
2025 PMRS ANNUAL REPORT



YAYASAN



Reef Check
MALAYSIA



OVERVIEW

Who We Are

- **Perhentian Marine Research Station (PMRS)** was established in 2017 by a conservation based social enterprise named Fuze Ecoteer Outdoor Adventures.
- The station aims **to better understand the marine ecosystems and to improve marine resource management** in Perhentian Islands.
- PMRS focuses on **monitoring the health of the island's marine ecosystems** and **committed to combine scientific findings with a bio-cultural conservation approach to sustain the dynamic and interdependence of social-ecological systems.**
- Throughout the establishment, PMRS has mapped marine habitats in the Marine Park to assess the health of coral reefs and actively engage the stakeholders toward the sustainable practices.
- In 2024, PMRS has able **to accelerate the execute of conservation strategies for marine conservation as a whole.**



OVERVIEW

Aims and Objectives

WE **EXPLORE** THE MARINE ECOSYSTEM CONSCIOUSLY

WE **EMPOWER** THE COASTAL COMMUNITY

WE **ENRICH** THROUGH CONSERVATION

- To preserve the reefs & marine life from tourism impacts, & create awareness to the community & stakeholders so we can eventually become obsolete.
- To create a baseline of data to continue to monitor the environmental impacts surrounding the islands.
- To integrate marine conservation into socio-economy of island community.



WHAT WE DO



ECOSYSTEM
SURVEYS

HABITAT
RESTORATION



SCIENTIFIC
EXPLORATION

ECO TOURS &
VOLUNTEERING
PROGRAM



#ANAKPULAU



MARINE DEBRIS &
UNDERWATER CLEAN UP

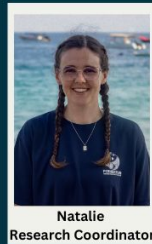
CITIZEN SCIENCE



PUBLIC
AWARENESS

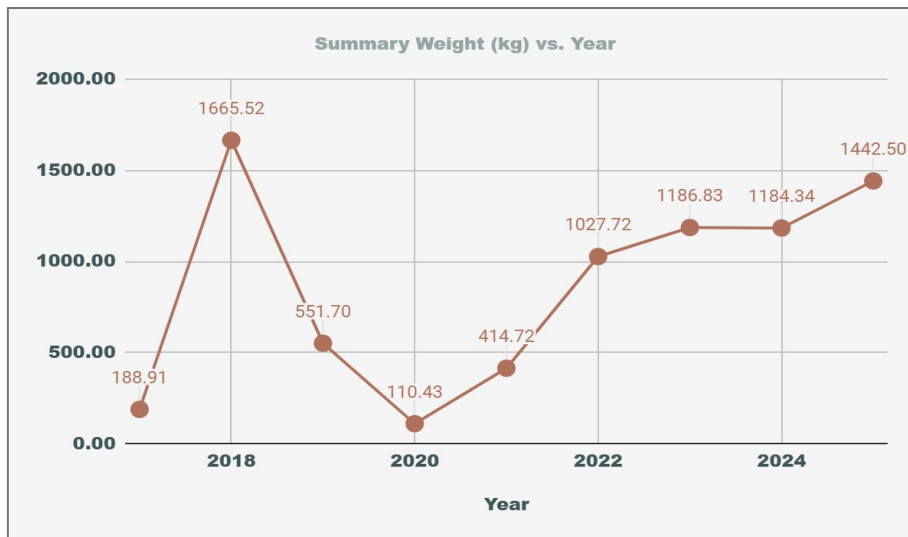
PMRS CREW: *House of 2025*

- Crew capacity: **2 staff, 7 intern and 4 anak pulau** for 2025 season.
- PMRS 2025 operation was supported by the committed interns who has given a significant contribution to ensure PMRS run smoothly.



Marine Debris: Beach Clean-up

- Under the Marine Debris Project, PMRS has conducted weekly beach clean up activity at the turtle nesting beaches around the island. This is our environmental commitment that we made as long as we are in Perhentian Island.
- Uninhabited beaches, also the turtle nesting beach around the island frequently received trash and debris carried by current, particularly during north east monsoon season.
- The BCU been conducted since 2017 and continues till 2025 with the average of 1 tonne waste every year (with exception of covid years)

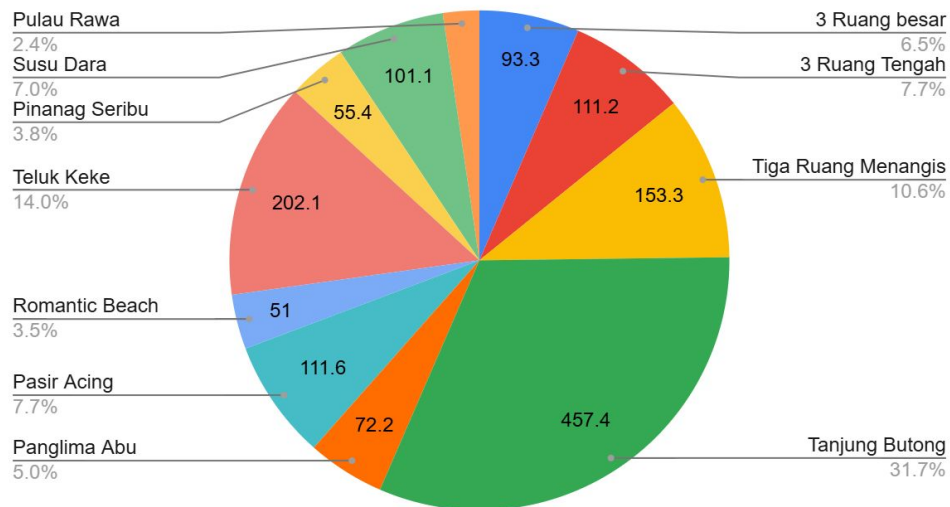


Marine Debris: Beach Clean-up

- **24 beach clean-ups** with a **total of 1442.5 kg** of trash.
- **27.6 kg** were recycled, **1414.9kg** were discarded.
- **249 person** including volunteers, FE team and public members participated in the weekly BCU.

