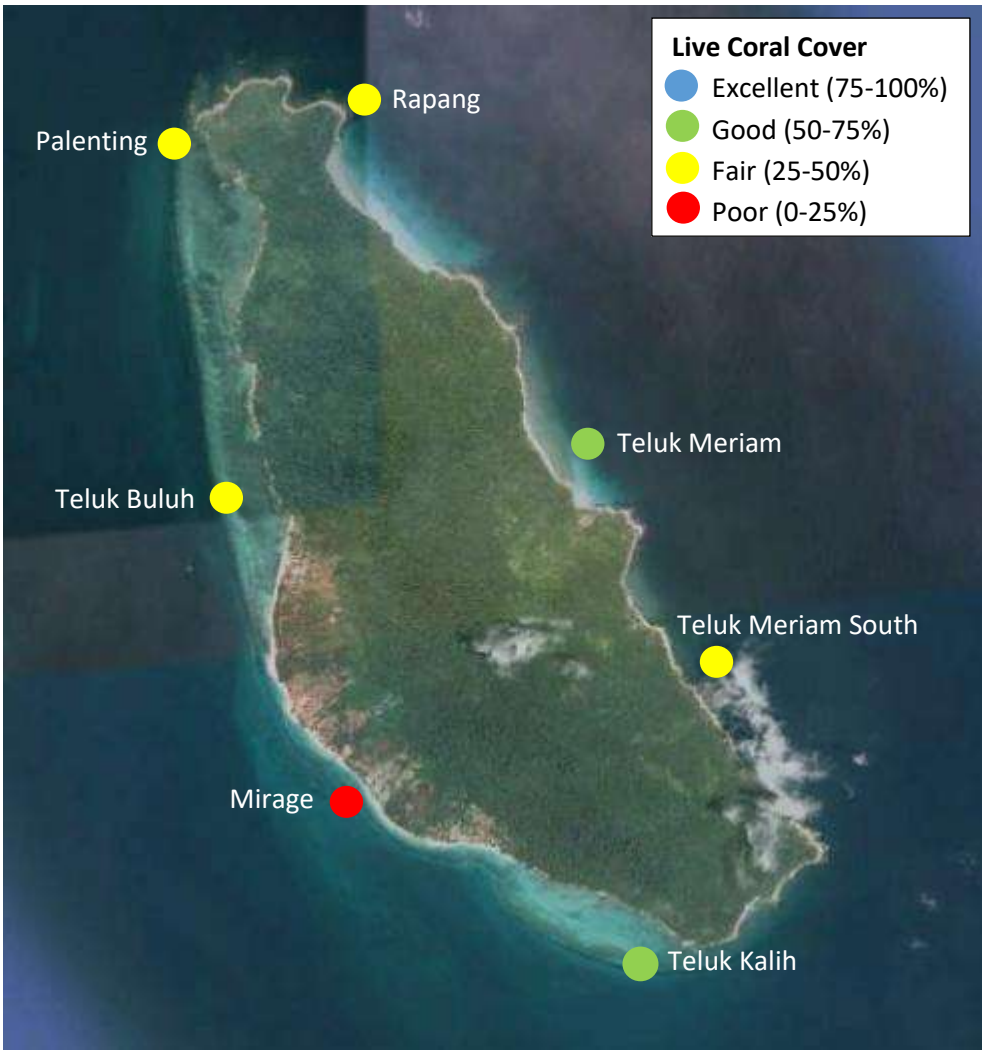


- Aur and Dayang reefs have maintained in 'fair' condition.
- The abundance of crown-of-thorns has decreased; and the population is now within what a healthy reef can sustain (0.2-0.3 individual per $100m^2$).



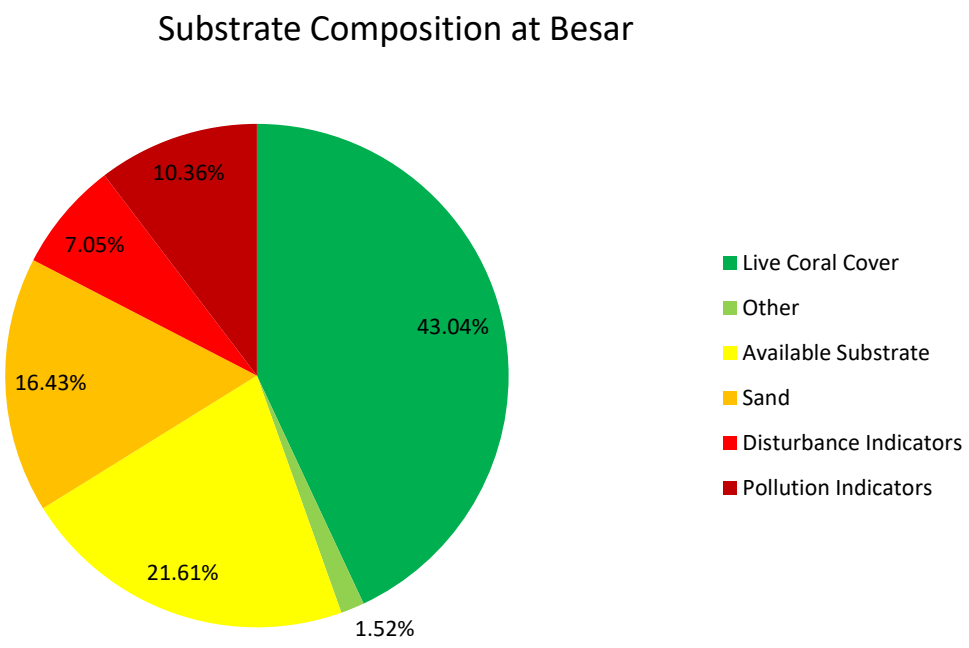
Johor – Besar

Pulau Besar is an island in Mersing District, Johor. The island is surrounded by Pulau Rawa, Pulau Sibu and Pulau Tinggi. The waters surrounding the island group were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993).



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Good' coral cover, 4 are in 'Fair' condition and 1 show ‘Poor’ health.

Coral Cover and Health



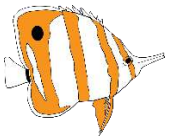
- Pulau Besar reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 42.05%.
- In 'Fair' condition and below the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Sand level is high. It is especially high at Mirage which recorded 42.50%. The level ranges from 12% to 25% at Palenting, Rapang and Teluk Buluh.
- Disturbance indicators are not high in Pulau Besar in general, but the level of silt is especially high at Teluk Buluh which recorded 11.25%.
- Pollution indicators are high.
- The level of nutrient indicator algae is especially high at Teluk Meriam South (16.88%).
- Sponge level is especially high at Palenting (10.63%).

CORAL IMPACTS

- Boat anchor damage and discarded fishing nets are recorded.
- Trash is recorded at many sites.
- Some sites are impacted by warm water bleaching.

Fish Abundance at Besar
(Individuals per 500m^3)

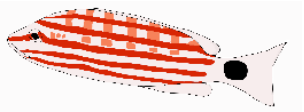
Targeted for aquarium trade



5.79

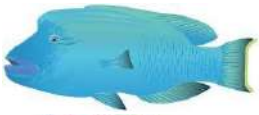
Targeted for food

1.68



2.57

Targeted for live-food fish trade

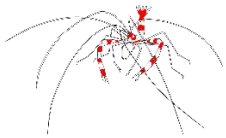
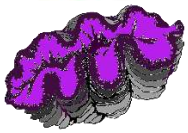


0.25

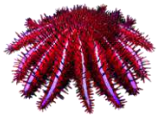
1.43

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is low.

Invertebrate Abundance at Besar
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	✗		✗
	✗		0.04
	✗		0.04
			✗

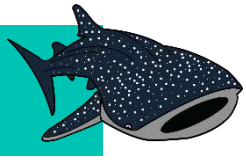
Ecological Imbalance/Predator Outbreaks

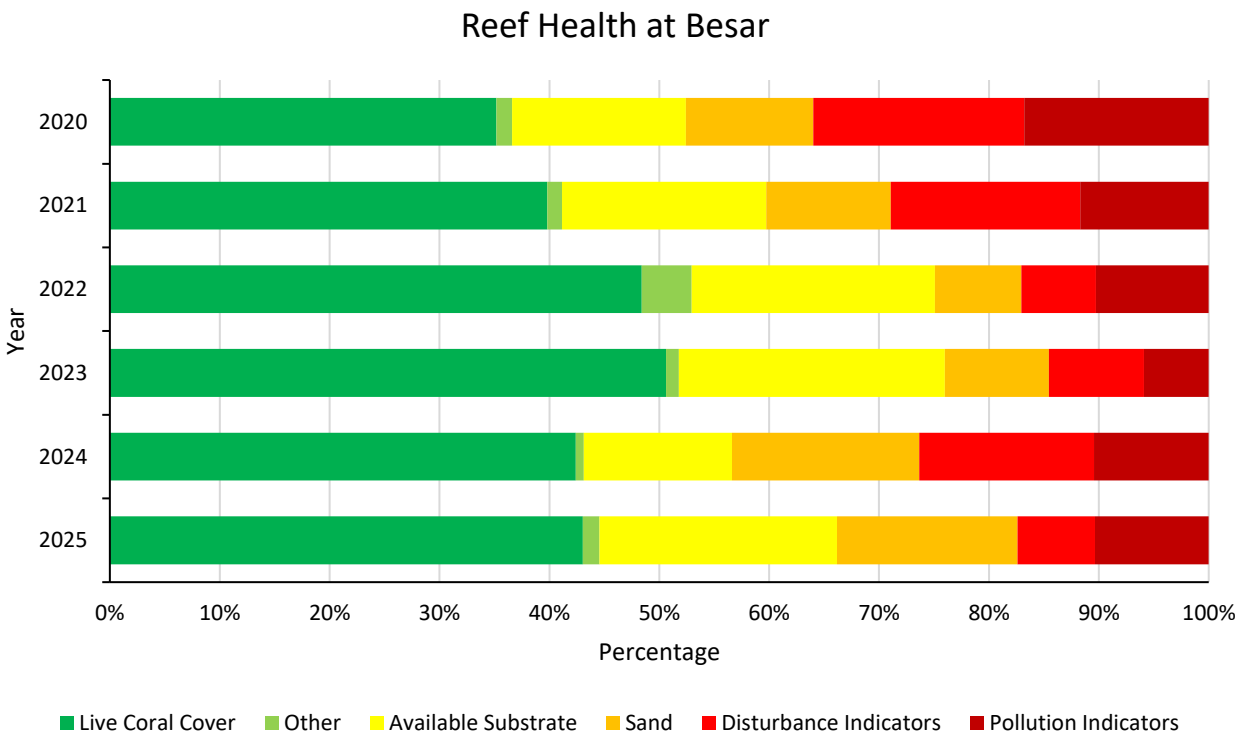
	26.18
	✗

- Invertebrates collected for curio trade are absent.
- The abundance invertebrates collected for food is very low.

RARE ANIMALS

- Turtles are recorded.

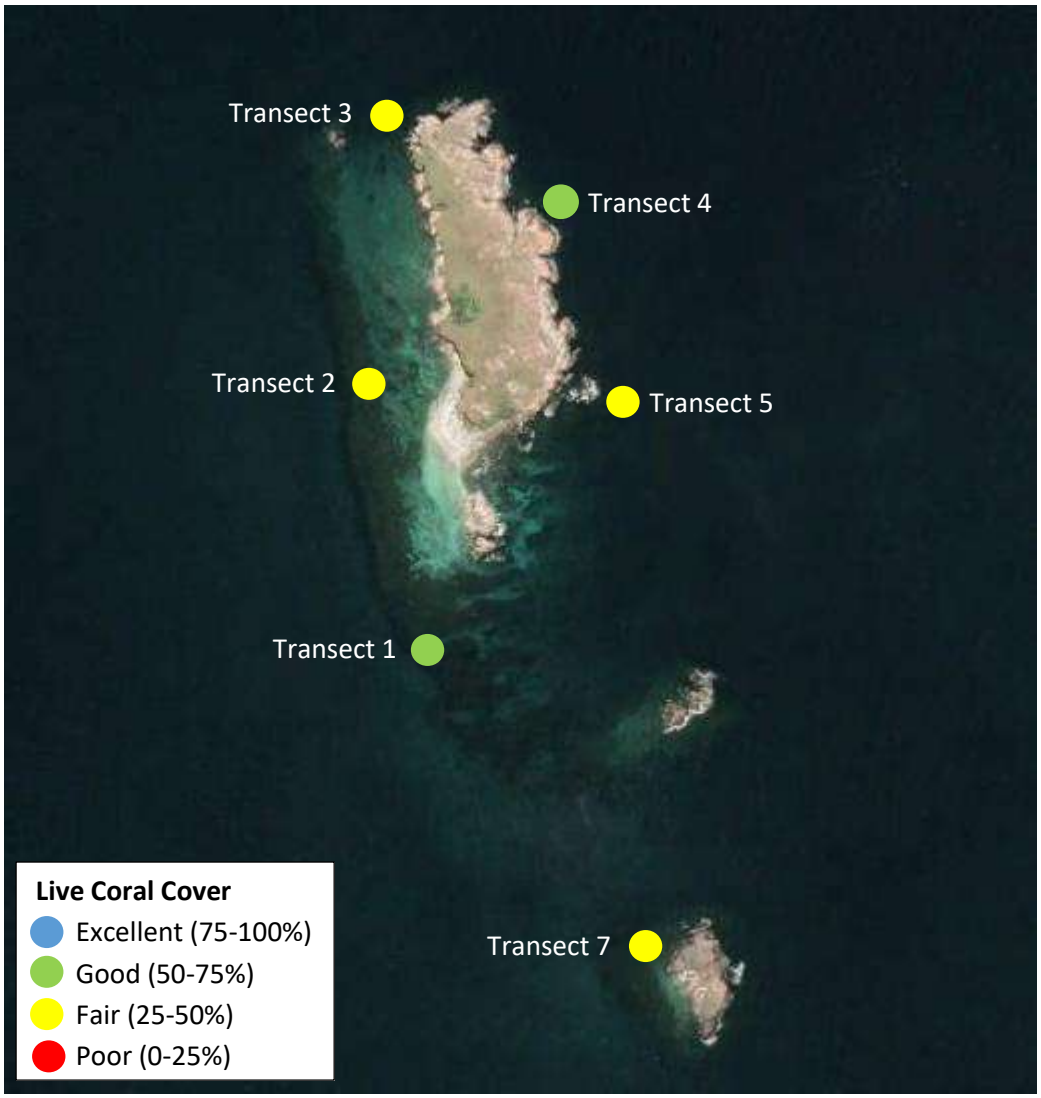




- From 2020 to 2023, Pulau Besar reefs had improved from 'fair' to 'good' condition.
- In 2024, the reefs deteriorated. The deterioration was due to a combination of several factors – physical damages caused by human activities and/or storm, raised level of nutrient in the waters around the island and the 4th Global Coral Bleaching Event.
- In 2025, the reefs show some improvement.
- Available substrate for coral recruits to attach is high, possible chance of further recovery if human impacts are dealt with.

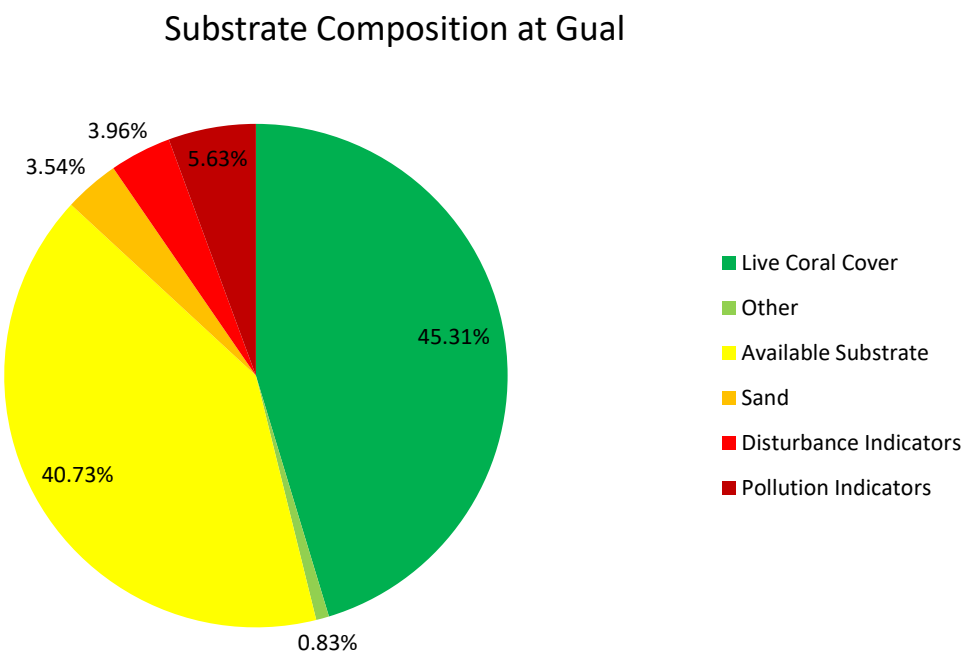
Johor – Gual

Pulau Gual is an island in Mersing District, Johor. The island is not populated and surrounded by Pulau Harimau, Pulau Mensirip and Pulau Rawa. The waters surrounding the island group were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993).



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Good' coral cover and 4 are in 'Fair' condition.

Coral Cover and Health



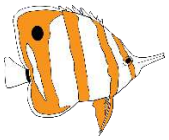
- Pulau Gual reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 44.27%.
- In 'Fair' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Pollution indicators are not high in Pulau Gual in general, but the level of sponge is especially high at Transect 2 which recorded 10.63%.

CORAL IMPACTS

- Discarded fishing nets and trash are recorded.
- All sites, except one, are impacted by warm water bleaching.

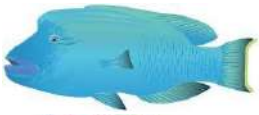
Fish Abundance at Gual
(Individuals per 500m^3)

Targeted for aquarium trade



7.88

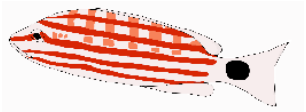
Targeted for live-food fish trade



0.04

Targeted for food

0.21



0.96

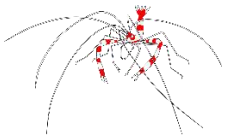
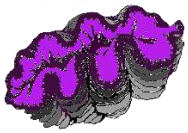
1.04

0.08

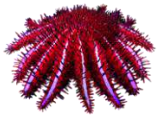
1.17

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Bumphead parrotfish, indicator targeted for live-food fish trade, is recorded.
- For fish targeted for food, only barramundi cod is absent. The abundance of fish targeted for food is low.

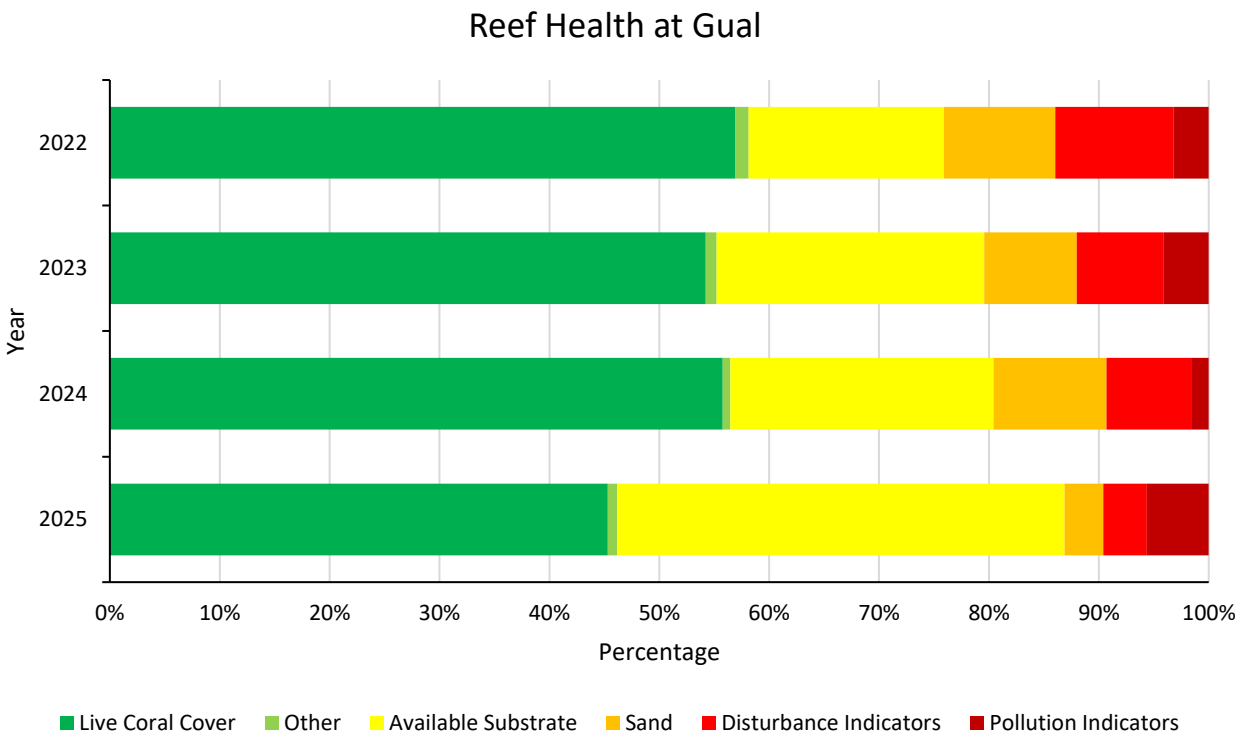
Invertebrate Abundance at Gual
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	X		X
	X		X
	X		0.04
			X

Ecological Imbalance/Predator Outbreaks

	111.42
	X

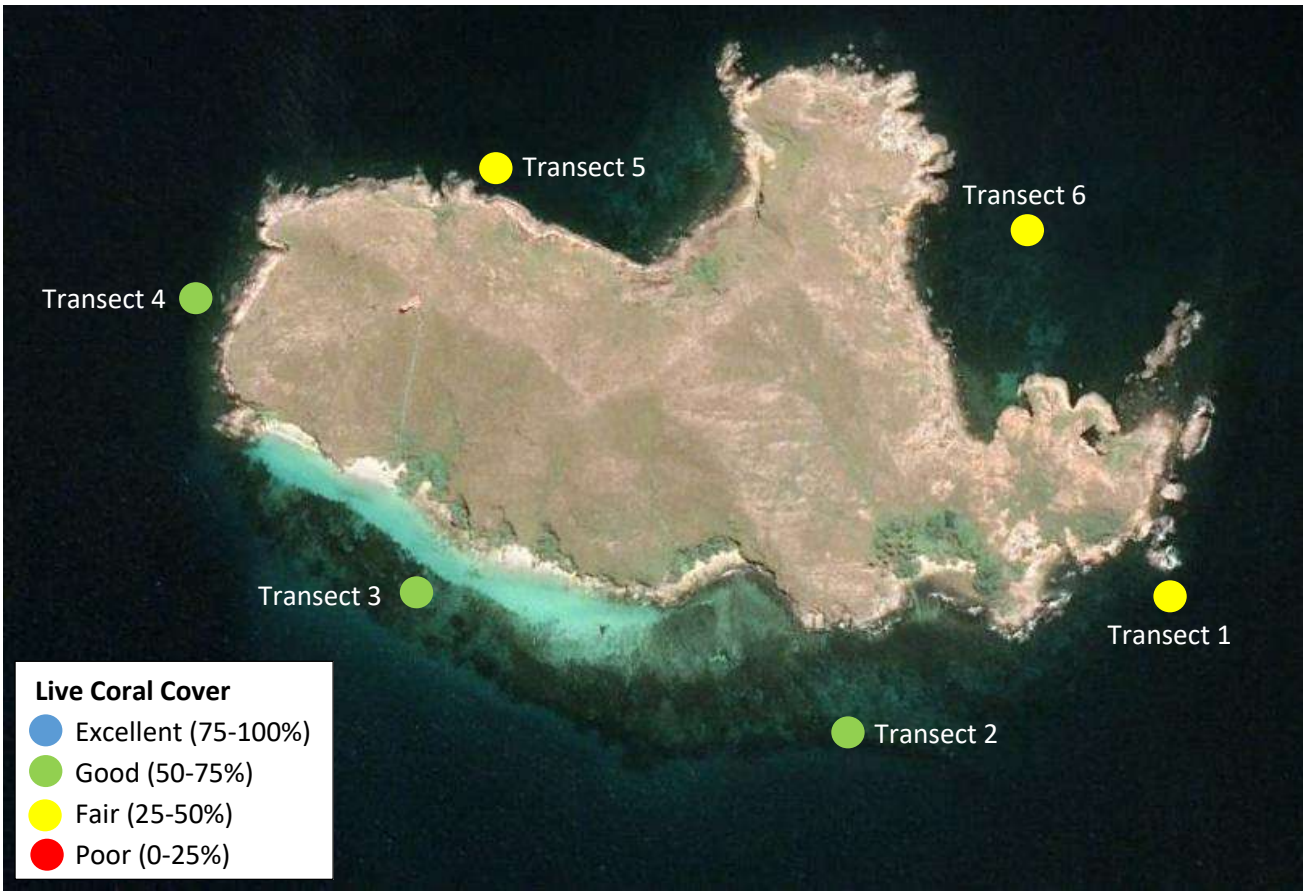
- Only diadema urchin and lobster are recorded.
- The abundance of diadema urchin is high.



- Gual reefs have deteriorated from 'good' to 'fair' condition.
- Disturbance indicators have reduced.
- The deterioration in 2025 is due to coral bleaching and the elimination of 3 sites.

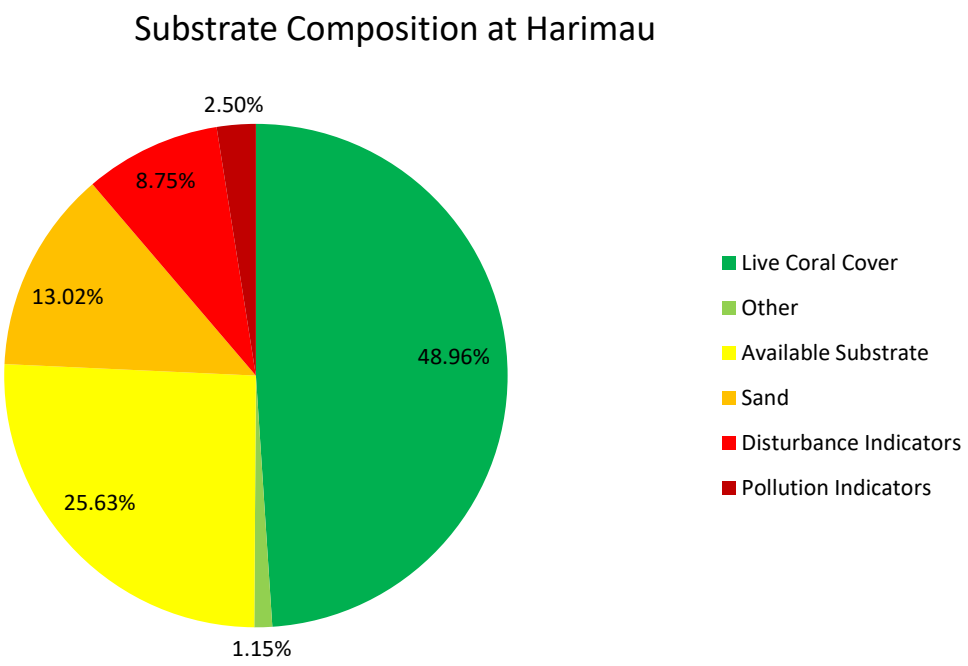
Johor – Harimau

Pulau Harimau is an island in Mersing District, Johor. The island is not populated and surrounded by Pulau Mertang, Pulau Mensirip, Pulau Gual and Pulau Rawa. The waters surrounding the island group were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993).



Map showing the health categories of each survey site based on Live Coral Cover: 3 sites have 'Good' coral cover and 3 are in 'Fair' condition.

Coral Cover and Health



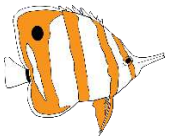
- Pulau Harimau reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 48.85%.
- In 'Fair' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Sand level is high. Transect 5 recorded 21.88% sand and Transect 6 recorded 36.25% sand.
- Disturbance indicators are slightly high.
- Rubble level ranges from 10% to 12% at Transect 3, 5 and 6.

CORAL IMPACTS

- Discarded fishing nets and trash are recorded.
- White and brown band diseases are recorded.
- All sites are impacted by warm water bleaching.

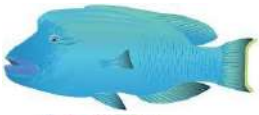
Fish Abundance at Harimau
(Individuals per 500m^3)

Targeted for aquarium trade



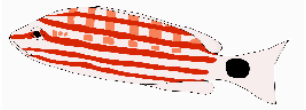
8.13

Targeted for live-food fish trade



Targeted for food

0.50



2.21

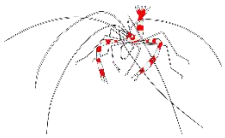
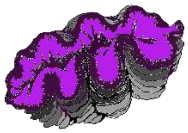
0.92

0.13

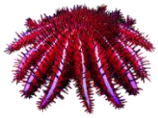
1.33

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Indicators targeted for live-food fish trade are absent.
- For fish targeted for food, only barramundi cod is absent. The abundance of fish targeted for food is low.

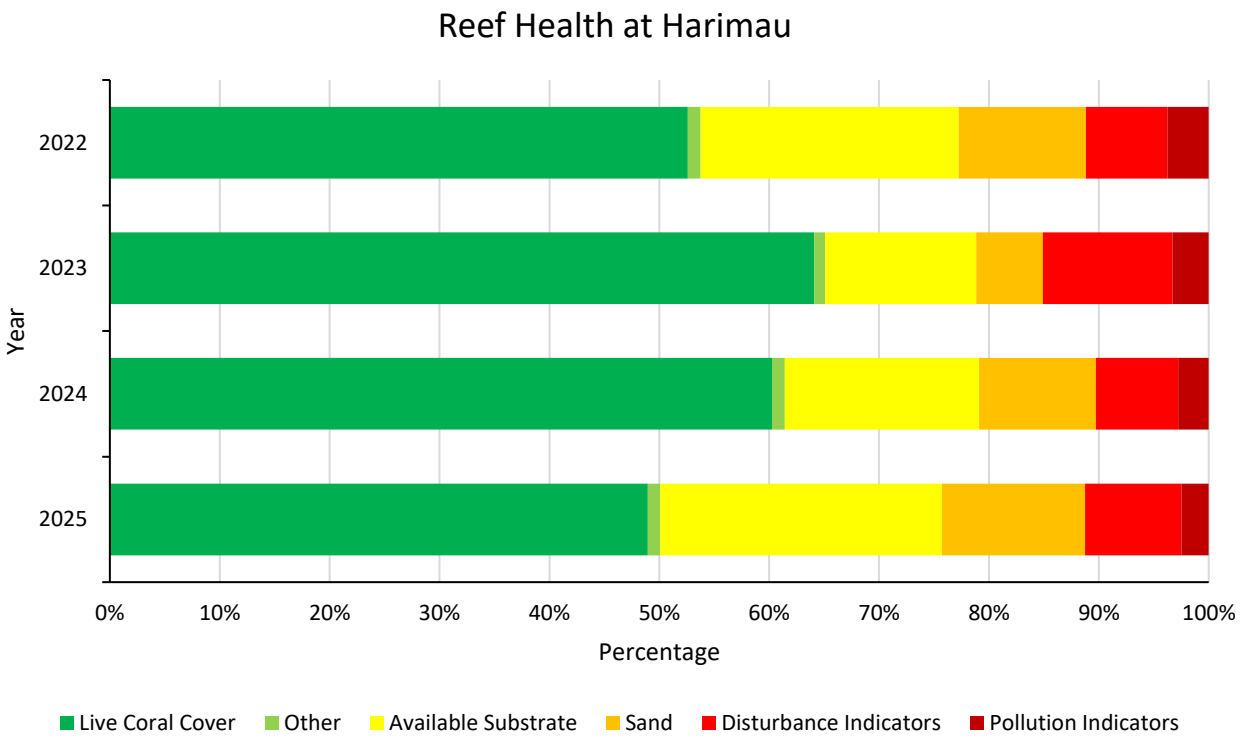
Invertebrate Abundance at Harimau
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	✗		✗
	✗		0.46
	✗		✗
			0.25

Ecological Imbalance/Predator Outbreaks

	148.38
	✗

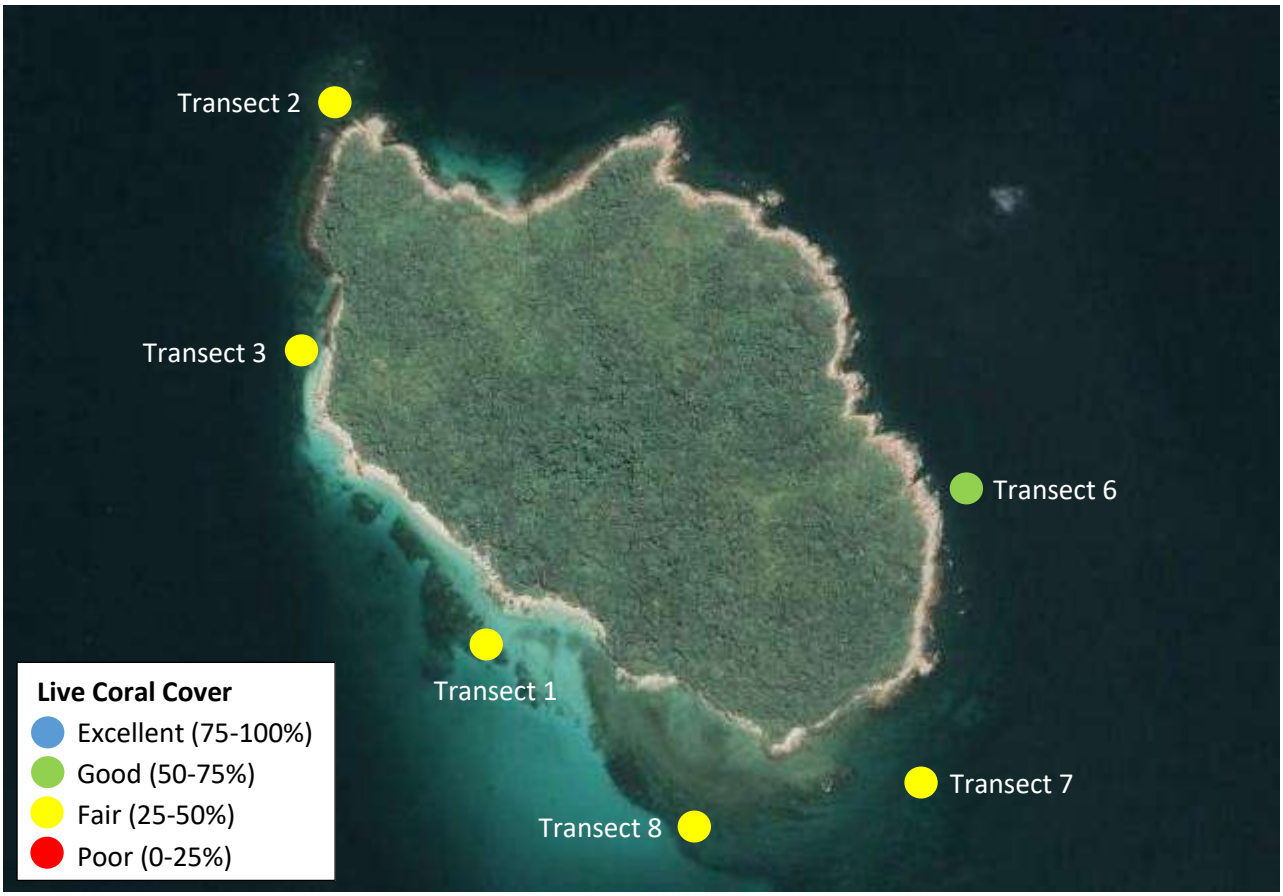
- Indicators for curio trade are absent.
- Diadema urchin abundance is high.
- The abundance of invertebrates collected for food is very low.



- Harimau reefs have deteriorated from 'good' to 'fair' condition.
- In 2024, the deterioration was due to the 4th Global Coral Bleaching Event.
- The deterioration in 2025 is due to coral bleaching and the elimination of 1 site.
- Available substrate for coral recruits to attach to is high, indicating possible chance of reef recovery if human impacts are dealt with.

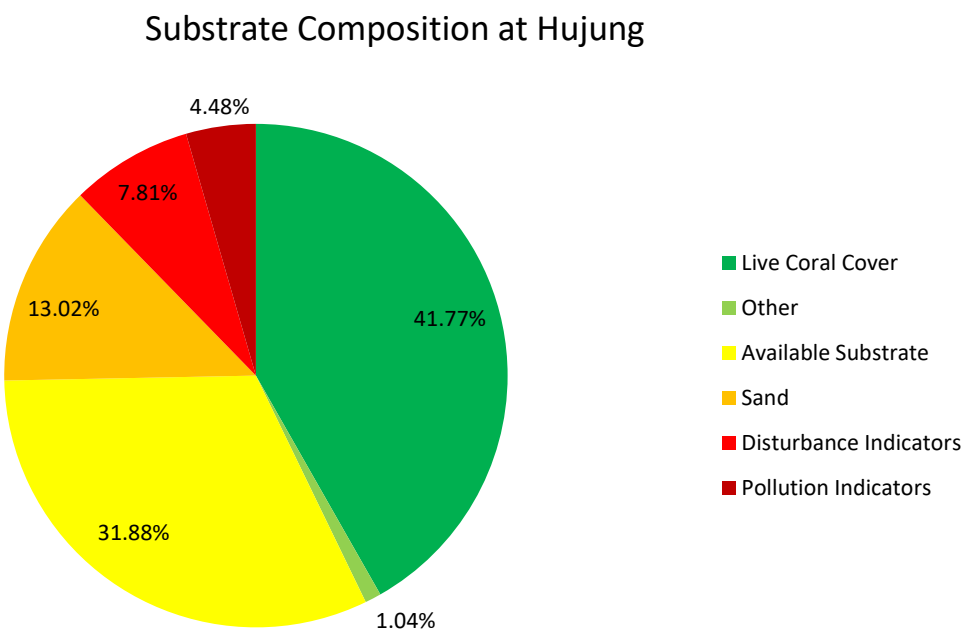
Johor – Hujung

Pulau Hujung is an island in Mersing District, Johor. The island is not populated and surrounded by Pulau Rawa, Pulau Sibu and Pulau Tinggi. The waters surrounding the island group were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993)



Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Good' coral cover and 5 are in 'Fair' condition.

Coral Cover and Health



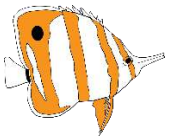
- Pulau Hujung reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 40.63%.
- In 'Fair' condition and below the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Sand level is high. The level is especially high at Transect 2 which recorded 40%.
- Disturbance indicators are slightly high.
- Rubble level is especially high at Transect 1 which recorded 22.50%.
- Pollution indicators are not high in Pulau Hujung in general, but the level of sponge is especially high at Transect 3 which recorded 16.25%.

CORAL IMPACTS

- Boat anchor damage and trash are recorded.
- Discarded fishing nets are recorded at all sites.
- All sites, except one, are impacted by warm water bleaching.

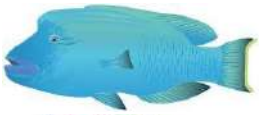
Fish Abundance at Hujung
(Individuals per 500m^3)

Targeted for aquarium trade



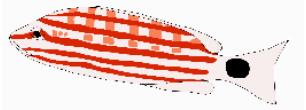
8.38

Targeted for live-food fish trade



Targeted for food

0.13



1.13

0.42

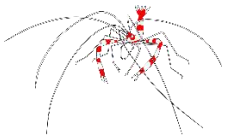
0.04

0.71

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Indicators targeted for live-food fish trade are absent.
- For fish targeted for food, only barramundi cod is absent. The abundance of the rest of the indicators is low.

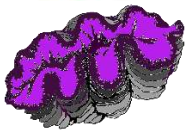
Invertebrate Abundance at Hujung
(Individuals per 100m^2)

Collected for curio trade



Collected for food

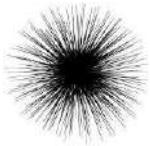
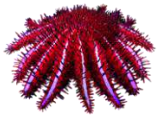


2.54

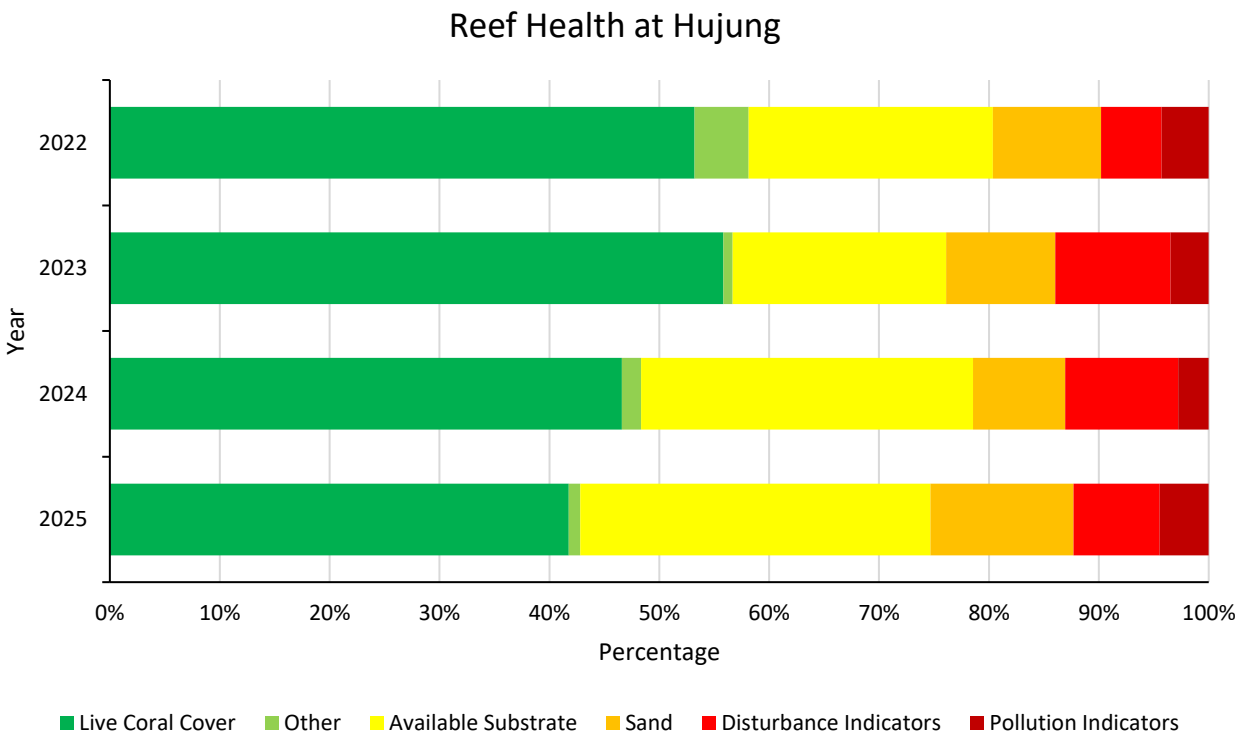
0.17

Ecological Imbalance/Predator Outbreaks

224

- Indicators for curio trade are absent.
- Diadema urchin abundance is high.
- The abundance of invertebrates collected for food is very low.



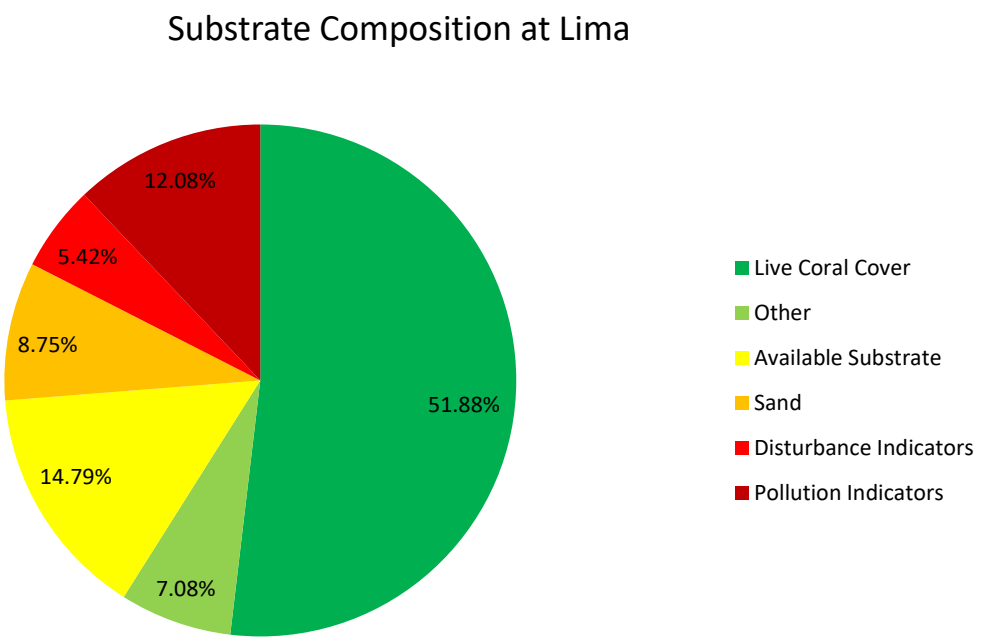
- Hujung reefs have deteriorated from 'good' to 'fair' condition.
- In 2024, the deterioration was due to the 4th Global Coral Bleaching Event.
- The deterioration in 2025 is due to coral bleaching and the elimination of 3 sites.
- Available substrate for coral recruits to attach to is high, indicating possible chance of reef recovery if human impacts are dealt with.

Johor – Lima

Pulau Lima is an island in Mersing District, Johor. The island is surrounded by Pulau Sibu and Pulau Tinggi and frequented by snorkelers and divers from the nearby Pulau Sibu and Pulau Tinggi. The island is not populated. The natural ecosystem hosts diverse marine life, has high aesthetic value and is a national heritage. The waters surrounding the island group were gazetted as a Marine Park in 2023 under the Fisheries Act 1985.

Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Good' coral cover and 1 is in 'Fair' condition.

Coral Cover and Health



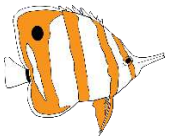
- Pulau Lima reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 49.58%.
- In 'Good' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is high.
- Sand level is high. The level is especially high at Tokong Sanggul which recorded 12.50%.
- Pollution indicators are high.
- Sponge level is especially high at Pulau Lima Kecil (11.25%) and Tokong Sanggul (10%).

CORAL IMPACTS

- Boat anchor damage, discarded fishing nets and trash are recorded at many sites.

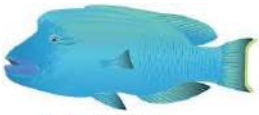
Fish Abundance at Lima
(Individuals per 500m^3)

Targeted for aquarium trade



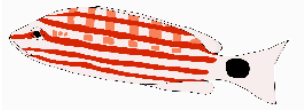
7.58

Targeted for live-food fish trade



Targeted for food

0.58



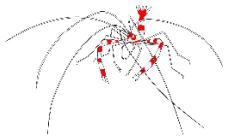
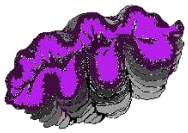
7.33

4.08

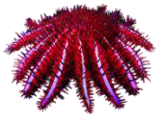
2.25

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Indicators targeted for live-food fish trade are absent.
- Good abundance of fish targeted for food.

Invertebrate Abundance at Lima
(Individuals per 100m^2)

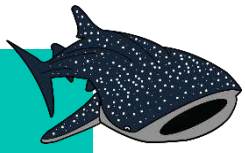
Collected for curio trade		Collected for food	
	✗		✗
	✗		1.58
	✗		✗
			✗

Ecological Imbalance/Predator Outbreaks

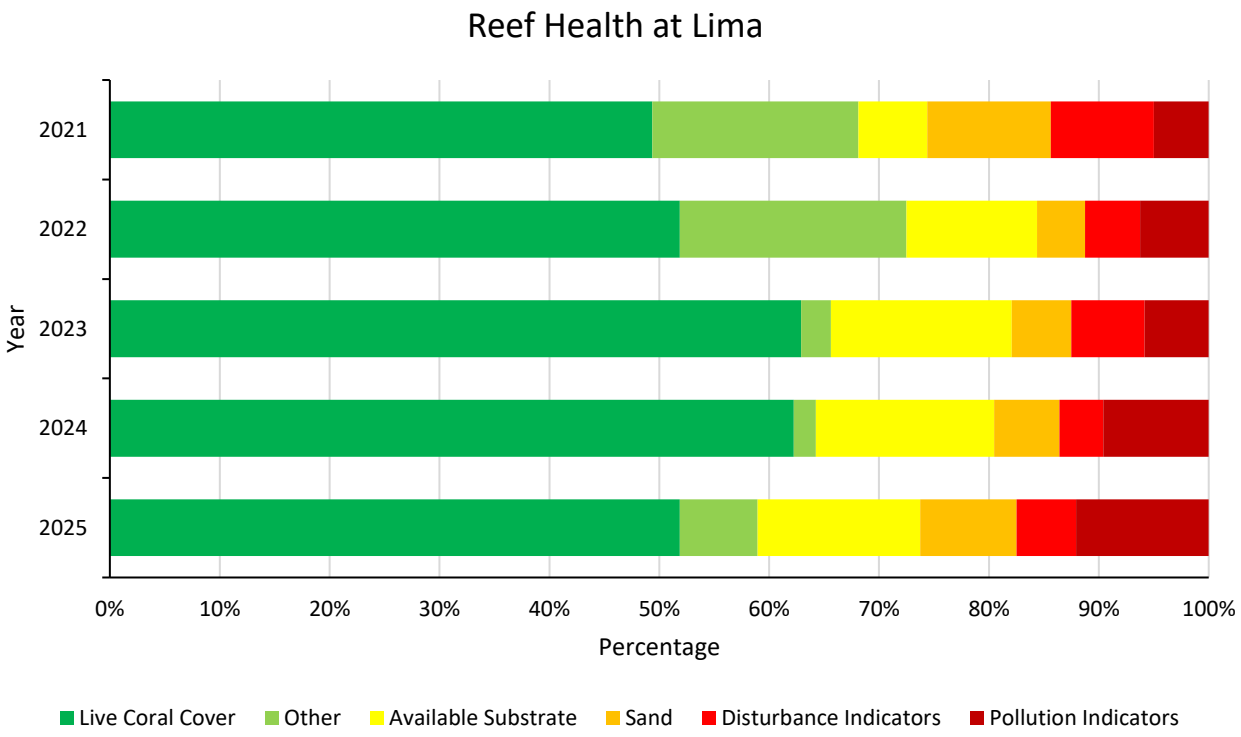
	166.08
	✗

- Only diadema urchin and sea cucumber are recorded.
- Diadema urchin abundance is high.

RARE ANIMALS



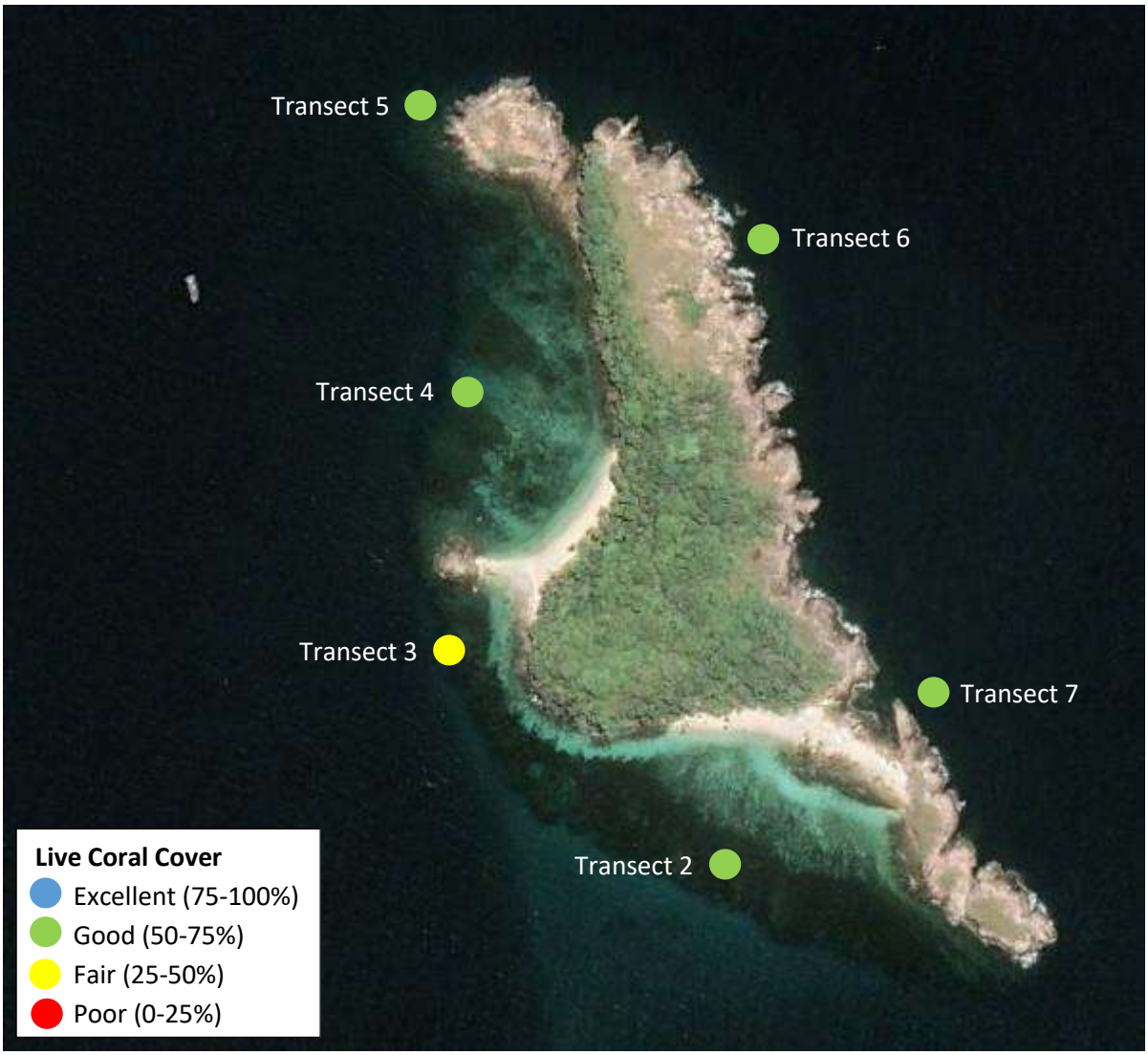
- Sharks are recorded.



- Pulau Lima reefs have maintained in 'good' condition.
- The significant improvement in 2023 is considered to reflect the addition of 1 new site, rather than an actual significant increase in live coral cover.
- Since 2024, the reefs have deteriorated. The deterioration is due to raised level of nutrient in the waters around the island.

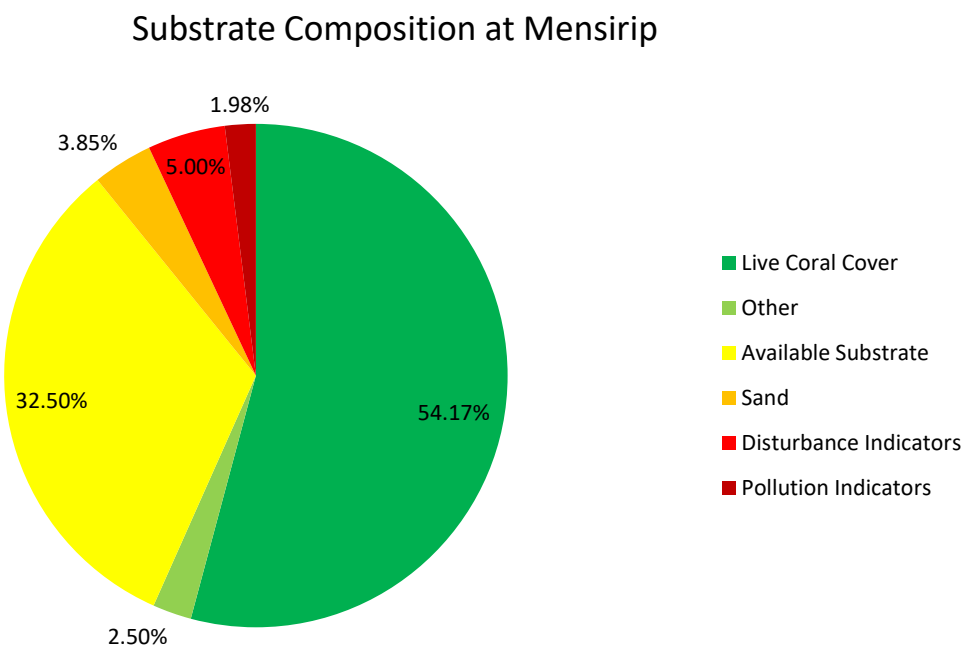
Johor – Mensirip

Pulau Mensirip is an island in Mersing District, Johor. The island is not populated and surrounded by Pulau Harimau, Pulau Gual and Pulau Rawa. The waters surrounding the island group were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993).



Map showing the health categories of each survey site based on Live Coral Cover: 5 sites have 'Good' coral cover and 1 is in 'Fair' condition.

Coral Cover and Health



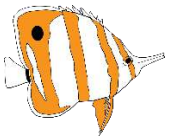
- Pulau Mensirip reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 44.38%.
- In 'Good' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Sand level is not high in Pulau Mensirip in general, but the level is especially high at Transect 5 which recorded 10.63%.

CORAL IMPACTS

- Discarded fishing nets and trash are recorded.
- All sites, except one, are impacted by warm water bleaching.

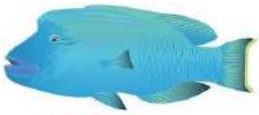
Fish Abundance at Mensirip
(Individuals per 500m^3)

Targeted for aquarium trade



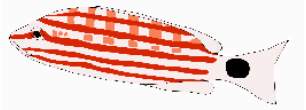
13.83

Targeted for live-food fish trade



Targeted for food

0.83



0.58

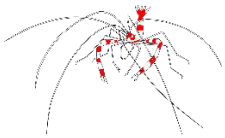
1.38

0.58

- Butterflyfish, indicator for aquarium trade, abundance is very high.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is low.

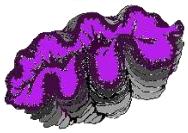
Invertebrate Abundance at Mensirip
(Individuals per 100m^2)

Collected for curio trade



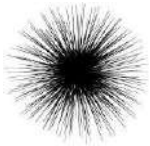
Collected for food



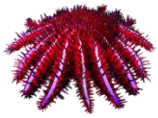



0.04

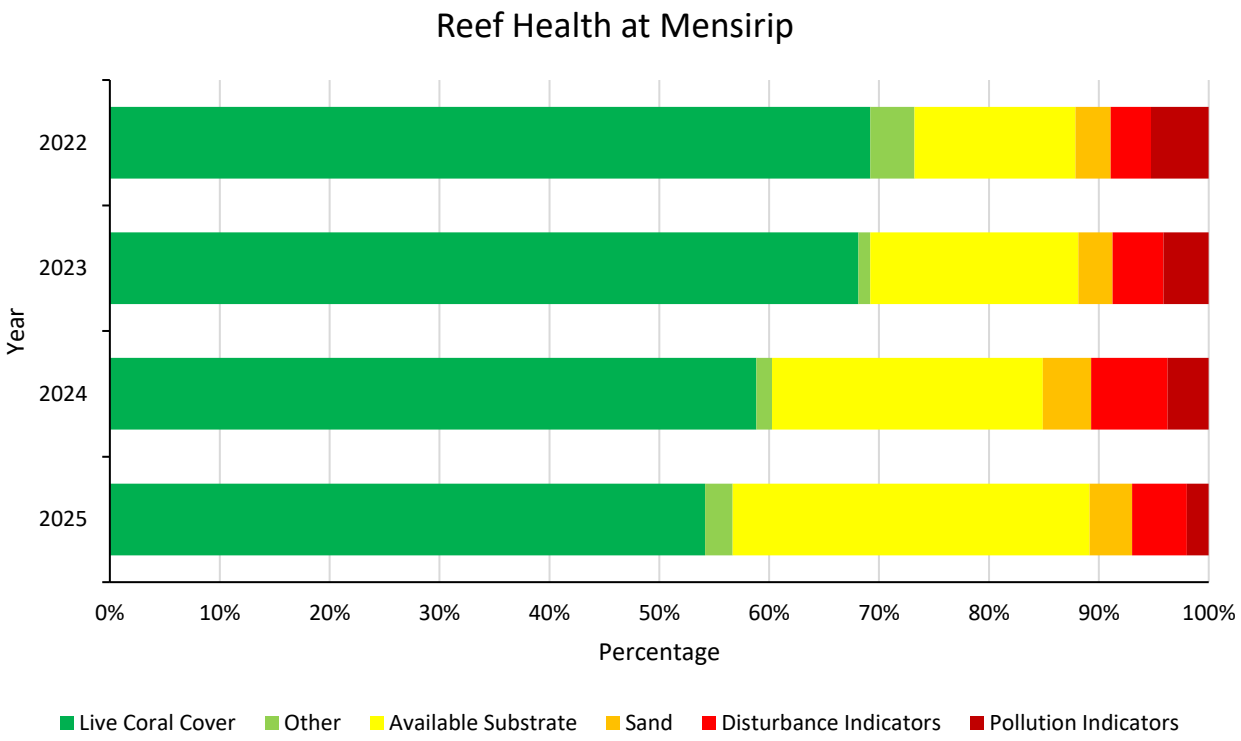
Ecological Imbalance/Predator Outbreaks



156.58



- Only diadema urchin and giant clam are recorded.
- Diadema urchin abundance is high.



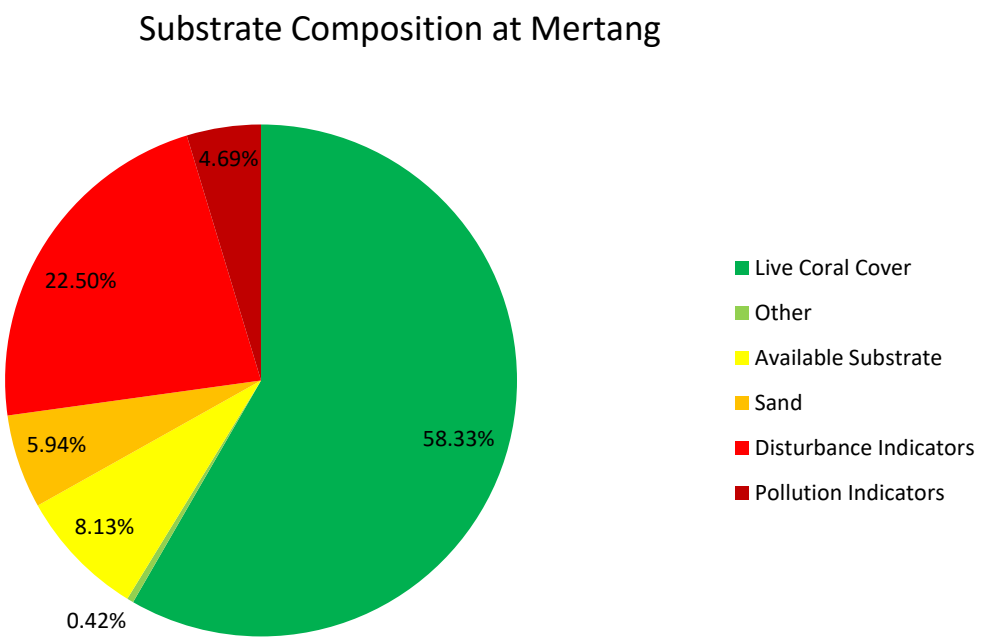
- Mensirip reefs have deteriorated over the years.
- The deterioration is likely due to physical damage caused by human activities and/or storm.
- In 2024, the 4th Global Coral Bleaching Event further deteriorated the reefs.
- The deterioration in 2025 is due to coral bleaching and the elimination of 1 site.
- Available substrate for coral recruits to attach to is high, indicating possible chance of reef recovery if human impacts are dealt with.

Johor – Mertang

Mertang is an island in Mersing District, Johor and is approximately 11km off mainland. The island is near to Pulau Sembilang and Pulau Seri Buat. The island is not populated and is an important turtle nesting site. The waters surrounding the island group were gazetted as a Marine Park in 2023 under the Fisheries Act 1985.

Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Excellent' coral cover, 3 are in 'Good' condition and 2 show ‘Fair’ health.

Coral Cover and Health



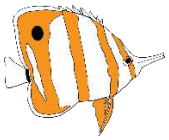
- Mertang reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 57.81%.
- In 'Good' condition and above the Sunda Shelf region average (43.73%).
- Disturbance indicators are very high.
- The levels of recently killed coral and rubble are especially high at Mertang Timur 2 (above 23%).
- The level of recently killed coral is above 11% at Mertang Barat and Mertang Tengah 2, and the level of rubble ranges from 10% to 14% at Mertang Barat, Mertang Barat 2 and Mertang Tengah 2.

CORAL IMPACTS

- Boat anchor damage, discarded fishing nets and trash are recorded at many sites.
- Drupella predation is recorded.

Fish Abundance at Mertang
(Individuals per 500m^3)

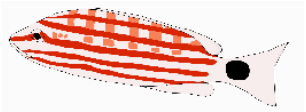
Targeted for aquarium trade



8.25

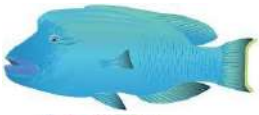
Targeted for food

0.21



0.96

Targeted for live-food fish trade



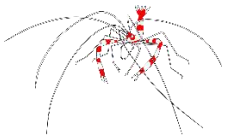
2.00

0.79

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is very low.

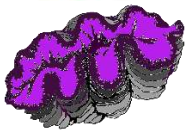
Invertebrate Abundance at Mertang
(Individuals per 100m^2)

Collected for curio trade

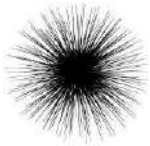


Collected for food

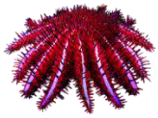


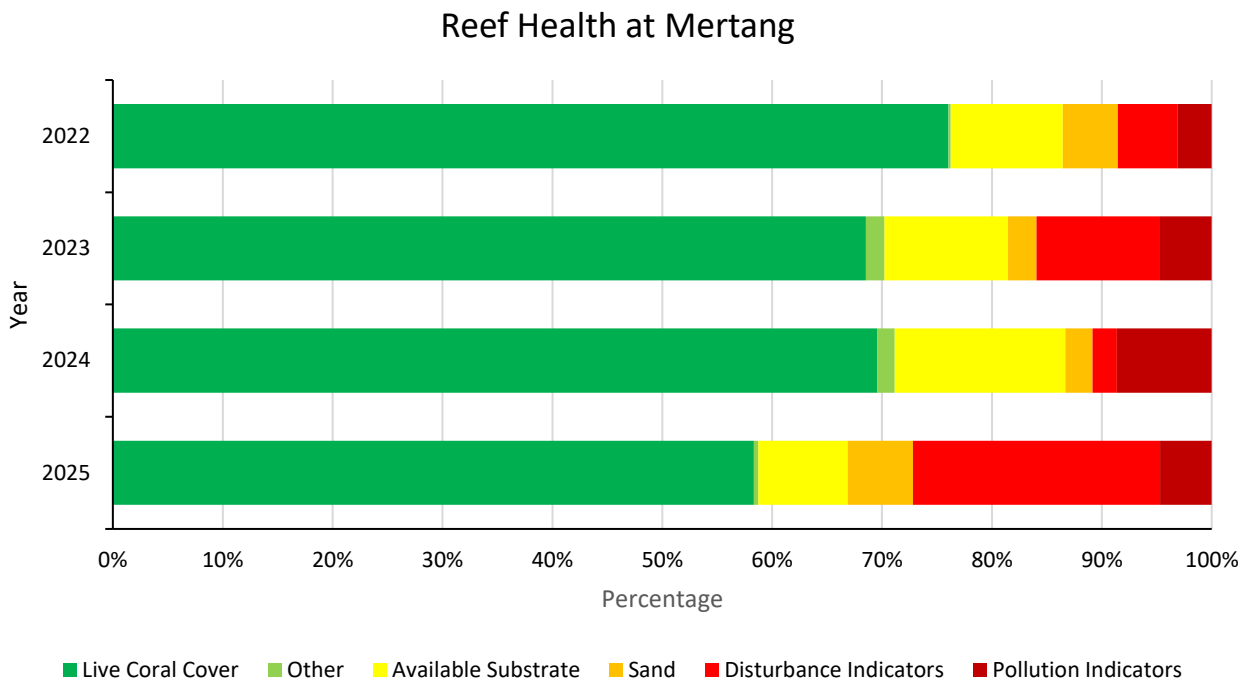
Ecological Imbalance/Predator Outbreaks



123.25



- Only diadema urchin is recorded and the abundance is high.

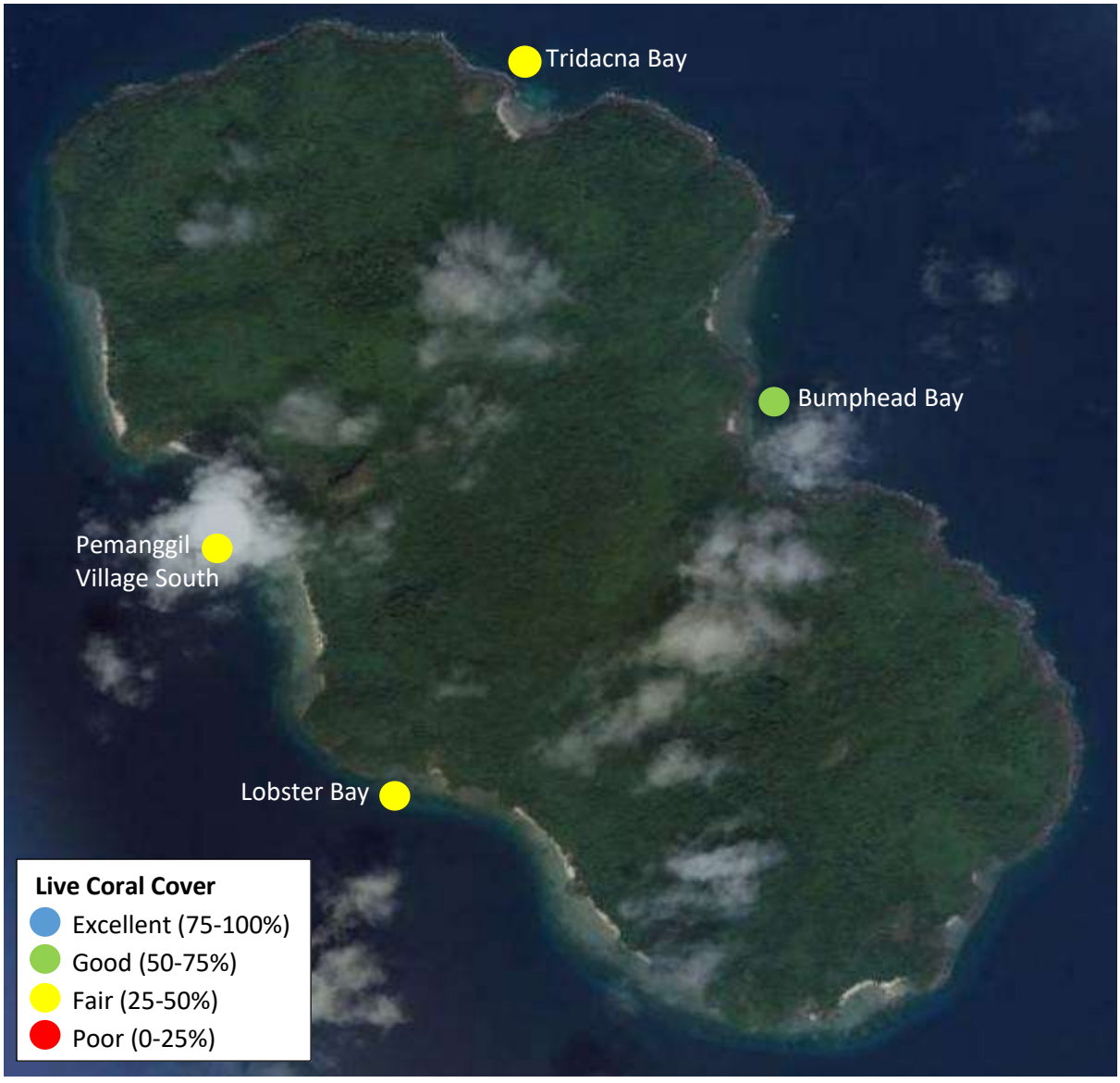


- Pulau Mertang reefs have deteriorated.
- The deterioration in 2023 is considered to reflect the addition of 3 new sites, rather than an actual decrease in live coral cover.
- The deterioration in 2025 is due to physical damage caused by human activities and/or storm. The deterioration is also contributed by drupella predation which is recorded at many segments of the reefs at 2 survey sites.
- Available substrate for coral recruits to attach to is high, indicating possible chance of reef recovery if human impacts are dealt with.

Johor – Pemanggil

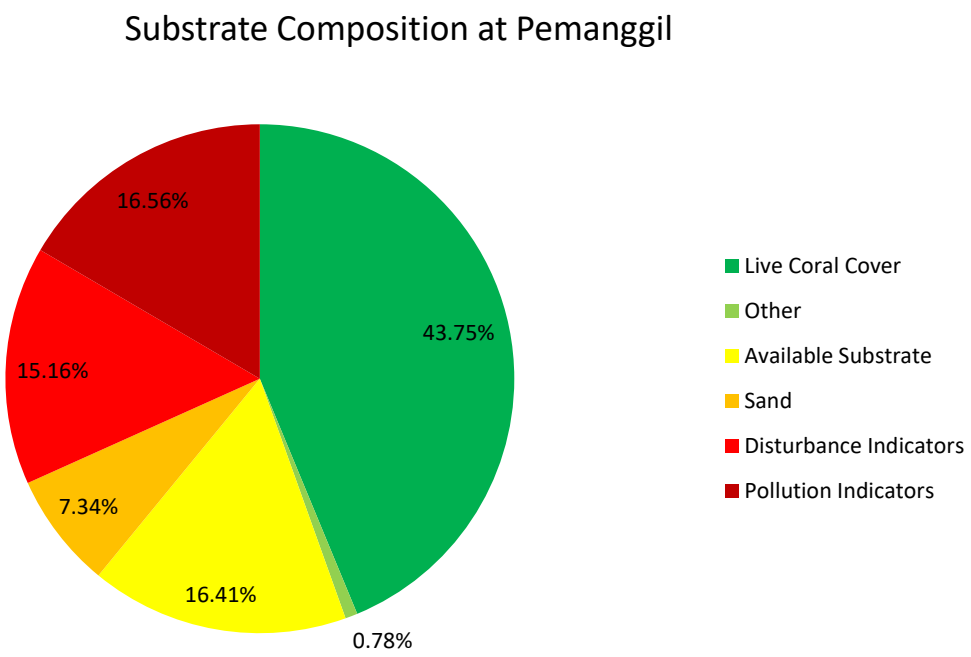
Pemanggil Island is approximately 45km east of Mersing off the East coast of Peninsular Malaysia. The island and its surrounding waters were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993).

The island is sparsely populated and has for many years been a frequent stopover point for fishermen.



Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Good' coral cover and 3 are in 'Fair' condition.

Coral Cover and Health



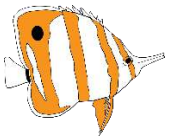
- Pemanggil reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 40.63%.
- In 'Fair' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is high.
- Sand level is especially high at Pemanggil Village South which recorded 15.63%.
- Disturbance indicators are high.
- Rubble level is high at all sites, ranging from 8% to 22%.
- Pollution indicators are high.
- Nutrient indicator algae level is high at all sites, ranging from 14% to 22%.

CORAL IMPACTS

- Discarded fishing nets are recorded.
- Some sites are impacted by warm water bleaching.

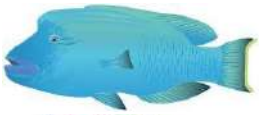
Fish Abundance at Pemanggil
(Individuals per 500m^3)

Targeted for aquarium trade



7.56

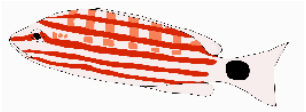
Targeted for live-food fish trade



0.19

Targeted for food

0.38



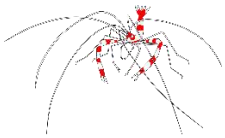
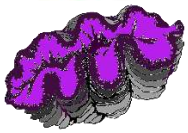
0.63

3.00

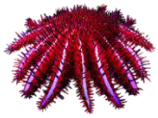
0.19

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Bumphead parrotfish, indicator targeted for live-food fish trade, is recorded.
- The abundance of fish targeted for food is very low, except for parrotfish.

Invertebrate Abundance at Pemanggil
(Individuals per 100m^2)

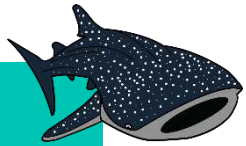
Collected for curio trade		Collected for food	
	✗		✗
	✗		18.56
	✗		✗
			✗

Ecological Imbalance/Predator Outbreaks

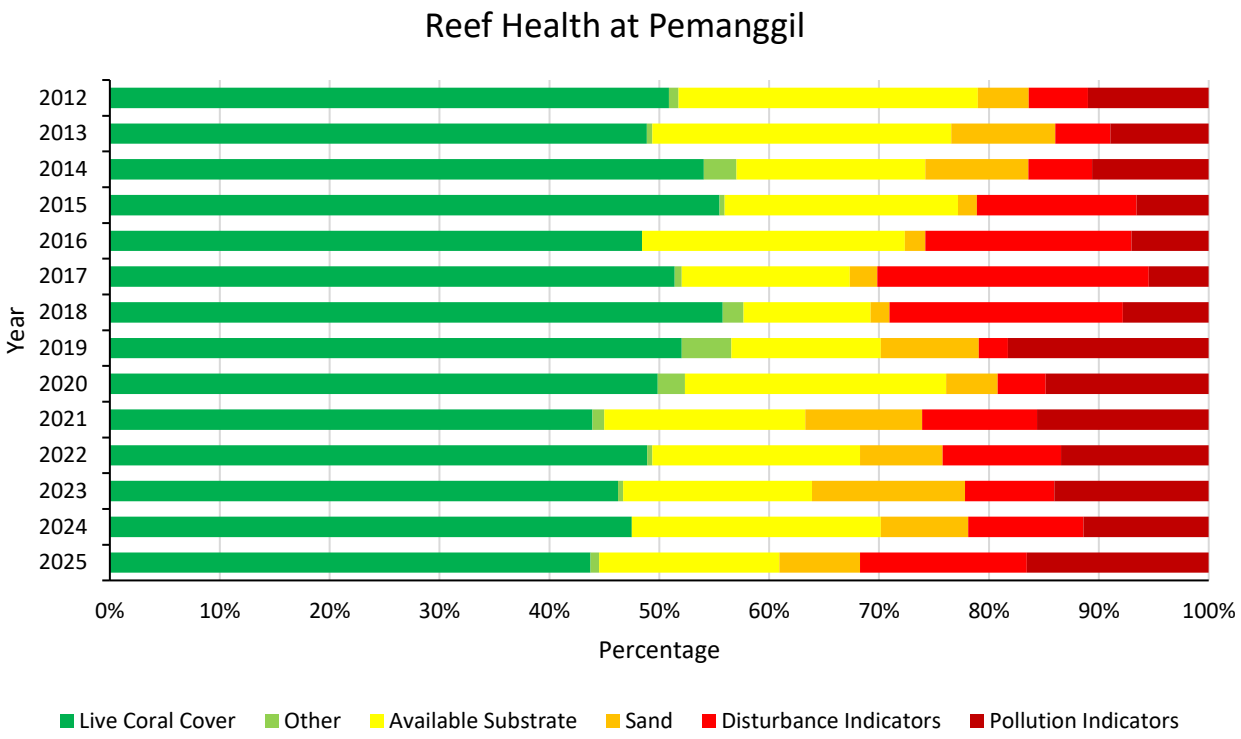
	**1.50**
	**0.19**

- Indicators for curio trade are absent.
- Crown-of-thorns is not an issue in Pemanggil.
- The abundance of sea cucumber, invertebrate collected for food, is very high.

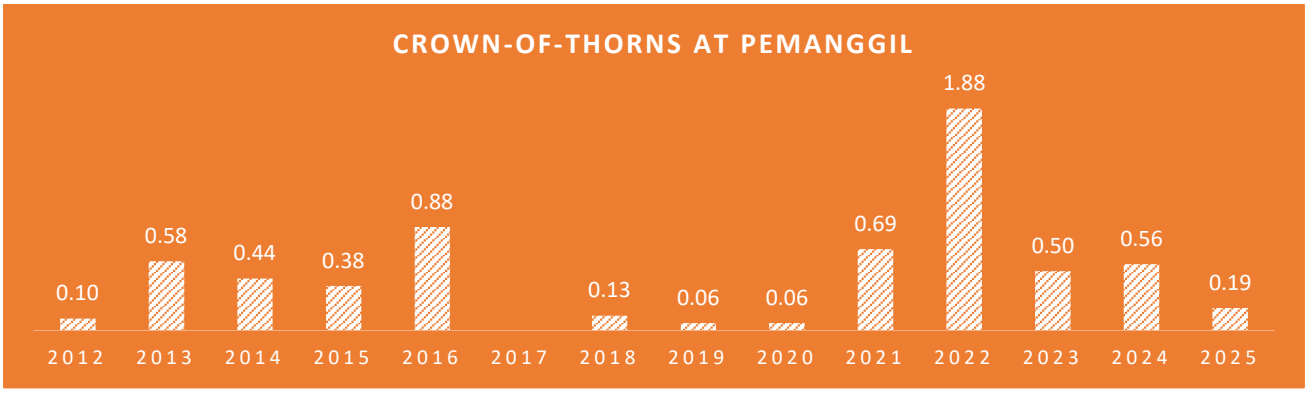
RARE ANIMALS



- Turtles are recorded.

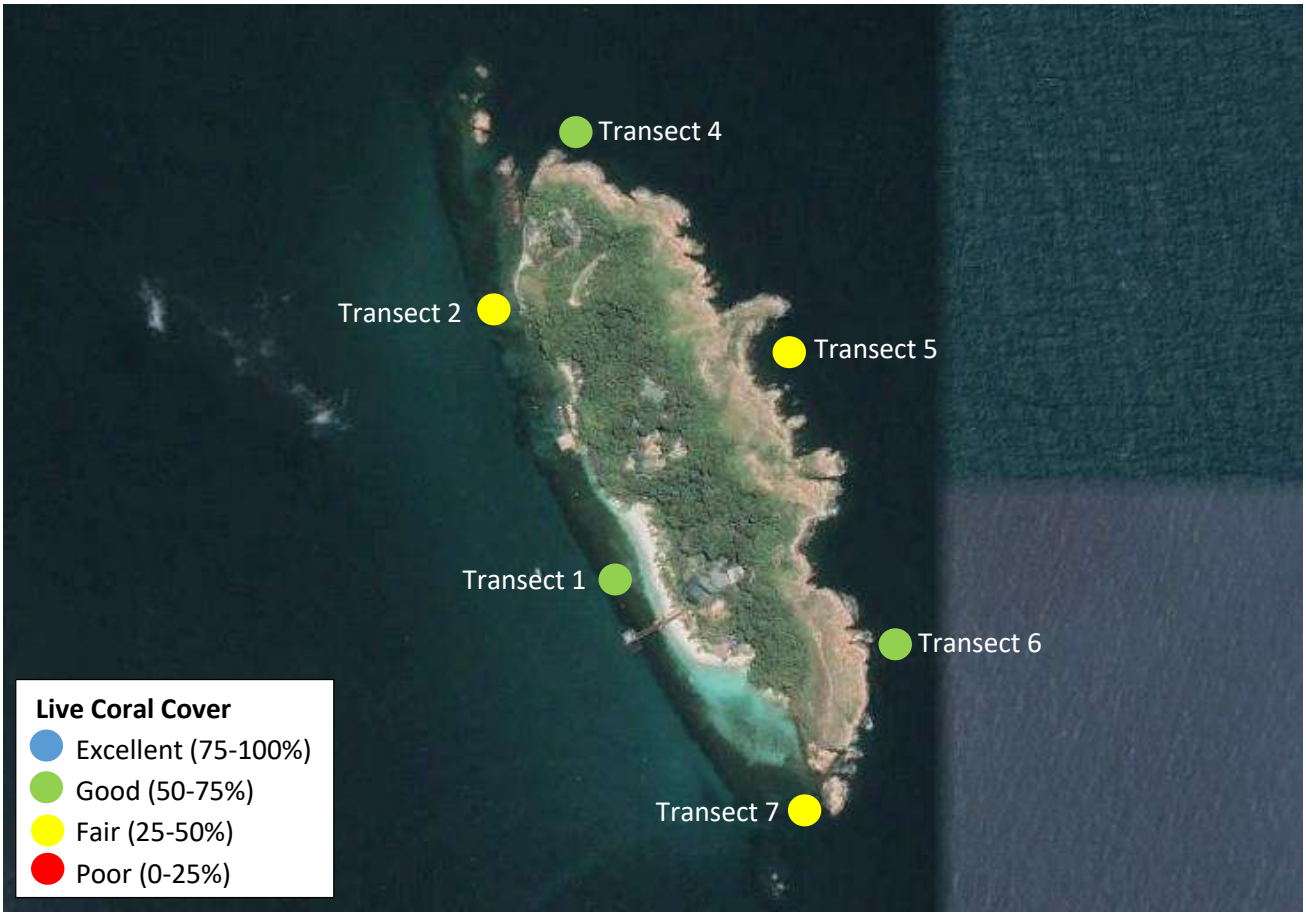


- Pemanggil reefs have deteriorated from 'good' to 'fair' condition.
- The deterioration in 2016 was likely due to the significant increase in crown-of-thorns abundance.
- The deterioration from 2019 onwards is due to a combination of several factors – physical damage caused by human activities and/or storm, raised level of nutrient in the waters around the island and crown-of-thorns outbreaks.
- In 2021, the abundance of crown-of-thorns had increased significantly to above what a healthy reef can sustain (0.2-0.3 individual per 100m^2). In 2025, the abundance has decreased to within the acceptable limit.



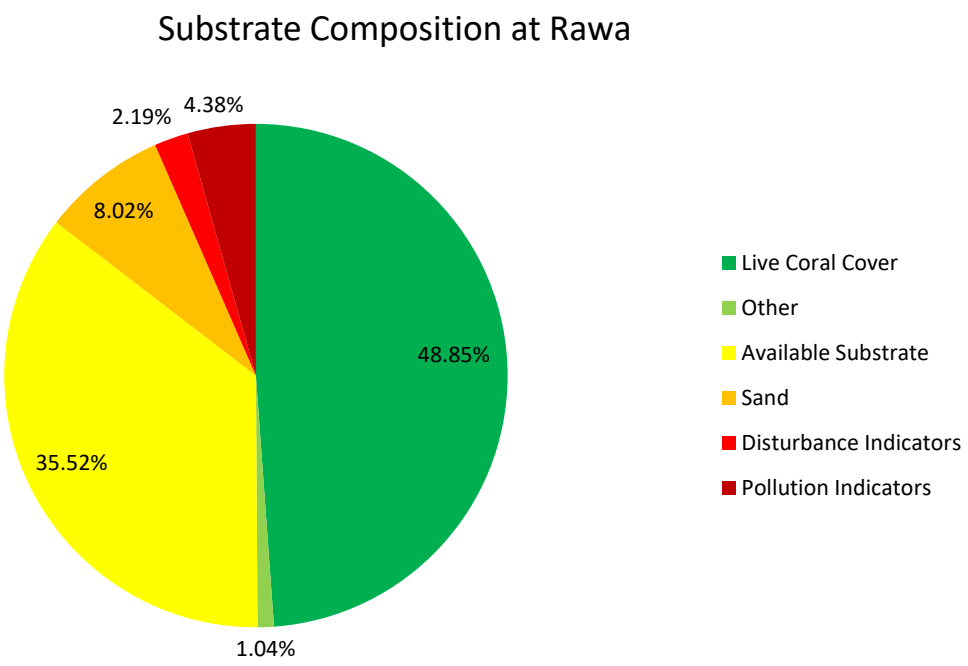
Johor – Rawa

Pulau Rawa is under Mersing District, Johor and is accessible by speedboat from Mersing (20-30 minutes boat ride). Rawa is the local term for white doves, which are abundant on the island. Pulau Rawa is a small island and there are no proper roads, only a few walkways. There are two resorts on the island. One side of the island is a beach covered with white sand and the other side is a rocky vertical cliff. The island and its surrounding waters were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993).



Map showing the health categories of each survey site based on Live Coral Cover: 3 sites have 'Excellent' coral cover and 3 are in 'Good' condition.

Coral Cover and Health



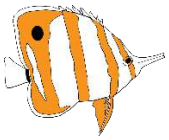
- Rawa reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 47.92%.
- In 'Fair' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Sand level is high. It is especially high at Transect 7 (27.50%) and Transect 1 (12.50%).
- Pollution indicators are not high in Rawa in general, but the level of nutrient indicator algae is especially high at Transect 1 (8.75%) and the level of sponge is especially high at Transect 5 (7.50%).

CORAL IMPACTS

- Discarded fishing nets and trash are recorded.
- Some sites are impacted by warm water bleaching.

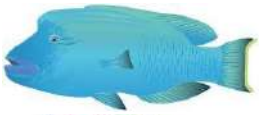
Fish Abundance at Rawa
(Individuals per 500m^3)

Targeted for aquarium trade



6.50

Targeted for live-food fish trade

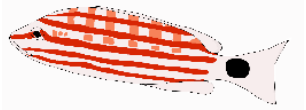


✗

0.04

Targeted for food

0.33



2.54

✗

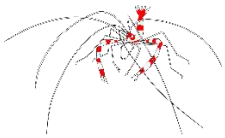
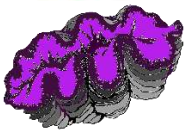
1.04

0.08

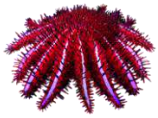
0.25

- Butterflyfish, indicator for aquarium trade, is recorded.
- Bumphead parrotfish, indicator targeted for live-food fish trade, is recorded.
- For fish targeted for food, only barramundi cod is absent. The abundance of fish targeted for food is low.

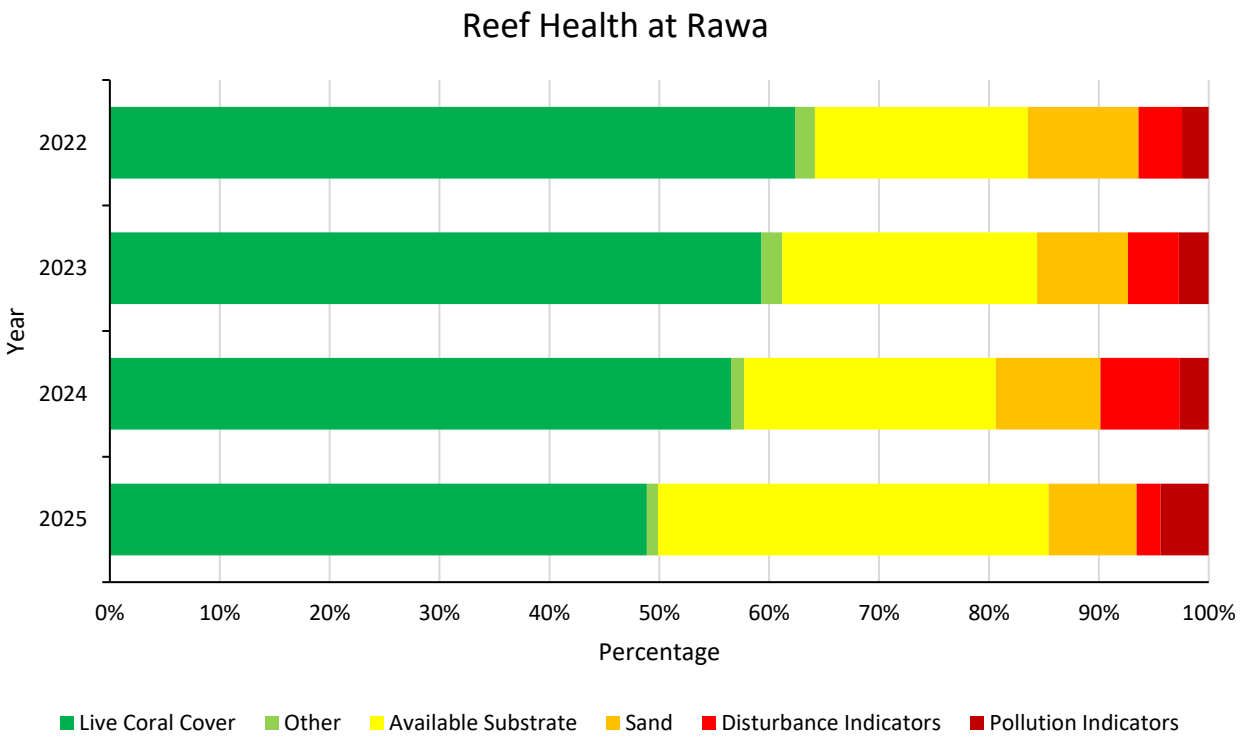
Invertebrate Abundance at Rawa
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	X		X
	X		0.17
	X		X
			X

Ecological Imbalance/Predator Outbreaks

	86.96
	X

- Only diadema urchin and sea cucumber are recorded.
- Sea cucumber, invertebrate collected for food, abundance is low.

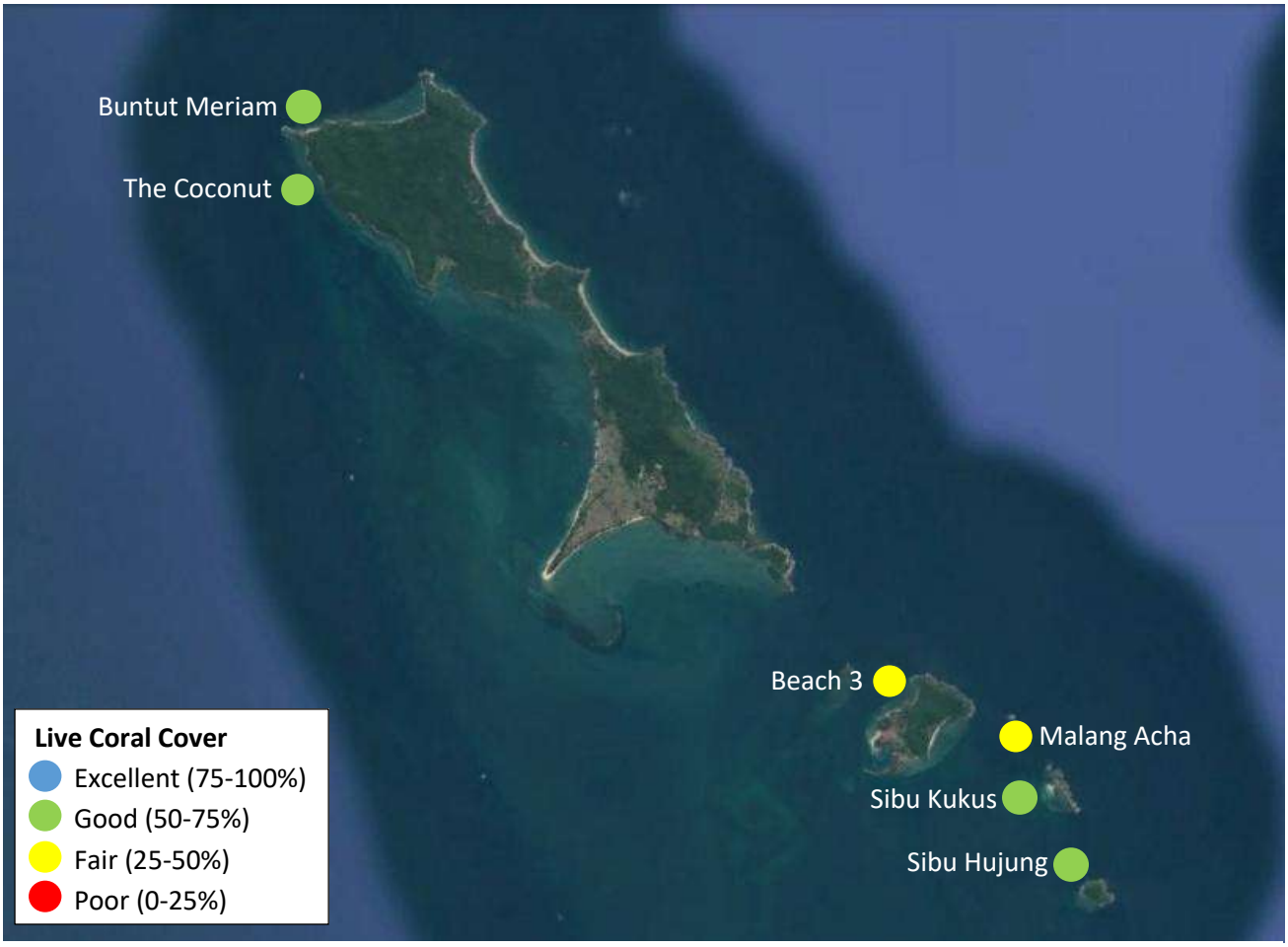


- Rawa reefs have deteriorated from 'good' to 'fair' condition.
- The deterioration in 2024 was due to the 4th Global Coral Bleaching Event.
- The deterioration in 2025 is due to coral bleaching and the elimination of 3 sites.
- Available substrate for coral recruits to attach to is high, indicating possible chance of reef recovery if human impacts are dealt with.