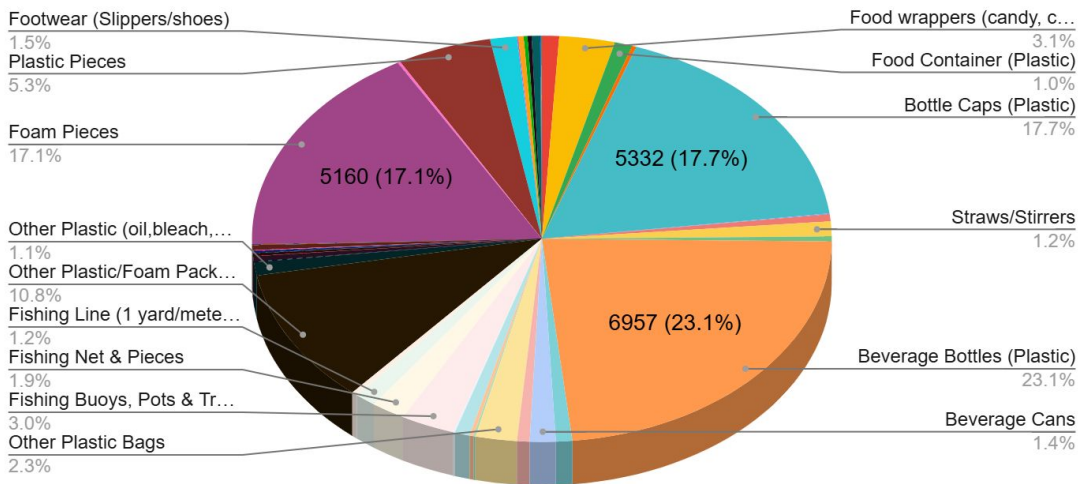
Nesting beaches	# Cleanups	Weight of Collected trash (kg)
Teluk Keke (ReefCare)	4	202.1
Tiga Ruang Besar	3	93.3
Tiga Ruang Tengah	3	111.2
Tiga Ruang Menangis	2	153.3
Tanjung Butong	4	457.4
Romantic Beach	1	51
Pasir Acing	2	111.6
Panglima Abu	2	72.2
Pinang Seribu	1	202.1
Susu Dara	1	101.1
Pulau Rawa	1	33.9
TOTAL	24	1442.5

Overall Trash Collected at Each Beaches (kg)



Marine Debris: Beach Clean-up

Number and Type of Trash Collected



Marine debris travelled from Vietnam, Thailand, China, Philippines, Japan were among the trash collected around beach in Perhentian Islands

SUSTAINABILITY IMPACT

Marine Debris: Underwater Cleanup

- Stranded ghostnets and plastic waste are among the direct threat to the reef in Perhentian Island.
- Throughout 2025 season, ghostnet removal dives and underwater clean up has become a weekly activity as the stakeholder also playing a role in reporting the stranding.

2025	300 kg of ghosnet & 246 kg debris removed	A total of 5 ghostnet removal dives and 33 underwater clean up
2024	200 kg of ghosnet & 118 kg debris removed	A total of 3 ghostnet removal dives and 20 underwater clean up
2023	415 kg of ghosnet & 193 kg debris removed	A total of 11 ghostnet removal dives and 24 underwater clean up
2022	360 kg of ghostnet & 224 kg debris removed	A total of 5 ghostnet removal dives and 15 underwater clean up



SUSTAINABILITY IMPACT



Citizen science project & Public outreach

iNATURALIST Marine Biodiversity of Perhentian Islands Project

In 2023, PMRS has launched i-Naturalist citizen science project to map the marine biodiversity of Perhentian Island.

For this season, we continued the effort and received positive participation among the public members.

Calling all naturalists!
BE A #BLUEWARRIOR TODAY

1. Create an **iNaturalist** account on the app or on [iNaturalist.org](https://www.inaturalist.org)
2. Search for 'Marine biodiversity of Perhentian Islands' under the projects tab
3. Click on the project and click on the 'Join' button
4. Start observing and uploading your observations.
5. Don't forget to include our project in your submissions!

Contact us to know more:

[@perhentian_marine_research](https://www.instagram.com/perhentian_marine_research) Instagram
Perhentian Marine Research Station Facebook
perhentianmarineresearch@gmail.com Email
[perhentianmarineresearchstation.org](https://www.perhentianmarineresearchstation.org) Website

Marine Biodiversity of Perhentian Islands

Stats	Most Observations	Most Species	Most Observed Species
560 Observations +	sharkman 242 observations	ecopony? 147 species	Mean Wahoo 10 observations
333 Species +	whisker? 147 observations	sharkman 147 species	Tropical Hump Wahoo 8 observations
17 Project +	amr 97 observations	amr 97 species	Banding Angelfish 6 observations
	bradlan 20 observations	bradlan 20 species	Surf Parrotfish 4 observations

Public submission:

2024: 366 of total observations - 251 research grade observations of 145 species

2025: 560 of total observations - 277 research grade of 163 species

EXPERIENTIAL LEARNING

Experiential learning dives are one of the element in PMRS volunteering program that allows public members to learn and participate in data collection

Data collected from volunteer's dives provide an insight on the health status of marine ecosystem in Perhentian Island.



A total of 127 data collection dives by PMRS volunteers in 2025



Citizen science project & Public outreach

AWARENESS TALK

Coral talk is an awareness sharing session with the stakeholders of Perhentian Island. The talk has been organised with the dive centers and resort around the island for their customers.

In 2025, we continue the awareness talk series with stakeholders around the island on weekly basis.



16 Awareness talk sessions.
covering stakeholders in Coral Bay, Long Beach and Pulau Besar with more than 200 audience.

GREENFINS ASSESSMENT

Green Fins is a conservation management approach – implemented internationally by The Reef-World Foundation and the UN Environment Programme – which leads to a measurable reduction in the negative environmental impacts associated with marine tourism.

It aims to protect coral reefs through environmentally friendly guidelines promoting sustainable diving and snorkelling practices for tourism industry.



Location: Perhentian Island
Participants: Dive centers

Six dive centers has participated in the 2025 Greenfins Assessment. There are several other DCs stated their interest in Greenfins program.

Citizen science project & Public outreach

CONSERVATION WEEK

This was the first conservation week event organised by PMRS, held in July to align with global Conservation Week.

The aim was to raise awareness among tourists at Long Beach and begin an annual tradition of engaging the public in marine conservation efforts.

Location: Panorama Diver
Date: 21st - 26th July 2025

Booth operated 2 hours a day with an average of 12 visitors per day. The event successfully attracted strong participation and engagement from tourists in Long Beach. 46 tourists has participate in the interactive games and give away event.



INTERNATIONAL CLEAN UP 2025

This year, PMRS has organised 3 simultaneous beach clean up in conjunction with International Coastal Clean Up week. All three projects from Fuze Ecoteer (PTP & PEEP) part take in the event with local stakeholders

The aim was to clean beaches that hasn't been clean throughout the season. These beaches located further from the main island but also nesting beaches for green sea turtles.

Location: Pinang Seribu, Susu Dara, Rawa
Date: 20th September 2025

A total of 190.4kg trash were cleaned and removed from the beaches on ICC day.



Citizen science project & Public outreach



EVENTS: DRT SHOW & MIDE 2025

In 2025, PMRS was invited to participate in two international events which Malaysia Dive, Resort & Travel (DRT) SHOW and Malaysia International Dive Expo (MIDE).

PMRS participation in these events has contribute in public presence outside from Perhentian Island

Location: KLCC & MITEC, Kuala Lumpur

Booth event were held for 3 days and PMRS has received an award for the contribution to marine conservation in Malaysia by DOF during DRT event along with other 7 NGOs.



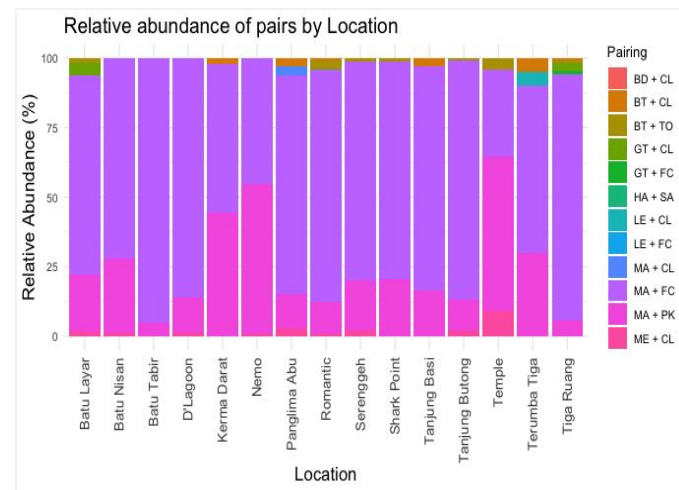
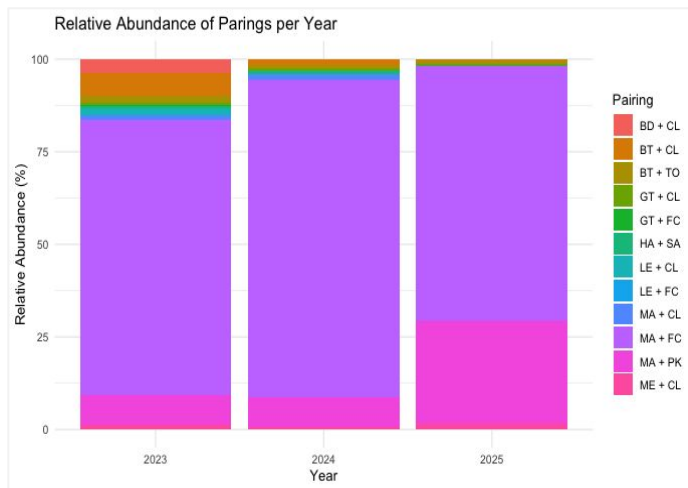
Sea Anemone Monitoring

Objectives:

To study the abundance of sea anemone and its pairing pattern with anemone fish

The dominance of **Magnificent Anemone and False Clownfish** across all years indicates their resilience and possible adaptation to local environmental conditions.

The decline in 2024 diversity likely reflects community shifts driven by environmental stressors, possibly thermal anomalies or bleaching events. Partial recovery in 2025 suggests some degree of resilience within the community, though diversity has not yet returned to the levels seen in 2023.



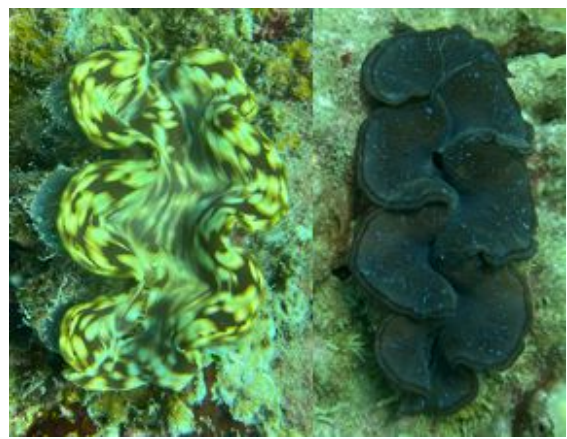
Spatial variation in diversity indicates site-specific pressures. Batu Tabir appears particularly dominated by one pairing, while Temple and Terumbu Tiga maintain more balanced communities. These differences may relate to localised environmental factors, disturbance history, or habitat complexity

Giant Clam mapping

Aim: Map and understand giant clam populations surrounding the Perhentian Islands

Initial data collected in 2025 shows the species found at each dive site.

In the future, yearly comparisons can identify temporal changes. Abundance at each site could be analysed for the next step to identify local spatial change.



Tridacna squamosa

Tridacna maxima

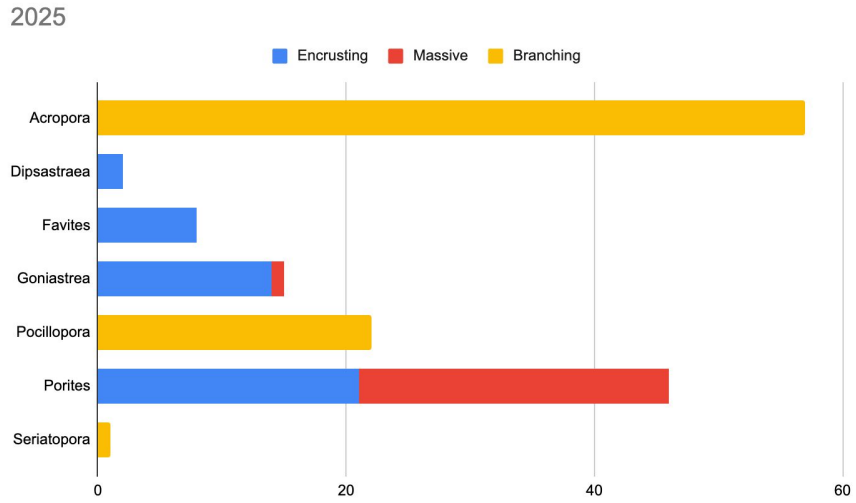


Coral Restoration: Artificial Reef Blocks

- Total number of coral blocks: **63 bottle reef blocks.**
- Number of recruits: **100 coral naturally recruited**
- Number of nubbins: **73 fragments are thriving.**
- Long term volunteers had participate in the maintenance dives

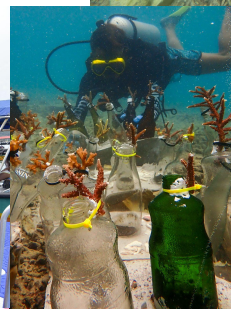
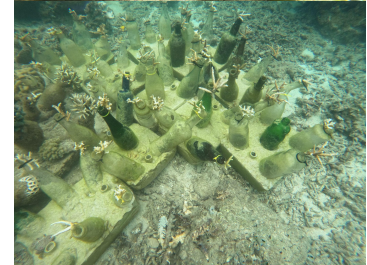
Health assessments showed that 131 corals were in a healthy condition, 40 were partially bleached, 4 were fully bleached, and 9 were dead.