Johor – Sibu

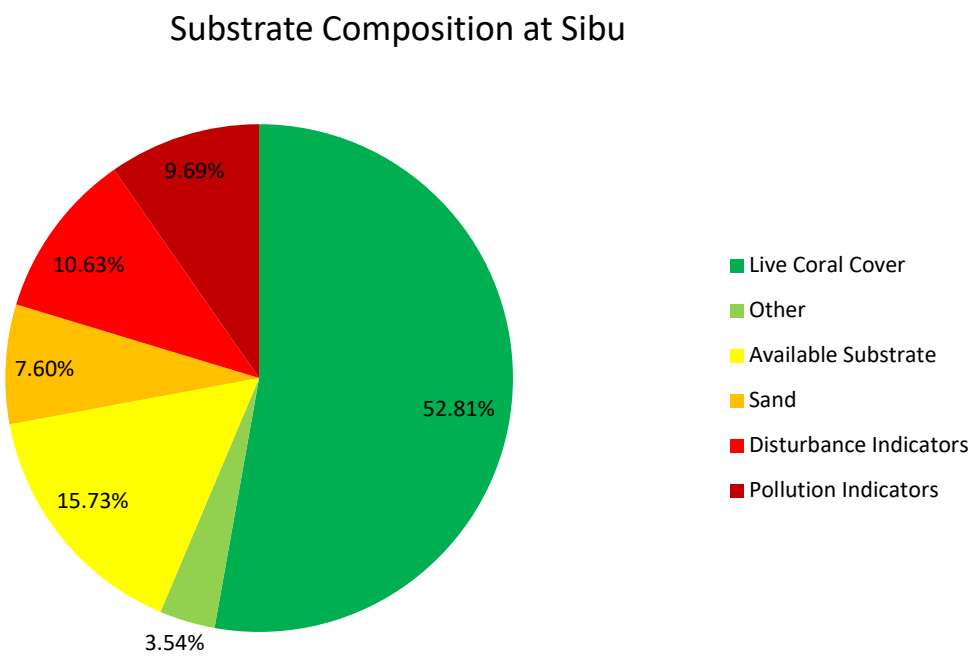
The Sibu archipelago, known locally by the name of the largest island, Sibu, is located less than 10km off the East coast of mainland Peninsular Malaysia. The waters surrounding the island group were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993).

Sibu island is not as popular among tourists as other islands off the East coast, but the tourism industry here is growing. The island is sparsely populated with few villages and several small resorts.



Map showing the health categories of each survey site based on Live Coral Cover: 4 sites have 'Good' coral cover and 2 are in 'Fair' condition.

Coral Cover and Health



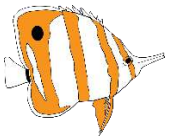
- Sibu reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 49.79%.
- In 'Good' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is high.
- Sand level is high at many sites, ranging from 7% to 15%.
- Disturbance indicators are high.
- Silt level is especially high at Beach 3 (11.88%) and Malang Acha (15%).
- Pollution indicators are quite high.
- The level of sponge is high at many sites, ranging from 7% to 15%.

CORAL IMPACTS

- Boat anchor damage, discarded fishing nets and trash are recorded at many sites.
- Storm damage is recorded.
- One site is impacted by warm water bleaching.

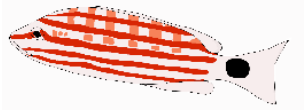
Fish Abundance at Sibu
(Individuals per 500m^3)

Targeted for aquarium trade



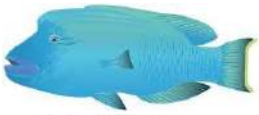
2.75

Targeted for food



1.92

Targeted for live-food fish trade

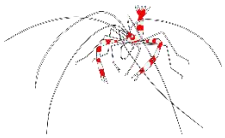
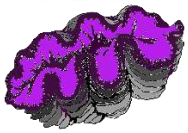


1.08

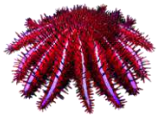
0.58

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is low.

Invertebrate Abundance at Sibu
(Individuals per 100m^2)

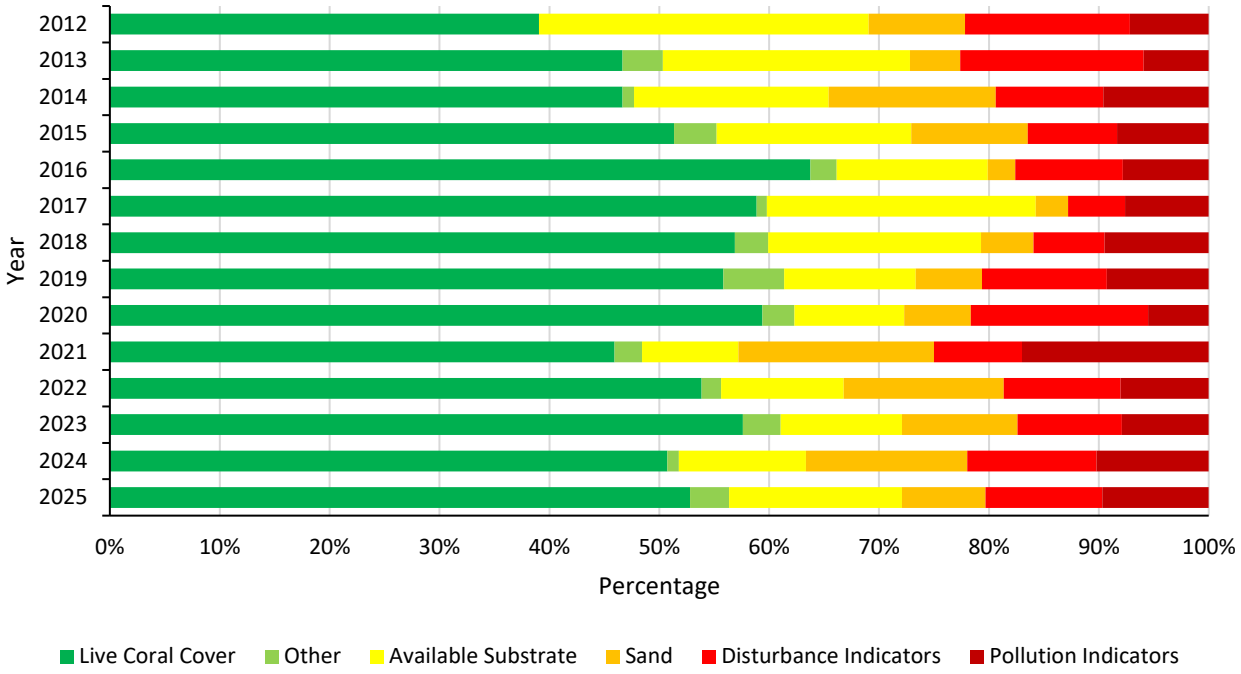
Collected for curio trade		Collected for food	
	✗		✗
	✗		0.04
	✗		✗
			0.08

Ecological Imbalance/Predator Outbreaks

	73.17
	✗

- Indicators collected for curio trade are absent.
- Diadema urchin abundance is high.
- The abundance of invertebrates collected for food is very low.

Reef Health at Sibu

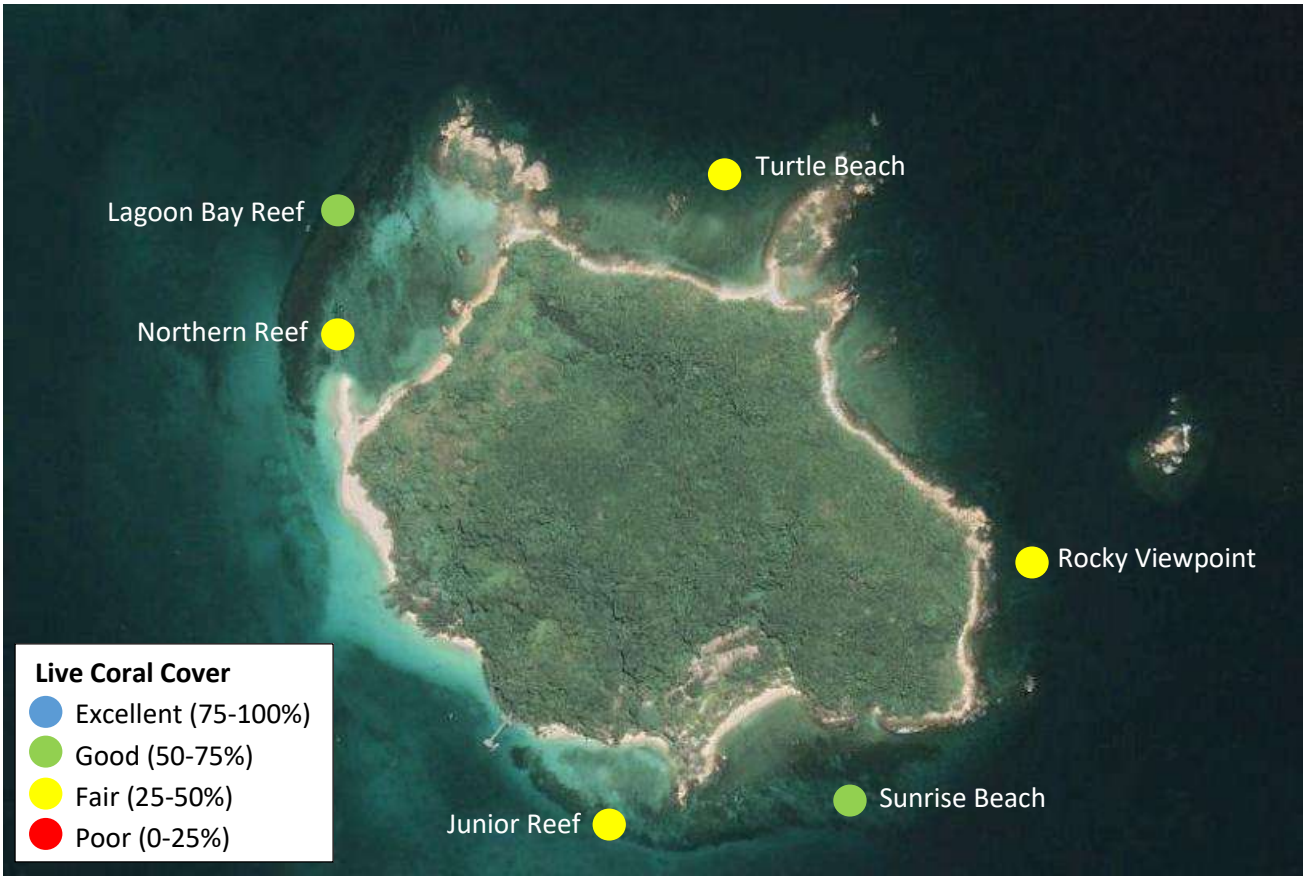


- Sibu reefs have maintained in 'good' condition over the years.
- The deterioration in 2021 was probably due to raised level of nutrient in the waters around the island.
- In 2022 and 2023, the reefs showed improvement. Pollution indicators have reduced since 2022. The reduction in nutrient level in the waters allows the reefs to improve.
- In 2024, the reefs deteriorated again. The deterioration was due to a combination of several factors – physical damage caused by human activities and/or storm, raised level of nutrient in the waters around the island and the 4th Global Coral Bleaching Event.
- In 2025, the reefs show some improvement.
- Available substrate for coral recruits to attach is high, possible chance of further reef recovery if human impacts are dealt with.

Johor – Tengah

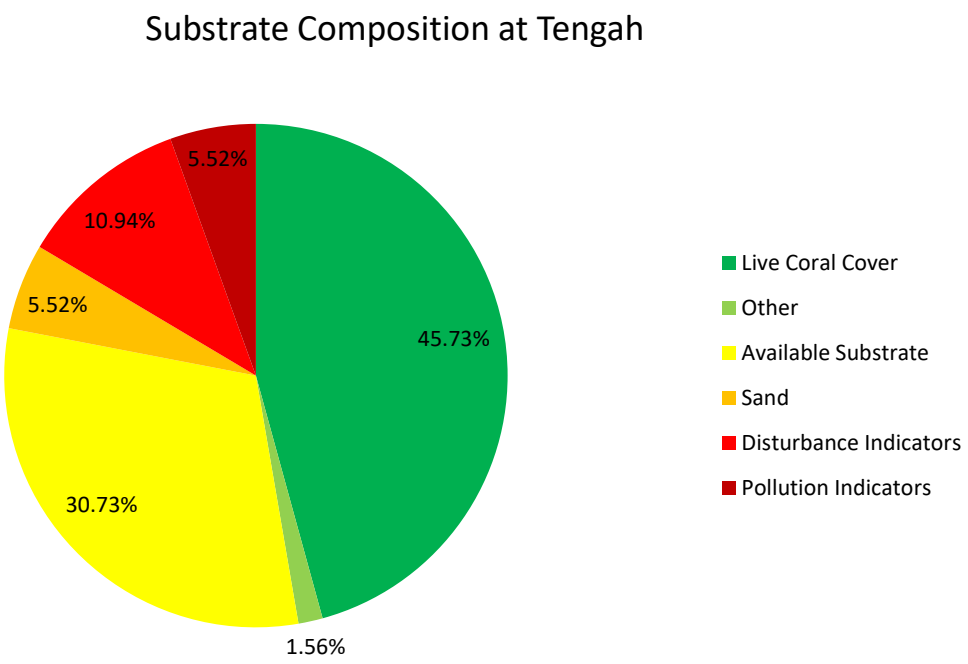
Pulau Tengah, meaning 'middle island', is a privately owned island and is located approximately 15km off the coast of Mersing, Johor. From 1975 to 1981, the island was home to over 100,000 Vietnamese 'boat people' when it was a United Nation Refugee Counsel Transit Camp for refugees waiting to start their new lives in Europe, Australia and North America. In 1985, it was one of the few islands gazetted as Marine Park under the Fisheries Act 1985 due to its abundant marine life and rare species of fish and coral.

The uninhibited island is home to an upscale resort and is accessible by the resort's private speedboat from the coastal town of Mersing. The speedboat ride takes about 20-30 minutes in good weather. Pulau Tengah's natural environment is rich with sightings of over 100 species of bird, over 300 species of flora, Pacific bottle-nose dolphins, blacktip reef shark, green and hawksbill turtles, otters and dugong.



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Good' coral cover and 4 are in 'Fair' condition.

Coral Cover and Health



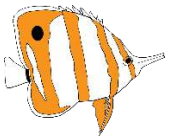
- Pulau Tengah reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 45.10%.
- In 'Fair' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is very high.
- Sand level is high at Sunrise Beach and Junior Reef, ranging from 9% to 10%.
- Disturbance indicators are high.
- Rubble level is high at Turtle Beach, Sunrise Beach and Junior Reef, ranging from 14% to 19%.
- Pollution indicators are not high in Pulau Tengah in general, but the level of sponge is especially high at Northern Reef which recorded 11.25%.

CORAL IMPACTS

- Discarded fishing nets and trash are recorded at many sites.
- All sites are impacted by warm water bleaching.

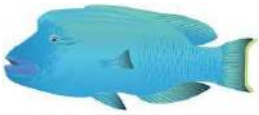
Fish Abundance at Tengah
(Individuals per 500m^3)

Targeted for aquarium trade



12.46

Targeted for live-food fish trade

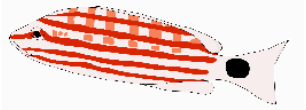


✗

0.08

Targeted for food

0.08



0.88

✗

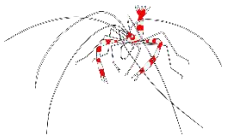
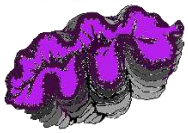
0.21

✗

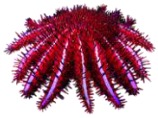
0.42

- Butterflyfish, indicator for aquarium trade, abundance is very high.
- Bumphead parrotfish, indicator targeted for live-food fish trade, is recorded.
- The abundance of fish targeted for food is very low.

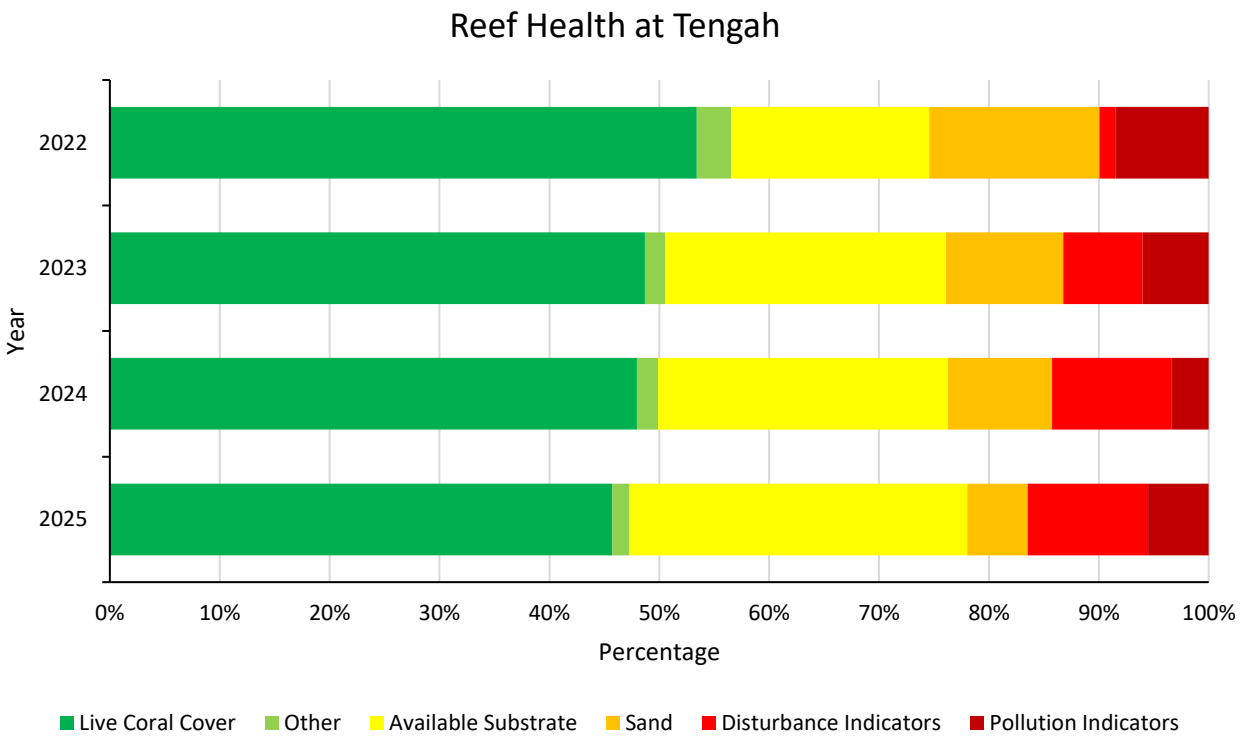
Invertebrate Abundance at Tengah
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	✗		✗
	✗		✗
	✗		✗
			✗

Ecological Imbalance/Predator Outbreaks

	**200.96**
	✗

- Indicators collected for curio trade and food are absent.
- Diadema urchin abundance is high.

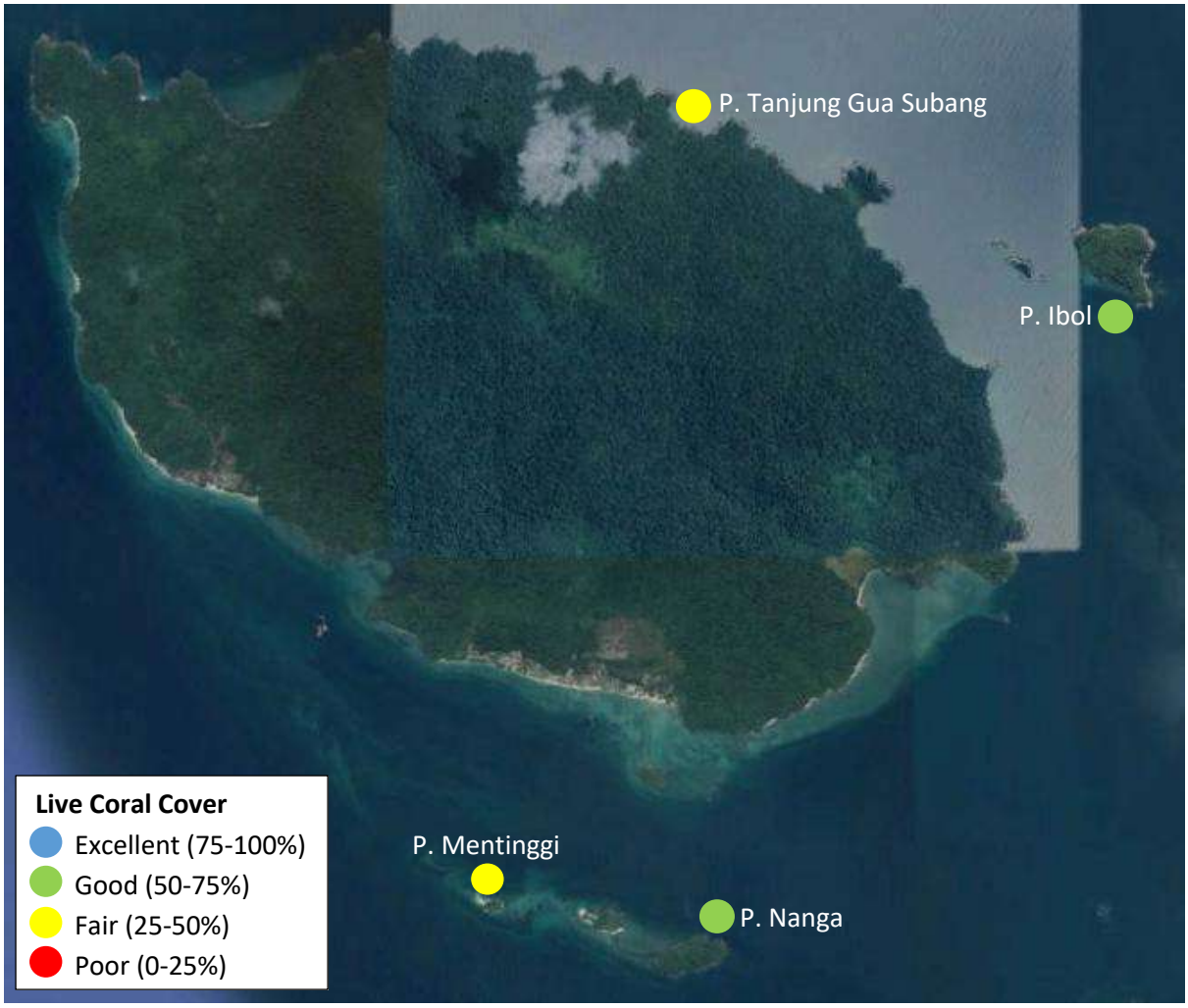


- Tengah reefs have deteriorated from 'good' to 'fair' condition.
- The deterioration is likely due to physical damage caused by human activities and/or storm.
- In 2024, the 4th Global Coral Bleaching Event further deteriorated the reefs.
- The deterioration in 2025 is due coral bleaching and the elimination of 5 sites.
- Available substrate for coral recruits to attach to is high, indicating possible chance of reef recovery if human impacts are dealt with.

Johor – Tinggi

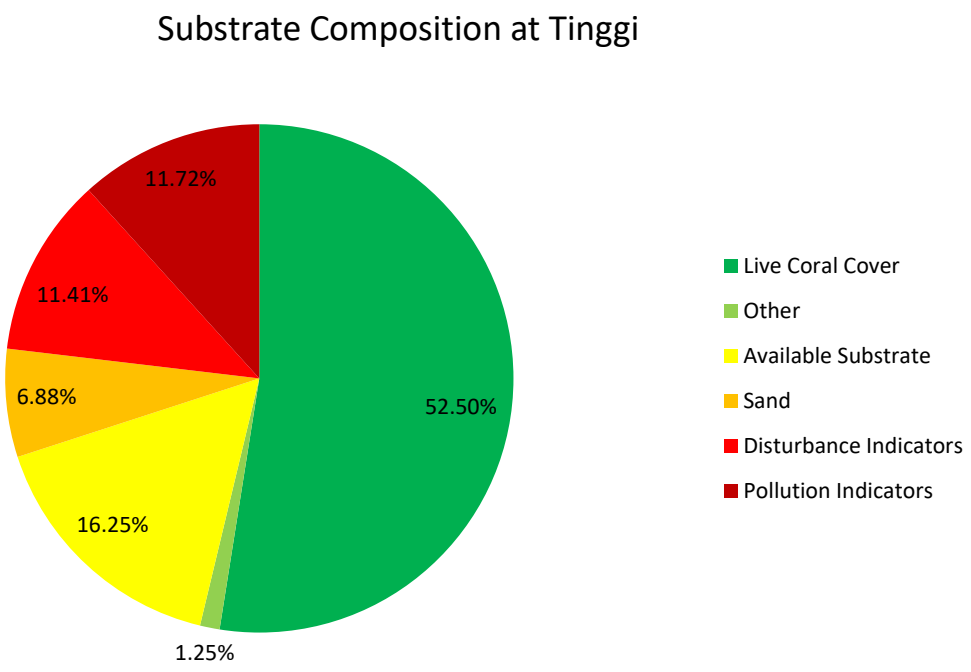
Tinggi Island is located less than 15km off the East coast of mainland Peninsular Malaysia. The island and its surrounding waters were gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1993).

The island is not as popular among tourists as other islands off the East coast, but the tourism industry here is growing. There are two dive operators on Tinggi Island.



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Good' coral cover and 2 sites are in 'Fair' condition.

Coral Cover and Health



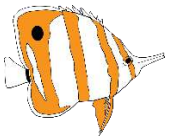
- Tinggi reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 41.25%.
- In 'Good' condition and above the Sunda Shelf region average (43.73%).
- Available substrate for coral recruits to attach is high.
- Sand level is high at Pulau Nanga (14.38%) and Pulau Tanjung Gua Subang (11.88%).
- Disturbance indicators are high.
- The level of recently killed coral is quite high at Pulau Mentinggi which recorded 5%.
- Silt level is high at Pulau Nanga (8.75%) and Pulau Tanjung Gua Subang (9.38%).
- Pollution indicators are high.
- The level of nutrient indicator algae is especially high at Pulau Tanjung Gua Subang (20.63%)
- Sponge level is especially high at Pulau Mentinggi (16.25%).

CORAL IMPACTS

- Boat anchor damage and trash are recorded.
- Discarded fishing nets are recorded at many sites.

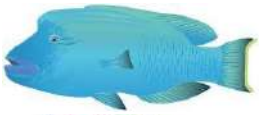
Fish Abundance at Tinggi
(Individuals per 500m^3)

Targeted for aquarium trade



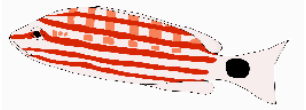
4.19

Targeted for live-food fish trade



Targeted for food

0.06



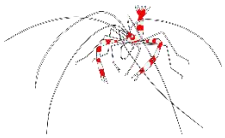
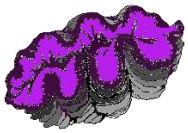
2.13

1.75

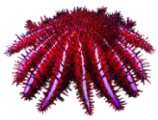
0.69

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is low.

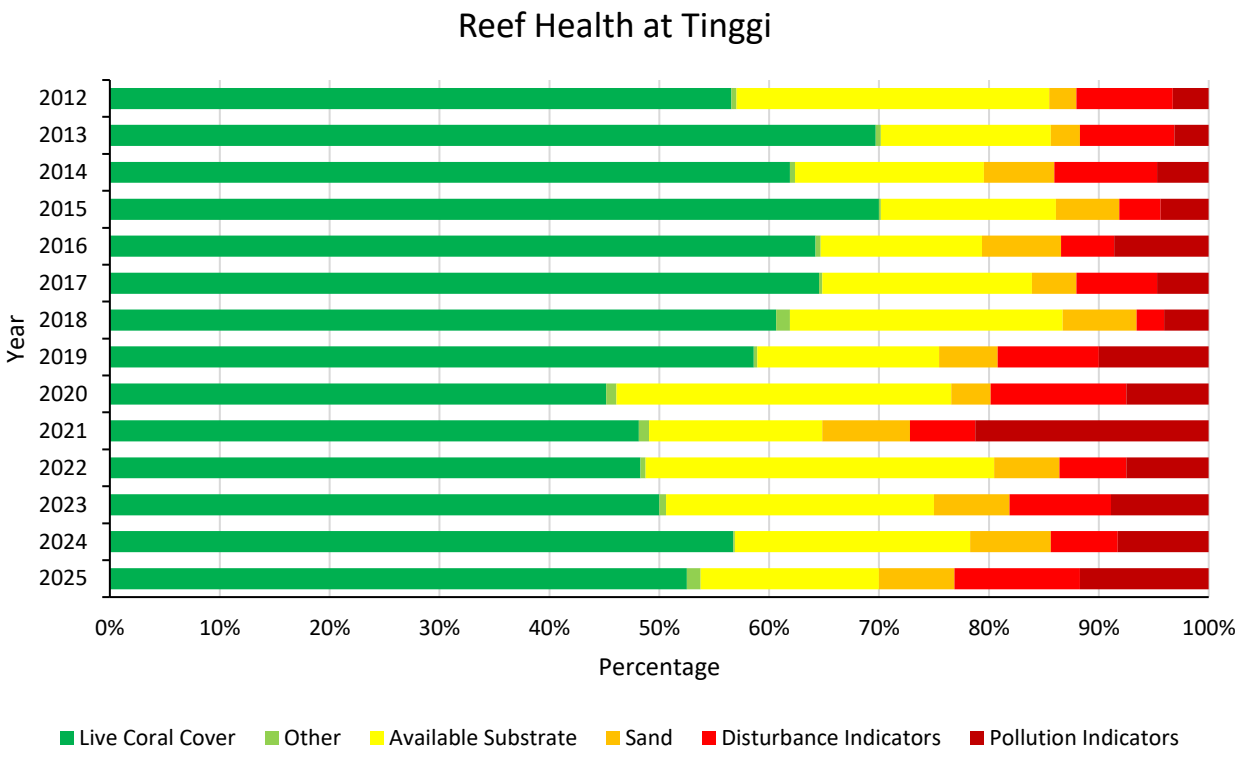
Invertebrate Abundance at Tinggi
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
			
			0.06
			
			

Ecological Imbalance/Predator Outbreaks

	67.88
	

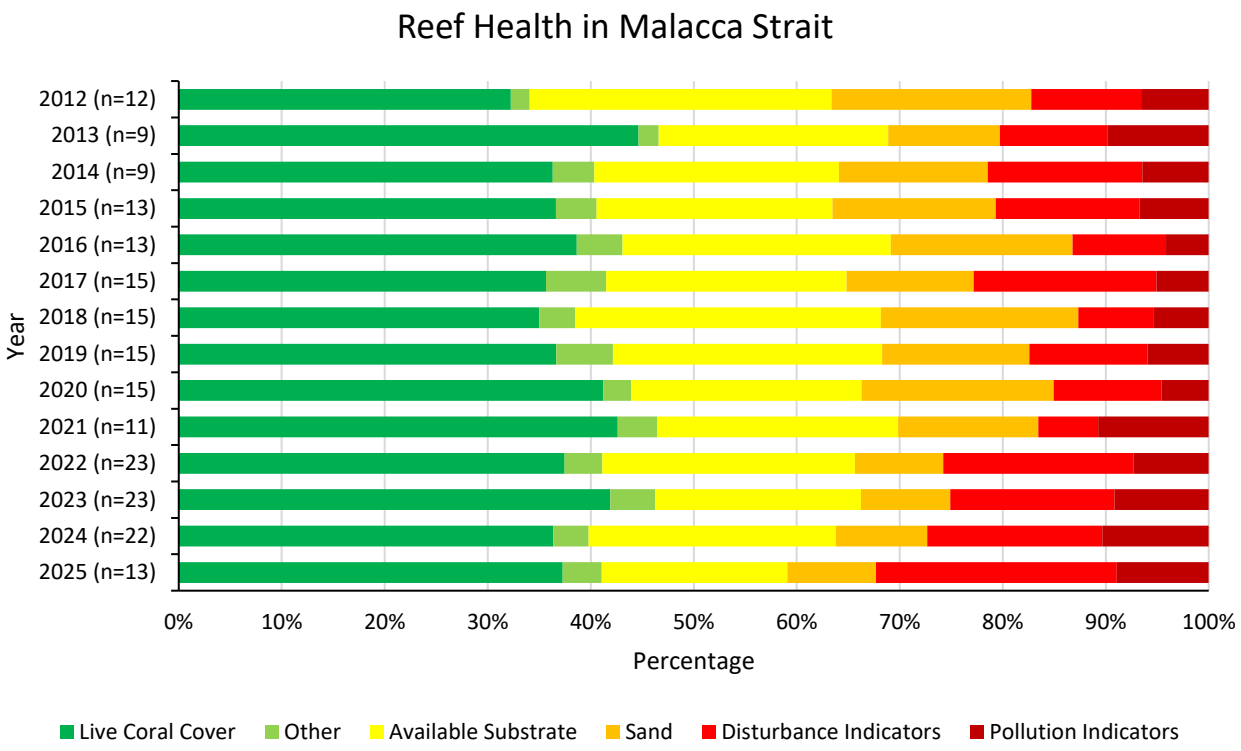
- Only diadema urchin and sea cucumber are recorded.
- The abundance of diadema urchin is high.



- From 2015 to 2020, Tinggi reefs had deteriorated.
- The deterioration was likely due to physical damage caused by human activities and/or storm and raised level of nutrient in the waters around the island.
- From 2021 onwards, the reefs showed improvement.
- In 2025, the reefs have deteriorated. The deterioration is likely due to physical damage caused by human activities and/or storm and raised level of nutrient in the waters around the island.
- Available substrate for coral recruits to attach is high, possible chance of reef recovery if human impacts are dealt with.

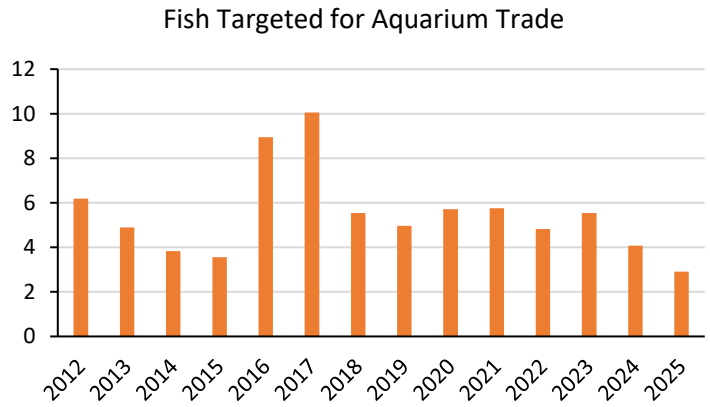
Malacca Strait

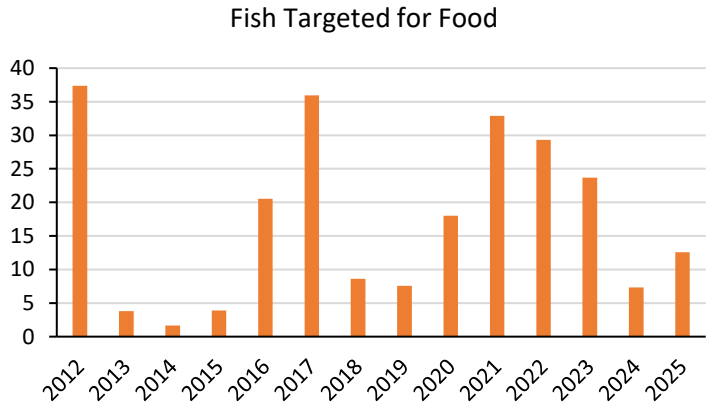
Coral Cover and Health



- The reefs in Malacca Strait have maintained the same.
- From 2019 to 2021, the reefs showed improvement. The improvement was likely due to reduced physical damage caused by human activities and/or storm.
- Starting in 2022, the reefs had deteriorated. The deterioration was probably due to a combination of several factors – increased disturbance and pollution indicators, elimination of some survey sites and addition of new survey sites.
- In 2024, the 4th Global Coral Bleaching Event further deteriorated the reefs.
- The increase in live coral cover in 2025 was considered to reflect the elimination of 10 sites, rather than an actual increase in live coral cover.

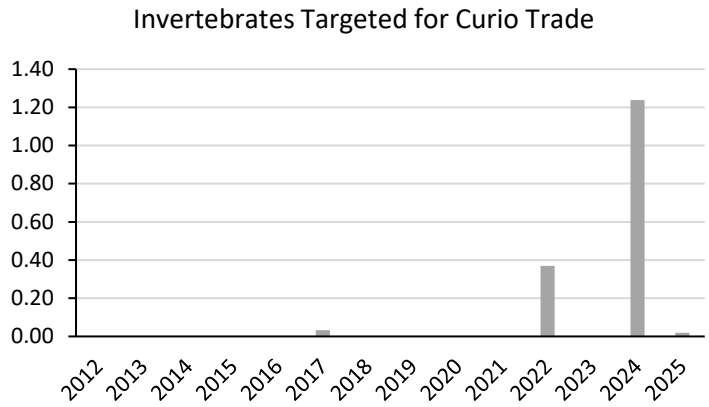
Fish

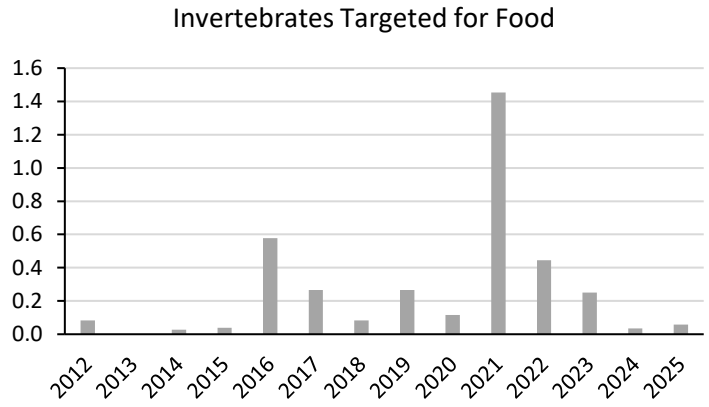


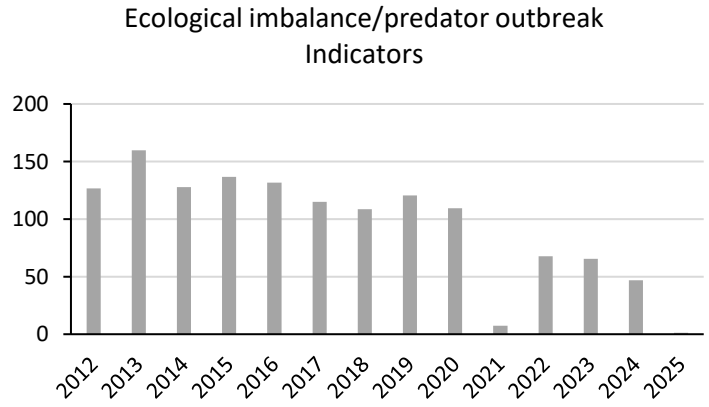


- Fish targeted for live-food fish trade is never observed and recorded.
- The abundance of fish targeted for aquarium trade is showing a declining trend in the last three years.
- Fish targeted for food is mainly comprised of snappers and is showing a declining trend in the last five years.

Invertebrate







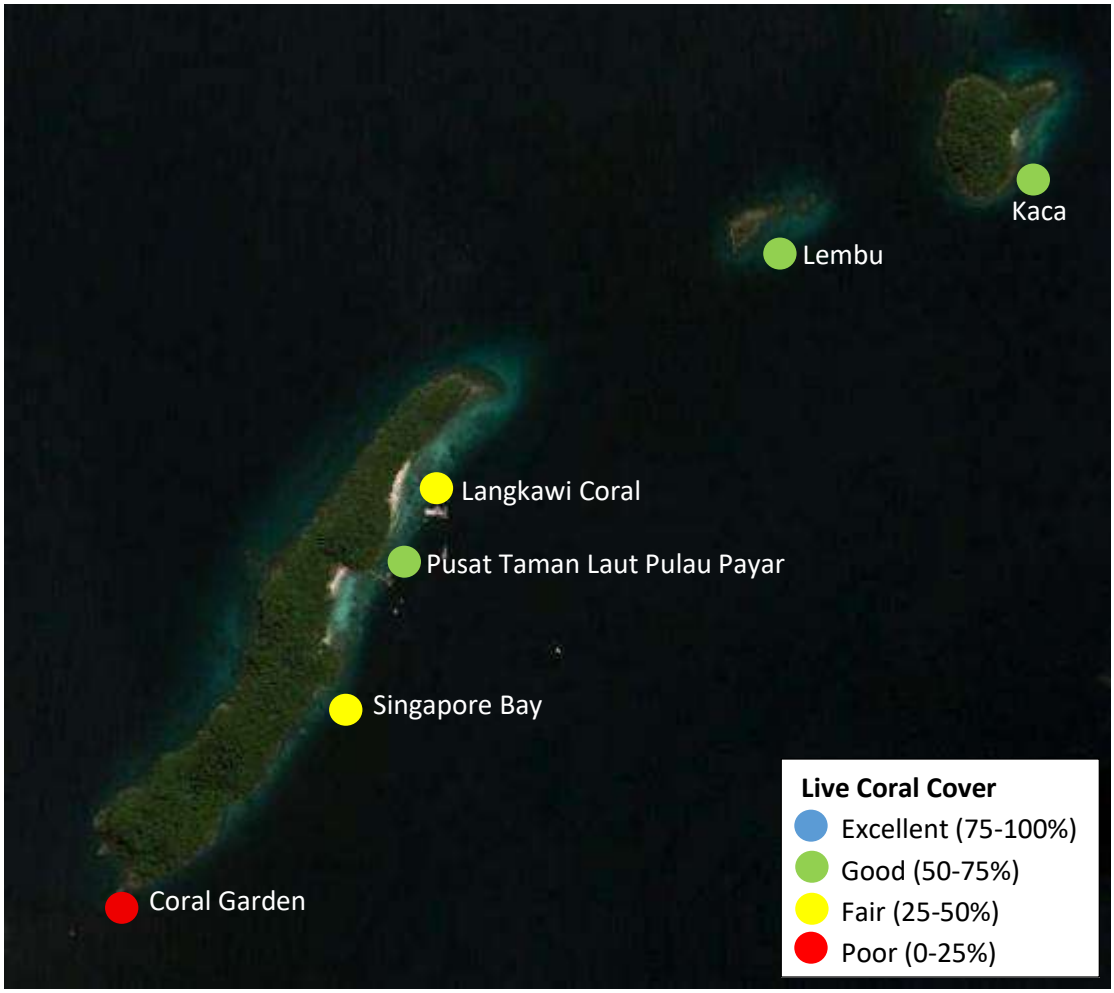
- Invertebrates targeted for curio trade were recorded over the last few years.
- Very low abundance of invertebrates targeted for food. The spike in 2021 was considered to reflect the addition of Malacca and Port Dickson that year, rather than an actual increase in the abundance of invertebrates targeted for food. Invertebrates targeted for food is showing a declining trend.
- Ecological imbalance/predator outbreak indicators are attributed solely to diadema urchin and the abundance is declining. The huge reduction in 2021 and 2025 was considered to reflect the elimination of Pulau Sembilan and Pangkor Laut that year, rather than an actual decrease in the abundance of ecological imbalance/predator outbreak indicators.

Kedah – Payar

Payar is one of many islands off the West coast of mainland Kedah. It is situated 35km south of Langkawi, 59km north of Penang and 28km west of Kuala Kedah. It was gazetted as a Marine Park in 1994 under the Fisheries Act 1985 (Amended 1991).

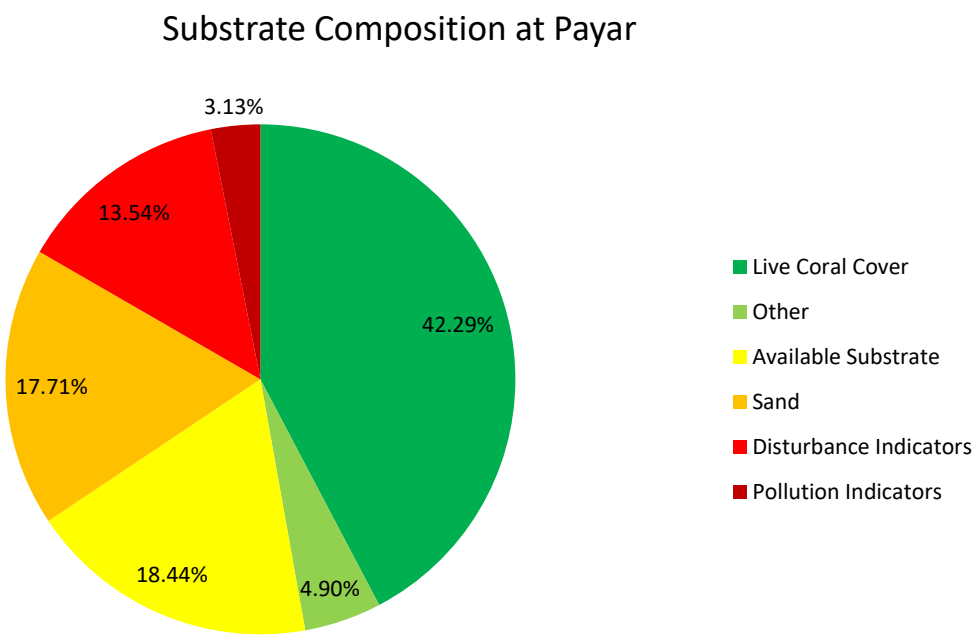
The island is a popular destination for tourists (mainly from Langkawi) famous for its corals and reef fishes. Measuring 2km long and 0.25km wide, its sheltered waters are ideal for snorkelling, diving and swimming.

The island is uninhabited and the only operating structures on the island are the Marine Park centre with facilities for day trip visitors such as gazebos, picnic tables and restroom facilities at selected areas. There is also an old, abandoned resort. A floating platform moored just off Payar serves as a restaurant and dive platform for tourists.



Map showing the health categories of each survey site based on Live Coral Cover: 3 sites have 'Good' coral cover, 2 are in 'Fair' condition and 1 show ‘Poor’ health.

Coral Cover and Health



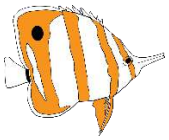
- Payar reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 42.29%.
- In 'Fair' condition and above the Malacca Strait region average (37.26%).
- Available substrate for coral recruits to attach is high.
- Sand level is high. The level ranges from 14% to 37% at Coral Garden, Langkawi Coral, Pusat Taman Laut Pulau Payar and Singapore Bay.
- Disturbance indicators are high.
- The level of recently killed coral is high at Coral Garden, Langkawi Coral, Lembu and Singapore Bay, ranging from 7% to 11%.
- Rubble level is high at Coral Garden, Langkawi Coral and Singapore Bay, ranging from 10% to 13%.

CORAL IMPACTS

- All sites recorded microbial mats.

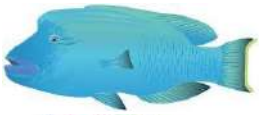
Fish Abundance at Payar
(Individuals per 500m^3)

Targeted for aquarium trade



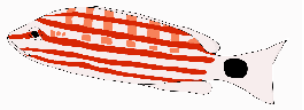
2.25

Targeted for live-food fish trade



Targeted for food

1.17



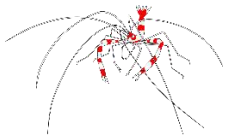
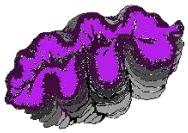
16.46

4.96

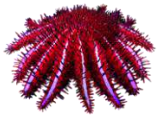
2.42

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- Good abundance of fish targeted for food.

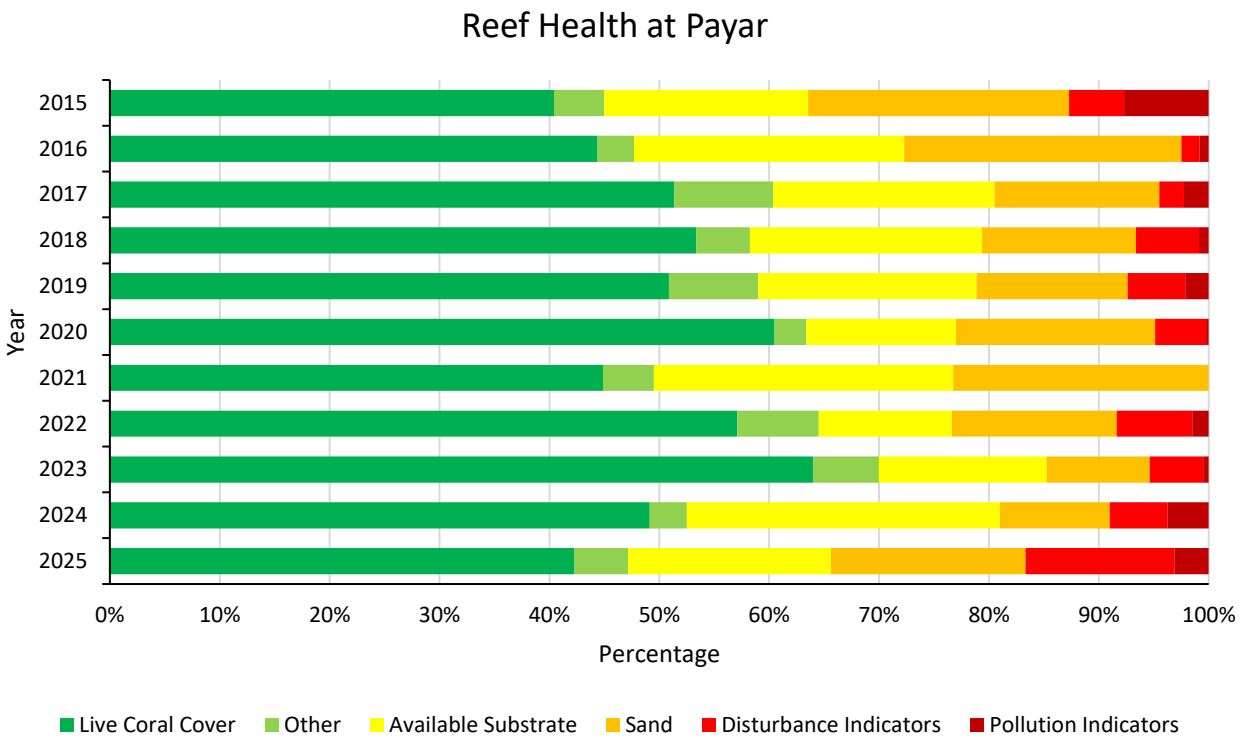
Invertebrate Abundance at Payar
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	X		X
	X		X
	X		0.04
			0.08

Ecological Imbalance/Predator Outbreaks

	2.50
	X

- Absent of invertebrates collected for curio trade.
- The abundance invertebrate collected for food is very low.

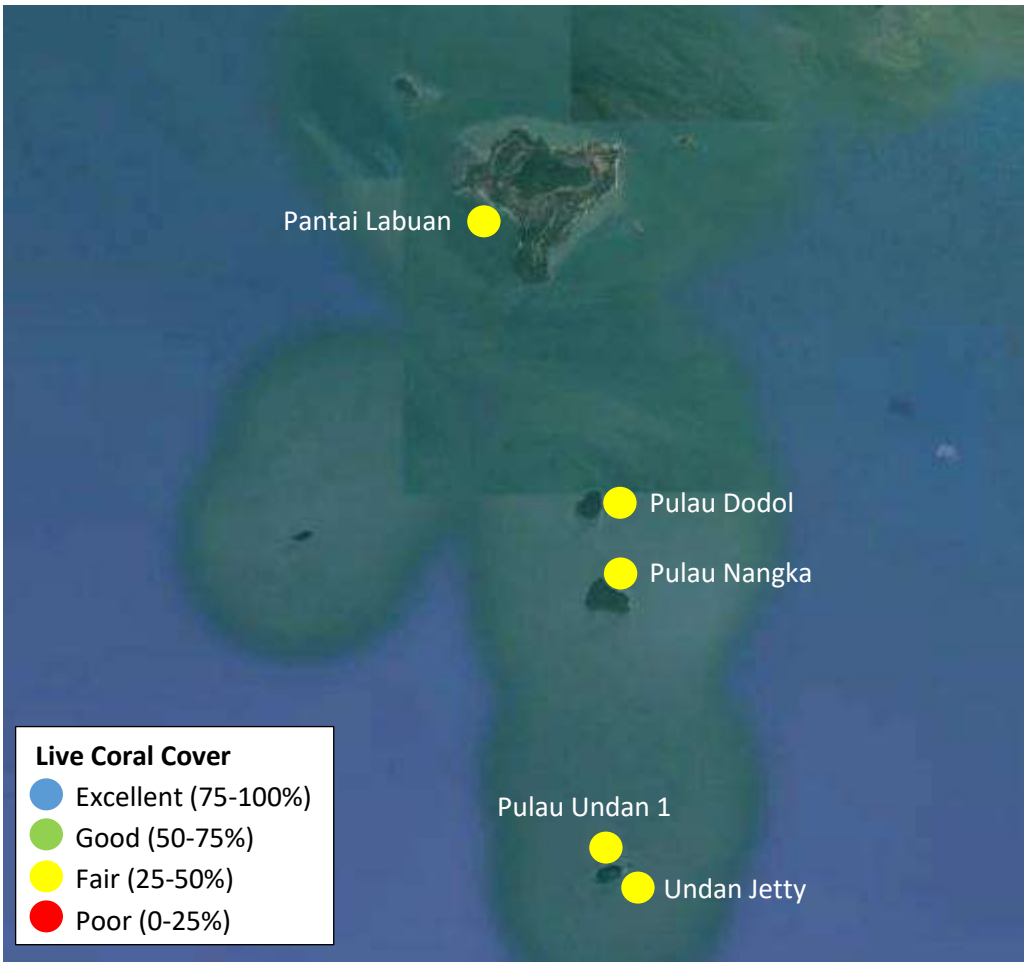


- The health of Payar reefs shows variation over the years.
- The cause of the drastic deterioration in 2021 was not known.
- The deterioration in 2024 was due to a combination of physical damage caused by human activities and/or storm, raised level of nutrient in the waters around the island and the 4th Global Coral Bleaching Event.

Malacca – Malacca

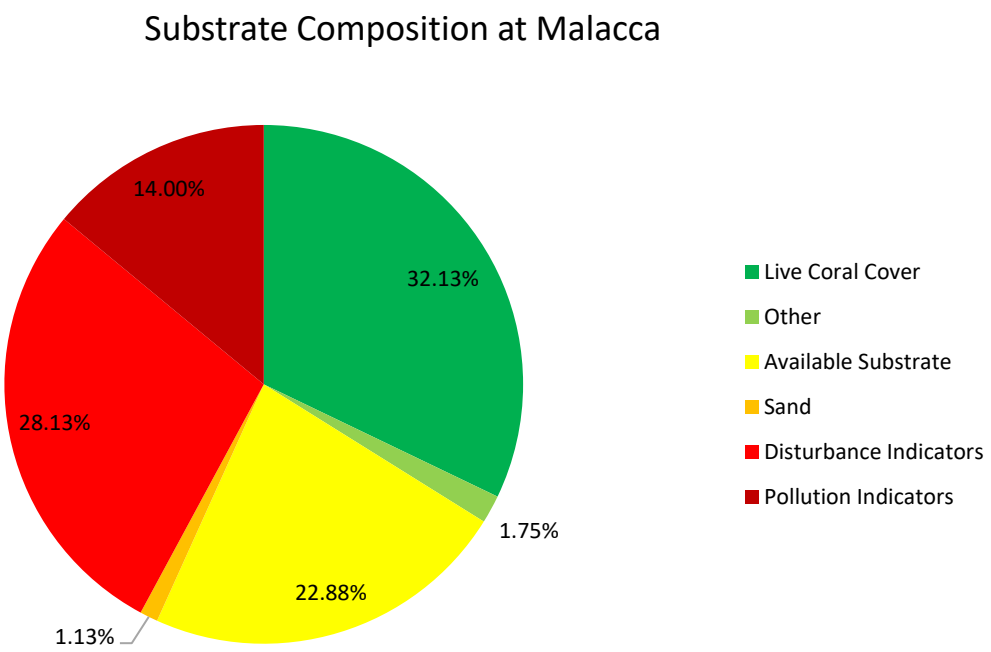
There are several islands off the state of Malacca. The waters surrounding the island group were gazetted as a Marine Park in 2022 under the Fisheries Act 1985. Pulau Besar is the largest island. It is popular for its ancient graves, tombs and mausoleums which are scattered around the island. The island has several other attractions such as old wells, uniquely shaped rocks, village of elves, elves' palace, cave and museum.

Pulau Undan is located furthest away from the mainland. The name is said to have come from a seabird that used to be abundant on the island and its surrounding, as there were many food sources including fish and snails. The island is not populated but there is a lighthouse to ensure the safety of ships passing through Malacca Strait. Boat trip from mainland to the island takes approximately 35 minutes.



Map showing the health categories of each survey site based on Live Coral Cover: 5 sites have 'Fair' coral cover.

Coral Cover and Health



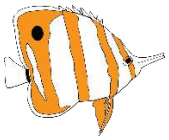
- Malacca reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 31.75%.
- In 'Fair' condition and below the Malacca Strait region average (37.26%).
- Available substrate for coral recruits to attach is very high.
- Disturbance indicators are very high.
- Silt level is very high at all sites, ranging from 19% to 35%.
- Pollution indicators are high.
- The level of nutrient indicator algae is especially high at Pantai Labuan (12.50%) and Undan Jetty (10%).
- Sponge level is especially high at Undan Jetty (10%).

CORAL IMPACTS

- Boat anchor damage, discarded fishing nets and trash are recorded.
- Some sites are impacted by warm water bleaching.

Fish Abundance at Malacca
(Individuals per 500m^3)

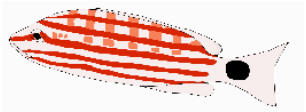
Targeted for aquarium trade



3.00

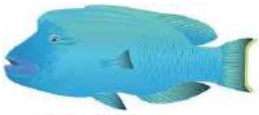
Targeted for food

0.10



0.85

Targeted for live-food fish trade

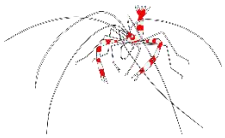


0.10

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is very low.

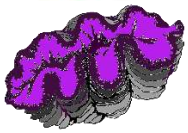
Invertebrate Abundance at Malacca
(Individuals per 100m^2)

Collected for curio trade

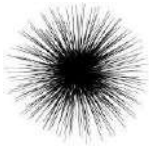
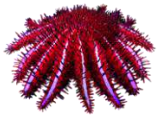


Collected for food

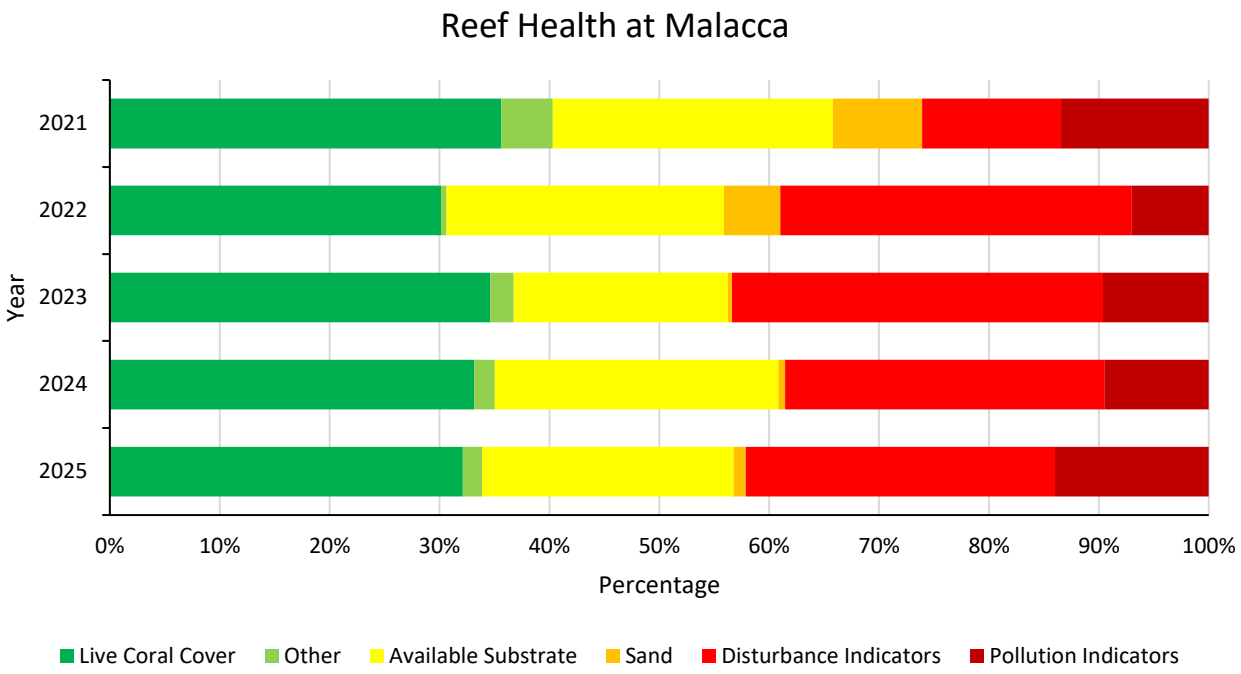


Ecological Imbalance/Predator Outbreaks

- Complete absence of indicator invertebrates.

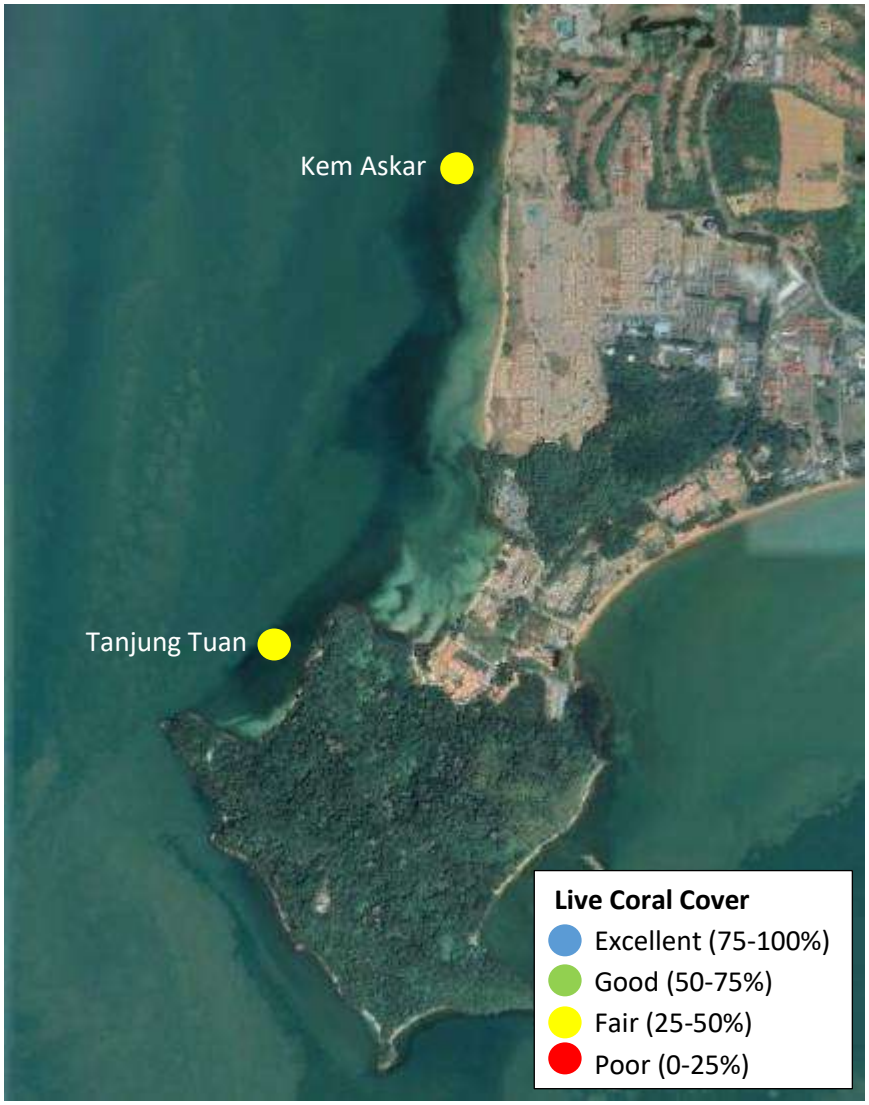


- Malacca reefs have maintained in 'fair' condition, however the reefs are showing a declining trend.
- Pollution indicators have increased.

Negeri Sembilan – Port Dickson

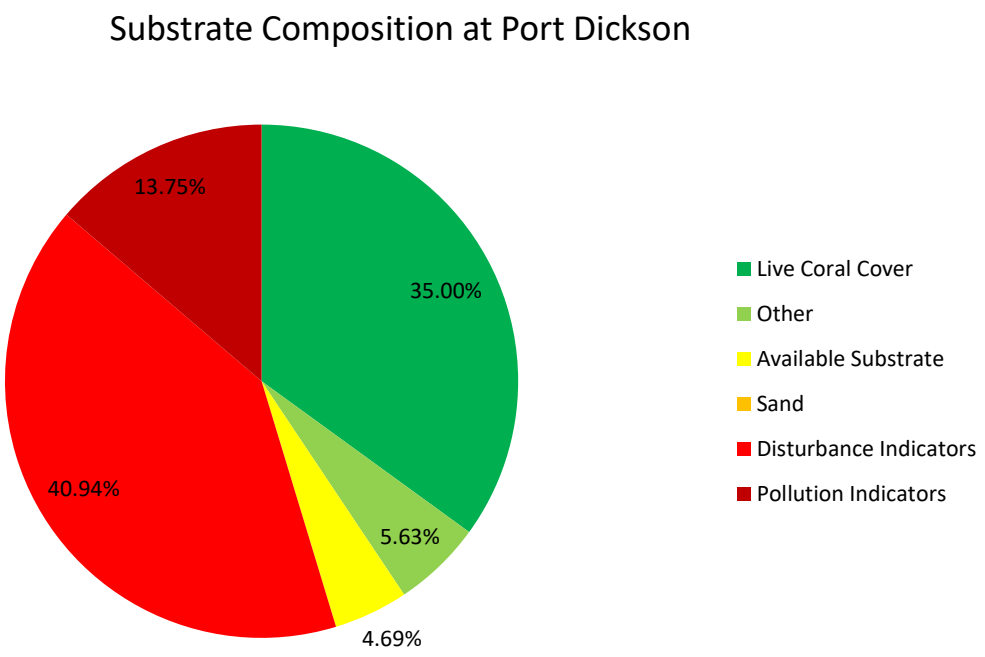
Port Dickson is a coastal town in Port Dickson district, Negeri Sembilan. Historically, the small town used to produce charcoal and tin ore. Over the years, Port Dickson evolved into a busy trading centre and has two oil and gas refineries, as well as home to many army camps. The beach of Port Dickson is a popular holiday destination for local visitors. In the 1990s, Port Dickson is boomed with hotels and resorts. Port Dickson provides sports and activities such as go-karts, paint ball target shooting, archery and ATV riding.

The area is gazetted as a prohibited fishing area under the Fisheries (Prohibited Areas) Regulations 1994, Fisheries Act 1985, which stipulated that any fishing activities within one nautical mile of the beach is strictly prohibited.



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Fair' coral cover.

Coral Cover and Health



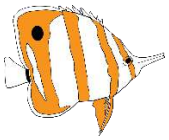
- Port Dickson reefs are dominated by disturbance indicators.
- Silt level is very high at both sites, above 37%.
- Mean hard coral (reef builder) cover is 32.81%.
- In 'Fair' condition and below the Malacca Strait region average (37.26%).
- Pollution indicators are high.
- Nutrient indicator algae level is especially high at Monkey Bay which recorded 15.63%.
- All the above are considered signs of unhealthy reefs. High level of disturbance and pollution indicators may deter coral growth if they are not dealt with.

CORAL IMPACTS

- Boat anchor damage and microbial mat on the reefs are recorded.

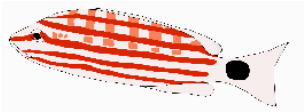
Fish Abundance at Port Dickson
(Individuals per 500m^3)

Targeted for aquarium trade



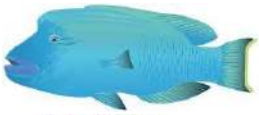
4.63

Targeted for food



2.25

Targeted for live-food fish trade



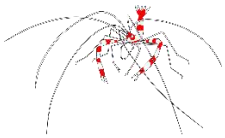
1.13

0.63

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance for fish targeted for food is low.

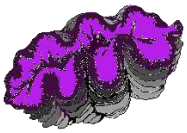
Invertebrate Abundance at Port Dickson
(Individuals per 100m^2)

Collected for curio trade

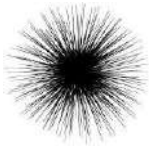


0.13

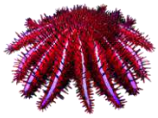
Collected for food



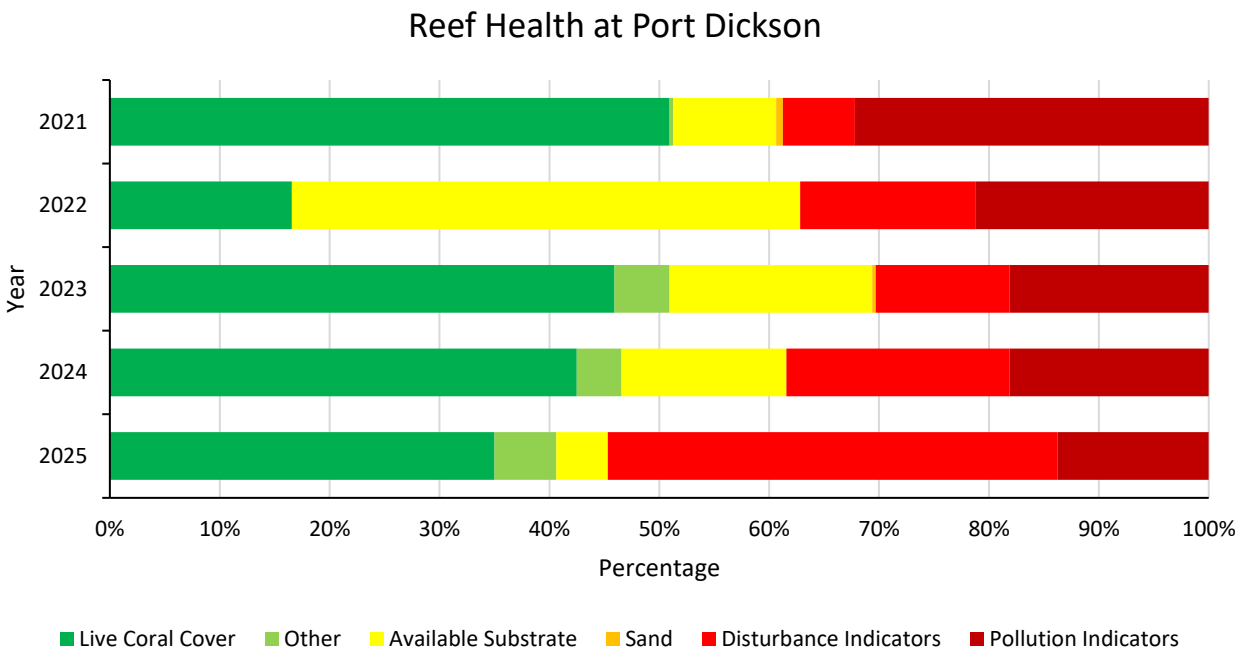
Ecological Imbalance/Predator Outbreaks



0.38



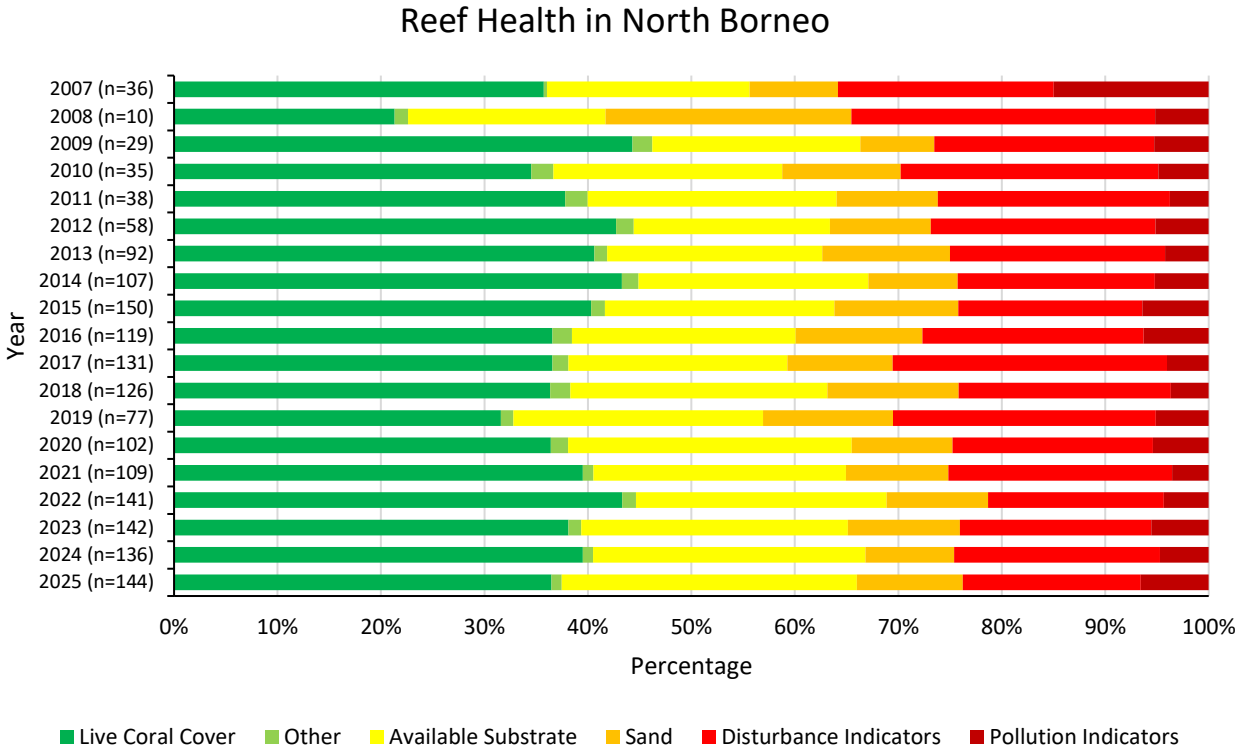
- Banded coral shrimp, indicator for curio trade, is recorded.



- Port Dickson reefs have deteriorated from 'good' to 'fair' condition.
- The deterioration is due to physical damage caused by human activities and/or storm.
- Available substrate for coral recruits to attach is high, possible chance of recovery if human impacts are dealt with.

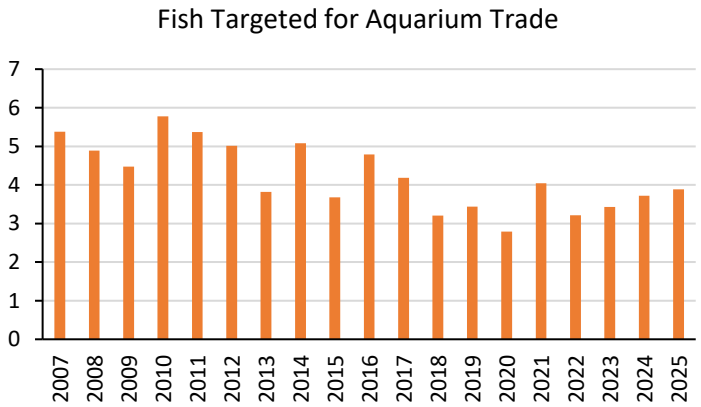
North Borneo

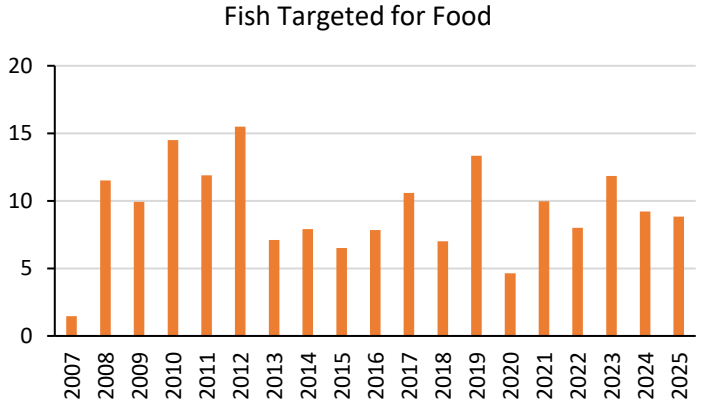
Coral Cover and Health

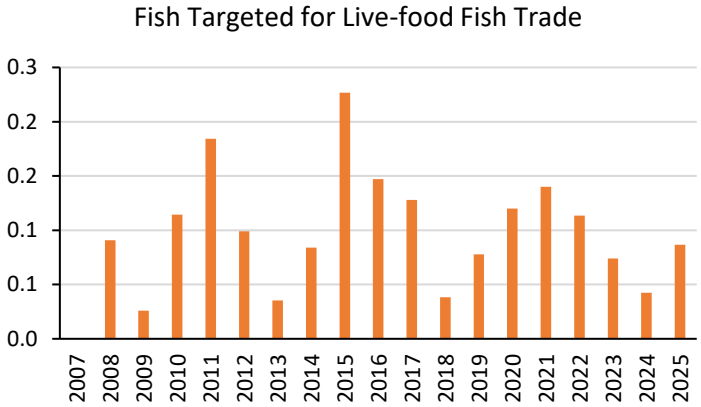


- The health of North Borneo reefs has varied over the years.
- From 2007 to 2015, the variation was due to inconsistency in the sites and the number of sites surveyed.
- From 2020 to 2022, one reason for the increase in live coral cover could be the restrictions on tourism during the Covid-19 pandemic, pointing to a possible management measure that would see reef areas closed temporarily to allow them to recover.
- The deterioration beginning in 2023 was likely due to physical damage caused by human activities and/or storms, as well as raised level of nutrient in the waters. Another reason for this could be resumption of tourism.
- The deterioration recorded in the 2025 surveys was probably due to coral predation, high levels of siltation and coral bleaching – 2024 saw the 4th global coral bleaching event, that affected reefs worldwide.
- Available substrate for coral recruits to attach to is high, indicating possible chance of reef recovery if human impacts are dealt with.

Fish

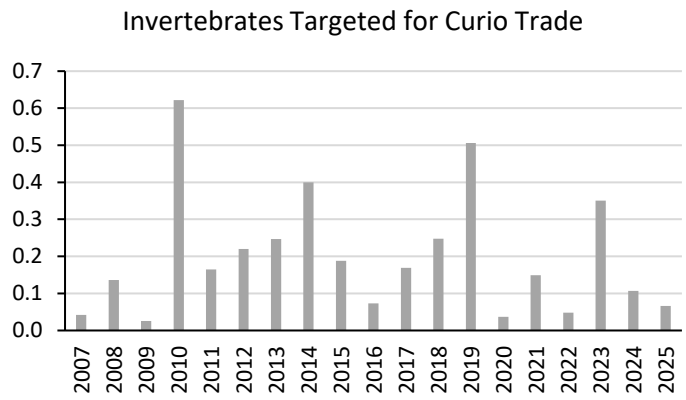


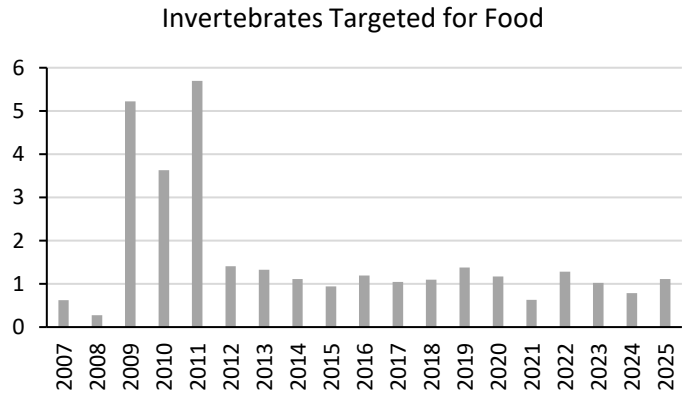


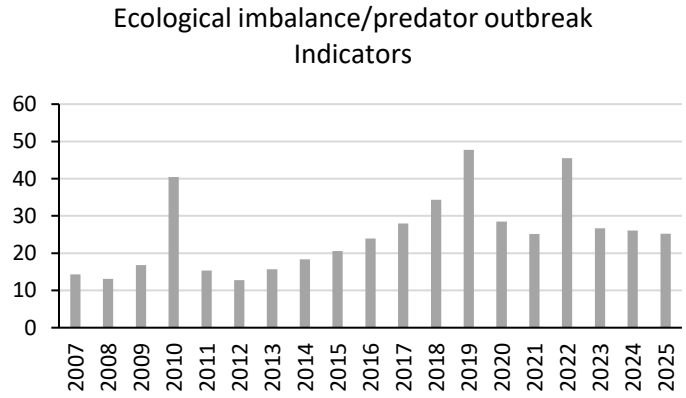


- Fish targeted for aquarium trade is showing an increasing trend over the last few years, while fish targeted for food is showing a declining trend.
- The abundance of fish targeted for live-food fish trade is inconsistent over the years.

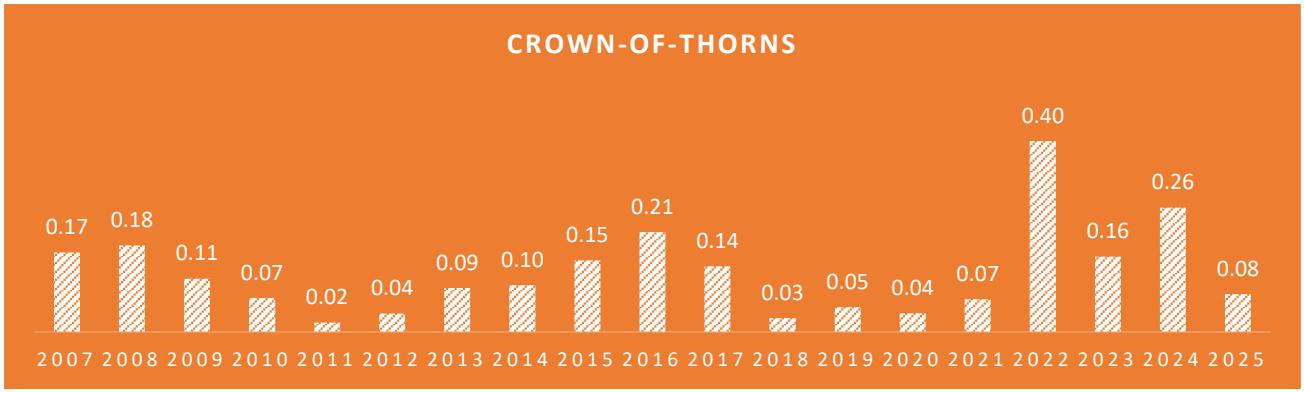
Invertebrate







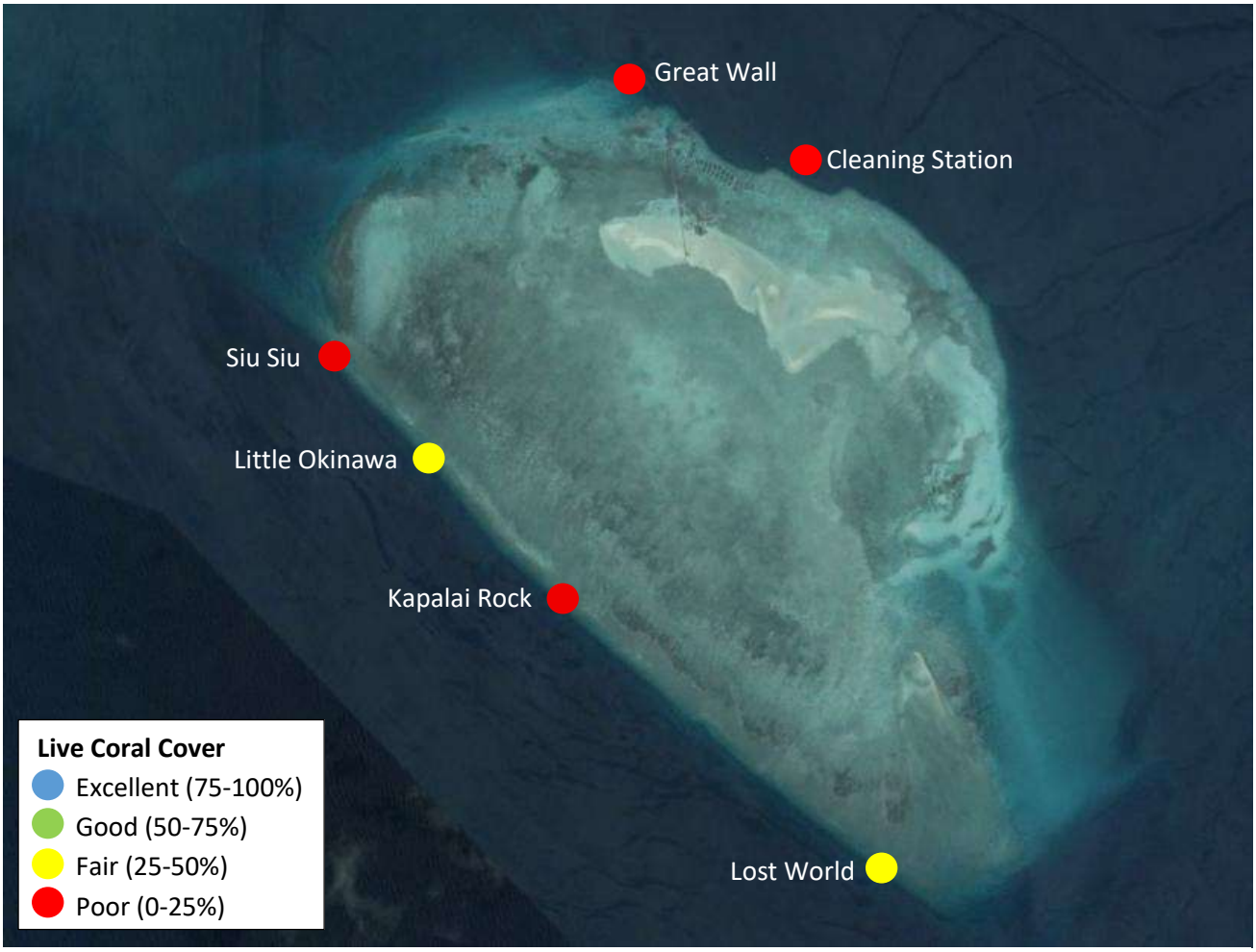
- The abundance of invertebrates targeted for curio trade and indicators for ecological imbalance/predator outbreak is inconsistent over the years.
- Very low abundance of invertebrates targeted for food.
- In 2022, the abundance of crown-of-thorns was above what a healthy reef can support (0.2-0.3 individual per 100m^2).



Sabah – Kapalai

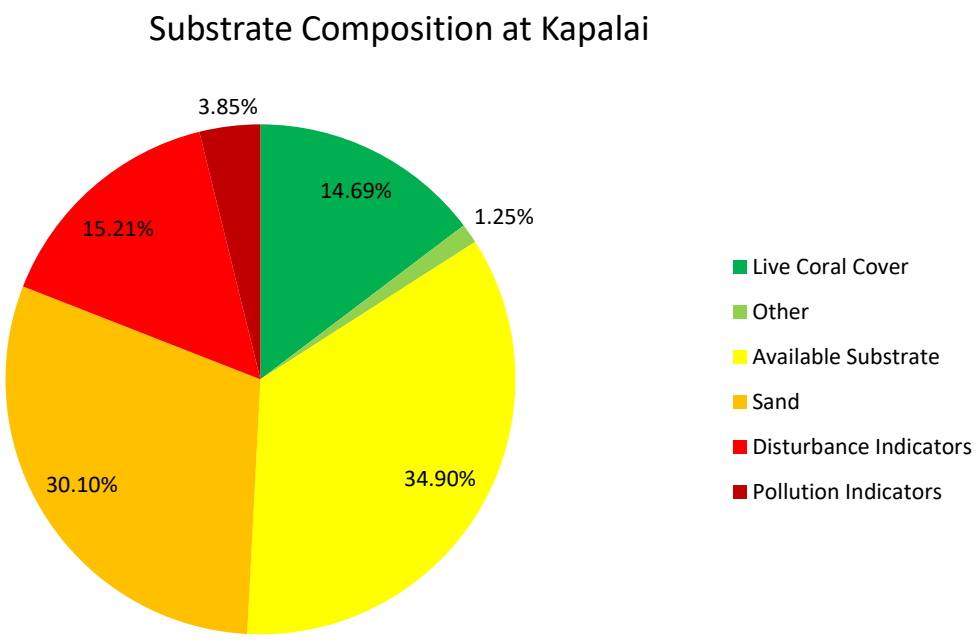
Kapalai Island is located near Semporna, Sabah and is 15 kilometres from Sipadan Island. Though it is called an island, it is a sandbar situated on Ligitan Reef. Kapalai used to be a real island with vegetation but erosion over the last few hundred years has reduced the island to sea level. All buildings are on stilts resting on the reef.

Kapalai is mostly known for its scuba diving. There is only one private resort on the island while the rest of the island is uninhabited.



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Fair' coral cover and 4 are in 'Poor' condition.

Coral Cover and Health



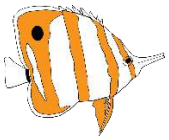
- Kapalai reefs are dominated by available substrate, which is rock, for coral recruits to attach.
- Mean hard coral (reef builder) cover is 13.96%.
- In 'Poor' condition and below the North Borneo region average (36.49%).
- Sand level is very high at all sites, ranging from 13% to 41%.
- Disturbance indicators are high.
- Rubble level is high at many sites, ranging from 10% to 36%.
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is extremely high, high level of disturbance indicators may deter coral growth if they are not dealt with.

CORAL IMPACTS

- Boat anchor damage and trash are recorded.
- Discarded fishing nets are recorded at many sites.
- Some sites are impacted by warm water bleaching.

Fish Abundance at Kapalai
(Individuals per 500m^3)

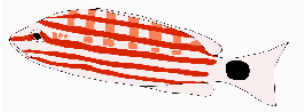
Targeted for aquarium trade



5.96

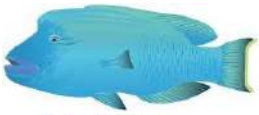
Targeted for food

0.04



3.04

Targeted for live-food fish trade



0.08

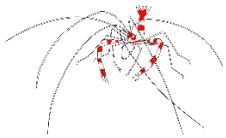
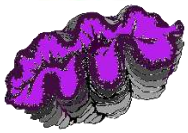
0.50

0.46

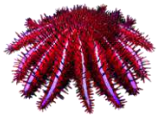
0.08

- Butterflyfish, indicator for aquarium trade, is recorded.
- Humphead wrasse and bumphead parrotfish, fish targeted for live-food fish trade, are recorded.
- The abundance of fish targeted for food is very low, except for snapper.

Invertebrate Abundance at Kapalai
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	0.17		✗
	0.04		0.13
	✗		✗
			0.13

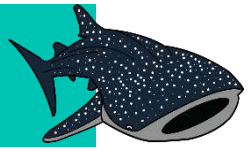
Ecological Imbalance/Predator Outbreaks

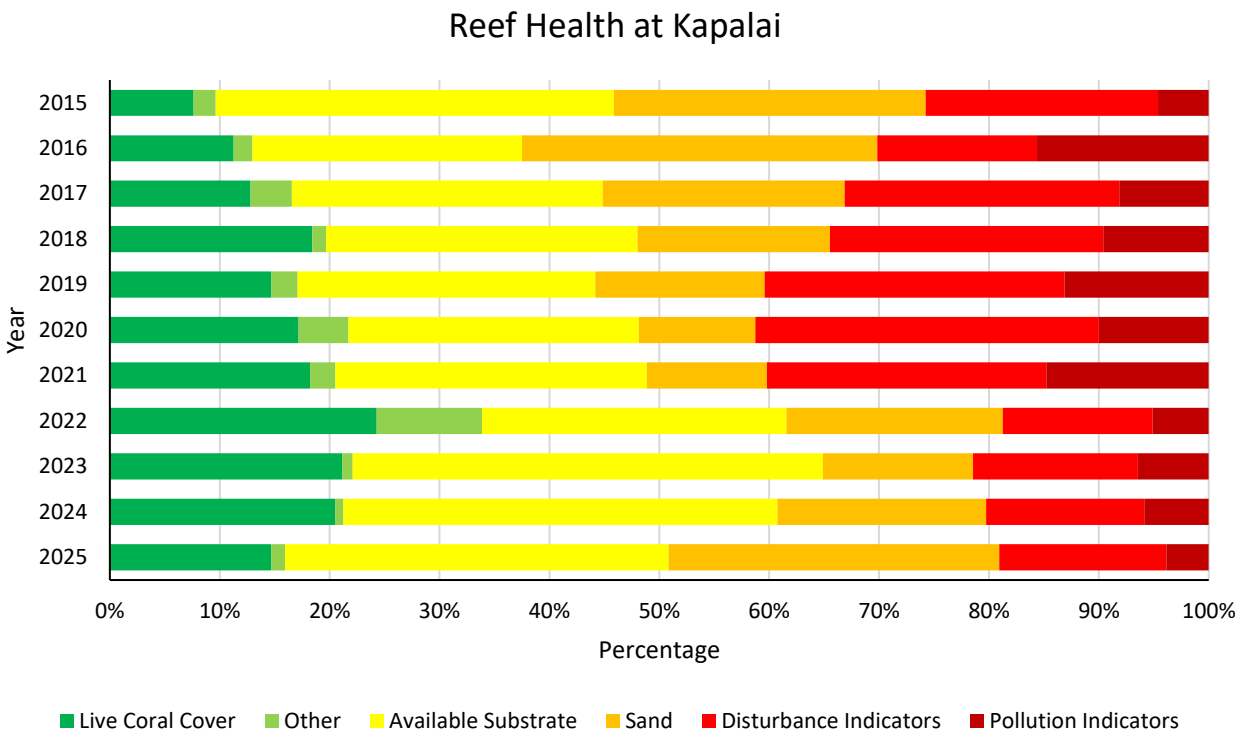
	16.29
	✗

- Banded coral shrimp and pencil urchin, indicators for curio trade, are recorded.
- The abundance of invertebrates collected for food is very low.

RARE ANIMALS

- Turtles are recorded at many sites.



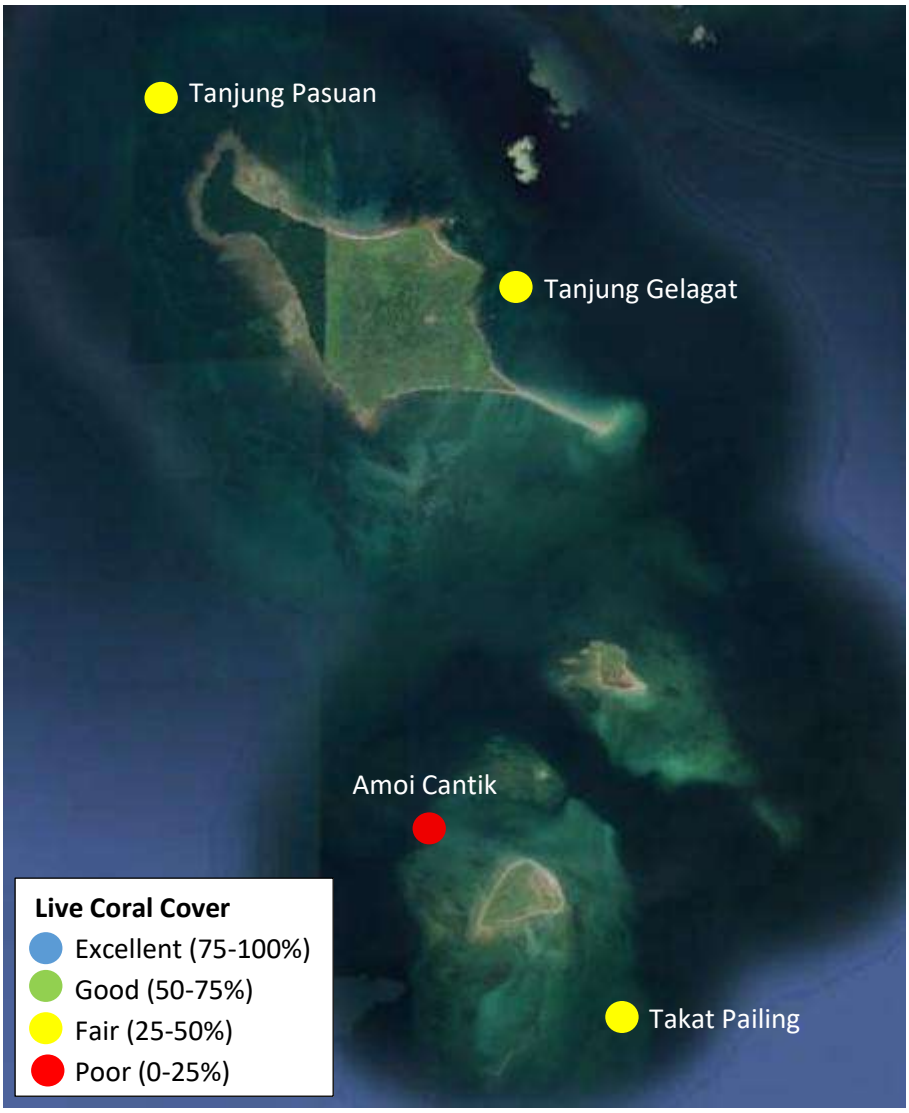


- From 2015 to 2022, Kapalai reefs were improving.
- Since 2023, the reefs had deteriorated
- The deterioration in 2024 was due to the 4th Global Coral Bleaching Event.
- In 2025, drupella predation further deteriorated the reefs.
- Available substrate for coral recruits to attach is very high, possible chance of improvement of reefs health if human impacts are dealt with.