The ecosystem is recovering from mass bleaching event in 2024. However, the high amount of partially bleached corals indicates stress in the reef, potentially temperature stress. Branching corals, particularly *Acropora* and *Pocillopora* had a high abundance. Massive corals such as *Porites* remained present, *Dipsastraea* continued to occur in small numbers.



Coral Restoration: TNB Artificial Reef Blocks

- Program date: **27 September 2025**
- Contribution: **RM15000 for coral restoration & rehabilitation project (Reef Block)**
- Number of coral blocks: **10 bottle reef blocks.**
- Number of nubbins: **65 out of 100 coral fragments were planted in 2025**
- Duration: **6 monitoring reports submission**, the work will be continued in 2026.
- Members of AnakPulau team had involve alongside with PMRS team to deploy the blocks and planting the coral fragments.



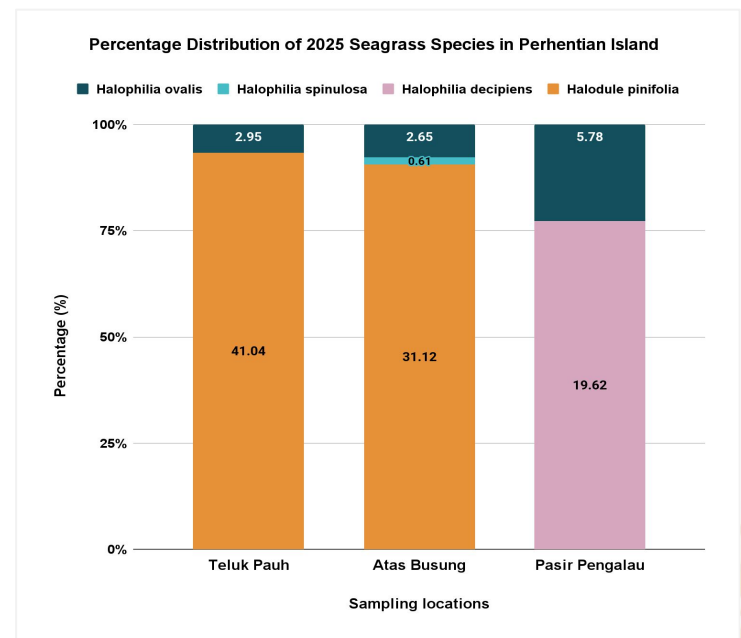
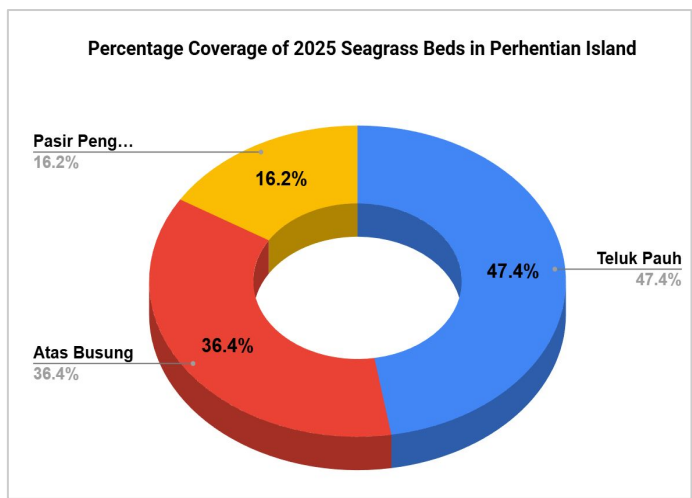
Seagrass Monitoring Research : Perhentian Island

Objective: To establish the methodology for seagrass survey and monitoring in Perhentian Island & Redang Island

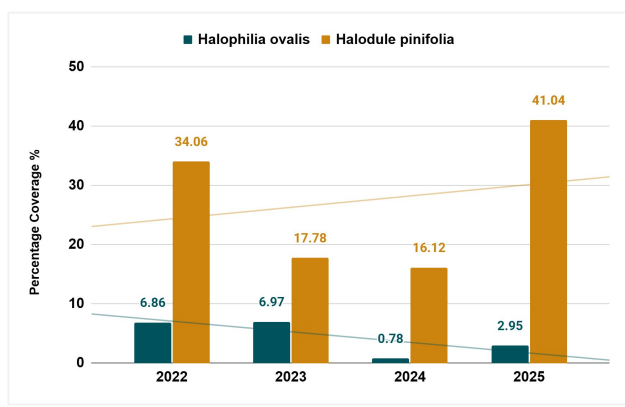
Seagrass survey in Perhentian Island has entered the third year of monitoring data collection. In 2025, three seagrass beds has been surveyed on for the PMRS annual seagrass monitoring survey; **Teluk Pauh, Atas Busung, and Pasir Pengalau.**

This study was done using modified methodologies and a datasheet from Seagrass Watch. Data collection were done at **every 5 meter data interval and 25 meter transect interval.** The transect points were following the marking point in 2022.

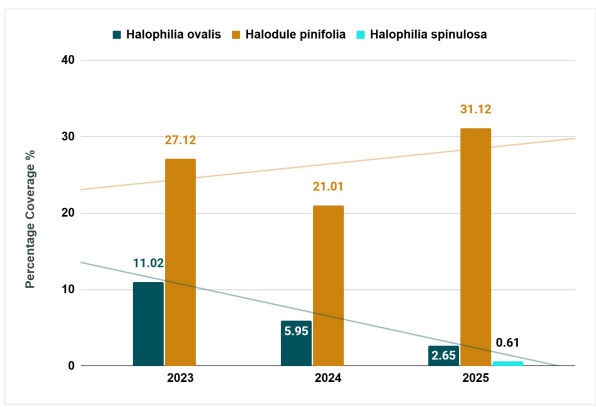
The chart shown the overall distribution of seagrass species in Perhentian Island for 2025. A total of **four species were recorded** present in Perhentian Island which **two were newly recorded** in 2025 survey, ***Halophillia decipiens* (HD)** and ***Halophillia spinulosa* (HS).**