Sabah – Labuan

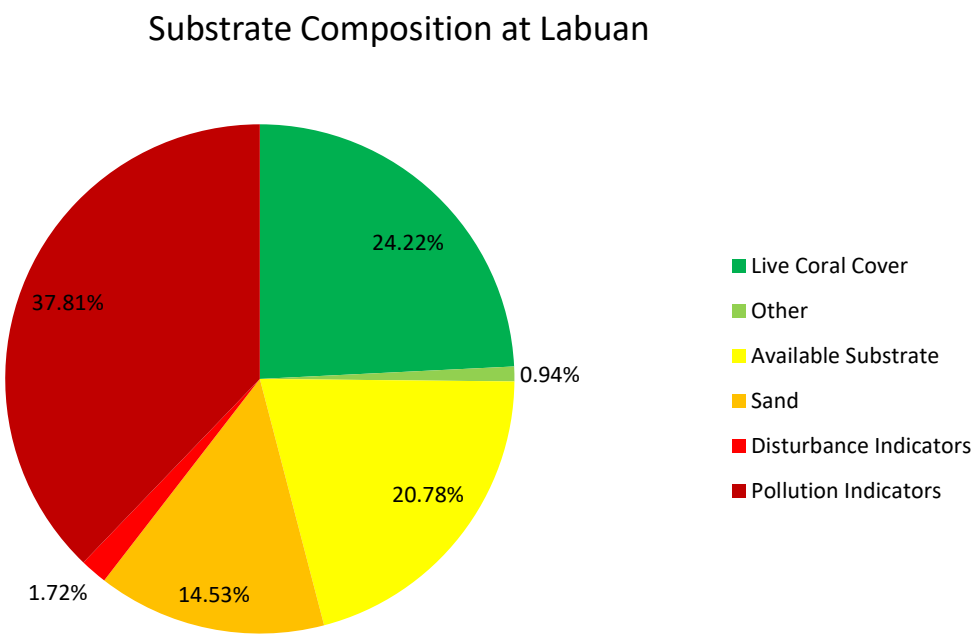
Labuan, officially the Federal Territory of Labuan, is a federal territory of Malaysia. Labuan is made up of one large island and six smaller islands (Pulau Daat, Pulau Burung, Pulau Kuraman, Pulau Papan, Pulau Rusukan Besar and Pulau Rusukan Kecil) and is located off the west coast of Sabah. Labuan is best known as an offshore financial centre offering international financial and business services since 1990 as well as being an offshore support hub for deep water oil and gas activities in the region. It is also a tourist destination for people travelling through Sabah and for scuba divers.

Three out of the six smaller islands form the Labuan Marine Park; they are Pulau Kuraman, Pulau Rusukan Besar and Pulau Rusukan Kecil. These three islands are located 2km off the southern part of Labuan main island. These islands are sparsely populated and are popular with expatriates, divers and those who travel between Labuan and Brunei.



Map showing the health categories of each survey site based on Live Coral Cover: 3 sites have 'Fair' coral cover and 1 is in 'Poor' condition.

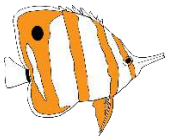
Coral Cover and Health



- Labuan reefs are dominated by pollution indicators.
- 49.38% of Amoi Cantik reef consists of nutrient indicator algae and 39.38% consists of sponge.
- The level of nutrient indicator algae at remaining sites are high, ranging from 10% to 31%.
- Mean hard coral (reef builder) cover is 20.94%.
- In 'Poor' condition and below the North Borneo region average (36.49%).
- Available substrate for coral recruits to attach is high.
- Sand level is high. It is high at all sites, ranging from 14% to 23%, except for Amoi Cantik.
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is very high, high level of pollution indicators may deter coral growth if they are not dealt with.

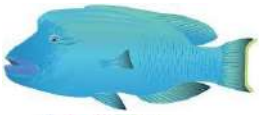
Fish Abundance at Labuan
(Individuals per 500m^3)

Targeted for aquarium trade

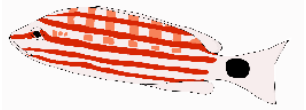


2.75

Targeted for live-food fish trade



Targeted for food



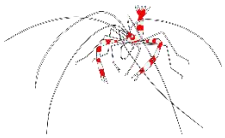
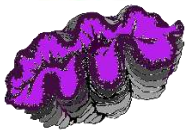
1.75

6.06

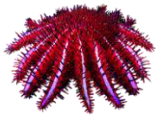
0.56

- Butterflyfish, indicator for aquarium trade, is recorded.
- Fish targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is low except for parrotfish.

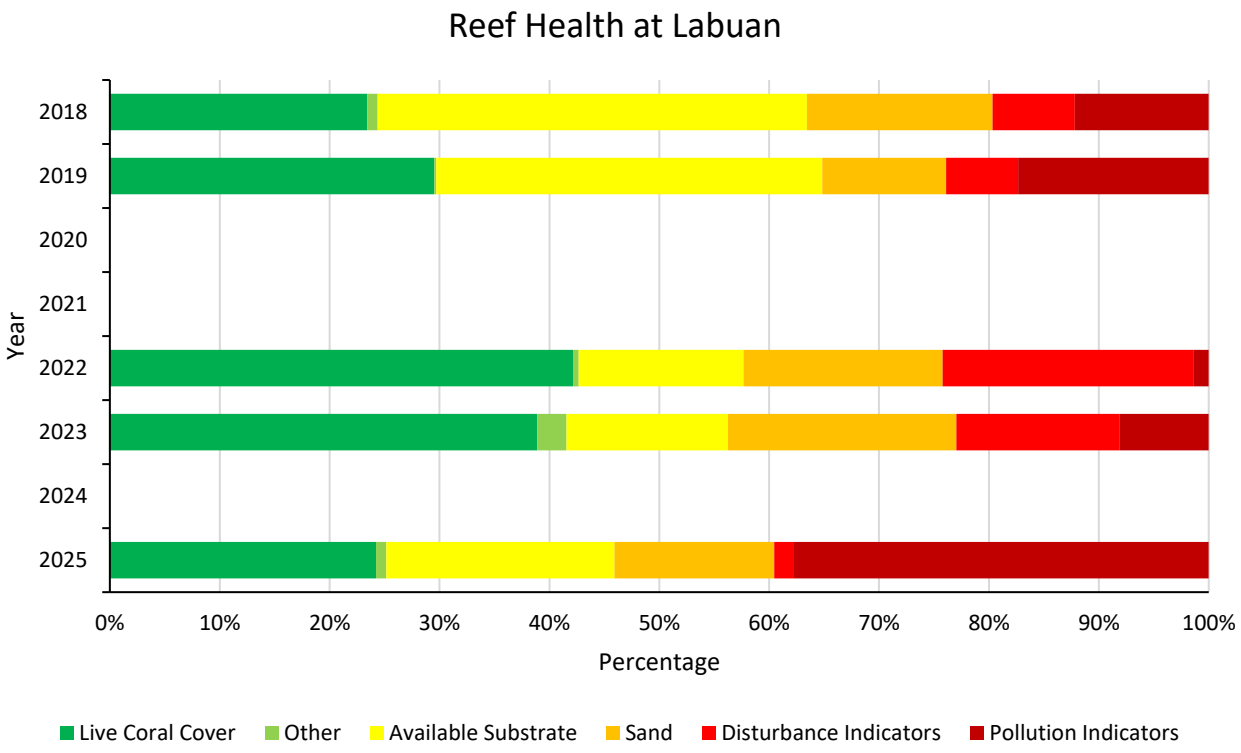
Invertebrate Abundance at Labuan
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	✗		✗
	✗		0.75
	✗		0.13
			1.81

Ecological Imbalance/Predator Outbreaks

	0.81
	✗

- Indicators for curio trade are absent.
- The abundance of invertebrates collected for food is very low.



- Labuan reefs show variation over the years.
- The sharp increase in live coral cover in 2022 was probably due to a combination of few factors – reduced pollution indicators, elimination of 1 permanent site and addition of 1 new site.
- The decrease in live coral cover in 2023 was considered to reflect the elimination of 2 permanent sites and addition of 2 new sites. The elimination of the 2 permanent sites was due to inability to conduct survey because of bad weather and crocodile sighting.
- The decrease in live coral cover in 2025 was due to raised level of nutrient in the waters.
- No survey data was collected in 2020 and 2021 due to Covid-19 pandemic which hampered survey efforts.
- Survey was not conducted in 2024.
- Available substrate for coral recruits to attach is high, possible chance of continuous improvement of reefs health if human impacts are dealt with.

Sabah – Lahad Datu

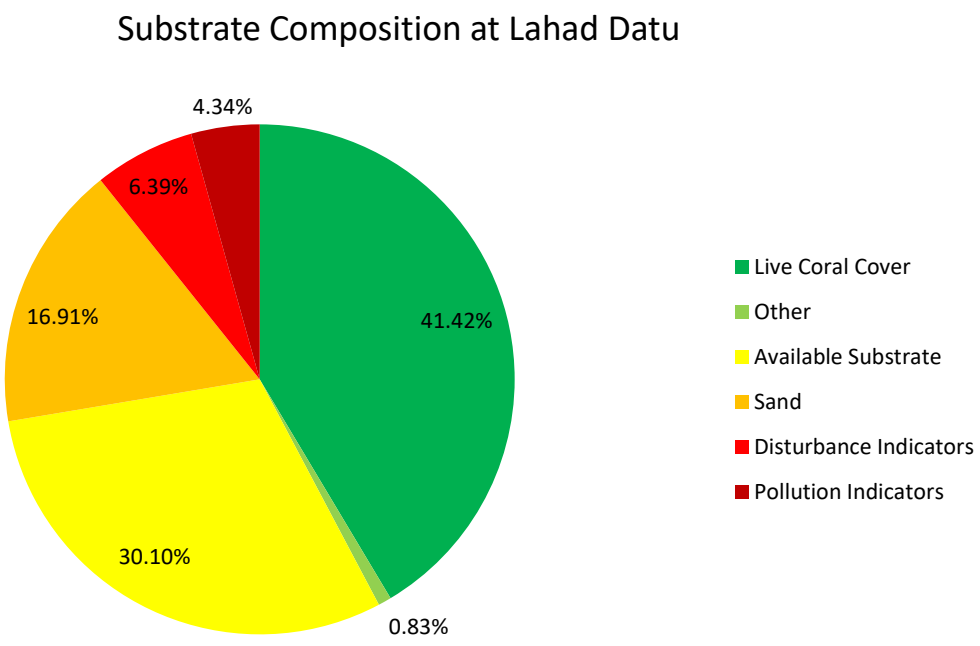
Lahad Datu is a town located in the east of Sabah, Malaysia, on the island of Borneo. It occupies the peninsula on the north side of Darvel Bay – the largest semi-enclosed bay on the east coast of Borneo islands. Administratively, it falls within the Tawau Division and is estimated to have a population of over 156,000 (2000 census).

Currently, there is little development along the coastal areas of Lahad Datu. In Lahad Datu itself, tourism is still limited, though Sabah Urban Development Corporation is trying to promote greater investment in infrastructure. There are two well-known nature-based tourism attractions near to Lahad Datu: Tabin Wildlife Reserve and the Danum Valley Conservation Area, and the wider Kinabatangan River basin is also nearby.

Darvel Bay has yet to become established as a popular diving destination. The area includes both fringing and submerged reefs.

Maps showing the health categories of each survey site based on Live Coral Cover: 6 sites have 'Good' coral cover, 9 are in 'Fair' condition and 3 show 'Poor' health.

Coral Cover and Health



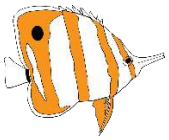
- Lahad Datu reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 39.41%.
- In 'Fair' condition and above the North Borneo region average (36.49%).
- Available substrate for coral recruits to attach is extremely high.
- Sand level is high. The level is especially high at Ira's Reef (48.75%). Many sites recorded between 13% to 26% of sand.
- Disturbance indicators are not high in general, but the level of rubble is especially high at Ira's Reef (23.75%). Rubble level ranges from 13% to 17% at Blue Ring, Fish Eye, Mid Reef and Pulau Maganting.
- Pollution indicators are not high in general, but the level of nutrient indicator algae is especially high at Pulau Tabun, Tabawan 1 and Tumunong Hallo, ranging from 10% to 14%.

CORAL IMPACTS

- Discarded fishing net and trash are recorded at many sites.
- Boat anchor damage and crown-of-thorns predations are recorded.
- Some sites are impacted by warm water bleaching.

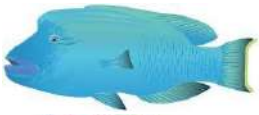
Fish Abundance at Lahad Datu
(Individuals per 500m^3)

Targeted for aquarium trade



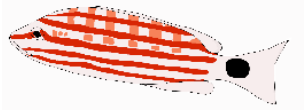
2.72

Targeted for live-food fish trade



Targeted for food

0.01



0.33

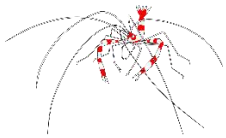
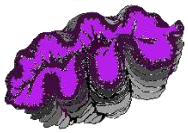
1.06

0.03

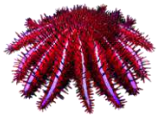
0.07

- Butterflyfish, indicator for aquarium trade, is recorded.
- Fish targeted for live-food fish trade is absent.
- The abundance of fish targeted for food is very low.

Invertebrate Abundance at Lahad Datu
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	✕		✕
	✕		0.03
	✕		✕
			0.10

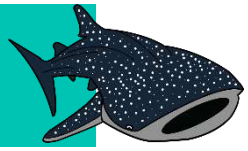
Ecological Imbalance/Predator Outbreaks

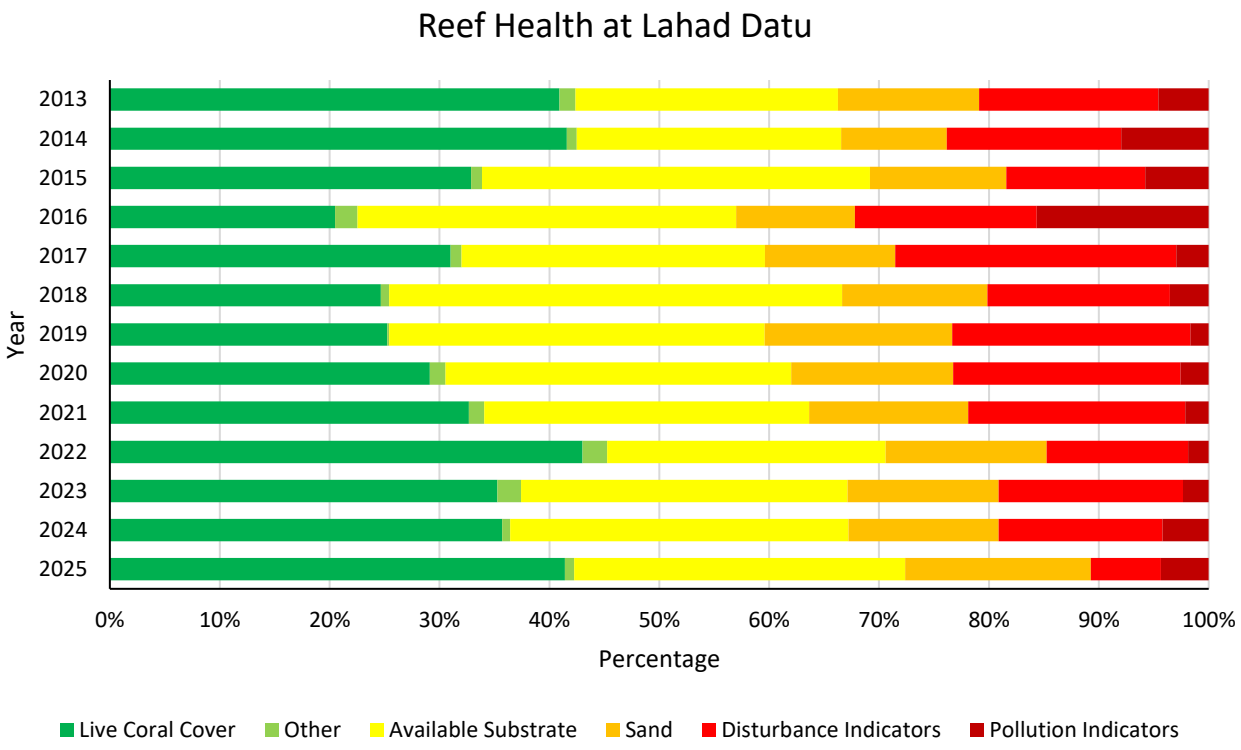
	136.29
	0.33

- Indicator for curio trade is absent
- Crown-of-thorns is an issue in Lahad Datu. A healthy coral reef can support a population of 0.2-0.3 individuals per 100m^2, Lahad Datu recorded 0.33. Many were also recorded outside the survey area.
- The abundance for invertebrates collected for food is very low.

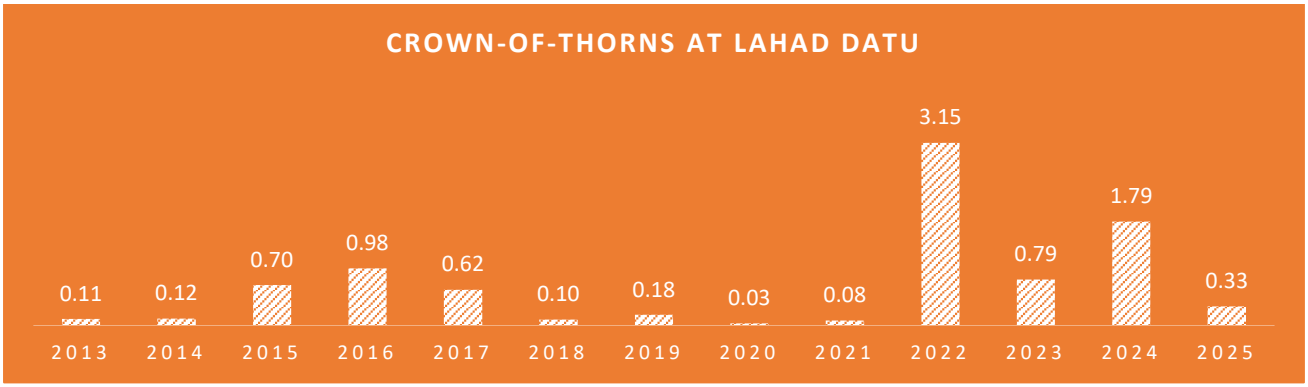
RARE ANIMALS

- Turtles are recorded.





- Generally, Lahad Datu reefs are improving.
- Disturbance indicators have decreased. Reduced disturbance indicators allow Lahad Datu reefs to improve.
- Since 2022, the abundance of crown-of-thorns had increased significantly, above what a healthy reef can sustain (0.2-0.3 individual per 100m^2). This is a cause for concern and existing efforts by reef managers to control the population need to be heightened.

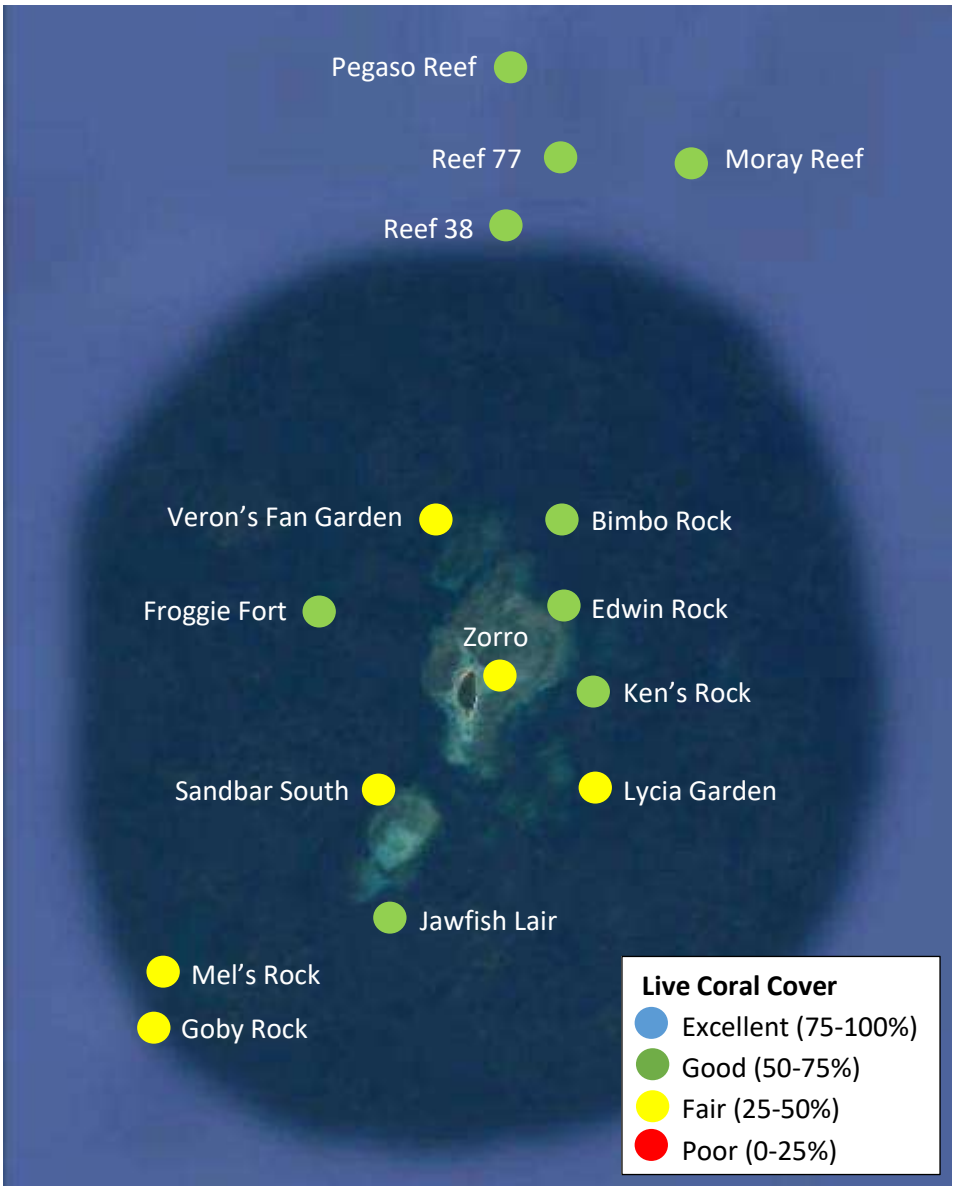


Sabah – Lankayan

Lankayan is a small island in the Sulu Sea, a 1.5hour boat ride north of Sandakan. A resort island, Lankayan is part of the Sugud Islands Marine Conservation Area (SIMCA), a large, privately managed MPA off the East coast of Sabah.

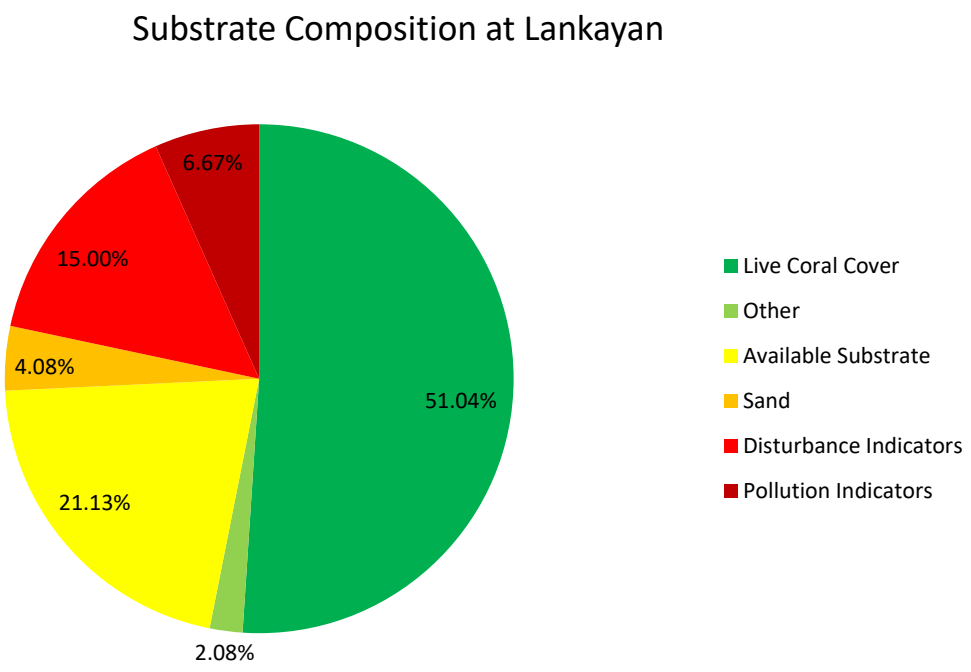
SIMCA is remote and distant from populated areas, and no communities exist on the islands within the protected area. However, the SIMCA area is known to be a traditional fishing ground and is fished by both artisanal and commercial fishers from Sandakan, Kudat and the Philippines.

Before the creation of SIMCA, blast fishing was a constant problem, and turtle eggs were poached on a regular basis. Lankayan Island is the only developed island within SIMCA. The 0.05 km^2 island is the site of the Lankayan Island Dive Resort (LIDR), which is the only structure on the otherwise uninhabited island.



Map showing the health categories of each survey site based on their live coral cover: 9 sites have 'Good' coral cover and 6 are in 'Fair' condition.

Coral Cover and Health



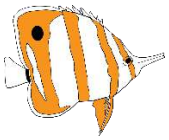
- Lankayan reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 48.33%.
- In 'Good' condition and above the North Borneo region average (36.49%).
- Available substrate for coral recruits to attach is very high.
- Disturbance indicators are high.
- Rubble level is high at many sites, ranging from 10% to 37%.
- Pollution indicators are not high in Lankayan in general, but the level of sponge is high at Bimbo Rock and Mel's Rock, both recorded 13.13%.

CORAL IMPACTS

- Trash and drupella predation are recorded.
- One site is impacted by warm water bleaching.

Fish Abundance at Lankayan
(Individuals per 500m^3)

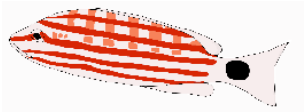
Targeted for aquarium trade



3.12

Targeted for food

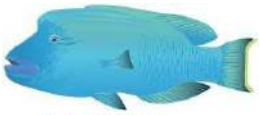
0.10



2.87

Targeted for live-food fish trade

0.02



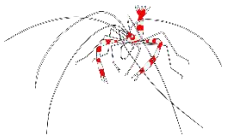
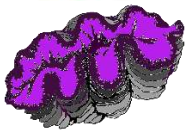
0.20

0.02

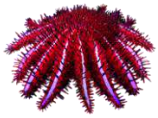
0.15

- Butterflyfish, indicator for aquarium trade, is recorded.
- Fish targeted for live-food fish trade is absent.
- All type of fish targeted for food is recorded. The abundance of fish targeted for food is very low except for snapper.

Invertebrate Abundance at Lankayan
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	0.05		0.02
	✗		2.23
	✗		✗
			1.82

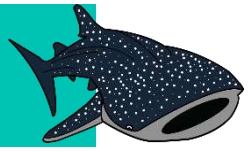
Ecological Imbalance/Predator Outbreaks

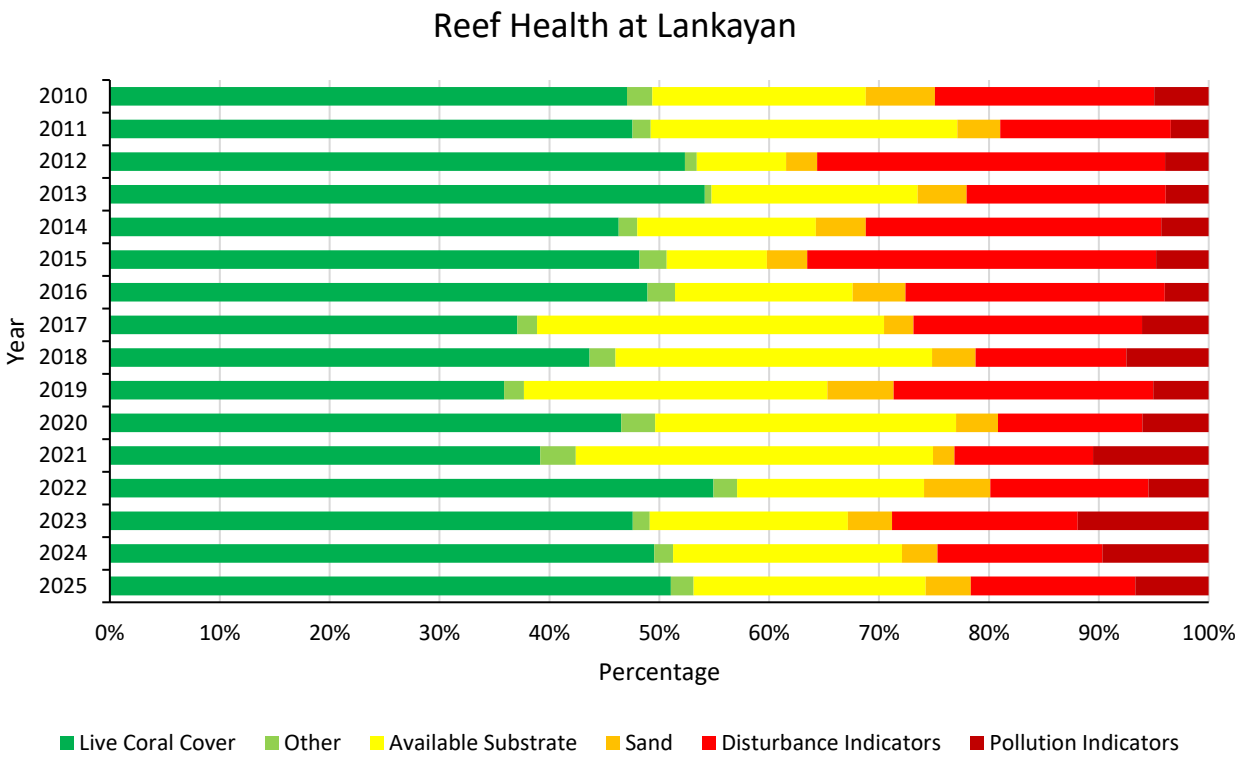
	0.98
	0.07

- Banded coral shrimp, indicator for curio trade, is recorded.
- Crown-of-thorns is not an issue in Lankayan.
- The abundance of invertebrates collected for food is low.

RARE ANIMALS

- Sharks and turtles are recorded.





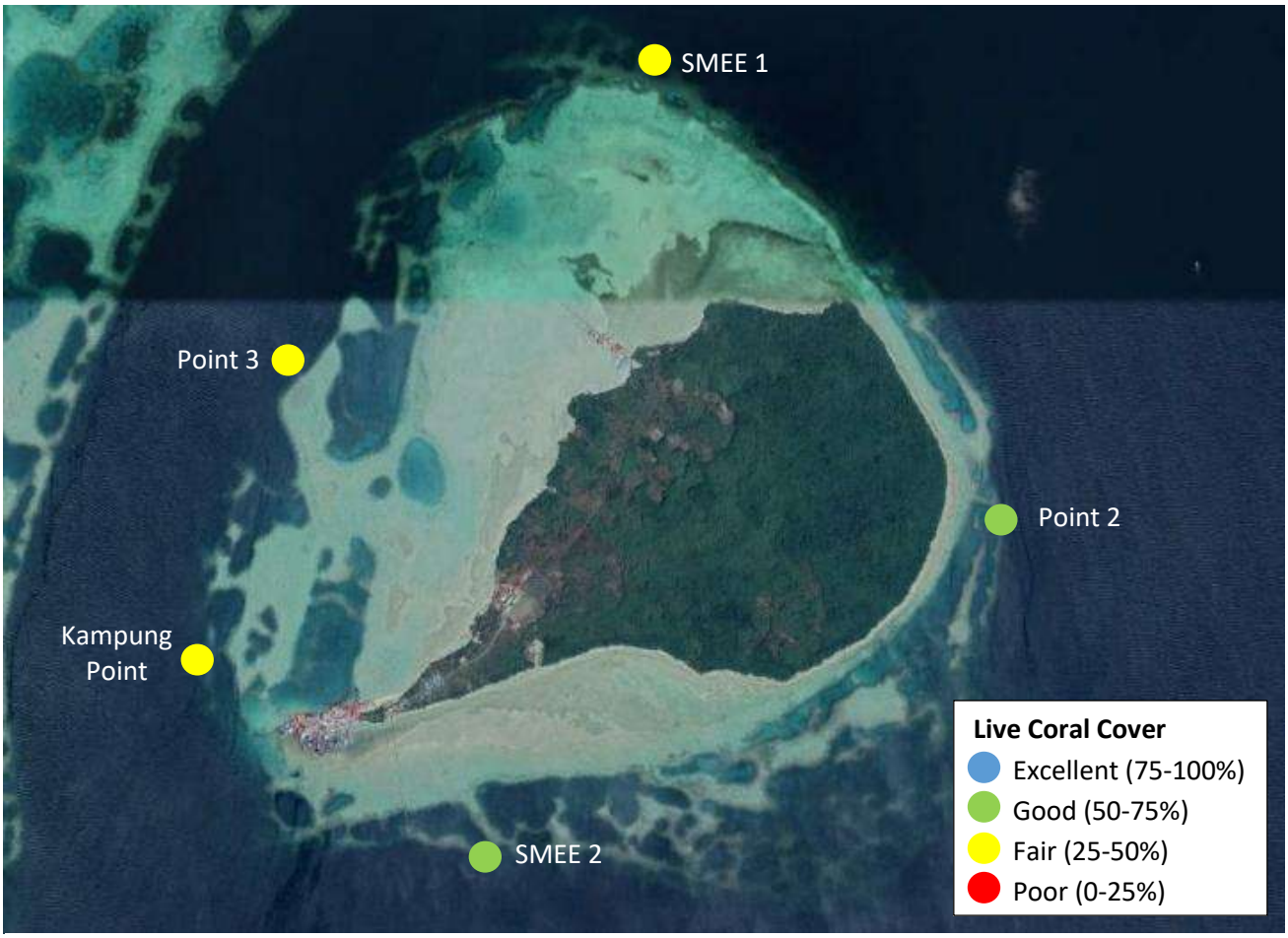
- The health of Lankayan reefs shows variation over the years. Overall, the reefs are improving.
- The decrease in live coral cover in 2021 was considered to reflect the elimination of 9 sites that year (due to Covid-19 pandemic which hampered survey efforts).
- The decrease in 2024 was considered to reflect the elimination of 3 sites that year.
- Available substrate for coral recruits to attach is high, possible chance of further reef improvement if human impacts are dealt with.

Sabah – Larapan

Larapan Island is located in the Sulu Sea off the south-eastern coast of Sabah. The island has two villages with a small population of just over 1200 people and basic infrastructures such as primary school, kindergarten, mosque, community hall, and solar and saltwater desalination systems. There are no proper sewage and municipal waste management systems.

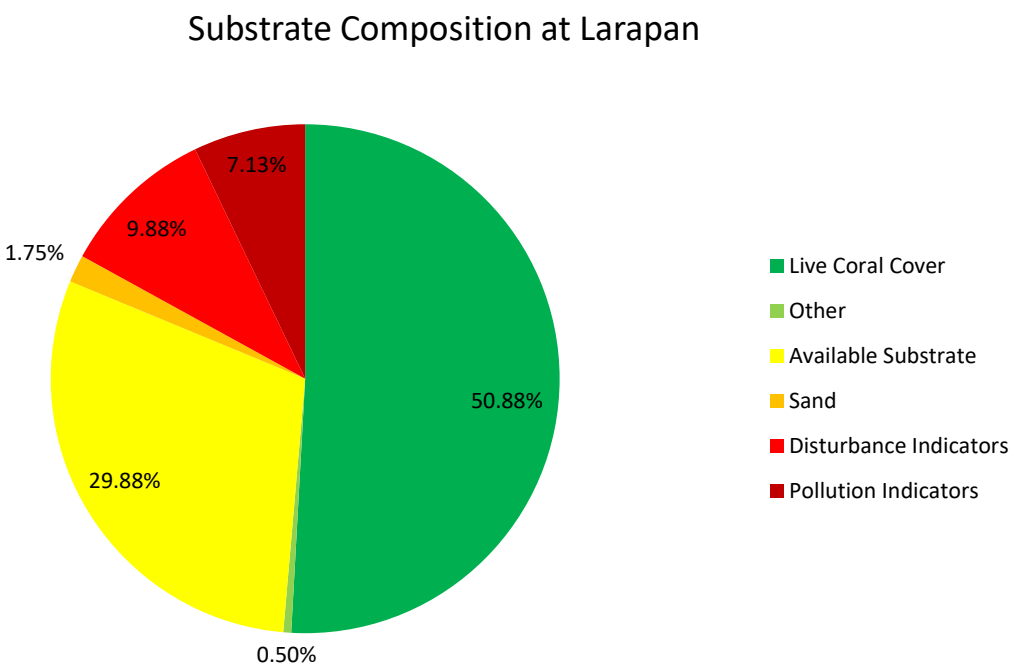
The island is a fishing village and a hotspot for fish bombing. Gleaning activities are popular amongst the locals. It is not a popular diving or snorkelling site. In terms of natural resources, the island has rich marine biodiversity, especially its coral reefs.

Recently, a small group of people from the community has taken it upon themselves to patrol the areas to prevent encroachments and destructive fishing activities. They also conduct surveys to monitor the reefs.



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Good' coral cover and 3 are in 'Fair' condition.

Coral Cover and Health



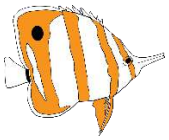
- Larapan reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 49%.
- In 'Good' condition and above the North Borneo region average (36.49%).
- Available substrate for coral recruits to attach is very high.
- Disturbance indicators are quite high.
- Rubble level is especially high at Kampung Point which recorded 16.25%.
- Silt level is especially high at Point 3 (8.13%)
- Pollution indicators are not high in Larapan in general, but the level of nutrient indicator algae is especially high at SMEE 1 (13.75%).

CORAL IMPACTS

- Boat anchor damage, discarded fishing nets and trash are recorded at many sites.
- Dynamite fishing and drupella predation are recorded.
- All sites are impacted by warm water bleaching.

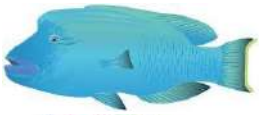
Fish Abundance at Larapan
(Individuals per 500m^3)

Targeted for aquarium trade



1.45

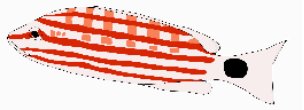
Targeted for live-food fish trade



0.05

Targeted for food

0.10

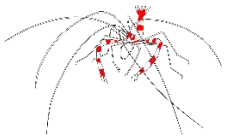


0.20

- Butterflyfish, indicator for aquarium trade, is recorded.
- Humphead wrasse, fish targeted for live-food fish trade, is recorded.
- The abundance of fish targeted for food is low.

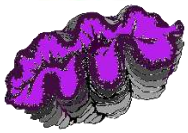
Invertebrate Abundance at Larapan
(Individuals per 100m^2)

Collected for curio trade



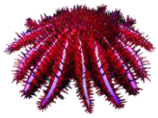
Collected for food



0.05

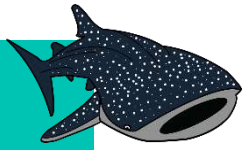
Ecological Imbalance/Predator Outbreaks

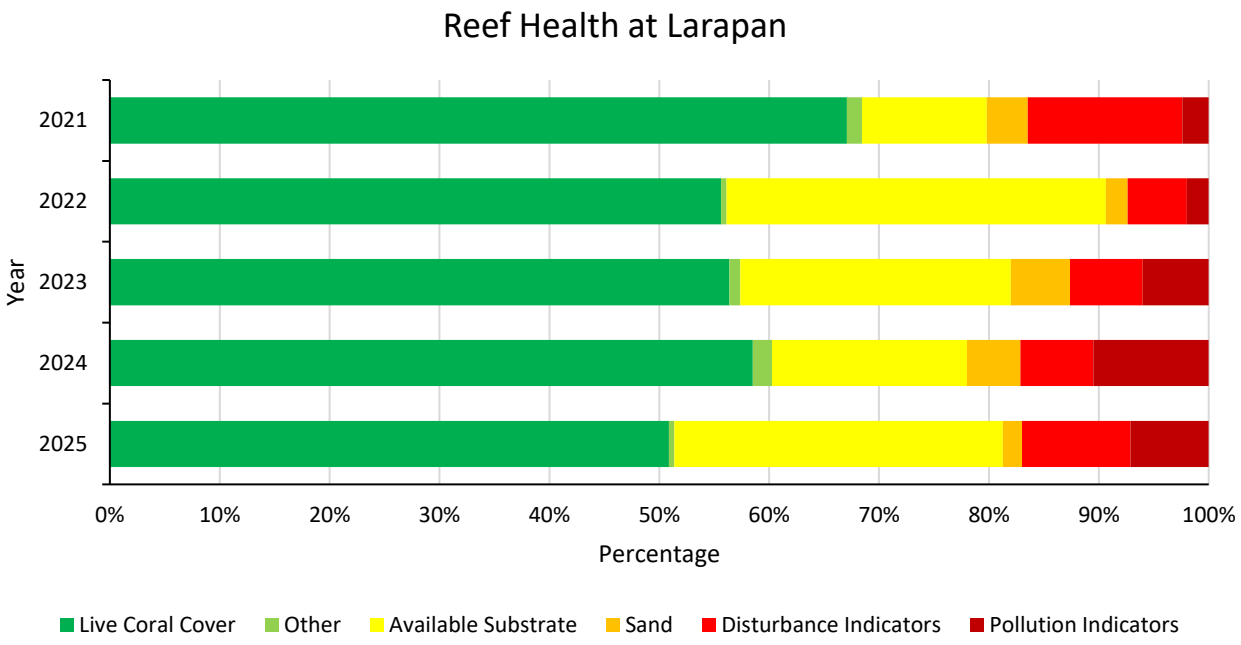
0.10

- Indicator for curio trade is absent.
- Crown-of-thorns is not an issue in Larapan.
- For invertebrates targeted for food, only giant clam is recorded, and the abundance is low.

RARE ANIMALS



- Turtles are recorded.

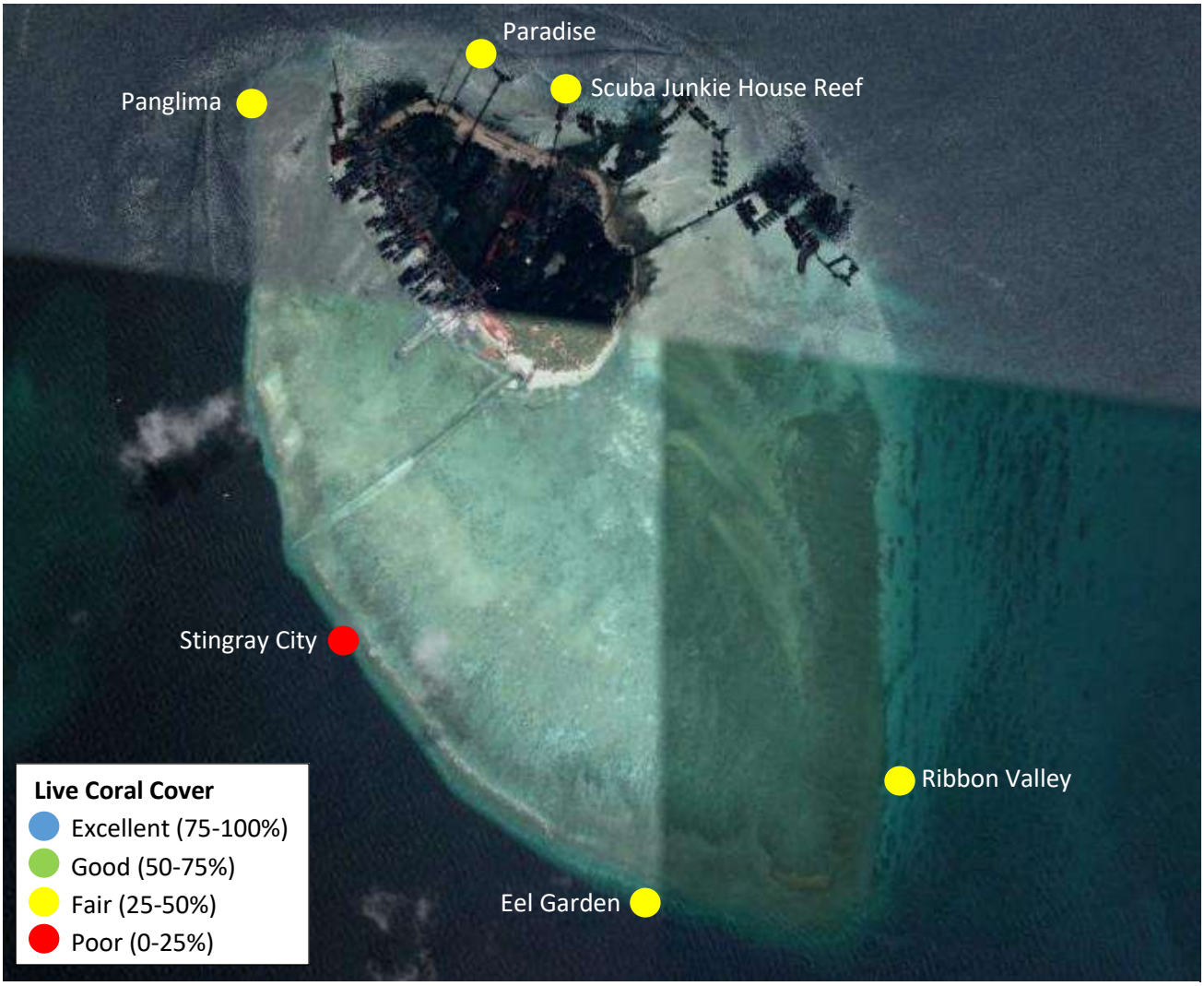


- Larapan reefs have maintained in 'good' condition.
- The decrease in live coral cover in 2022 was considered to reflect the elimination of 1 site, rather than an actual decrease in live coral cover.
- In 2025, the reefs deteriorated. The deterioration was probably due to drupella predation.
- Disturbance and pollution indicators had increased.

Sabah – Mabul

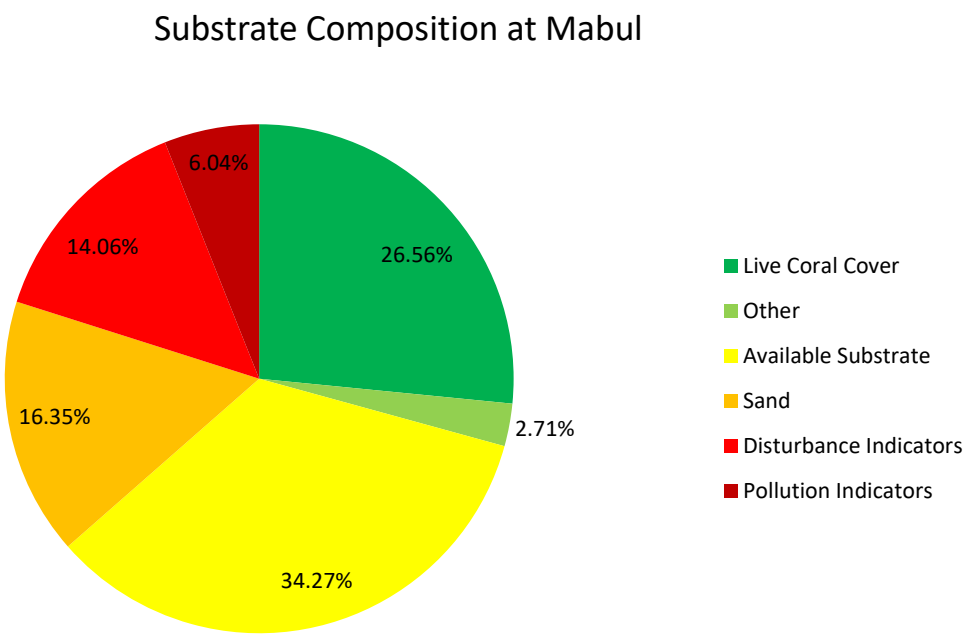
Mabul is a small island off the south-eastern coast of Sabah. The island has been a fishing village since the 1970s. In the 1990s, it first became popular to divers due to its proximity to Sipadan Island, 15km away. This 20-hectare piece of land surfaces 2–3 m above sea level, consists mostly of flat ground and the aerial view is oval-shaped. Surrounding it are sandy beaches, perched on the northwest corner of a larger 2 km^2 reef. The reef is on the edge of the continental shelf and the seabed surrounding the reef slopes out to 25 to 30 m deep.

There are several dive resorts operating on Mabul Island, which provide accommodation for scuba divers – most are located on the island or on stilts over the water, while one is on a converted oil platform about 500 meters from the beach. There are also several home stay and backpacker accommodations that also arrange diving trips.



Map showing the health categories of each survey site based on Live Coral Cover: 5 sites have 'Fair' coral cover and 1 is in 'Poor' condition.

Coral Cover and Health



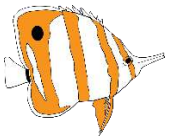
- Mabul reefs are dominated by available substrate, which is rock, for coral recruits to attach.
- Mean hard coral (reef builder) cover is 19.79%.
- In 'Fair' condition and below the North Borneo region average (36.49%).
- Sand level is very high, especially high at Panglima and Ribbon Valley, both recorded over 21%. The level ranges from 8% to 19% at other sites.
- Disturbance indicators are high.
- Rubble level is especially high at Scuba Junkie House Reef (23.13%). The level ranges from 11% to 16% at other sites. Only Stingray City recorded less than 2% of rubble.
- Pollution indicators are not high in Mabul in general, but the level of sponge is high at Stingray City (12.50%)
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is very high, high level of disturbance indicators may deter coral growth if they are not dealt with.

CORAL IMPACTS

- Boat anchor damage, discarded fishing nets and trash are recorded at many sites.
- One site is impacted by warm water bleaching.

Fish Abundance at Mabul
(Individuals per 500m^3)

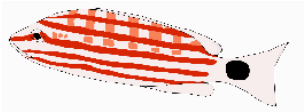
Targeted for aquarium trade



9.21

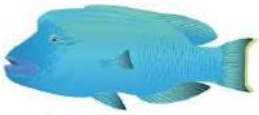
Targeted for food

0.04



52.00

Targeted for live-food fish trade



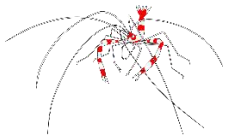
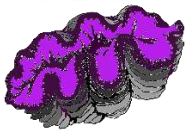
1.50

0.21

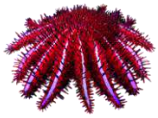
0.13

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Absent of fish targeted for live-food fish trade.
- The abundance of fish targeted for food is very low, except for snapper.
- Snapper abundance in Mabul is high.

Invertebrate Abundance at Mabul
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	0.04		0.25
	✗		✗
	✗		✗
			0.29

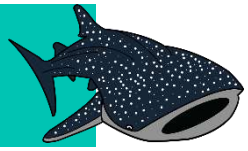
Ecological Imbalance/Predator Outbreaks

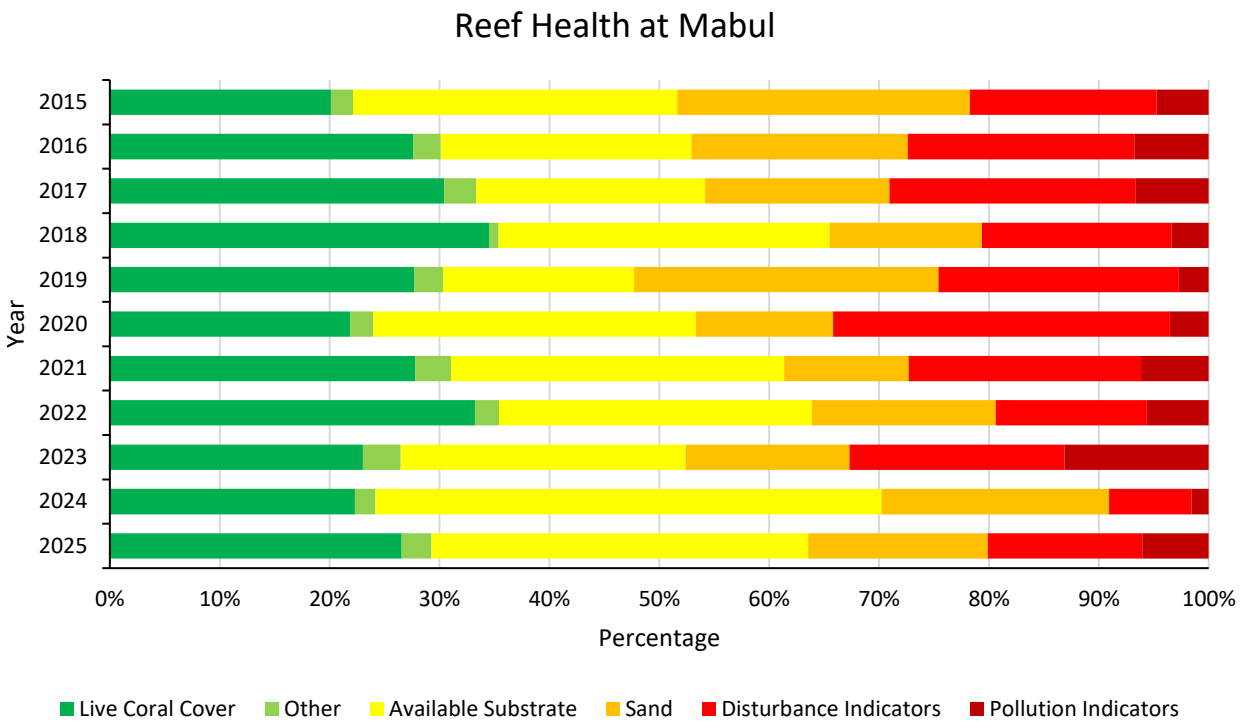
	47.38
	✗

- Banded coral shrimp, indicator for curio trade, is recorded.
- The abundance of invertebrates collected for food is very low.

RARE ANIMALS

- Turtles are recorded at many sites. Sharks are recorded.





- From 2015 to 2018, the health of Mabul reefs showed improvement. Sand level decreased during that period. Decreasing amount of sand can be an indication of decreasing disturbance. Reduced disturbance allows the reefs to improve.
- From 2018 to 2020, Mabul reefs deteriorated. The deterioration was likely due to physical damage caused by human activities and/or storm.
- The decrease in 2020 was also due to elimination of 3 sites that year because of Covid-19 pandemic which hampered survey efforts.
- From 2021 until 2022, Mabul reefs showed improvement. The improvement was likely due to reduced physical damage.
- In 2023 and 2024, the reefs deteriorated. The deterioration was due to various human-induced threats such as solid waste pollution, direct sewage discharge, and increasing level of tourism activities and fish bombing, as reported by the local youth divers. Although the 4th Global Coral Bleaching Event impacted the reefs around Mabul, it was not severe.
- In 2025, the reefs showed improvement.
- Available substrate for coral recruits to attach is very high, possible chance of reef recovery if human impacts are dealt with.

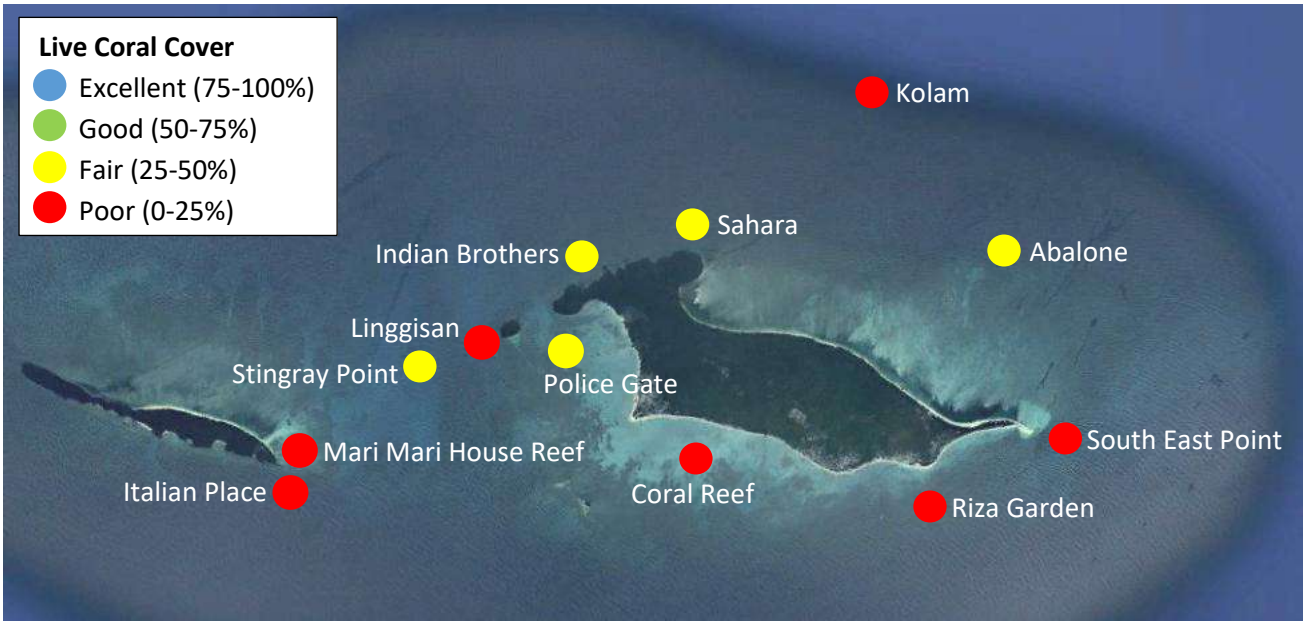
Sabah – Mantanani

The Mantanani archipelago is located some 30km off the north-west coast of Sabah, off the town of Kota Belud. The largest island is Mantanani Besar; the other two are Mantanani Kecil and Linggisan.

Mantanani is mainly populated by Bajau Ubian, with a small population of about 1,000 in two villages. The two main economic activities are fisheries and tourism.

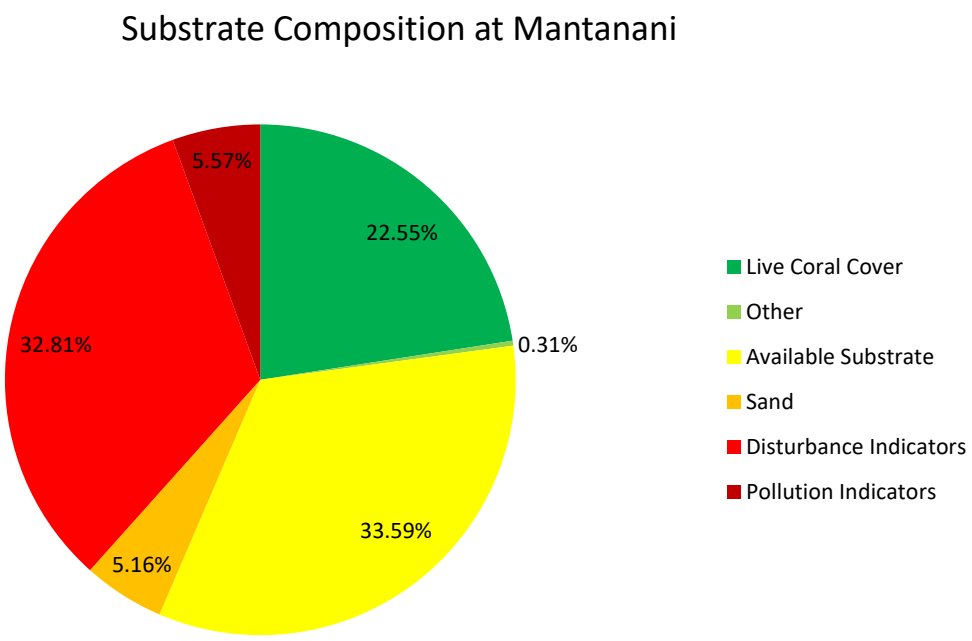
Mantanani is an increasingly popular snorkelling and diving destination, and tourist numbers have grown ten-fold in the last eight years, mainly day trippers from Kota Kinabalu. The number of tourism operators is increasing and there are plans for further development.

Fish bombing is a major problem in the area. This destructive fishing method has damaged large areas of reef around the islands. Blast detector data showed that a total of 2832 blasts were recorded from June 2014 until February 2020. The blasts were recorded within 5km radius of Mantanani.



Map showing the health categories of each survey site based on Live Coral Cover: 5 sites have 'Fair' coral cover and 7 are in 'Poor' condition.

Coral Cover and Health



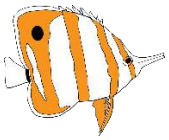
- Mantanani reefs are dominated by available substrate, which is rock, for coral recruits to attach.
- Mean hard coral (reef builder) cover is 22.24%.
- In 'Poor' condition and below the North Borneo region average (36.49%).
- Disturbance indicators are extremely high.
- Rubble level is extremely high at many sites. The level is especially high at Italian Place (60.63%), Coral Reef (57.50%) and Riza Garden (53.75%). The level ranges from 32% to 49% at Abalone, Kolam, Police Gate and South East Point, and ranges from 18% to 22% at Mari Mari House Reef and Sahara.
- Pollution indicators are not high in Mantanani in general, but the level of nutrient indicator algae is very high at Kolam (33.13%).
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is very high, high level of disturbance indicators may deter coral growth if they are not dealt with.

CORAL IMPACTS

- Boat anchor damage, dynamite fishing and trash are recorded at many sites.
- Some sites are impacted by warm water bleaching.

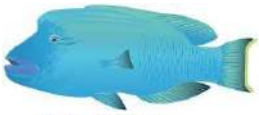
Fish Abundance at Mantanani
(Individuals per 500m^3)

Targeted for aquarium trade



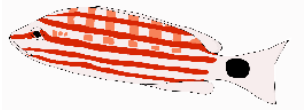
1.63

Targeted for live-food fish trade



Targeted for food

0.29



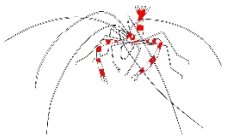
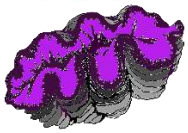
0.60

1.23

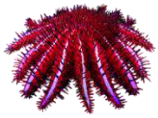
0.10

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is very low.

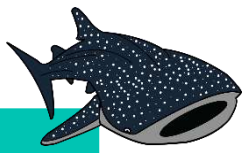
Invertebrate Abundance at Mantanani
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	0.04		✗
	✗		0.13
	✗		0.02
			0.50

Ecological Imbalance/Predator Outbreaks

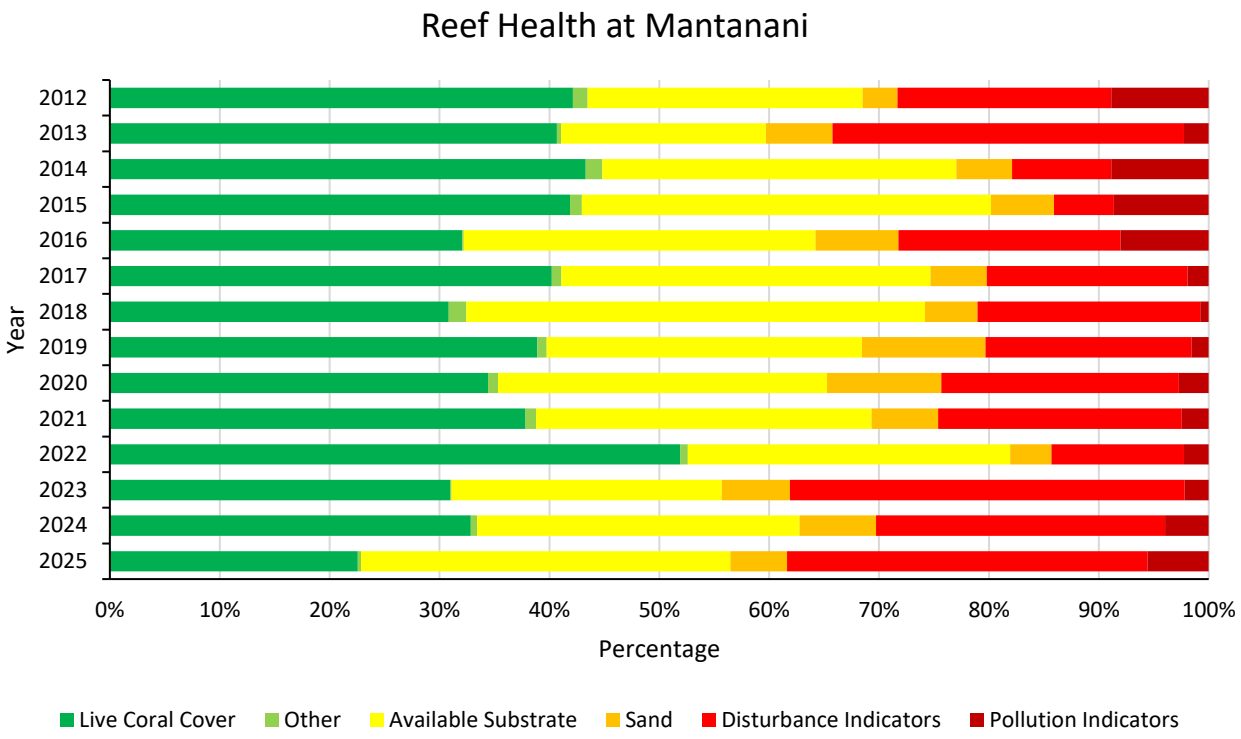
	7.35
	✗

- Banded coral shrimp, indicator for curio trade, is recorded.
- Invertebrates targeted for food are very low in abundance.



RARE ANIMALS

- Turtles were recorded.



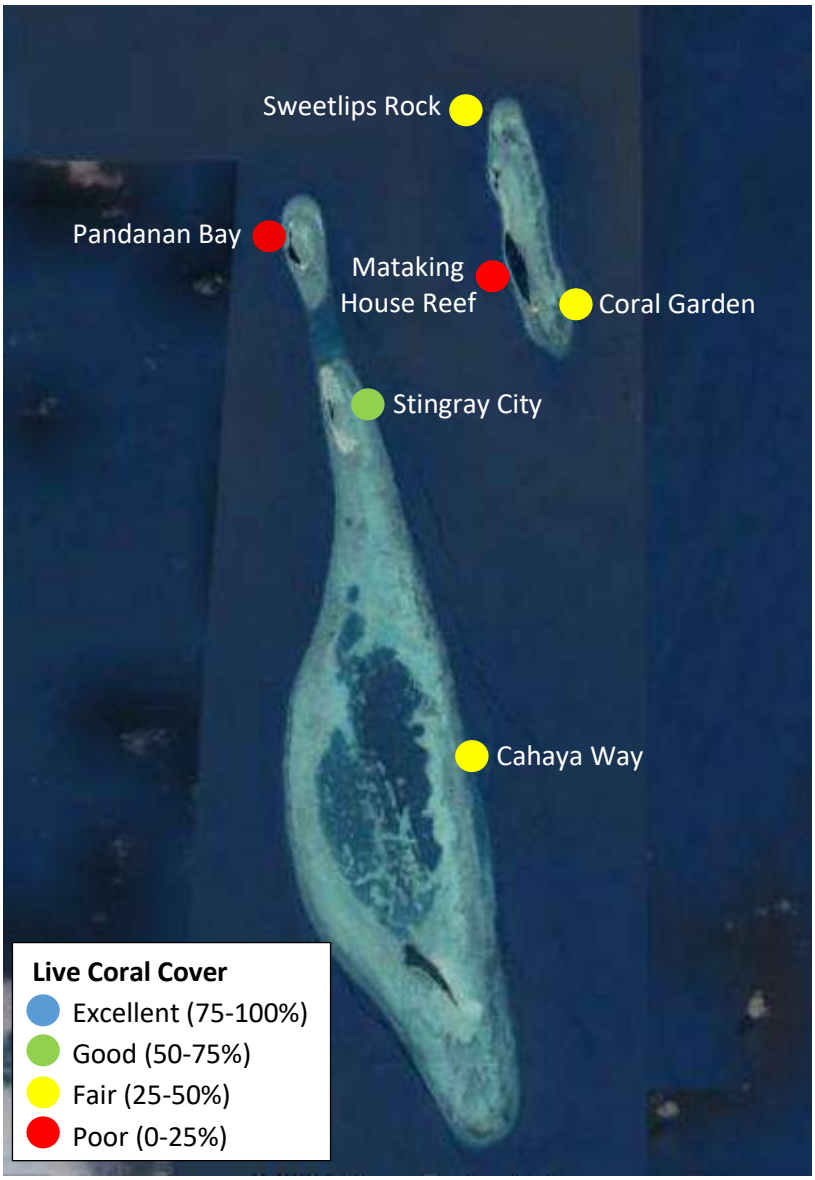
- The health of Mantanani reefs shows variation over the years. Overall, the reefs have deteriorated.
- The deterioration is likely due to physical damage caused by human activities and/or storm as well as raised level of nutrient in the waters.
- Available substrate for coral recruits to attach is very high, possible chance of reef recovery if human impacts are dealt with.

Sabah – Mataking

Mataking Island is approximately 35km east from the major town of Semporna in the South of Sabah. It is a well-known tourist spot and has one resort. Diving and snorkelling are the main activities on the island.

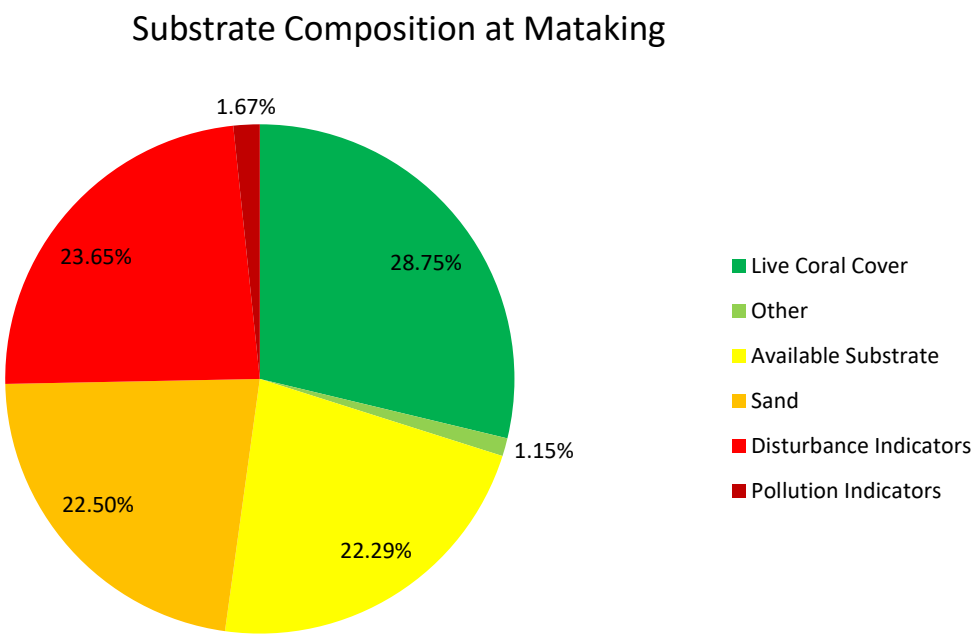
While the island has no legal protected status, the presence of the resort has effectively created a small, protected area, keeping fishermen (including fish bombers) away from parts of the reefs surrounding the island.

The island has fringing reefs, and coral extends down to almost 30m. Coral reefs around this, and surrounding islands have been extensively damaged by fish bombing in the past, and fish bombing continues in some areas nearby.



Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Good' coral cover, 3 are in 'Fair' condition and 2 show 'Poor' health.

Coral Cover and Health



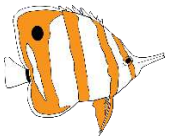
- Mataking reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 24.90%.
- In 'Fair' condition and below the North Borneo region average (36.49%).
- Available substrate for coral recruits to attach is very high.
- Sand level is very high. It is especially high at Pandanan Bay (58.75%) and Mataking House Reef (37.50%). The level ranges from 9% to 17% at many sites.
- Disturbance indicators are very high.
- Rubble level is high at all sites except Pandanan Bay. Cahaya Way, Coral Garden and Sweetlips Rock recorded over 31% rubble. The rest of the sites recorded 15% to 17% rubble.

CORAL IMPACTS

- Boat anchor damage, trash and drupella predation are recorded.
- Discarded fishing nets are recorded at many sites.
- All sites are impacted warm water bleaching.

Fish Abundance at Mataking
(Individuals per 500m^3)

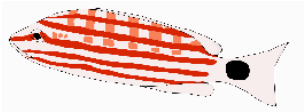
Targeted for aquarium trade



7.25

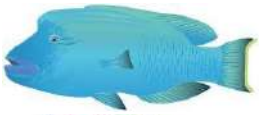
Targeted for food

0.13



0.75

Targeted for live-food fish trade



0.29

5.67

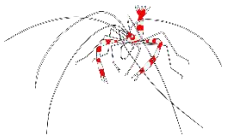
0.17

0.71

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Bumphead parrotfish, indicators targeted for live-food fish trade, is recorded.
- For fish targeted for food, only barramundi cod is absent. The abundance of fish targeted for food is low, except for parrotfish.

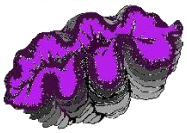
Invertebrate Abundance at Mataking
(Individuals per 100m^2)

Collected for curio trade



0.25

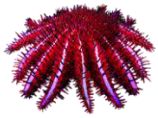
Collected for food



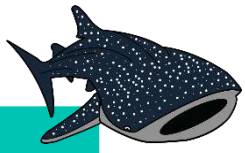
0.42

Ecological Imbalance/Predator Outbreaks

2.00

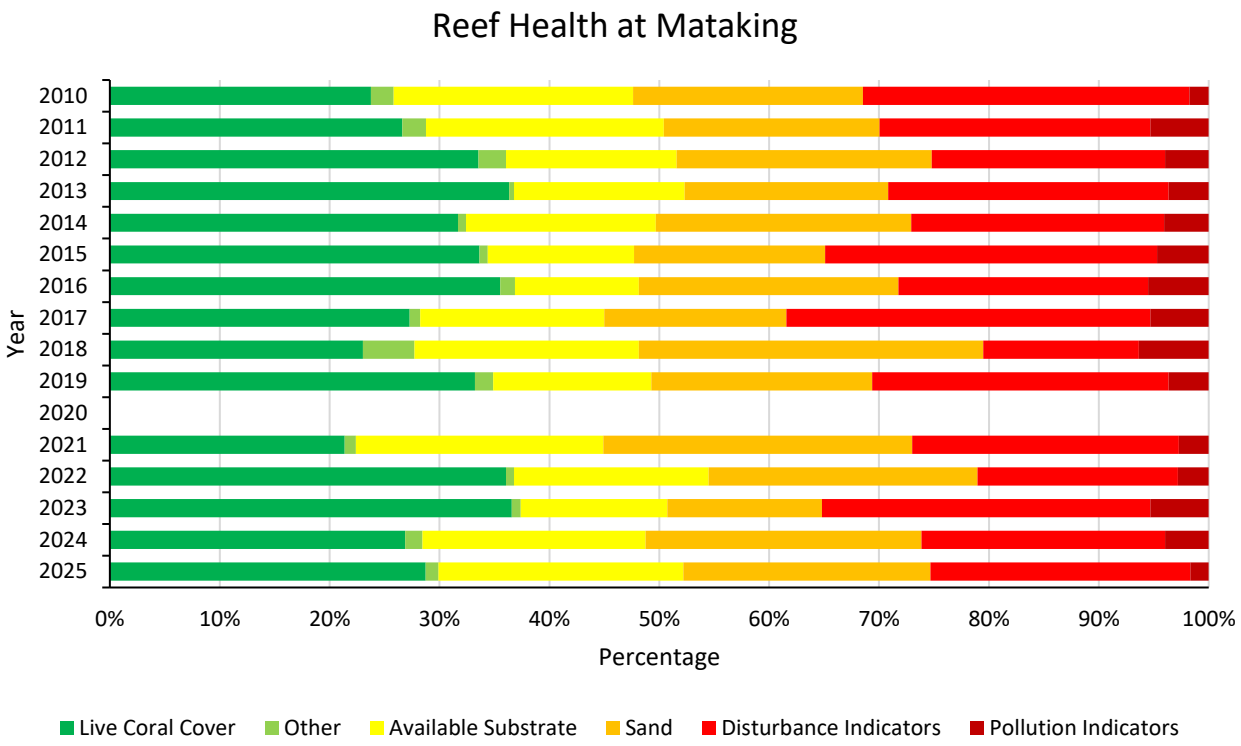


- Banded coral shrimp, indicator for curio trade, is recorded.
- Invertebrates targeted for food are very low in abundance.



RARE ANIMALS

- Turtles are recorded at many sites.

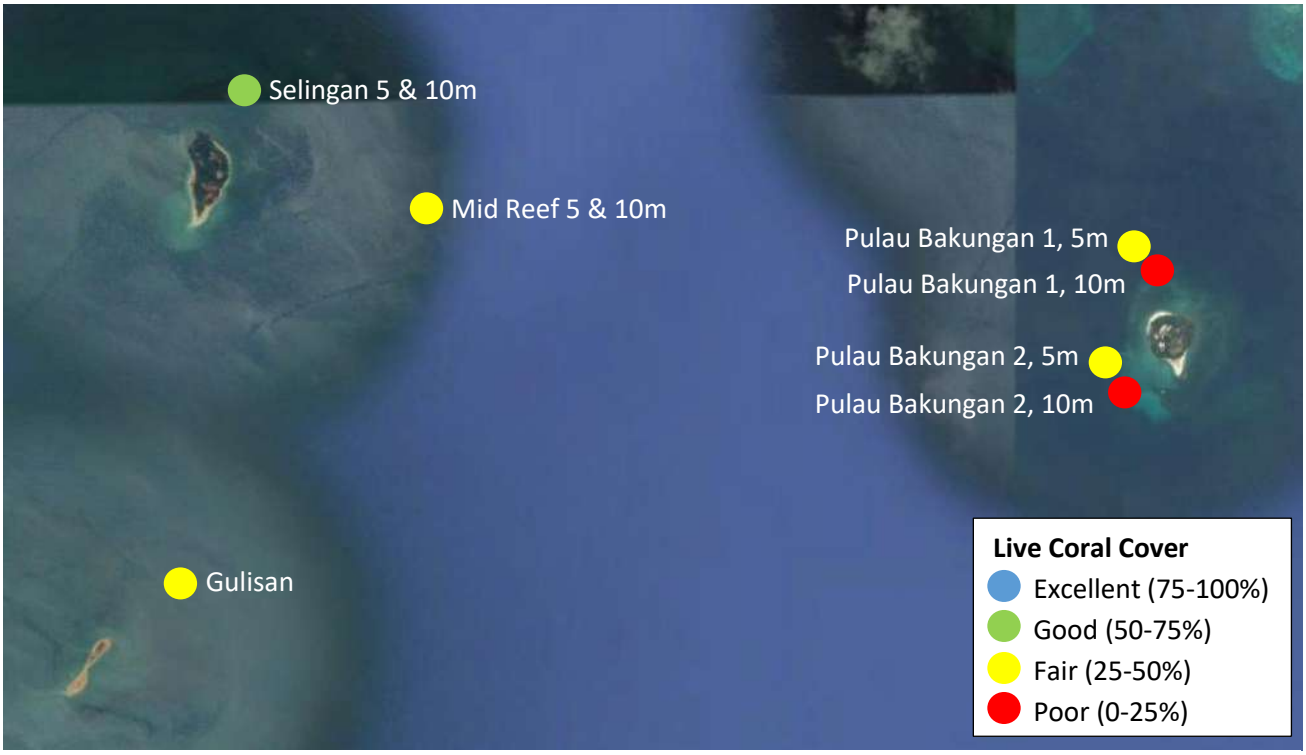


- The health of Mataking reefs shows variation over the years.
- No survey data was collected in 2020 due to Covid-19 pandemic which hampered survey efforts.

Sabah – Pulau Penyu

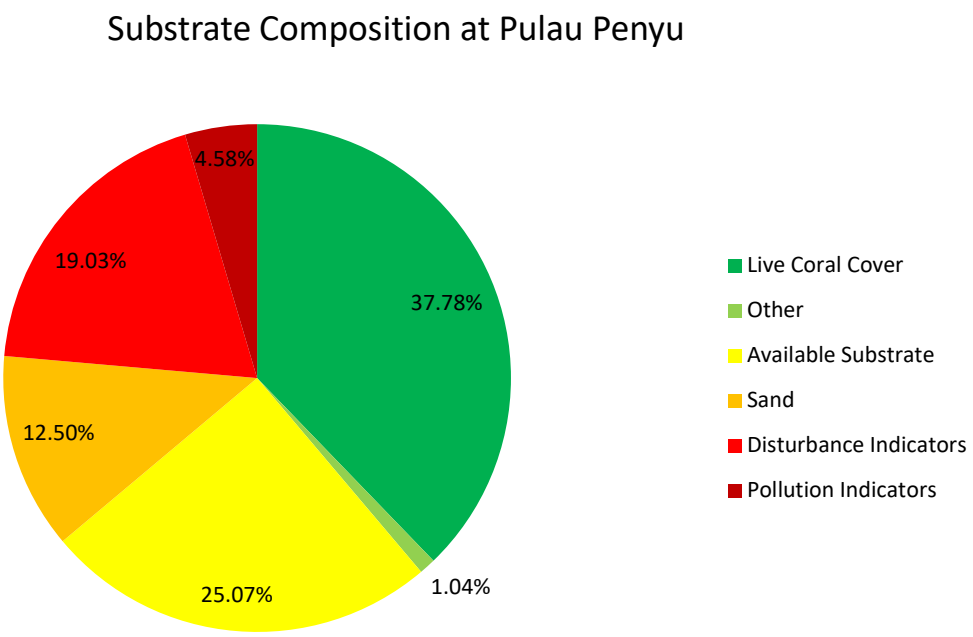
Pulau Penyu lies in the Sulu Sea some 40km north of Sandakan, Sabah. It comprises of three islands: Pulau Selingan, Pulau Bakungan Kecil and Pulau Gulisan. The park gained its popularity from the green and hawksbill turtles which lay their eggs on the beaches of the islands. All the three islands are protected within marine parks on both sides of the Malaysian and Philippine borders. The park covers an area of 17.4km^2 and administered by Sabah Parks.

Only on Selingan are there chalets for overnight visitors, and those who wish to see the turtles laying egg must stay overnight. However, park rules and regulations are strictly enforced, and visitors are not allowed on the beach from sunset to sunrise so as not to disturb the turtles. A ranger will call all visitors to observe only one turtle laying eggs per night.



Map showing the health categories of each survey site based on Live Coral Cover: 2 sites have 'Good' coral cover, 5 are in 'Fair' condition and 2 show 'Poor' health.

Coral Cover and Health



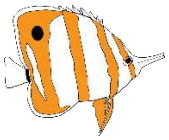
- Pulau Penyu reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 34.38%.
- In 'Fair' condition and above the North Borneo region average (36.49%).
- Available substrate for coral recruits to attach is very high.
- Sand level is very high. The level is especially high at Mid Reef 10m, Pulau Bakungan 1 (10m) and Pulau Bakungan 2 (5m), ranging from 27% to 38%.
- Disturbance indicators are high.
- Rubble level is especially high at Mid Reef 5m and 10m, Pulau Bakungan 1 (10m) and Pulau Bakungan 2 (5m), ranging from 11% to 18%.
- Silt level is especially high at Pulau Bakungan 2 (10m) which recorded 63.13%.
- Pollution indicators are not high in Pulau Penyu in general, but the level of nutrient indicator algae is especially high at Pulau Bakungan 2 (5m) which recorded 10%.

CORAL IMPACTS

- Boat anchor damage, discarded fishing net and high siltation are recorded.
- Some sites are impacted by warm water bleaching.

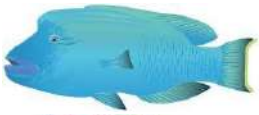
Fish Abundance at Pulau Penyu
(Individuals per 500m^3)

Targeted for aquarium trade



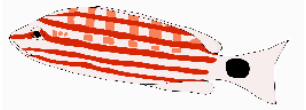
2.81

Targeted for live-food fish trade



Targeted for food

0.19



1.89

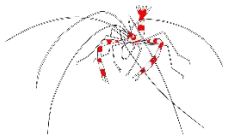
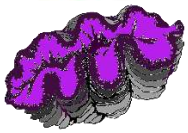
0.56

0.03

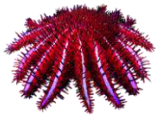
0.17

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is very low.

Invertebrate Abundance at Pulau Penyu
(Individuals per 100m^2)

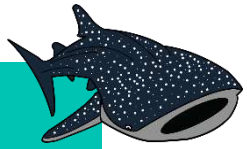
Collected for curio trade		Collected for food	
	0.06		0.11
			0.14
			0.06
			0.03

Ecological Imbalance/Predator Outbreaks

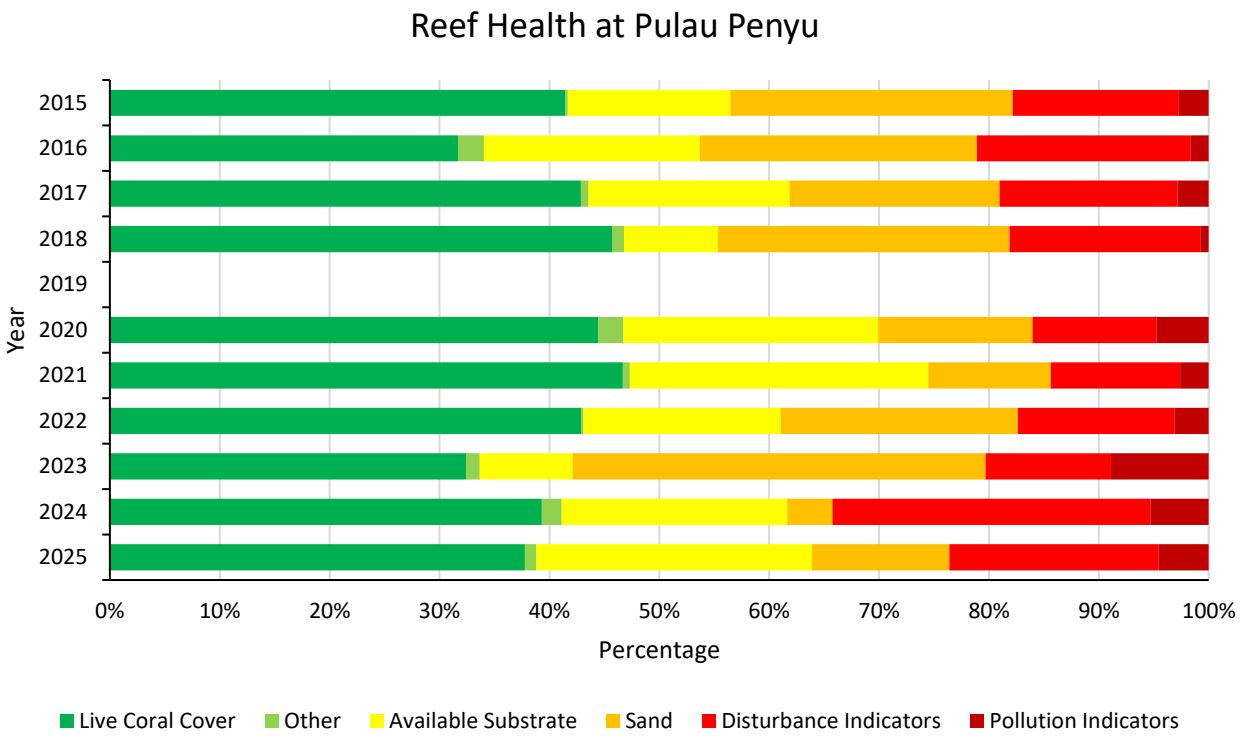
	1.78		
			

- Banded coral shrimp, indicator for curio trade, is recorded.
- All typers of invertebrates collected for food are recorded. The abundance of invertebrates collected for food is very low.

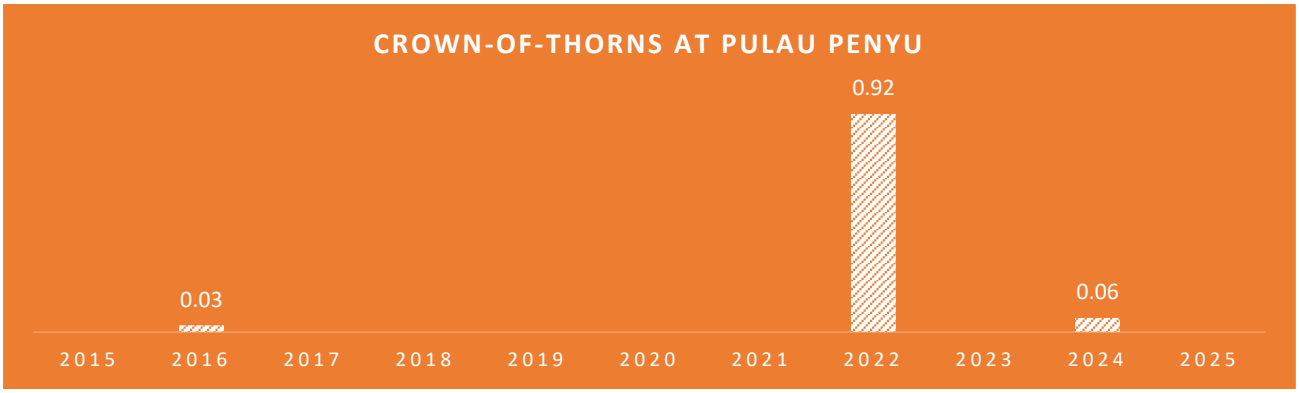
RARE ANIMALS



- Green turtle is recorded.

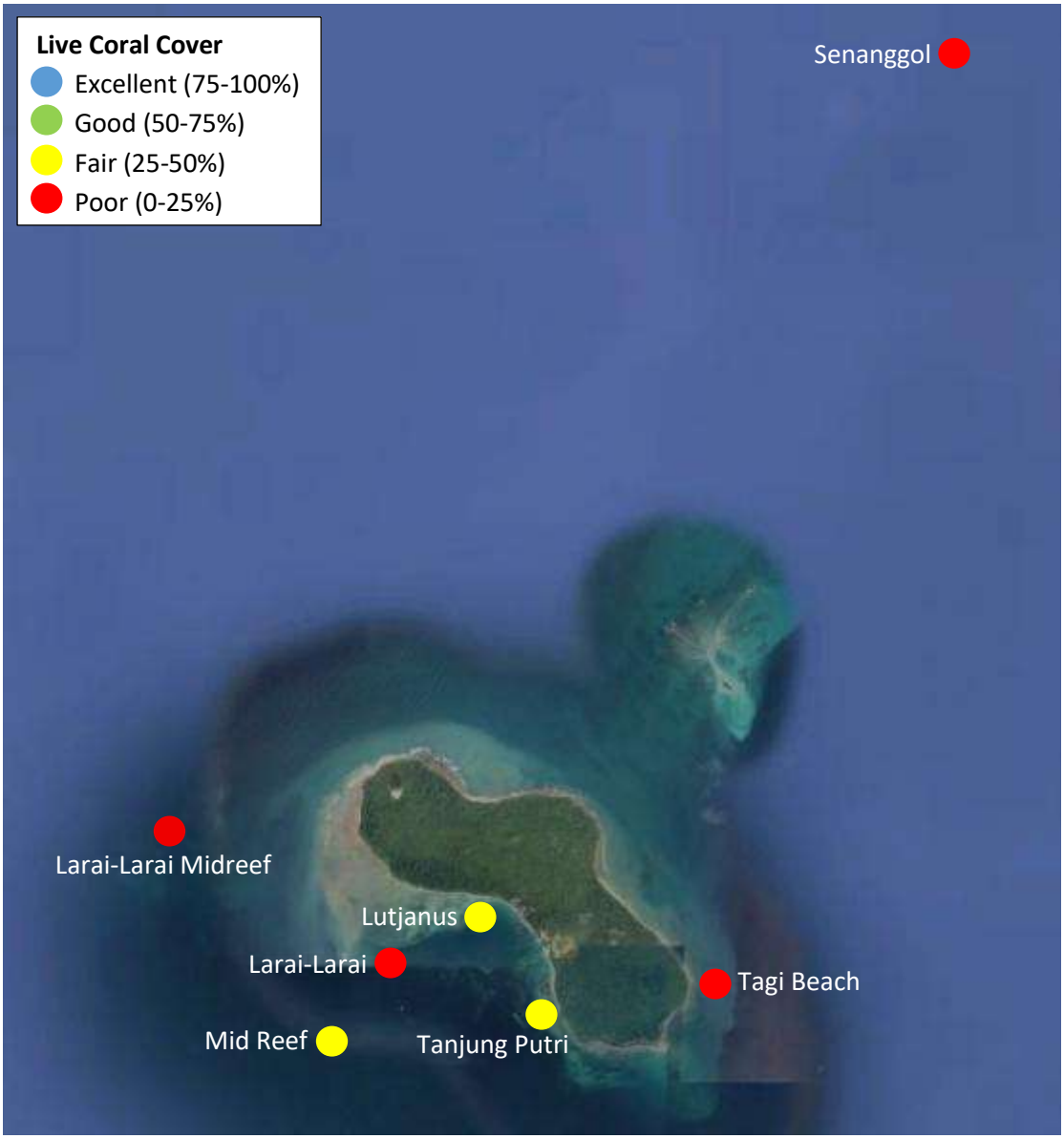


- Pulau Penyu reefs are showing a declining trend.
- The deterioration is likely due to physical damage caused by human activities and/or storm and raised level of nutrient in the waters around the island.
- Survey was not conducted in 2019.
- In 2022, the abundance of crown-of-thorns had increased drastically and was above what a healthy reef can sustain (0.2-0.3 individual per 100m^2). Since 2023, it is no longer a concern in Pulau Penyu.



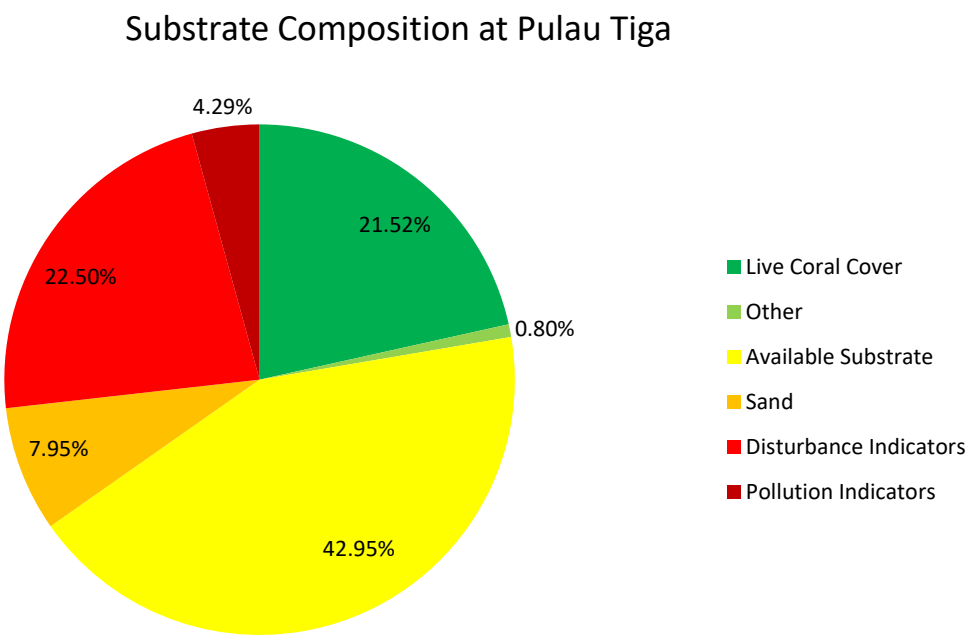
Sabah – Pulau Tiga

Pulau Tiga is one of a group of small uninhabited islands in Kimanis Bay off the western coast of Sabah. The islands were formed on 21 September 1897, when an earthquake on Mindanao caused a volcanic eruption near Borneo. The island is 607 hectares in size and has a couple of active mud volcanoes at the highest part of the island. Pulau Tiga is one of the three islands that make up Tiga Island Park. The Park Headquarters are on the island, comprising an office complex and accommodation for the park staff and visiting scientists.



Map showing the health categories of each survey site based on Live Coral Cover: 3 sites have 'Fair' coral cover and 4 are in 'Poor' condition.

Coral Cover and Health



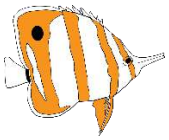
- Pulau Tiga reefs are dominated by available substrate, which is rock, for coral recruits to attach.
- Mean hard coral (reef builder) cover is 21.34%.
- In 'Poor' condition and below the North Borneo region average (36.49%).
- Sand level is slightly high. The level is especially high at Senanggol (17.50%) and Tagi Beach (10%)
- Disturbance indicators are very high.
- Rubble level ranges from 11% to 35% at all sites.
- Silt level is especially high at Larai-Larai (10%).
- Pollution indicators are not high in Pulau Tiga in general, but the level of sponge is especially high at Lutjanus (7.50%) and Midreef (5.63%).
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is very high, high level of disturbance indicators may deter corals growth if they are not dealt with.

CORAL IMPACTS

- Discarded fishing nets and trash are recorded.
- Some sites are impacted by warm water bleaching and wave damage.

Fish Abundance at Pulau Tiga
(Individuals per 500m^3)

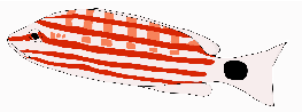
Targeted for aquarium trade



4.71

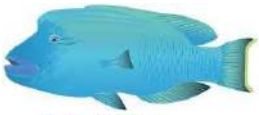
Targeted for food

0.18



16.00

Targeted for live-food fish trade



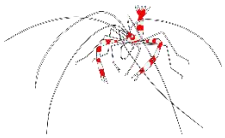
18.21

1.29

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance of snapper and parrotfish, fish targeted for food, is high. The abundance of the rest of the indicators targeted for food is very low.