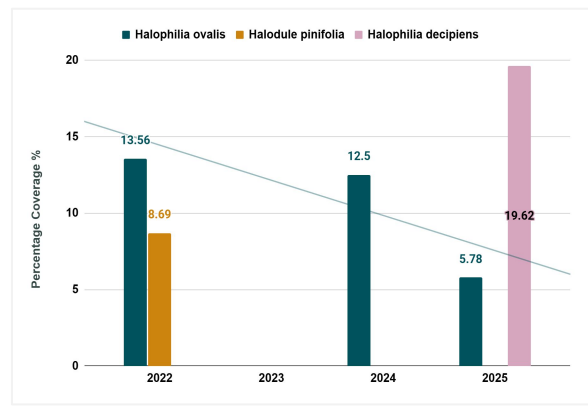
Seagrass Monitoring Research : Perhentian Island



Teluk Pauh



Atas Busung



Pasir Pengalau

The overall coverage of seagrass in Perhentian Island is observed to increasing compared to the previous years. Seagrass in **Teluk Pauh** has two species, **Halodule pinifolia (HP)** and **Halophillia ovalis (HO)**. The coverage of both species were improve with HP coverage in Teluk Pauh has a significantly increase to 41.04% compared to only 16.12% in 2024.

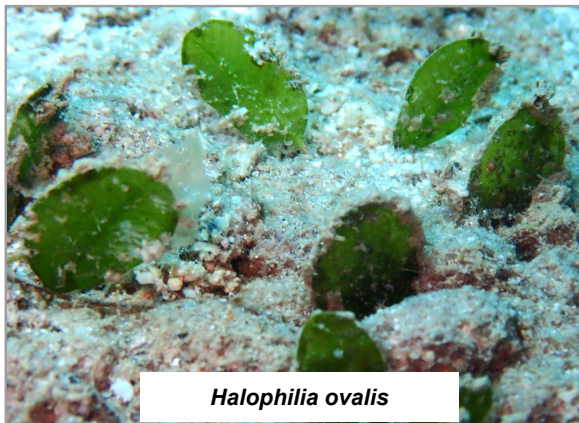
Seagrass bed at **Atas Busung** also shown an increasing seagrass coverage with **significant increase of HP at 31.12%**. However, there's **slight decline for HO species** but there's **new species discovered present at Atas Busung's seagrass bed, Halophillia spinulosa (HS)** to make up the overall increase of coverage. **Three seagrass species were recorded present at Atas Busung seagrass bed.**

Seagrass at **Pasir Pengalau** also show an increment in the seagrass coverage however, **newly present of another species Halophillia decipiens (HD)** has majorly contribute to the increasing coverage at Pasir Pengalau. HO coverage decrease from 12.5% to 5.78% and HP remain absence in 2025 survey. **Three seagrass species were recorded present at Pasir Pengalau seagrass bed. A green sea turtle were recorded grazing at Pasir Pengalau's seagrass bed**

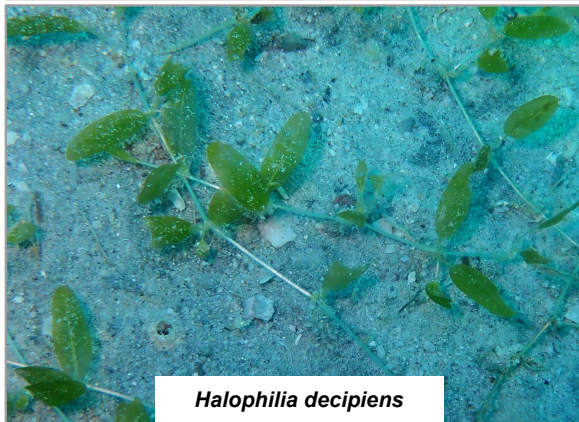
Seagrass Monitoring Research : Perhentian Island



Halophilla pinifolia



Halophilla ovalis



Halophilla decipiens



Halophilla spinulosa

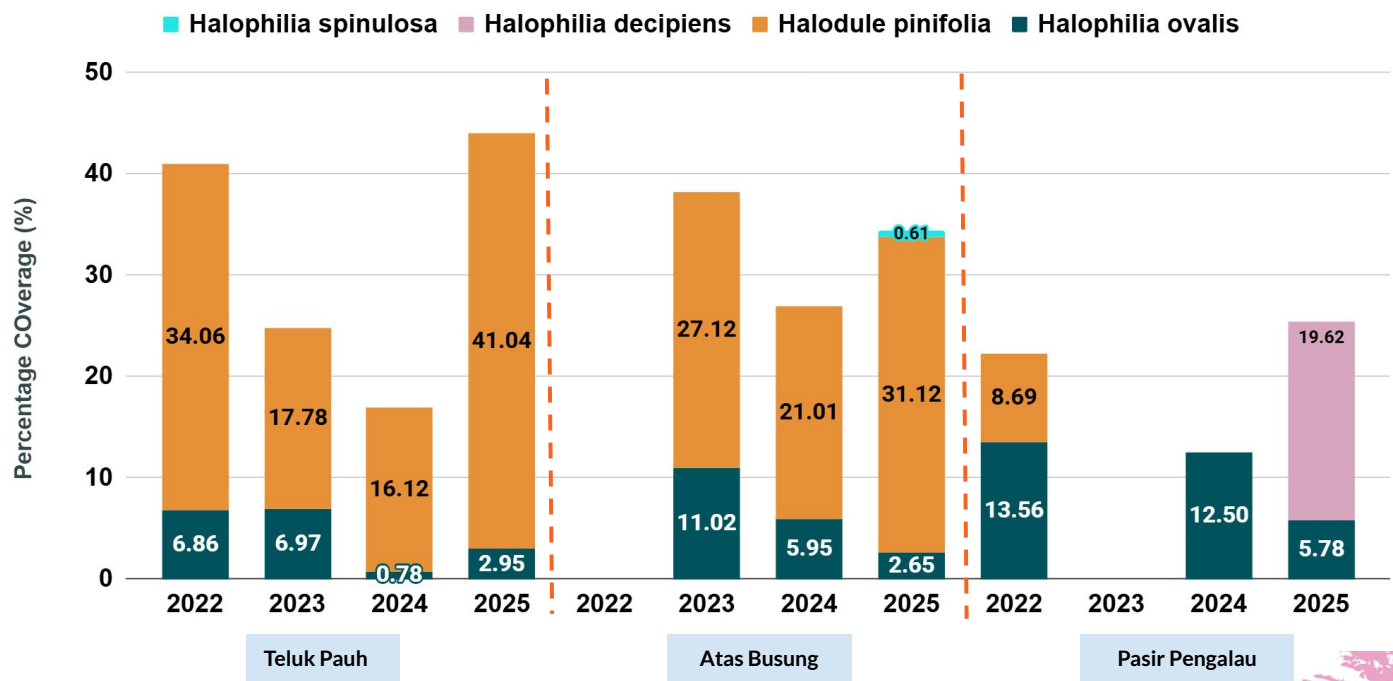
Seagrass Monitoring Research : Perhentian Island

Fauna of seagrass beds in Perhentian Island



Seagrass Monitoring Research : Perhentian Island

Overall trend of seagrass coverage in Perhentian Island



Seagrass Monitoring Research : Redang Island

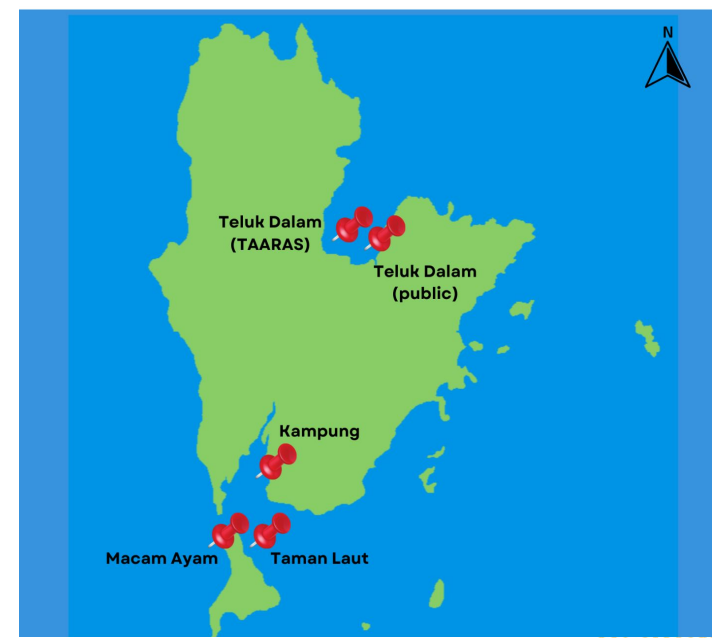
Objective: To establish the methodology for seagrass survey and monitoring in Perhentian Island & Redang Island

In 2023, PMRS extended the seagrass survey in Redang Island. The recce dives in 2023 were conducted at 4 seagrass beds.

The following year in 2024, the first monitoring data were collected at only 2 bed that has significant coverage of seagrass and continued in 2025 at the same transect points.

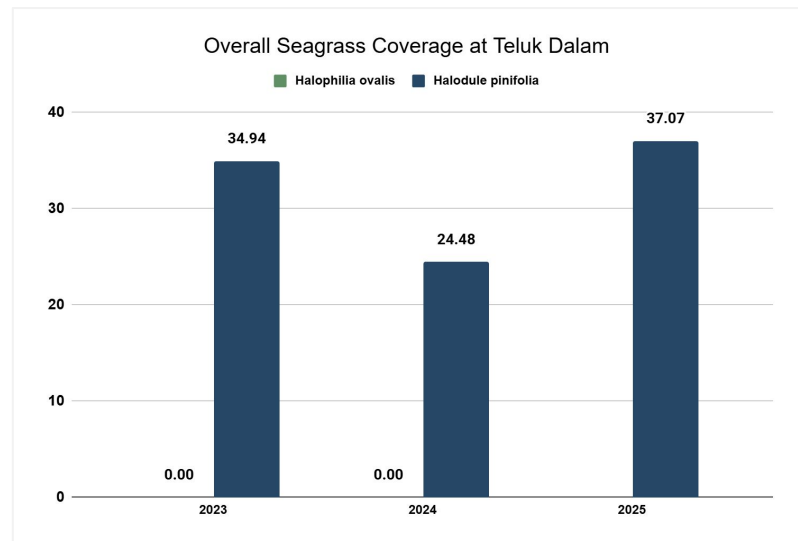
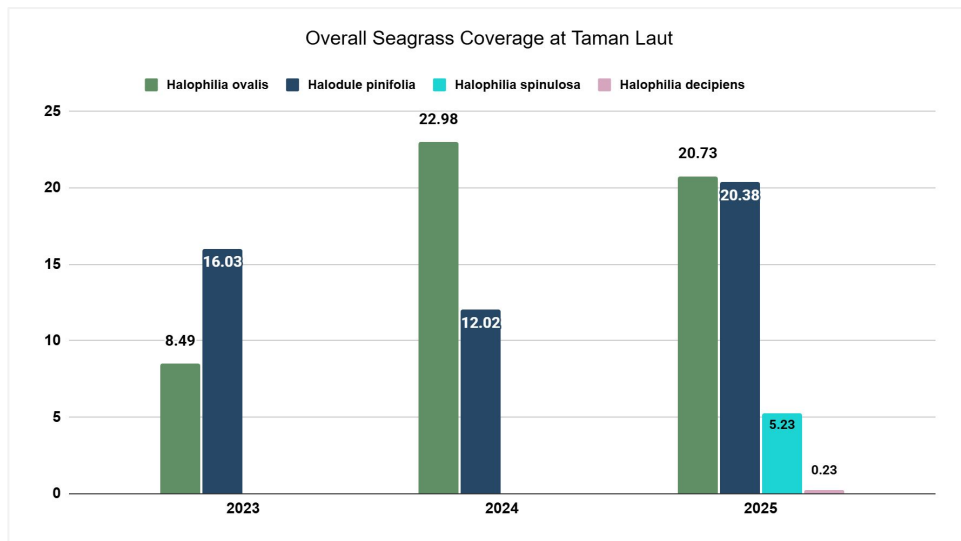


The **two seagrass bed selected** for the monitoring data collection; **Teluk Dalam and Taman Laut**