Invertebrate Abundance at Pulau Tiga
(Individuals per 100m^2)

Collected for curio trade



×

×

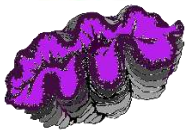
×

Collected for food

×

0.11

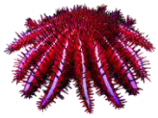
×



1.14

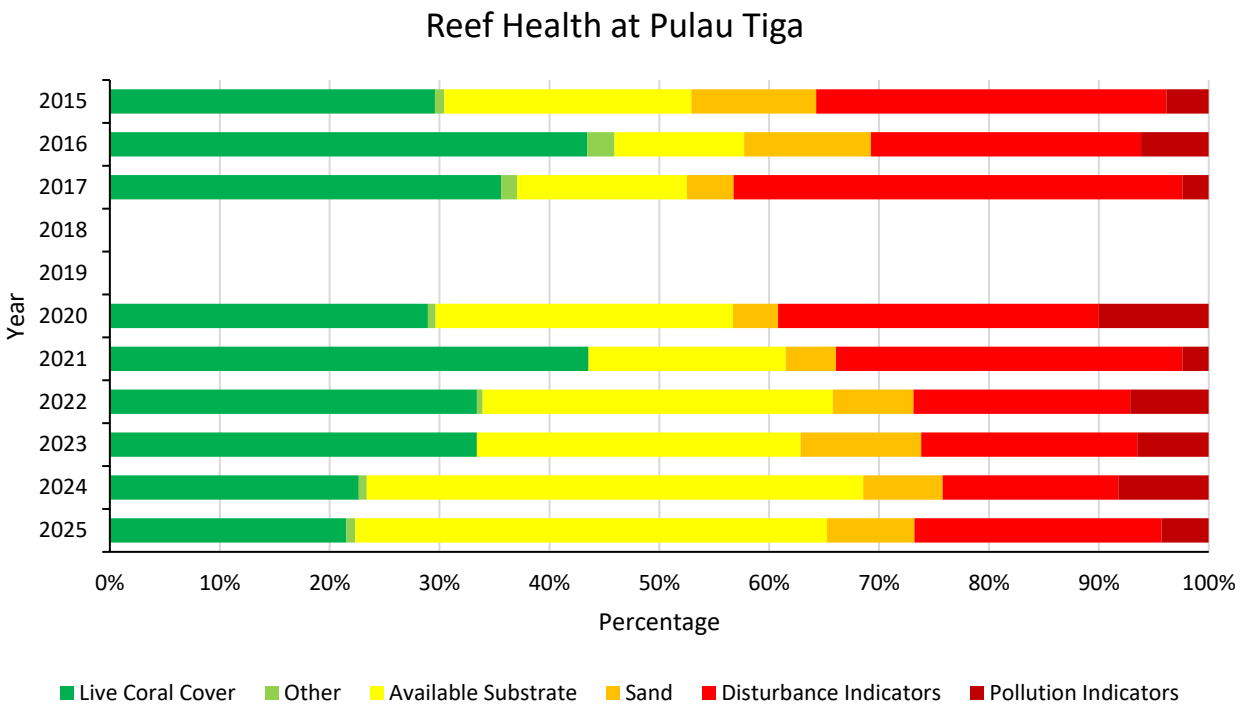
Ecological Imbalance/Predator Outbreaks

0.75



×

- Indicator for curio trade is absent.
- Invertebrates targeted for food are very low in abundance.

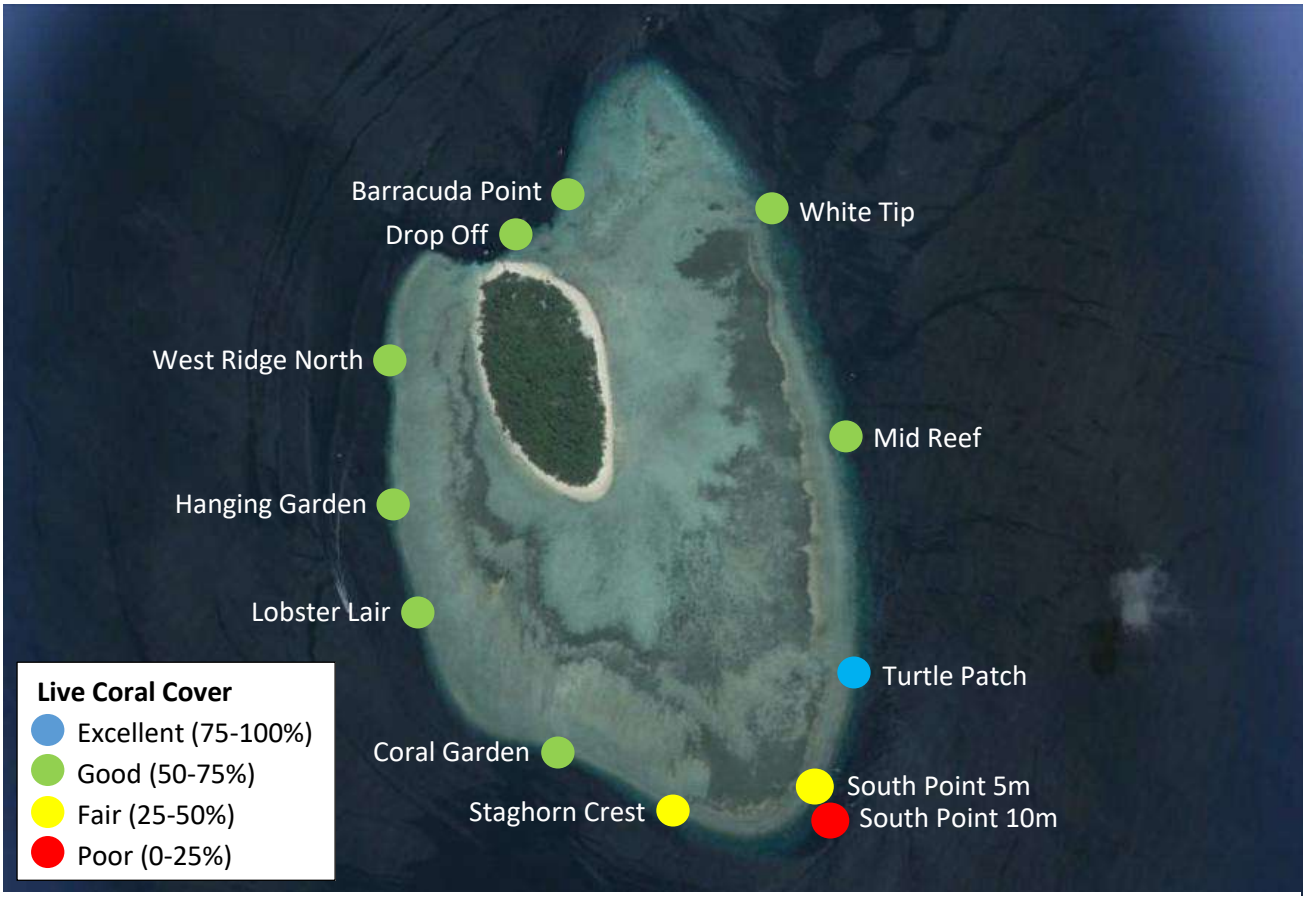


- From 2015 to 2021, the health of Pulau Tiga reefs showed variation.
- Starting from 2022, the reefs showed deterioration. The deterioration was likely due to raised level of nutrient in the waters.
- Survey was not conducted in 2018 and 2019.
- In 2024, the 4th Global Coral Bleaching Event further deteriorated the reefs.

Sabah – Sipadan

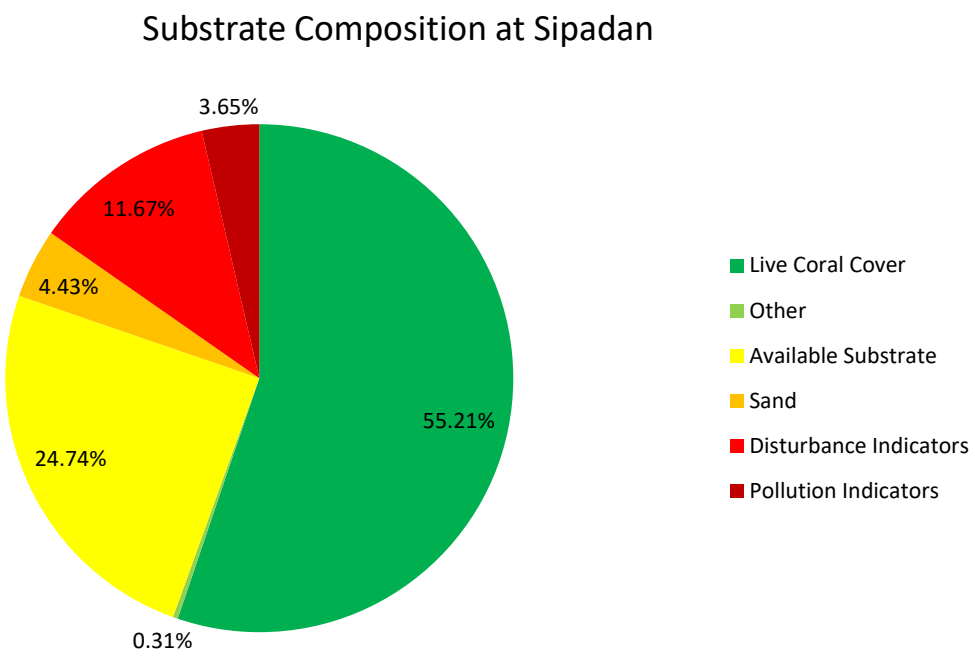
Sipadan is the only oceanic island in Malaysia, rising 600 metres from the seabed and rated by many dive journals as one of the top destinations for diving in the world. Sipadan is located in the Celebes Sea off the east coast of Sabah. It was formed by living corals growing on top of an extinct volcanic cone that took thousands of years to develop.

Sipadan is located at the heart of the Indo-Pacific basin, the centre of one of the richest marine habitats in the world. More than 3,000 species of fish and hundreds of coral species have been classified in this ecosystem. Visiting Sipadan requires a permit issued by Sabah Parks. Since 2019, there are 178 permits available each day.



Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Excellent' coral cover, 8 are in 'Good' condition, 2 show 'Fair' health and 1 is in ‘Poor’ state.

Coral Cover and Health



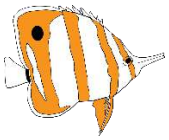
- Sipadan reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 45.05%.
- In 'Good' condition and above the North Borneo region average (36.49%).
- Available substrate for coral recruits to attach is very high.
- Disturbance indicators are high.
- Rubble level is high at many sites, ranging from 10% to 32%.
- Pollution indicators are not high in Sipadan in general, but the level of sponge is high at Hanging Garden and Lobster Lair, both recorded 8.75%.

CORAL IMPACTS

- Fishing line and trash are recorded at some sites.
- Few sites are impacted by drupella predation and warm water bleaching.

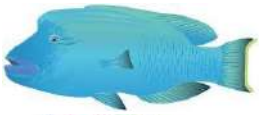
Fish Abundance at Sipadan
(Individuals per 500m^3)

Targeted for aquarium trade



7.96

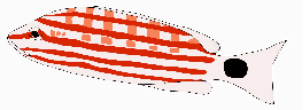
Targeted for live-food fish trade



0.50

Targeted for food

2.02



1.71

Targeted for live-food fish trade

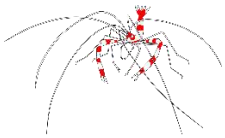
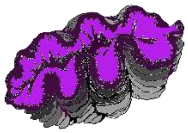
6.83

0.06

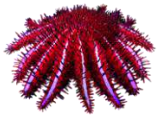
2.79

- Butterflyfish, indicator for aquarium trade, abundance is high.
- Humphead wrasse, fish targeted for live-food fish trade, is recorded.
- For fish targeted for food, only barramundi cod is absent. Good abundance of fish targeted for food.

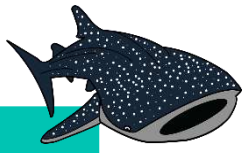
Invertebrate Abundance at Sipadan
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	X		X
	X		X
	X		0.02
			0.42

Ecological Imbalance/Predator Outbreaks

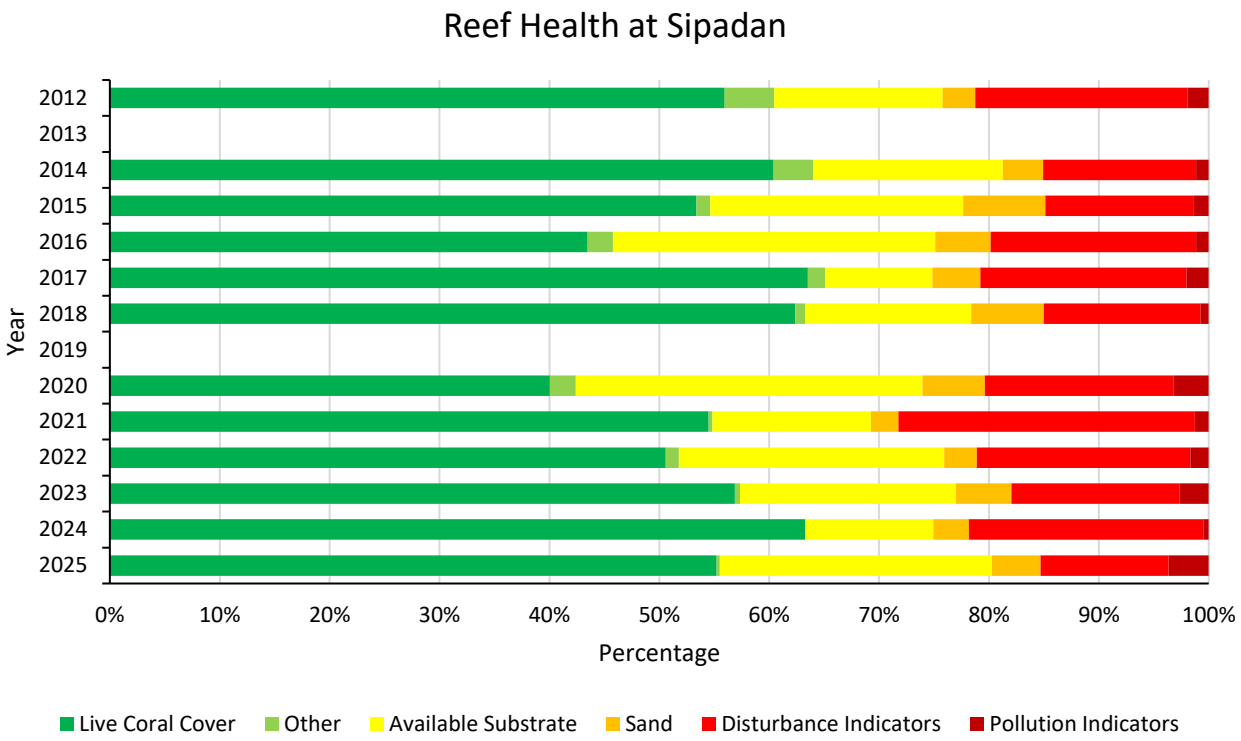
	X
	X

- Indicators for curio trade are absent
- Invertebrates targeted for food are very low in abundance.



RARE ANIMALS

- Green turtles are recorded at many sites. Shark is recorded.

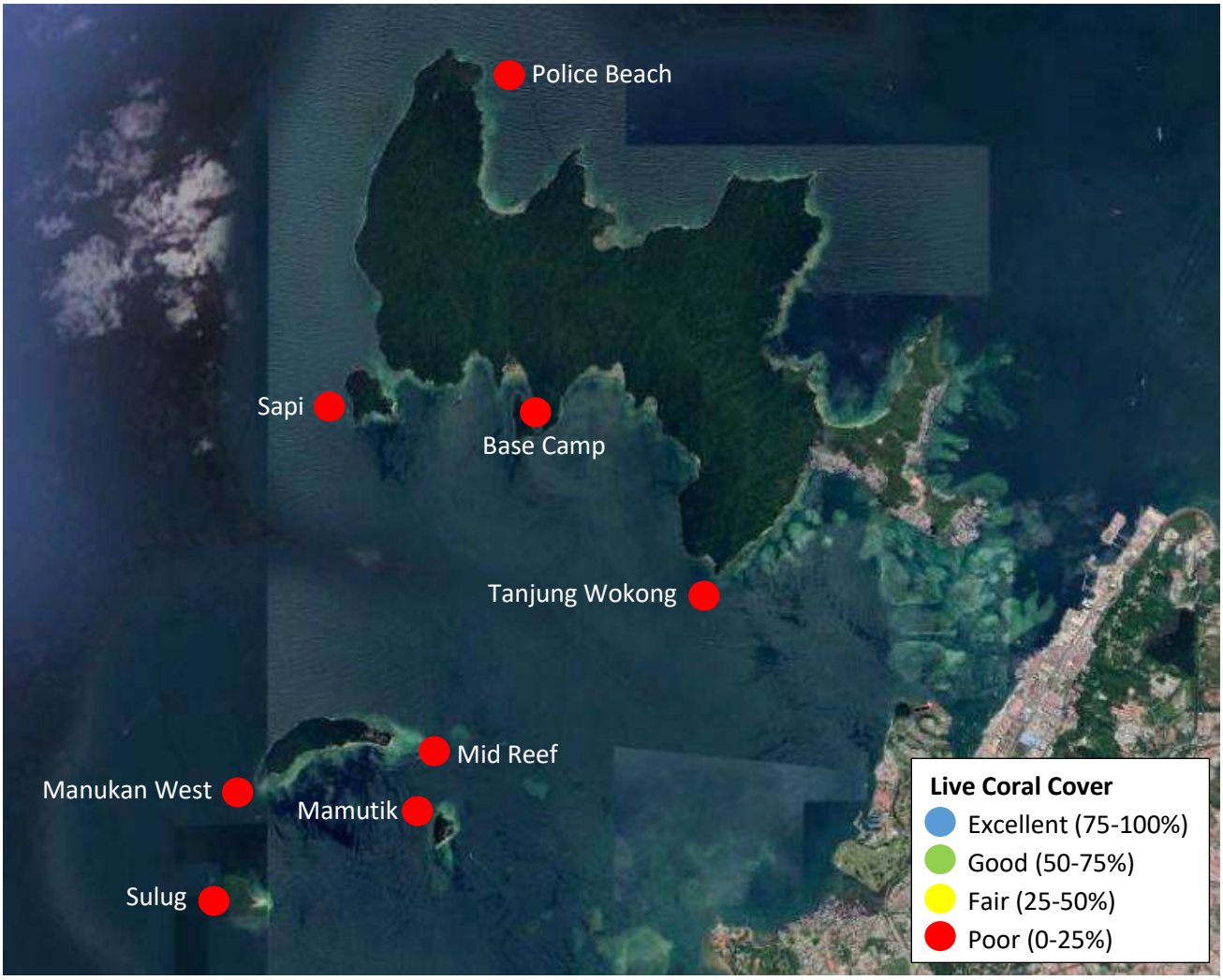


- The health of Sipadan reefs shows variation over the years.
- Pollution indicators remain low.
- Survey was not conducted in 2013 and 2019.
- The spike in live coral cover in 2017 is considered to reflect the elimination of 4 sites that year, rather than an actual increase in live coral cover.

Sabah – Tunku Abdul Rahman Park

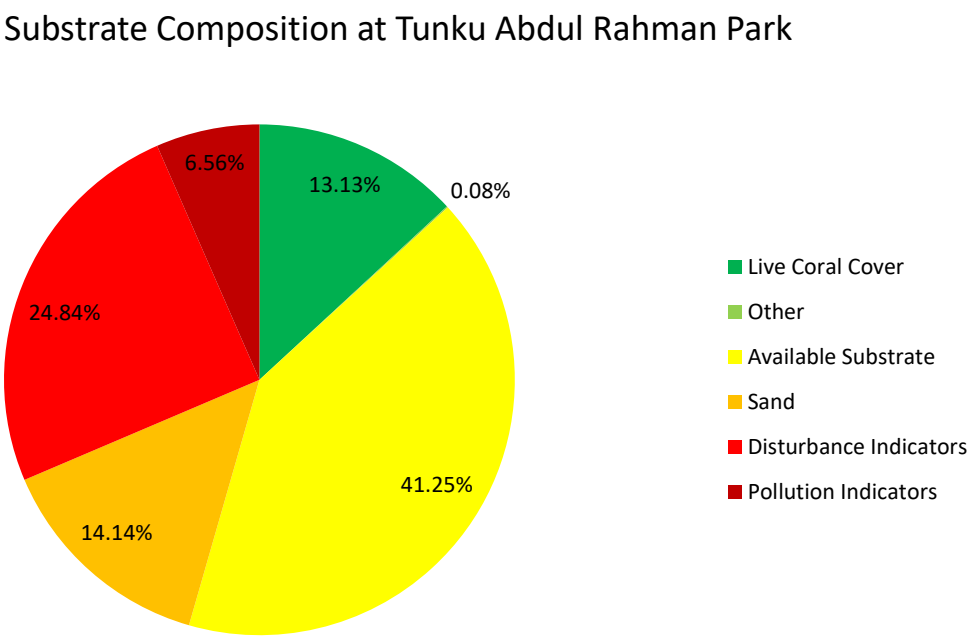
Tunku Abdul Rahman Park is located between 3 to 8 km off Kota Kinabalu, the capital of Sabah, and covers an area over 4,929 hectares, two thirds of which covers the sea. There is a cluster of islands in the Park comprising Pulau Gaya, Pulau Sapi, Pulau Manukan, Pulau Mamutik and Pulau Sulug. The reefs generally lie in shallow water with little current.

All five islands have tourist facilities such as chalets/rest house, jetty, picnic shelters, barbecue pits, tables, changing rooms and toilets, except for Pulau Sulug which is relatively untouched and undeveloped. The islands receive large numbers of day tourists from Kota Kinabalu.



Map showing the health categories of each survey site based on Live Coral Cover: 8 sites have 'Poor' coral cover.

Coral Cover and Health



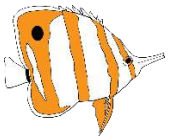
- Tunku Abdul Rahman Park reefs are by available substrate for coral recruits to attach.
- Mean hard coral (reef builder) cover is 13.05%.
- In 'Poor' condition and below the North Borneo region average (36.49%).
- Sand level is high. It is especially high at Tanjung Wokong (31.25%) and Mamutik (26.88%). The level ranges from 10% to 20% at Manukan West, Sapi Reef and Sulug.
- Disturbance indicators are very high.
- Rubble level is especially high at Mamutik (40.63%). The level ranges from 11% to 30% at other sites, except for Sapi Reef and Tanjung Wokong (both recorded less than 9%).
- Pollution indicators are not high in Tunku Abdul Rahman Park in general, but the level of nutrient indicator algae is high at Police Beach (15.63%) and Sapi Reef (12.50%).
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is very high, high level of disturbance indicators may deter corals growth if they are not dealt with.

CORAL IMPACTS

- Discarded fishing nets are recorded at all sites and trash is recorded at many sites.
- Boat anchor damage is recorded.
- Many sites are impacted by warm water bleaching.

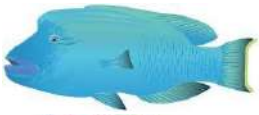
Fish Abundance at Tunku Abdul Rahman Park
(Individuals per 500m^3)

Targeted for aquarium trade



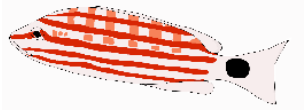
2.47

Targeted for live-food fish trade



Targeted for food

0.13



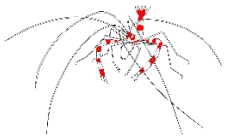
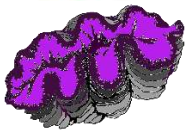
2.13

2.94

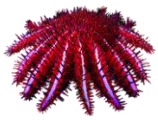
0.44

- Butterflyfish, indicator for aquarium trade, is recorded.
- Absent of indicator targeted for live-food fish trade.
- The abundance of fish targeted for food is low.

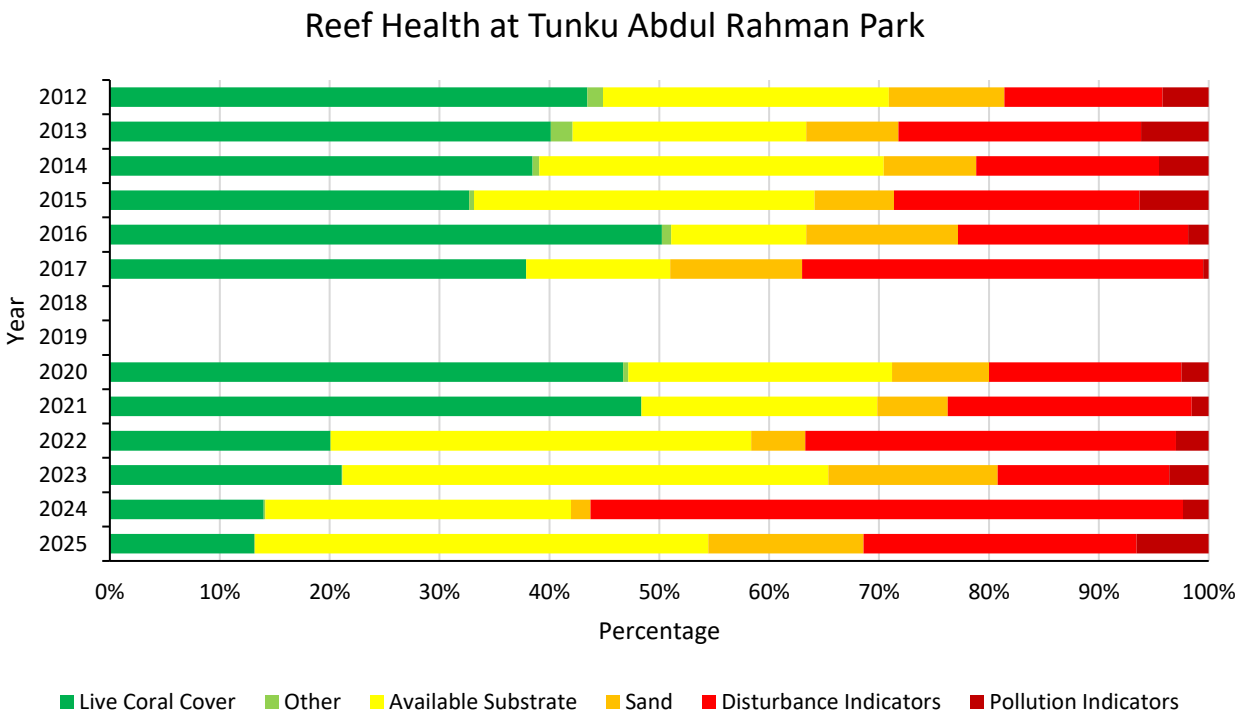
Invertebrate Abundance at Tunku Abdul Rahman Park
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
			
			**0.03**
			
			**2.41**

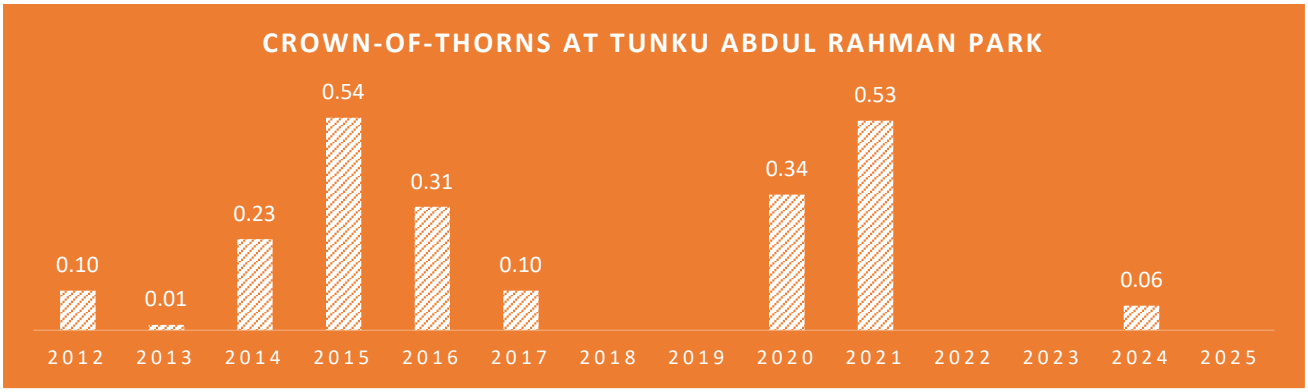
Ecological Imbalance/Predator Outbreaks

	**57.25**
	

- Indicators for curio trade are absent.
- The abundance of invertebrates collected for food is low.



- Survey was not conducted in 2018 and 2019.
- In 2022, the reefs had deteriorated drastically. The deterioration was likely due to physical damage caused by human activities and/or storm.
- In 2024, the 4th Global Coral Bleaching Event further deteriorated the reefs.
- Since 2022, crown-of-thorns are no longer an issue in Tunku Abdul Rahman Park.
- Available substrate for coral recruits to attach is very high, possible chance of reef recovery if human impacts are dealt with.

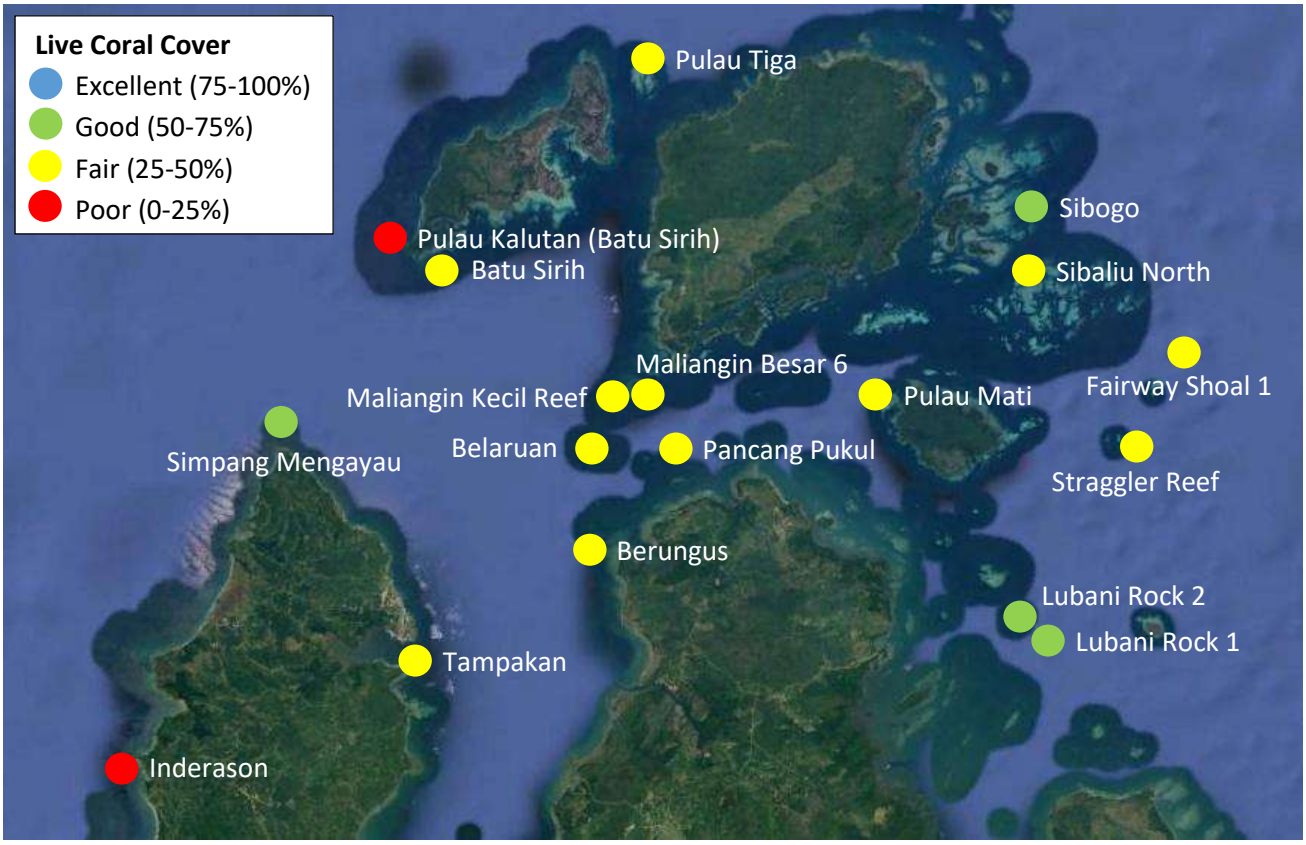


Sabah – Tun Mustapha Park

Tun Mustapha Park is a marine park located off the north coast of the state of Sabah, Malaysia. It comprises an area of 898,762.76 hectares with more than 50 islands and islets located across Kudat, Pitas and Kota Marudu districts. The park received Cabinet in March 2003 under Parks Enactment 1984. Formally established on 19 May 2016, the park safeguards globally important marine ecosystems that are threatened with overexploitation.

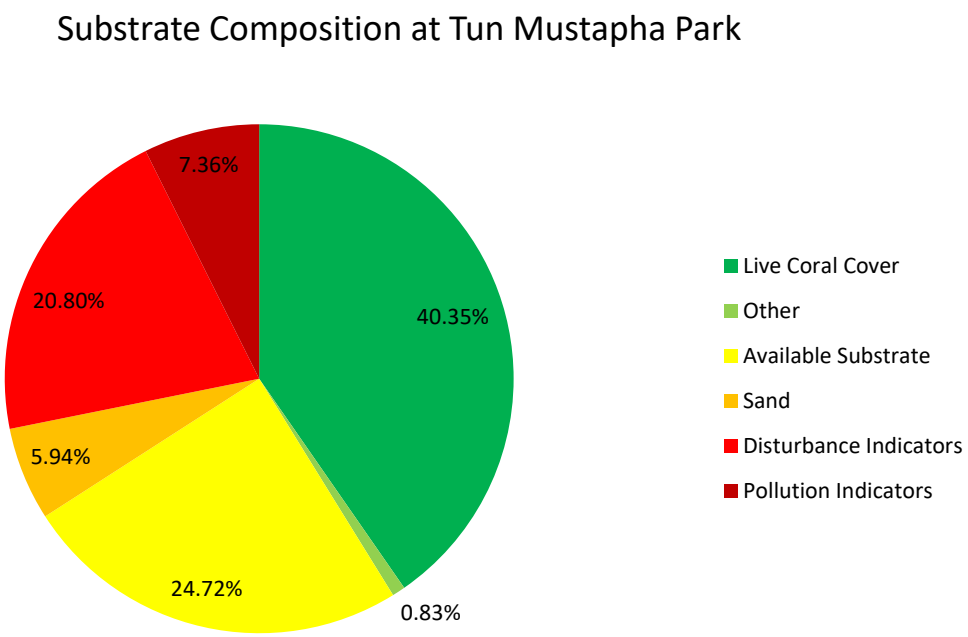
Tun Mustapha Park is the largest multiuse marine protected area in Malaysia and one of the richest marine flora and fauna complexes in the world. It is home to mangrove, seagrass and coral reef habitats which are critical breeding sites and habitats for various marine species and also migratory animals such as turtles, marine mammals and whaleshark.

Tun Mustapha Park also provides source of livelihood for over 80,000 coastal inhabitants of diverse ethnic groups. The concept for the park is to be a multiple use, managed area which includes areas for strict protection, tourism, artisanal fishing and commercial fishing among others. A multi-stakeholder group made up of government agencies and the local communities had worked to realise the gazettement of the park.



Map showing the health categories of each survey site based on Live Coral Cover: 4 sites have 'Good' coral cover, 12 are in 'Fair' condition and 2 show 'Poor' health.

Coral Cover and Health



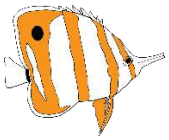
- Tun Mustapha Park reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 37.64%.
- In 'Fair' condition and above the North Borneo region average (36.49%).
- Available substrate for coral recruits to attach is very high.
- Sand level is quite high. The level is especially high at Lubani Rock 1, Maliangin Besar 6, Maliangin Kecil Reef and Simpang Mengayau, ranges from 10% to 18%.
- Disturbance indicators are very high.
- Rubble level is high at many sites, ranging from 10% to 45%.
- Silt level is especially high at Tampakan (14.38%) and Berungus (11.25%).

CORAL IMPACTS

- Boat anchor damage and dynamite fishing are recorded at many sites. 8 fishing blasts were heard during surveys.
- Discarded fishing nets and trash are recorded.
- Black band and white band diseases are recorded.
- Many sites are impacted by warm water bleaching.

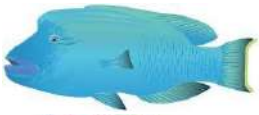
Fish Abundance at Tun Mustapha Park
(Individuals per 500m^3)

Targeted for aquarium trade



3.18

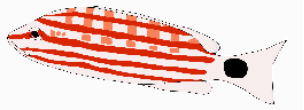
Targeted for live-food fish trade



0.04

Targeted for food

0.46



5.26

0.01

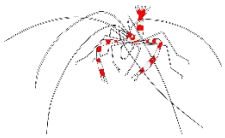
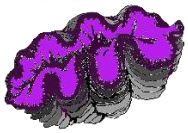
2.75

0.04

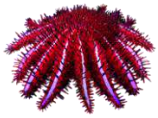
0.42

- Butterflyfish, indicator for aquarium trade, is recorded.
- Humphead wrasse, indicator targeted for live-food fish trade, is recorded.
- All types of fish targeted for food are recorded. The abundance of fish targeted for food is very low except for snapper and parrotfish.

Invertebrate Abundance at Tun Mustapha Park
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
	0.13		✗
	✗		0.17
	✗		0.06
			0.39

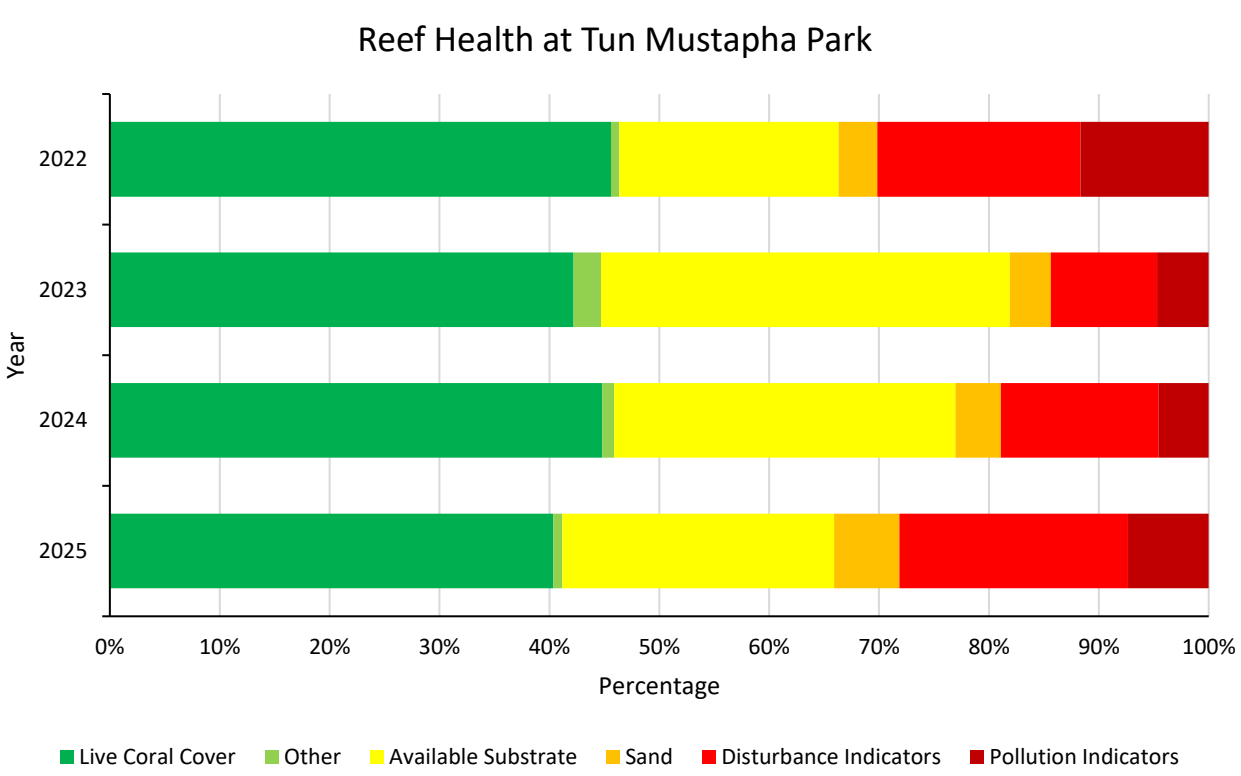
Ecological Imbalance/Predator Outbreaks

	8.06
	0.06

- Banded coral shrimp, invertebrate collected for curio trade, is recorded.
- Crown-of-thorns is not an issue in Tun Mustapha Park.
- The abundance of invertebrates collected for food is very low.

RARE ANIMALS

- Green turtle is recorded.

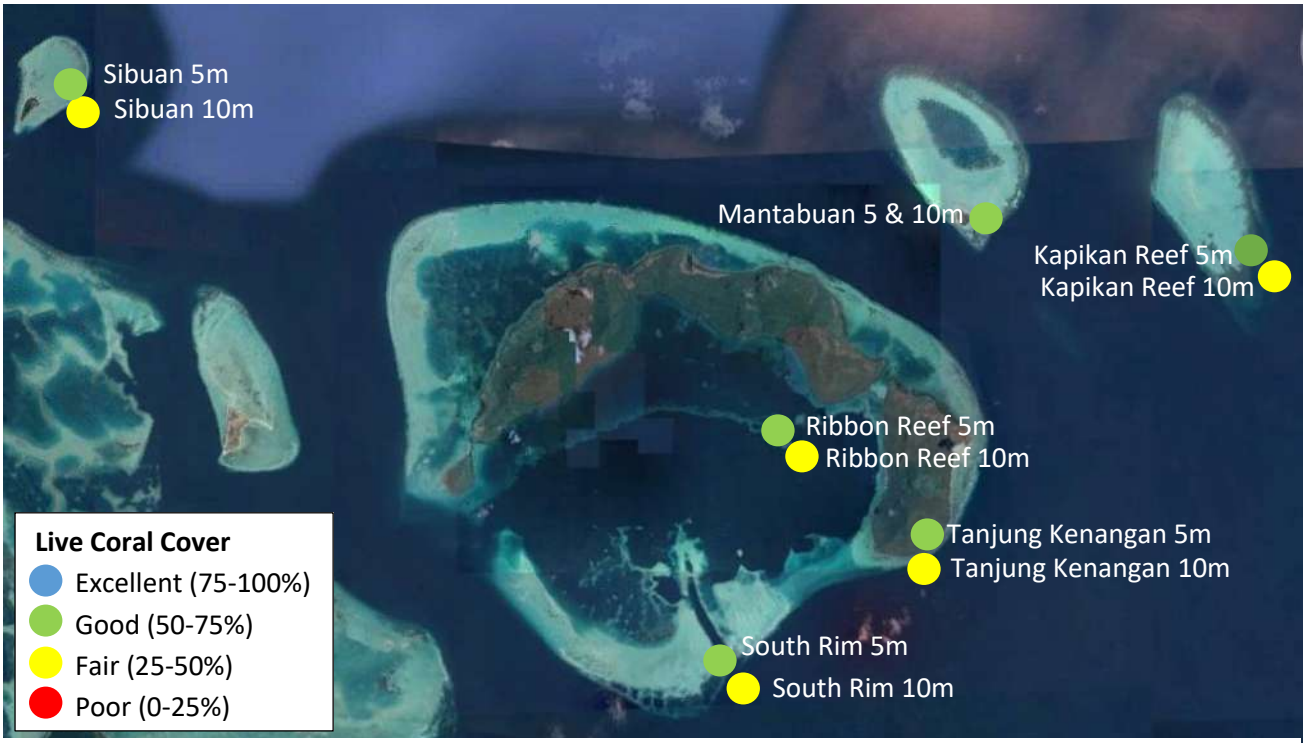


- Tun Mustapha Park reefs have deteriorated.
- The deterioration in 2025 is due to physical damage caused by human activities and/or storm and raised level of nutrient in the waters around the island.

Sabah – Tun Sakaran Marine Park

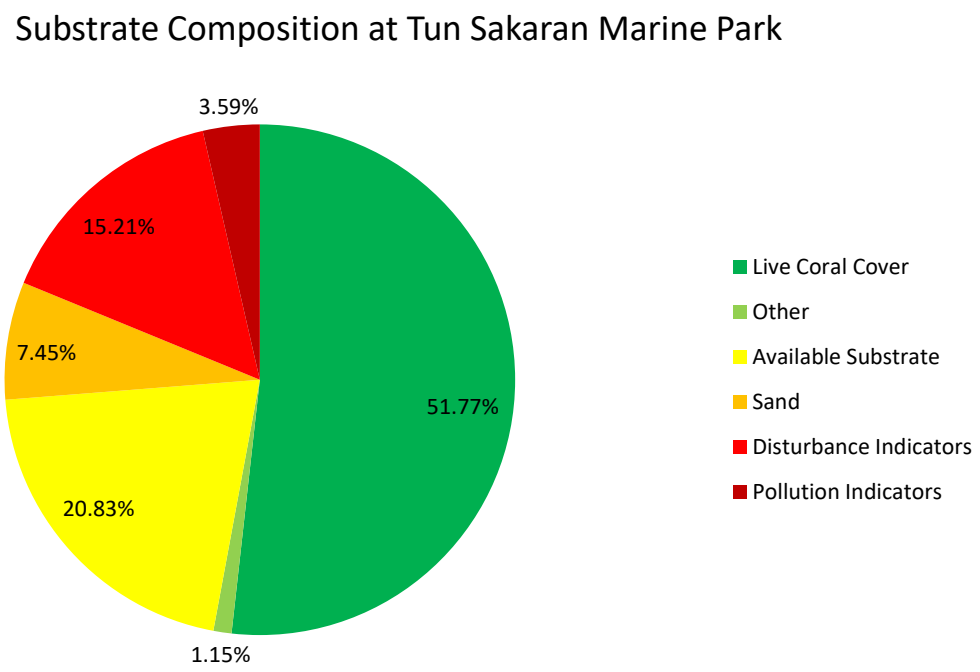
Tun Sakaran Marine Park is a marine park located off the east coast of the state of Sabah in Malaysia. It consists of the islands of Bodgaya, Boheydulang, Sabangkat, and Salakan, the sand cays of Maiga, Sibuan, and Mantabuan, and the patch reefs of Church and Kapikan.

In 2004, the park became the seventh gazetted area under Sabah Parks with a total area of 100.8 km². There are approximately 2,000 people living within the park.



Map showing the health categories of each survey site based on Live Coral Cover: 7 sites have 'Good' coral cover and 5 are in 'Fair' condition.

Coral Cover and Health



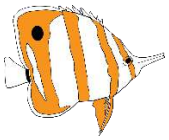
- Tun Sakaran Marine Park reefs are dominated by live coral cover, which is mainly hard coral.
- Mean hard coral (reef builder) cover is 45.10%.
- In 'Good' condition and above the North Borneo region average (36.49%).
- Available substrate for coral recruits to attach is high.
- Sand level is quite high. The level ranges from 16% to 21% at Kapikan Reef 10m, Mantabuan 10m and Tanjung Kenangan 5 & 10m.
- Disturbance indicators are high.
- The level of recently killed coral is very hight at Kapikan Reef 5m (21.25%) and Mantabuan Reef 5m (31.25%).
- Rubble level is high at many sites. The level is especially high at Sibuan 10m (36.25%) and Tanjung Kenangan 10m (21.25%).
- Pollution indicators are not high in Tun Sakaran Marine Park in general, but the level of nutrient indicator algae is high at Ribbon Reef 10m (10%) and South Rim 10m (11.25%).

CORAL IMPACTS

- Boat anchor damage and discarded fishing nets are recorded.
- Impacts from dynamite fishing are recorded at many sites.
- Some sites are impacted by warm water bleaching.

Fish Abundance at Tun Sakaran Marine Park
(Individuals per 500m^3)

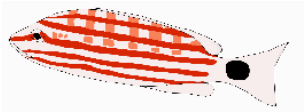
Targeted for aquarium trade



4.60

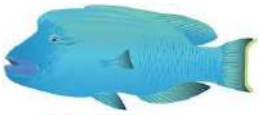
Targeted for food

0.13



0.75

Targeted for live-food fish trade



0.02

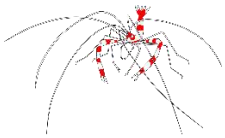
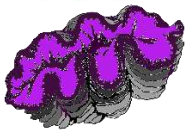
5.48

0.02

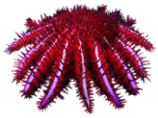
0.25

- Butterflyfish, indicator for aquarium trade, is recorded.
- Humphead wrasse and bumphead parrotfish, indicators targeted for live-food fish trade, are recorded.
- The abundance of fish targeted for food is low except for parrotfish.