Recce points of seagrass bed in Redang Island

Seagrass Monitoring Research : Redang Island



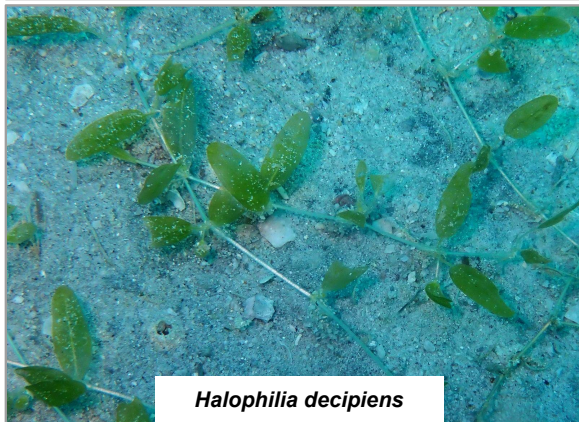
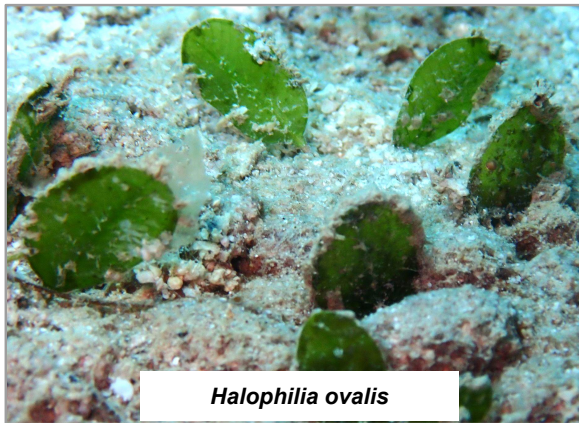
The chart shown the overall distribution of seagrass coverage in Redang Island. Both seagrass beds has an **increment in the percentage coverage** compared to 2024 which at **46.57% at Taman Laut** and **37.07% at Teluk Dalam**.

Taman Laut is the only bed that recorded **four seagrass species present** at one site which two species were newly recorded in 2025, *Halophyllia decipiens* (HD) and *Halophyllia spinulosa* (HS). Meanwhile seagrass species in **Teluk Dalam** remain dominated by *Halodule pinifolia* (HP).

Seagrass Monitoring Research : Redang Island



Halophilla pinifolia



Halophilla spinulosa

#ANAKPULAU

#ANAKPULAU is an initiative dedicated to empower the youth of Perhentian Islands. The initiative was developed to provide a platform for the local youth to learn and involve in marine conservation activities in Perhentian Islands. The members are equipped with diving qualifications and training to join conservation activities with PMRS



Rapid Response Team

- ❑ 31 trained RRT members with 2 newly recruited members.
- ❑ 14 certified RCM Eco-Diver.
- ❑ Perhentian 2025 Reef Check surveys, Marine Biodiversity survey, Coral Restoration, COT Removal dive

Junior Diver

- ❑ 5 Junior Diver members with 2 new recruited member.
- ❑ 2 learning dives conducted in 2025.

Rapid Response Team (RRT)



Ghostnet Removal & underwater Clean-Up

- ❑ 95% success response to stakeholder reports.
- ❑ 5 ghostnet removal dives, amounting 169 kg of ghostnet.

Coral Restoration

- ❑ 1 restoration in collaboration with TNB.
- ❑ 9 coral bock maintenance dives.
- ❑ Nubbin impacted by bleaching event last year still thriving.

COT Removal

- ❑ 1 COT Removal dive.
- ❑ 13 COT removed from Temple of the Sea.

Recruitment & Training

- ❑ 2 newly recruited members.
- ❑ Biodiversity training dives.
- ❑ Ghostnet training dives.
- ❑ Offered 3 paid working opportunity.

Volunteering program

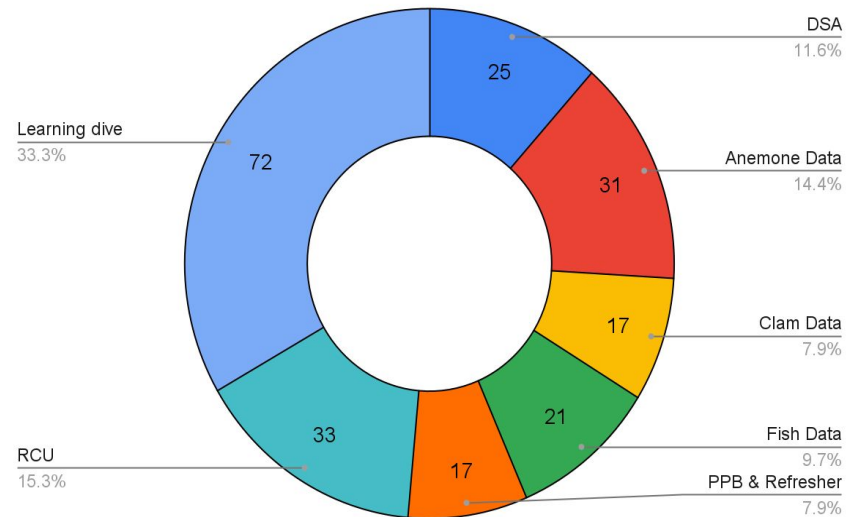


- In 2025, PMRS continuing its volunteering program with the capacity of **6 volunteers per week**. The program has been structured to support PMRS conservation strategies in 2025.
- Throughout the 2025 season, PMRS volunteering program has achieved the following:-
 - ❑ **31 volunteers** with **46 volunteering weeks**.
 - ❑ A total of **182 dives** conducted throughout the volunteering weeks.
 - ❑ **24 beach clean-ups** with a **total of 1442.5 kg** of trash.
 - ❑ **33 underwater clean-up** with **total of 246.3kg** of marine debris removed from the seafloor.



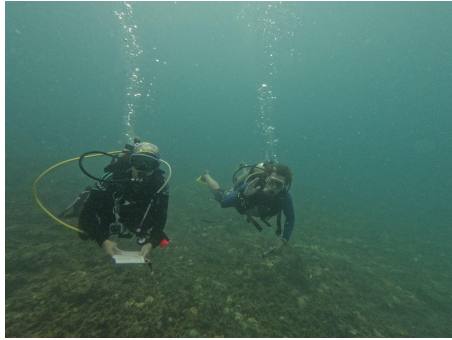
Volunteer's conservation dives

- PMRS volunteer's activities has been designed to contribute towards the conservation efforts in Perhentian Islands.
- **A total of 31 volunteers with 182 dives throughout 46 volunteering weeks.**
- **Total overall dive count: 216 dives**
- **The numbers are different because one dive often covered multiple activities (e.g., collecting more than one type of data in the same dive)**
- The underwater activities covering;
 - Skill dives
 - Educational dives
 - Data collection dives
 - Action dives