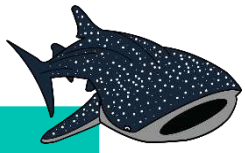
Invertebrate Abundance at Tun Sakaran Marine Park
(Individuals per 100m^2)

Collected for curio trade		Collected for food	
			
	**0.02**		**0.13**
			
			**1.77**

Ecological Imbalance/Predator Outbreaks

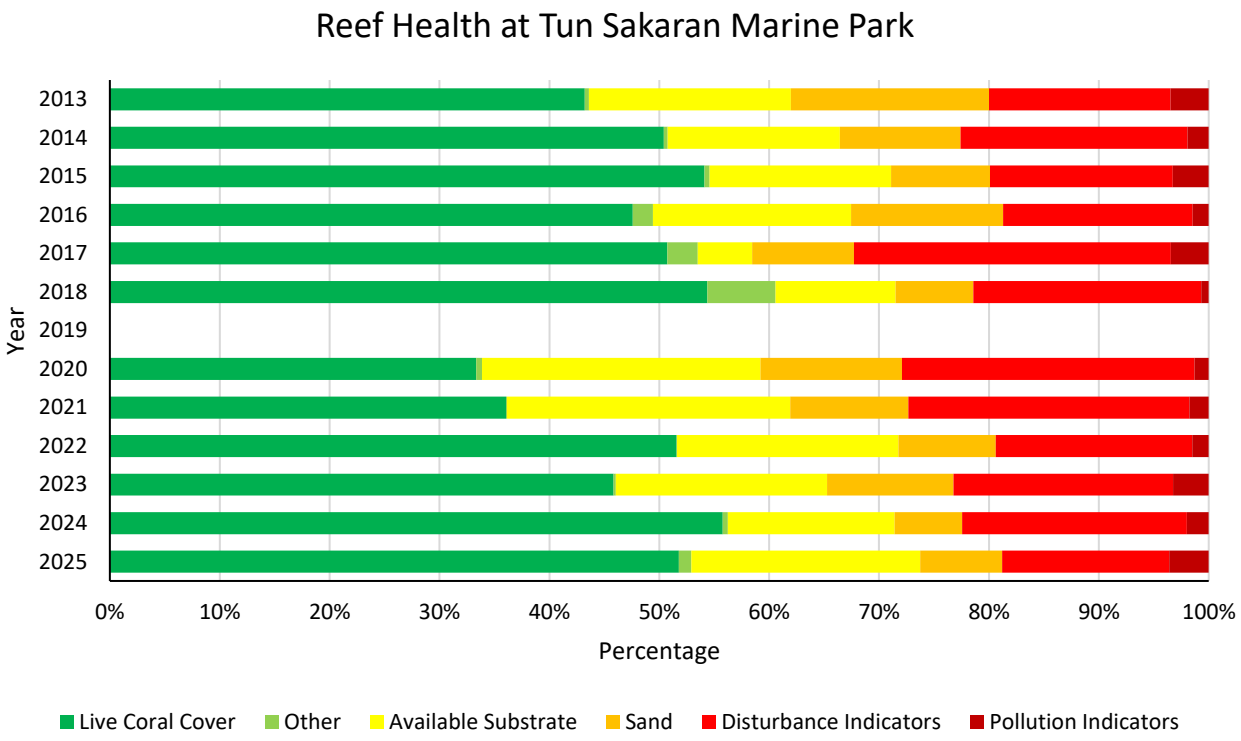
	**2.98**
	**0.25**

- Pencil urchin, indicator for curio trade, is recorded.
- Crown-of-thorns is not an issue in Tun Sakaran Marine Park
- The abundance of invertebrates collected for food is very low.

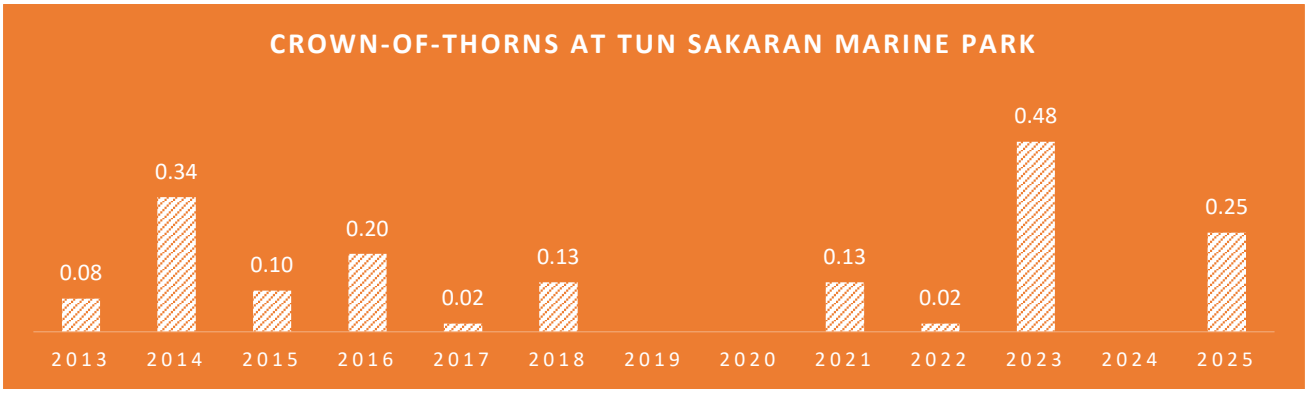


RARE ANIMALS

- Hawksbill and green turtles are recorded.

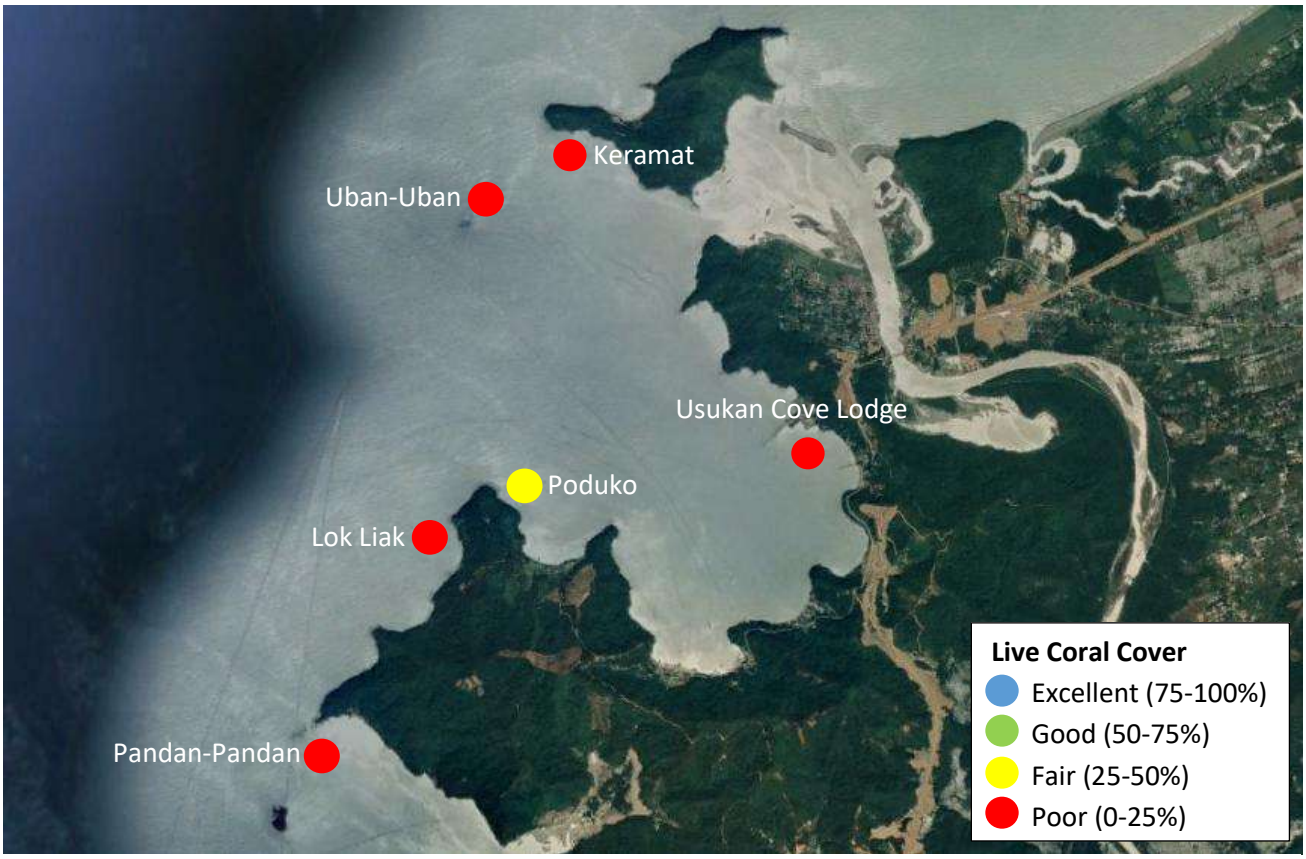


- Survey was not conducted in 2019.
- In 2020, Tun Sakaran Marine Park reefs had deteriorated from 'good' to 'fair' condition.
- The deterioration was likely due to physical damage caused by human activities and/or storm.
- From 2021 onwards, the trend reefs health is inconsistent but generally it shows improvement.
- In 2023, the population of crown-of-thorns was above what a healthy reef can support (0.2-0.3 individual per 100m^2). However, this is no longer a not cause for concerns.
- Available substrate for coral recruits to attach is very high, possible chance of further reef recovery if human impacts are dealt with.



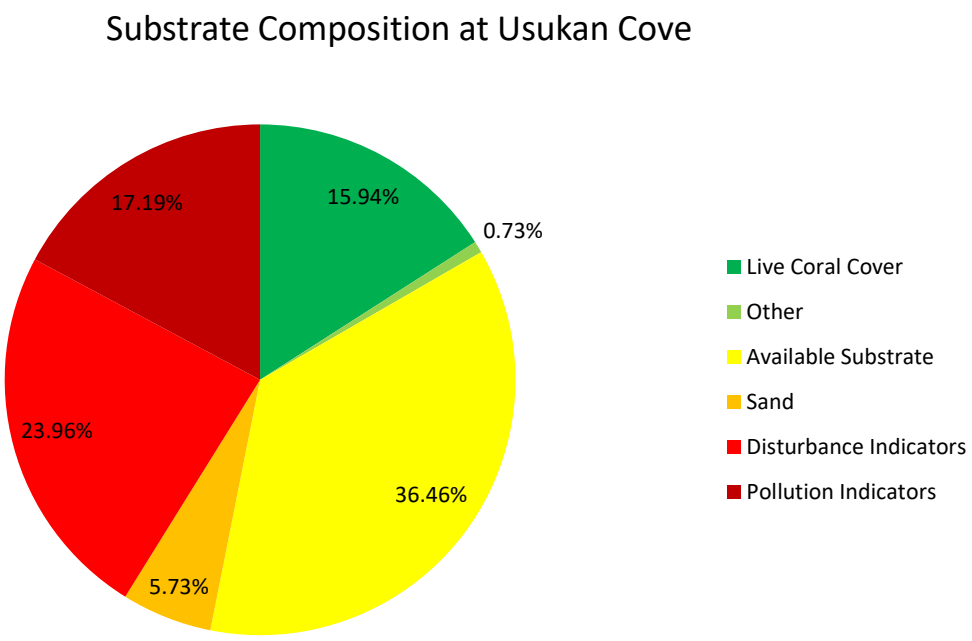
Sabah – Usukan Cove

Usukan Cove is located on the Northwest coast of Sabah approximately halfway between Kota Kinabalu and Kudat, in a district called Kota Belud, just beside Kampung Kuala Abai where the jetty to Mantanani Island is situated. Diving and snorkelling as well as fishing are the main activities offered in Usukan Cove.



Map showing the health categories of each survey site based on Live Coral Cover: 1 site has 'Fair' coral cover and 5 are in 'Poor' condition.

Coral Cover and Health



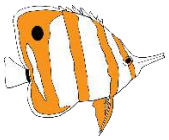
- Usukan Cove reefs are dominated by available substrate for coral recruits to attach.
- Mean hard coral (reef builder) cover is 14.69%.
- In 'Poor' condition and below the North Borneo region average (36.49%).
- Disturbance indicators are very high.
- Rubble level is especially high at Pandan-Pandan (43.75%) and Uban-Uban (16.88%).
- Silt level is very high at Usukan Cove Lodge (38.13%) and Poduko (12.50%).
- Pollution indicators are high.
- The level of nutrient indicator algae is especially high at Pandan-Pandan (43.75%), Keramat (15%) and Lok Liak (12.50%).
- All the above are considered signs of unhealthy reefs. While available substrate for coral recruits to attach is very high, high level of disturbance and pollution indicators may deter coral growth if they are not dealt with.

CORAL IMPACTS

- Boat anchor damage, dynamite fishing and trash are recorded.

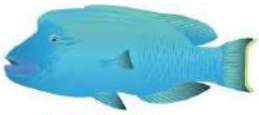
Fish Abundance at Usukan Cove
(Individuals per 500m^3)

Targeted for aquarium trade



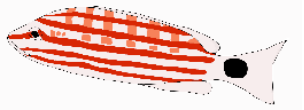
0.83

Targeted for live-food fish trade



Targeted for food

0.17



0.79

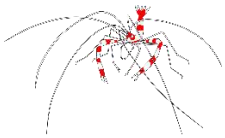
0.63

0.13

- Butterflyfish, indicator for aquarium trade, is recorded.
- Indicators targeted for live-food fish trade are absent.
- The abundance of fish targeted for food is very low.

Invertebrate Abundance at Usukan Cove
(Individuals per 100m^2)

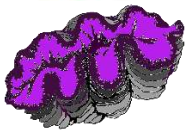
Collected for curio trade



0.38

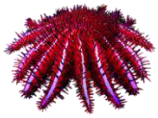
Collected for food

0.13

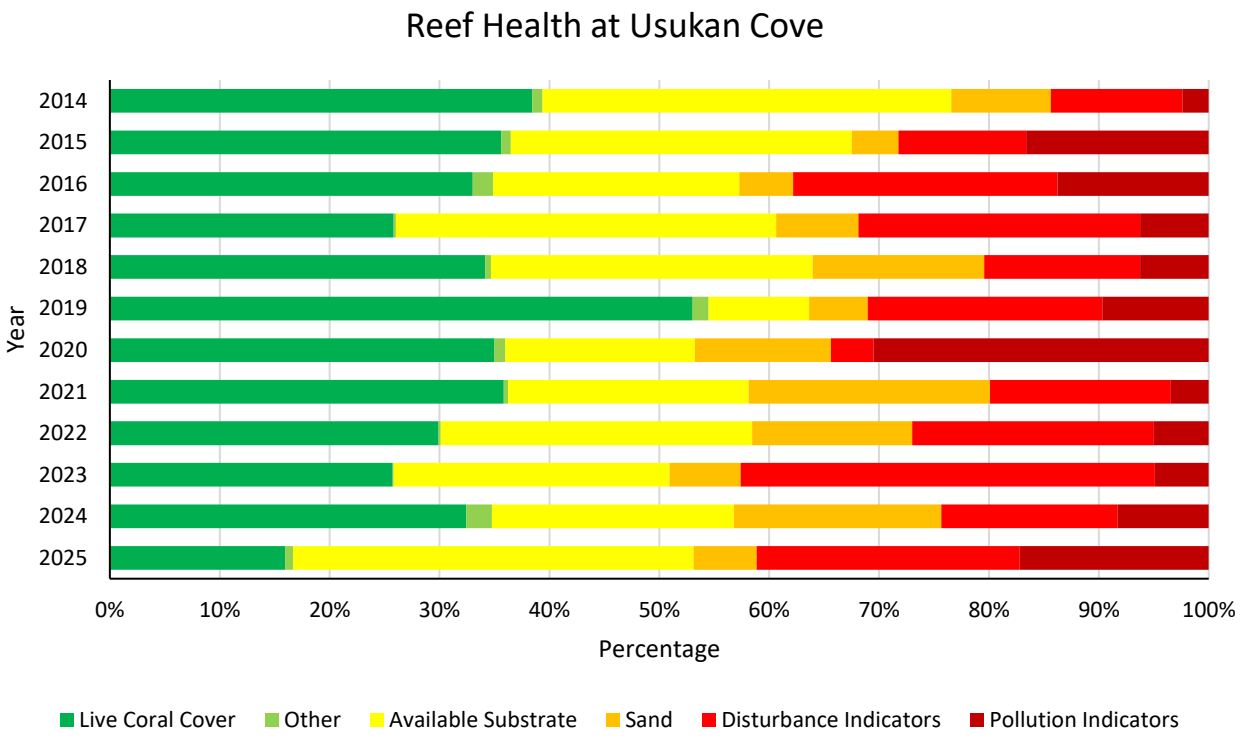


Ecological Imbalance/Predator Outbreaks

0.46



- Banded coral shrimp, indicator for curio trade, is recorded.
- The abundance of invertebrates collected for food is very low.



- Usukan Cove reefs have deteriorated from fair to poor condition.
- The decrease in live coral cover in 2017 was considered to reflect the elimination of 3 sites that year, rather than an actual decrease in live coral cover.
- From 2022 onwards, the deterioration is most likely due to physical damage caused by human activities and/or storms as well as raised level of nutrient in the waters.
- Available substrate for coral recruits to attach is very high, possible chance of reef recovery if human impacts are dealt with.

4. Summary & Recommendations

Summary

The results of the 2025 survey programme show a continuation of recent trends. After several years of slow decline from 2014-2019, followed by recovery during the Covid pandemic, 2025 marks the third year of a declining trend in overall reef health (as measured by Live Coral Cover) that should be of concern to all. Action is required now to improve conservation of Malaysia's coral reefs. The key findings from the surveys are:

- The deterioration in coral reef health noted in our 2023 survey programme has continued into 2025. **82.50% of the locations surveyed saw a decrease in Live Coral Cover (LCC)**, a key coral reef health indicator.
- As in previous years, the **abundance of most fish and invertebrate indicators continues to be low**, suggesting either historical over-fishing or on-going fishing pressure. This raises a concern about poaching in those survey sites that are in protected areas. In Sabah, **33.33% of the locations surveyed recorded dynamite fishing damage**.
- Disturbance and pollution indicators highlight the trends in the trajectory of reef health, with both local and global impacts evident during surveys. **82.50% of the locations surveyed are impacted by trash, 80% by discarded fishing nets** and **57.50% by anchor damage**. Malaysia's reefs are still impacted by bleaching, with **coral bleaching documented at 67.50% of the locations surveyed**.

The reduction in LCC noted above is indicative of impacts arising from a variety of human activities including unsustainable tourism, fishing, land clearing, pollution and other activities. These, combined with the large-scale coral bleaching event that occurred during 2024, are among the causes of the deterioration in reef health and urgent action is needed to address this decline.

Recommendations

Coral reefs, together with other coastal ecosystems (mangroves and seagrass) are an intrinsic part of both food security and the tourism industry in Malaysia.

The livelihoods of an estimated 140,000 small scale fishers rely on coastal ecosystems, contributing to national food security. According to some estimates, the tourism industry accounts for 25% of employment in Malaysia, contributing 15% of GDP. Given that many tourists visit islands and coastal areas, coral reefs are an important tourism asset.

Effective conservation and management of these ecosystems protects both food security and livelihoods. These facts strengthen the case for urgent action. We recommend that government, academia, NGOs and the private sector work together to:

- Continue monitoring coral reefs and extend monitoring to those ecologically linked ecosystems mentioned above – mangroves and seagrass meadows. Together they form the nursery that replenishes fish stocks, necessary for sustainable livelihoods and food security
- Identify measures to mitigate local impacts to coral reefs. Of particular concern are those impacts that affect coral reef resilience:
    - poor water quality caused by pollution from sewage and poor waste management
    - physical impacts resulting from unsustainable tourism operations and development of new tourism facilities

    - herbivore populations, which keep algal growth in check, should be protected through information campaigns targeted at local fishers, as well as increased patrolling and enforcement to reduce poaching
- Address the longer-term challenges posed by the increasing impacts of global warming and the associated climate change. These impacts are becoming more evident, with stronger storms causing coastal erosion (particularly in places where the protecting ecosystems have already been destroyed), damage to coral reefs in shallow water, and mass coral bleaching.

It is important to note that none of these interventions requires novel technologies, and most are zero or low cost, with the emphasis on improved enforcement. Many can be achieved simply by strengthening management or enforcing existing regulations to reduce or eliminate impacts.

5. Conclusion

Local threats combined with bleaching and coral predation have greatly affected coral reefs in Malaysia in recent years. Building the resilience of reefs is crucial to ensure they can cope with, and recover from, future major stress events such as mass coral bleaching events or storms and will continue to thrive. This can be achieved by reducing or eliminating the various local impacts that affect our reefs. Tourism, fisheries and coastal development need to be managed in such a way as to ensure the needs of local communities are met at the same time that ecosystem conservation is maximised.

Providing opportunities for stakeholders to participate in management, alongside efforts to build resilience, will contribute to economic growth and healthier and more productive ecosystems. We encourage relevant government agencies to bring stakeholders together to discuss the challenges faced by our reefs and derive solutions that benefit all.

With the deterioration in Live Coral Cover, we urge the government to intensify efforts to protect coral reefs and other marine habitats. These ecosystems provide food and jobs for coastal communities in Malaysia and are an important tourism product. **Simple steps** such as reducing unsustainable fishing, eliminating physical impacts from tourism and other human activities, and improving sewage treatment, **can be achieved easily and locally,** and **can contribute significantly to improving the resilience and health of marine ecosystems.**

Given the emerging global crisis in biodiversity, it is rapidly becoming critical for Malaysia to take urgent steps to protect coral reefs and the mangrove and seagrass ecosystems that are closely linked to them. **Doing so has real economic benefits** – protecting the livelihoods of small-scale fishers, sustaining tourism markets and contributing to national food security. The time for action is now.

Acknowledgements

Reef Check Malaysia cannot work in isolation, we partner with government and the private sector, whom make significant contributions to this annual survey programme by conducting surveys at some of the sites, as well as assisting in reef rehabilitation programmes and school education projects.

We are grateful to Department of Fisheries Malaysia for taking the responsibility to carry out Reef Check surveys at some Marine Parks and non-Marine Parks islands.

We are grateful to Ministry of Tourism, Culture and Environment Sabah and Sabah Parks for their continuous efforts in funding and/or carrying out Reef Check surveys at many islands in Sabah.

We are grateful to the following sponsors for supporting the 2025 survey programme and conservation efforts:

In addition, we work with our:

Board of Trustees who provides advice on governance and fund raising.

- Lim Jit Cheng
- Kevin Hiew
- Ruth Yeoh
- Datuk Hiswani Harun
- Ivy Wong Abdullah

We are grateful to them for their guidance and expertise.

We would like to thank the following organisations who also helped to conduct surveys during 2025:

They conduct surveys, fully or partially sponsor surveys, and/or provide facilities for and promote Reef Check EcoDiver programme.

In particular, we would like to recognise the following Community Marine Conservation Groups that Reef Check Malaysia supports. These are members of island communities who have been trained to conduct Reef Check surveys and who are active in encouraging their communities to participate in marine resource conservation and management:

Tioman Marine Conservation Group (TMCG), a local conservation group established in 2015, is involved in the annual Reef Check surveys. Members are also active in bleaching and COT monitoring, reef rehabilitation, installation of mooring lines, school education programmes and ghost net removals.

Redang Marine Conservation Group (RMCG), established in 2023, played an active role in conducting the annual Reef Check surveys in 2024. RMCG is alco involved in reef rehabilitation, installation of mooring lines, education programs for schools, and ghost net removal initiatives.

Mersing Marine Conservation Group (MMCG) was formed in 2024. Members have assisted in numerous underwater clean-ups, mooring buoy installations, reef rehabilitation and EcoDiver training.

Pemimpin Belia IKLIM Mabul (PBIM) was established in 2022 through a collaboration with Green Semporna. The youth group was initially focused on climate change initiative. This eventually evolved to include a coral reef monitoring and conservation programme around Mabul Island.

Larapan Marine Conservation Group (LMCG) was established in 2023 after a year of community engagement on the island. LMCG is currently conducting a variety of coral reef conservation initiative around the island including coral restoration.

Selakan Marine Conservation Group (SMCG) is based on Selakan Island, within Tun Sakaran Marine Park. Members are currently working closely with Sabah Parks and Reef Check Malaysia to restore and protect reefs around Selakan Island. Activities also include community-led sea patrolling to deter illegal fishing activities.

Kulapuan Marine Conservation Group (KMCG) is based on Kulapuan Island. The group is currently involved in coral restoration initiatives to restore reefs damaged by blast fishing.

Finally, thanks to the many EcoDivers who give up their time to help us with surveys. Our small team could not possibly manage all those surveys ourselves, and we really appreciate your efforts. To you, and the many other volunteers who have helped in our work, we are grateful.

- Abdul Hadi Roslan
- Abdul Jalil Bin Mapait
- Abnel Bin Abdul Lajid
- Abu Abdul Rashid Bin Ali
- Ahmad Farid Azhar
- Ahmad Khairul Shafiq Ahmad Rahim
- Ahmad Mukhriz Ahmad Mahadzir
- Aiman Aziz
- Ain Batrisyia Mohd Zamany
- Aina Majid
- Alvis Chew
- Amer Shuib Mohd Rafidi
- Amir Syukrie Bin Roslan
- Amira Sapian
- Angela Lim
- Aqhari Waliuddin A Sani
- Ashwin George Madelil
- Asyraf Md Shah
- Azwa Liza Zokerefli
- Ben Jian-Min Porter
- Brandon Polinus
- Chai Jishan
- Cheryl Goh
- Chua Xin Ning
- Clarence Jesnam
- Claudius Jalani
- Colin Wong Loug Seng
- Davies Austin Spiji
- Deniboy Bin Taxsiddin
- Erwanto Sakola
- Fairul Hamzah
- Farid Aris
- Farrah Ratnaike
- Flich Jinson
- Fong Ken Ling
- Geron Tan Chee Sheene
- Habibah Mohd Yusah
- Hairol Riman
- Hamka Bin Juhuri
- Hamzah Bin Andamih
- Hariz Bin Khairul Hisham
- Hassanudin Samsuddin
- Hazim Hassan
- Hidayah Halim
- Ilsam Bin Abdul
- Ivy Nathalie Semon
- Izarenah Binti Md Repin
- Jackson Bin John
- Jamadi Bin Hassan
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- Jason Chong
- Jennifer Pippin
- Jesseca Eva Sadim
- Julfikar Musa
- Junaidi Awang Bulat
- Kingsley Bin Nasib
- Kok Su Kian
- Lela Sofia
- Leony Sikim
- Lim Soon Hock
- Lim Yee Siang
- Lim Ye Hui
- Loh Wan Yeng
- Mad Aslan Bin Muhd Nan
- Magenthiran
- Malbin Bin Limpohok
- Mazni Binti Jakarullah
- Michelle Wong Mei Shuen
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- Mohamad Nor Yusof Bin Tumin
- Mohammad Raziman Bin Hamjah

- Mohd Afwan Mohd Nara
- Mohd Azriruddin Bin Parintamin
- Mohd Fadzlee Salih
- Mohd Hairy Sayadi
- Mohd Hassan Bin Mubaning
- Mohd Hazim Mohd Zamri
- Mohd Ifwan Faiz Johny
- Mohd Nara Ahmad
- Mohd Nur Aiman Suhaimi
- Mohd Omar Bin Bural
- Mohd Rafiee Zulhilmie Asdari
- Mohd Raziman Bin Hamjah
- Mohd Razis Bin Musa
- Mohd Ri Bin Leng
- Mohd Saidi Salim
- Mohd Shaleh Bin Bural
- Mohd Shukri
- Mohd Syahril Salim
- Mohd Syahrin Bin Moktar
- Mohd Yusof Bin Bural
- Mohd Yusri Bin Misari
- Mohd Zulkifli Bin Basri
- Muhamad Helmy Bin Rafa
- Muhamad Maziz Bin Hamzah
- Muhamad Nuriman b Muhammad
- Muhammad Alif Bin Kamarul Azman
- Muhammad Danial Bin Ismail
- Muhammad Danis Haziq Abdullah
- Muhammad Rasyidin Masrin
- Muhammad Redzuan Bin Abdul Hadi
- Muhd Hanafi Bin Garwas
- Muralidhara Ram Murugan
- Nazir Nujum
- Nel
- Ng Liang Giap
- Nik Aisyah Ilnani Binti Nik Asbullah
- Nik Aliff Bin Ghali
- Noor Atika Binti Abdullah
- Norfazlin Rusli
- Nur Afiqah Zulaikha Mohamad Aghakhan
- Nur Aina Bint Ghalib
- Nur Auni Afiqah Mohd Johari
- Nur Erni Natikaf Bt Senaini
- Nur Fatimah Binti Lanuri
- Nur Fatini Mahat
- Nurhazatul Azwa Binti Ahmad Rapi
- Nur Hidayah Halid
- Nuriman Mohammad
- Nurul Hidayah Binti Sari
- Peh Jia Hui
- Puteri Al Aina
- Quek Yew Aun
- Rasidah Razali
- Rasyid Abdul Jal
- Rasyid Kasman
- Razlan Bin Razak
- Remmy Edward
- Roslan Bin Yahya
- Roslee Abdul Karim
- Rozzeandra Dee Pediman
- Rudy Agansai
- Saeck bin Nasser
- Salman Bin Ibrahim
- Shahadah Hamzah
- Sharifah Nurin Amira Binti Syed Othman
- Sharifah Sofia
- Sharuhuzilla Bin Ngah
- Sithira Paranchothi
- Siti Rugaiyah Ghadafi
- Syahadah Hamzah
- Tan Cheng Mei
- Tan Huay Lin
- Tan Wei Seong
- Tang Yee Tatt
- Tarmizi Bin Budi
- Tengku Budiman
- Teo Tze Min
- Teo Tze Ping
- Teo Tze Qin
- Thien Yau Fung
- Tracy Lim
- Usam Bin Ghalib
- Wong Si Peng
- Yosua Michael
- Zainuddin Salleh

Appendix 1: Survey Sites

Sunda Shelf

Site Name	Island	Coordinate
Batu Layar	Seri Buat	2 41.893 N 103 53.980 E
Fish Alley	Seri Buat	2 40.404 N 103 54.264 E
Pulau Tasu	Seri Buat	2 41.704 N 103 55.813 E
Sembilang	Seri Buat	2 41.555 N 103 52.775 E
Batu Malang	Tioman	2 54.139 N 104 06.148 E
Batu Nipah	Tioman	2 43.928 N 104 08.125 E
Chebeh	Tioman	2 55.946 N 104 05.814 E
Fan Canyon	Tioman	2 54.650 N 104 06.753 E
Jahat East	Tioman	2 40.127 N 104 10.518 E
Labas	Tioman	2 53.318 N 104 03.920 E
Munjor South	Tioman	2 44.492 N 104 13.068 E
Nayak	Tioman	2 46.758 N 104 12.760 E
Pirates Reef	Tioman	2 49.428 N 104 09.445 E
Renggis	Tioman	2 48.594 N 104 08.161 E
Saing	Tioman	2 45.502 N 104 11.950 E
Sepoi	Tioman	2 53.883 N 104 03.100 E
Soyak North	Tioman	2 52.558 N 104 08.828 E
Soyak South	Tioman	2 52.480 N 104 08.810 E
Tekek House Reef	Tioman	2 48.960 N 104 09.062 E
Teluk Dalam	Tioman	2 52.456 N 104 11.254 E
Teluk Kador	Tioman	2 54.891 N 104 06.507 E
Tumuk	Tioman	2 47.581 N 104 07.335 E
Heritage Row	Bidong/Yu	5 36.922 N 103 03.412 E
Pasir Tenggara	Bidong/Yu	5 36.607 N 103 03.780 E
P. Karah	Bidong/Yu	5 35.935 N 103 03.851 E
P. Tengkorak	Bidong/Yu	5 39.967 N 103 04.277 E
P. Yu Besar	Bidong/Yu	5 38.615 N 103 09.063 E
P. Yu Kecil	Bidong/Yu	5 37.533 N 103 09.570 E
Batu Payong	Kapas	5 13.468 N 103 15.658 E
Coral Garden 1	Kapas	5 14.113 N 103 15.678 E
Coral Garden 3	Kapas	5 14.149 N 103 15.782 E
Silent Reef	Kapas	5 13.785 N 103 16.079 E
Teluk Jawa	Kapas	5 12.526 N 103 16.165 E
Batu Bulan	Lang Tengah	5 47.807 N 102 53.978 E
Broler North	Lang Tengah	5 48.149 N 102 53.613 E
Summer Bay House Reef	Lang Tengah	5 47.666 N 102 53.531 E
Tanjung Telunjuk	Lang Tengah	5 47.251 N 102 54.146 E
Batu Layar	Perhentian	5 54.722 N 102 44.693 E
Batu Nisan	Perhentian	5 55.259 N 102 43.536 E
Batu Tabir	Perhentian	5 56.345 N 102 43.321 E
D' Lagoon	Perhentian	5 55.927 N 102 43.395 E
P. Rawa	Perhentian	5 57.777 N 102 40.833 E

Sea Bell	Perhentian	5 54.636 N 102 42.589 E
Shark Point	Perhentian	5 53.044 N 102 44.821 E
Tanjung Basi	Perhentian	5 55.387 N 102 45.518 E
Tiga Ruang	Perhentian	5 54.867 N 102 45.244 E
Tukas Laut	Perhentian	5 53.162 N 102 46.216 E
Chagar Hutang East	Redang	5 49.038 N 103 00.597 E
Mak Simpan	Redang	5 47.302 N 102 59.556 E
Pasir Akar	Redang	5 44.398 N 102 59.955 E
P. Kerengga Besar	Redang	5 45.261 N 103 01.737 E
P. Kerengga Kecil	Redang	5 45.519 N 103 01.751 E
P. Lima Southern Tip	Redang	5 46.397 N 103 03.553 E
P. Paku Besar	Redang	5 46.777 N 103 02.557 E
P. Paku Kecil	Redang	5 46.305 N 103 02.338 E
P. Pinang Marine Park Centre	Redang	5 44.814 N 102 59.987 E
Redang Kalong House Reef	Redang	5 45.660 N 103 01.584 E
Teluk Kerma	Redang	5 47.970 N 103 01.017 E
Terumbu Kili	Redang	5 43.928 N 102 59.825 E
Site 2	Rhu	5 49.551 N 102 36.777E
Site 7	Rhu	5 49.958 N 102 36.725 E
Site 9	Rhu	5 49.706 N 102 36.985 E
Freshwater Bay	Tenggol	4 48.546 N 103 40.669 E
Gua Rajawali	Tenggol	4 48.768 N 103 40.556 E
Pasir Tenggara	Tenggol	4 48.021 N 103 40.456 E
Rajawali Reef	Tenggol	4 49.037 N 103 40.755 E
Teluk Rajawali	Tenggol	4 48.931 N 103 40.824 E
Turtle Point	Tenggol	4 48.364 N 103 40.468 E
Atlantis Bay	Aur/Dayang	2 28.271 N 104 30.633 E
P. Lang	Aur/Dayang	2 27.594 N 104 29.358 E
Teluk Batu Kapal	Aur/Dayang	2 28.368 N 104 30.481 E
Teluk Jawa	Aur/Dayang	2 28.651 N 104 30.271 E
Teluk Meriam	Aur/Dayang	2 26.509 N 104 30.571 E
Teluk Teluran	Aur/Dayang	2 27.617 N 104 31.587 E
Mirage	Besar	2 25.823 N 103 58.718 E
Palenting	Besar	2 27.408 N 103 58.298 E
Rapang	Besar	2 27.503 N 203 58.758 E
Teluk Buluh	Besar	2 26.543 N 103 58.385 E
Teluk Kalih	Besar	2 25.398 N 103 59.410 E
Teluk Meriam	Besar	2 26.672 N 103 59.309 E
Teluk Meriam South	Besar	2 26.127 N 103 59.610 E
Transect 1	Gual	2 31.964 N 103 58.128 E
Transect 2	Gual	2 32.106 N 103 58.093 E
Transect 3	Gual	2 32.252 N 103 58.105 E
Transect 4	Gual	2 32.205 N 103 58.198 E
Transect 5	Gual	2 32.096 N 103 58.235 E
Transect 7	Gual	2 31.807 N 103 58.241 E
Transect 1	Harimau	2 33.512 N 103 56.825 E
Transect 2	Harimau	2 33.460 N 103 56.705 E

Transect 3	Harimau	2 33.510 N 103 56.540 E
Transect 4	Harimau	2 33.625 N 103 56.462 E
Transect 5	Harimau	2 33.673 N 103 56.567 E
Transect 6	Harimau	2 33.650 N 103 56.775 E
Transect 1	Hujung	2 29.326 N 103 56.964 E
Transect 2	Hujung	2 29.745 N 103 56.850 E
Transect 3	Hujung	2 29.549 N 103 56.824 E
Transect 6	Hujung	2 29.440 N 103 57.343 E
Transect 7	Hujung	2 29.214 N 103 57.316 E
Transect 8	Hujung	2 29.183 N 103 57.133 E
P. Lima	Lima	2 13.099 N 104 08.990 E
P. Lima Kecil	Lima	2 13.303 N 104 08.770 E
Tokong Sanggul	Lima	2 13.377 N 104 08.082 E
Transect 2	Mensirip	2 32.914 N 103 57.602 E
Transect 3	Mensirip	2 32.995 N 103 57.497 E
Transect 4	Mensirip	2 33.093 N 103 57.505 E
Transect 5	Mensirip	2 33.195 N 103 57.488 E
Transect 6	Mensirip	2 33.147 N 103 57.619 E
Transect 7	Mensirip	2 32.977 N 103 57.685 E
Mertang Barat	Mertang	2 39.194 N 103 52.755 E
Mertang Barat 2	Mertang	2 39.304 N 103 52.812 E
Mertang Tengah	Mertang	2 39.152 N 103 52.983 E
Mertang Tengah 2	Mertang	2 39.019 N 103 52.978 E
Mertang Timur	Mertang	2 38.886 N 103 53.216 E
Mertang Timur 2	Mertang	2 38.665 N 103 53.286 E
Bumphead Bay	Pemanggil	2 35.066 N 104 20.180 E
Lobster Bay	Pemanggil	2 34.237 N 104 19.306 E
Pemanggil Village South	Pemanggil	2 34.761 N 104 18.945 E
Tridacna Bay	Pemanggil	2 35.790 N 104 19.588 E
Transect 1	Rawa	2 31.112 N 103 58.490 E
Transect 2	Rawa	2 31.331 N 103 58.406 E
Transect 4	Rawa	2 31.464 N 103 58.455 E
Transect 5	Rawa	2 31.295 N 103 58.626 E
Transect 6	Rawa	2 31.067 N 103 58.702 E
Transect 7	Rawa	2 30.934 N 103 58.651 E
Beach 3	Sibu	2 11.268 N 104 05.888 E
Buntut Meriam	Sibu	2 13.860 N 104 03.130 E
Malang Acha	Sibu	2 11.040 N 104 06.409 E
Sibu Hujung	Sibu	2 10.374 N 104 06.721 E
Sibu Kukus	Sibu	2 10.696 N 104 06.553 E
The Coconut	Sibu	2 13.567 N 104 03.184 E
Northern Reef	Tengah	2 28.754 N 103 57.377 E
Lagoon Bay Reef	Tengah	2 28.855 N 103 57.375 E
Turtle Beach	Tengah	2 28.878 N 103 57.676 E
Rocky Viewpoint	Tengah	2 28.561 N 103 57.922 E
Sunrise Beach	Tengah	2 28.378 N 103 57.767 E
Junior Reef	Tengah	2 28.365 N 103 57.582 E

P. Ibol	Tinggi	2 18.183 N 104 08.935 E
P. Mentinggi	Tinggi	2 16.405 N 104 06.940 E
P. Nanga	Tinggi	2 16.274 N 104 07.640 E
P. Tanjung Gua Subang	Tinggi	2 18.792 N 104 07.552 E

Malacca Strait

Site Name	Island	Coordinate
Coral Garden	Payar	6 03.371 N 100 02.157 E
Kaca	Payar	6 04.389 N 100 03.444 E
Langkawi Coral	Payar	6 03.951 N 100 02.606 E
Lembu	Payar	6 04.293 N 100 03.067 E
Pusat Taman Laut Pulau Payar	Payar	6 03.833 N 100 02.567 E
Singapore Bay	Payar	6 03.639 N 100 02.472 E
Pantai Labuan	Malacca	2 06.546 N 102 19.357 E
Pulau Undan 1	Malacca	2 02.944 N 102 20.021 E
Undan Jetty	Malacca	2 02.869 N 102 20.119 E
Pulau Nangka	Malacca	2 04.483 N 102 20.017 E
Pulau Dodol	Malacca	2 04.933 N 102 19.983 E
Kem Askar	Port Dickson	2 25.619 N 101 51.331 E
Monkey Bay	Port Dickson	2 24.841 N 101 51.041 E

North Borneo

Site Name	Island	Coordinate
Cleaning Station	Kapalai	4 13.517 N 118 41.283 E
Great Wall	Kapalai	4 13.767 N 118 40.800 E
Kapalai Rock	Kapalai	4 12.615 N 118 40.797 E
Little Okinawa	Kapalai	4 12.850 N 118 40.533 E
Lost World	Kapalai	4 12.093 N 118 41.392 E
Siu Siu Point	Kapalai	4 13.087 N 118 40.313 E
Amoi Cantik	Labuan	5 11.460 N 115 08.142 E
Takat Pailing	Labuan	5 10.797 N 115 08.889 E
Tanjung Gelagat	Labuan	5 13.551 N 115 08.467 E
Tanjung Pasuan	Labuan	5 14.288 N 115 07.042 E
Adam's Point	Lahad Datu	4 57.052 N 118 15.473 E
Blue Ring	Lahad Datu	4 51.182 N 118 15.990 E
Cabbage Reef	Lahad Datu	4 56.927 N 118 15.470 E
Fish Eye	Lahad Datu	4 57.782 N 118 15.165 E
House Reef	Lahad Datu	4 58.027 N 118 15.841 E
Ira's Reef	Lahad Datu	4 55.412 N 118 15.363 E
Lam's Point	Lahad Datu	4 56.275 N 118 16.464 E
Light House	Lahad Datu	4 56.922 N 118 15.076 E
Mid Reef	Lahad Datu	4 54.740 N 118 15.256 E
Nemo Garden	Lahad Datu	4 56.494 N 118 16.945 E
Paradise	Lahad Datu	4 56.548 N 118 17.637 E
P. Burung	Lahad Datu	4 55.439 N 118 16.003 E
P. Laila	Lahad Datu	4 55.811 N 118 13.711 E
P. Maganting	Lahad Datu	4 48.720 N 118 17.361 E
P. Tabun	Lahad Datu	4 55.246 N 118 12.076 E

Small Reef	Lahad Datu	4 54.444 N 118 14.595 E
Tabawan 1	Lahad Datu	4 46.842 N 118 22.930 E
Tumunong Hallo	Lahad Datu	4 54.510 N 118 10.644 E
Bimbo Rock	Lankayan	6 31.240 N 117 55.763 E
Edwin Rock	Lankayan	6 30.806 N 117 55.499 E
Froggie Fort	Lankayan	6 30.806 N 117 54.337 E
Goby Rock	Lankayan	6 28.745 N 117 53.448 E
Jawfish Lair	Lankayan	6 29.182 N 117 54.670 E
Ken's Rock	Lankayan	6 30.393 N 117 55.651 E
Lycia Garden	Lankayan	6 29.895 N 117 55.634 E
Mel's Rock	Lankayan	6 29.140 N 117 53.584 E
Moray Reef	Lankayan	6 33.125 N 117 56.141 E
Pegaso Reef	Lankayan	6 33.726 N 117 55.210 E
Reef 38	Lankayan	6 32.619 N 117 55.201 E
Reef 77	Lankayan	6 33.124 N 117 55.482 E
Sandbar South	Lankayan	6 29.900 N 117 54.681 E
Veron’s Fan Garden	Lankayan	6 31.259 N 117 54.944 E
Zorro	Lankayan	6 30.470 N 117 55.218 E
Kampung Point	Larapan	4 33.319 N 118 35.396 E
Point 2	Larapan	4 33.586 N 118 36.910 E
Point 3	Larapan	4 33.878 N 118 35.592 E
SMEE 1	Larapan	4 34.453 N 118 36.254 E
SMEE 2	Larapan	4 32.947 N 118 35.949 E
Eel Garden	Mabul	4 13.883 N 118 38.017 E
Panglima	Mabul	4 14.922 N 118 37.529 E
Paradise	Mabul	4 14.989 N 118 37.830 E
Ribbon Valley	Mabul	4 14.046 N 118 38.255 E
Scuba Junkie House Reef	Mabul	4 14.938 N 118 37.925 E
Stingray City	Mabul	4 14.222 N 118 37.641 E
Abalone	Mantanani	6 43.207 N 116 22.105 E
Coral Reef	Mantanani	6 42.389 N 116 20.840 E
Indian Brothers	Mantanani	6 43.191 N 116 20.454 E
Italian Place	Mantanani	6 42.308 N 116 19.232 E
Kolam	Mantanani	6 43.930 N 116 21.567 E
Linggisan	Mantanani	6 42.832 N 116 20.084 E
Mari Mari House Reef	Mantanani	6 42.396 N 116 19.275 E
Police Gate	Mantanani	6 42.730 N 116 20.313 E
Riza Garden	Mantanani	6 42.136 N 116 21.812 E
Sahara	Mantanani	6 43.295 N 116 20.905 E
South East Point	Mantanani	6 42.454 N 116 22.329 E
Stingray Point	Mantanani	6 42.764 N 116 19.771 E
Cahaya Way	Mataking	4 30.252 N 118 56.504 E
Coral Garden	Mataking	4 34.212 N 118 57.415 E
Mataking House Reef	Mataking	4 34.758 N 118 56.415 E
Pandanan Bay	Mataking	4 34.907 N 118 54.795 E
Stingray City	Mataking	4 33.359 N 118 55.627 E
Sweetlips Rock	Mataking	4 35.960 N 118 56.454 E
Mid Reef	Pulau Penyu	6 10.402 N 118 04.287 E
Pulau Bakungan 1	Pulau Penyu	6 10.192 N 118 06.538 E

Pulau Bakungan 2	Pulau Penyu	6 09.805 N 118 06.483 E
Pulau Gulisan	Pulau Penyu	6 09.268 N 118 03.512 E
Selingan	Pulau Penyu	6 10.813 N 118 03.803 E
Larai-Larai	Pulau Tiga	5 43.017 N 115 38.097 E
Larai-Larai Midreef	Pulau Tiga	5 43.779 N 115 36.477 E
Lutjanus	Pulau Tiga	5 43.213 N 115 38.688 E
Mid Reef	Pulau Tiga	5 42.302 N 115 37.705 E
Senanggol	Pulau Tiga	5 42.482 N 115 41.958 E
Tagi Beach	Pulau Tiga	5 42.768 N 115 40.347 E
Tanjung Putri	Pulau Tiga	5 42.517 N 115 39.195 E
Barracuda Point	Sipadan	4 07.130 N 118 37.745 E
Coral Garden	Sipadan	4 06.342 N 118 37.722 E
Drop Off	Sipadan	4 07.092 N 118 37.675 E
Hanging Garden	Sipadan	4 06.703 N 118 37.495 E
Lobster Lair	Sipadan	4 06.557 N 118 37.540 E
Mid Reef	Sipadan	4 06.812 N 118 38.158 E
South Point	Sipadan	4 06.258 N 118 38.110 E
Staghorn Crest	Sipadan	4 06.257 N 118 37.895 E
Turtle Patch	Sipadan	4 06.450 N 118 38.177 E
West Ridge North	Sipadan	4 06.910 N 118 37.487 E
White Tip	Sipadan	4 07.137 N 118 38.055 E
Base Camp	Tunku Abdul Rahman Park	6 00.491 N 116 01.322 E
Mamutik	Tunku Abdul Rahman Park	5 58.067 N 116 00.756 E
Manukan West	Tunku Abdul Rahman Park	5 58.246 N 115 59.659 E
Mid Reef	Tunku Abdul Rahman Park	5 58.433 N 116 00.750 E
Police Beach	Tunku Abdul Rahman Park	6 02.483 N 116 01.183 E
Sapi	Tunku Abdul Rahman Park	6 00.479 N 116 00.190 E
Sulug	Tunku Abdul Rahman Park	5 57.547 N 115 59.464 E
Tanjung Wokong	Tunku Abdul Rahman Park	5 59.433 N 116 02.417 E
Batu Sirih	Tun Mustapha Park	7 11.403 N 116 52.805 E
Belaruan	Tun Mustapha Park	7 02.075 N 117 00.187 E
Berungus	Tun Mustapha Park	6 57.345 N 117 00.600 E
Fairway Shoal 1	Tun Mustapha Park	7 07.155 N 117 30.555 E
Inderason	Tun Mustapha Park	6 46.560 N 116 36.969 E
Lubani Rock 1	Tun Mustapha Park	6 53.152 N 117 22.949 E
Lubani Rock 2	Tun Mustapha Park	6 53.698 N 117 22.338 E
Maliangin Besar 6	Tun Mustapha Park	7 04.880 N 117 03.267 E
Maliangin Kecil Reef	Tun Mustapha Park	7 04.707 N 117 01.772 E
Pancang Pukul	Tun Mustapha Park	7 02.027 N 117 04.408 E
Pulau Kalutan (Batu Sirih)	Tun Mustapha Park	7 12.130 N 116 50.702 E
Pulau Tiga	Tun Mustapha Park	7 21.380 N 117 03.283 E
Pulau Mati	Tun Mustapha Park	7 04.877 N 117 14.872 E
Sibaliu North	Tun Mustapha Park	7 11.390 N 117 22.213 E
Sibogo	Tun Mustapha Park	7 13.974 N 117 23.099 E
Simpang Mengayau	Tun Mustapha Park	7 02.966 N 116 44.665 E
Straggler Reef	Tun Mustapha Park	7 02.632 N 117 27.910 E
Tampakan	Tun Mustapha Park	6 51.651 N 116 51.681 E
Kapikan Reef	Tun Sakaran Marine Park	4 37.698 N 118 50.112 E
Mantabuan	Tun Sakaran Marine Park	4 37.933 N 118 47.798 E

Ribbon Reef	Tun Sakaran Marine Park	4 36.135 N 118 46.090 E
Sibuan	Tun Sakaran Marine Park	4 39.154 N 118 39.884 E
South Rim	Tun Sakaran Marine Park	4 34.078 N 118 45.498 E
Tanjung Kenangan	Tun Sakaran Marine Park	4 35.127 N 118 47.155 E
Keramat	Usukan Cove	6 23.635 N 116 19.637 E
Lok Liak	Usukan Cove	6 22.126 N 116 19.101 E
Pandan-Pandan	Usukan Cove	6 21.265 N 116 18.666 E
Poduko	Usukan Cove	6 22.322 N 116 19.438 E
Uban-Uban	Usukan Cove	6 23.442 N 116 19.342 E
Usukan Cove Lodge	Usukan Cove	6 22.455 N 116 20.586 E