SUSTAINABILITY IMPACT

Volunteer's conservation dives



SUSTAINABILITY IMPACT

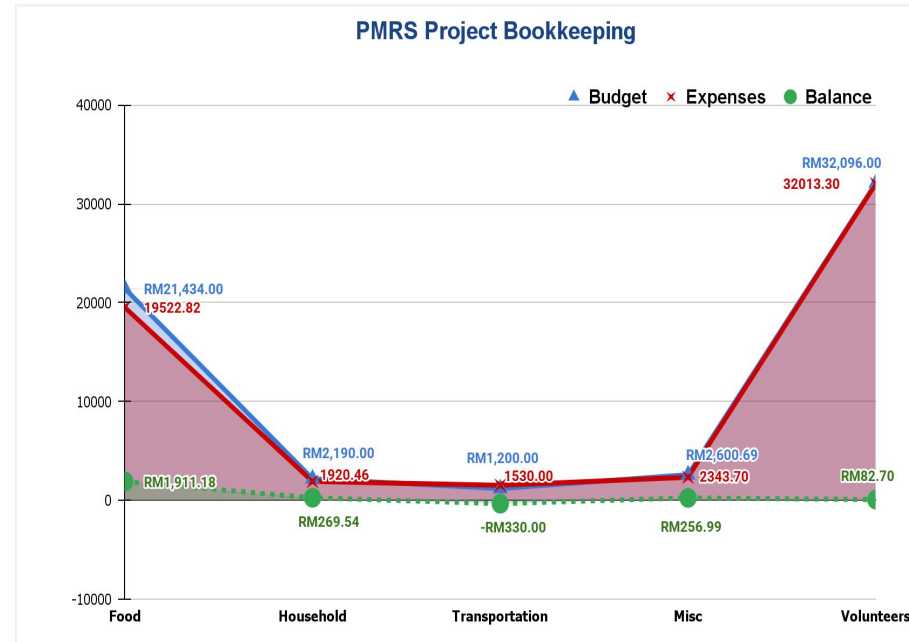
Volunteering programs



Finance

- The chart shows the breakdown of PMRS expenses in 2025 season.
- Project bookkeeping covering all expenses except for grants budget coordinated by PMRS

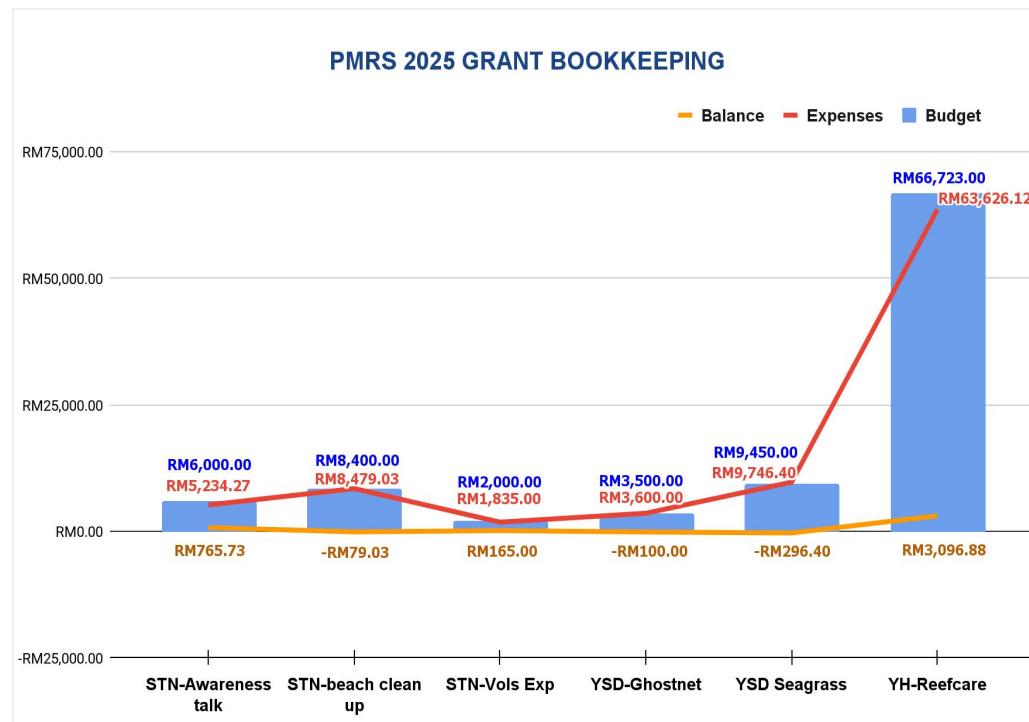
	Budget	Expenses	Balance
Food	RM21,434.00	RM19522.82	RM1,911.18
Household	RM2,190.00	RM1920.46	RM269.54
Transportation	RM1,200.00	RM1530.00	-RM330.00
Misc	RM2,600.69	RM2343.70	RM256.99
Volunteers	RM32,096.00	RM32013.30	RM82.70
Total	RM59,520.69	RM57,330.28	RM2,190.41



Finance

- The chart shows the breakdown of PMRS expenses in 2025 season.
- Grants bookkeeping covering all expenses under grants budget coordinated by PMRS.

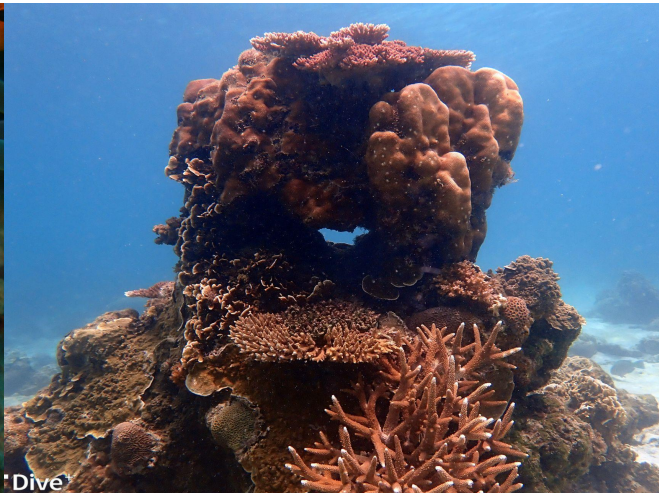
	Budget	Expenses	Balance
STN-Awareness talk	RM6,000.00	RM5,234.27	RM765.73
STN-beach clean up	RM8,400.00	RM8,479.03	-RM79.03
STN-Vols Exp	RM2,000.00	RM1,835.00	RM165.00
YSD-Ghostnet	RM3,500.00	RM3,600.00	-RM100.00
YSD Seagrass	RM9,450.00	RM9,746.40	-RM596.40
YH-Reefcare	RM66,723.00	RM63,626.12	RM3,096.88
			RM3,252.18



What we learnt

In conclusion, lesson learnt from this 2025 season,

- ✓ PMRS are able to focus on the management of the station, strengthen the portfolio of the station and develop our local empowerment program #ANAKPULAU.
- ✓ PMRS has broaden its presence beyond Perhentian Island by more external collaboration with other organisations.



Next year and beyond

- Strengthen PMRS research portfolio and the establishment of marine research station on the island.
- Upgrading our volunteering program content to improve Volunteerism Experience with PMRS - Refining the experiential learning process.
- Improve our outreach program on marine and environmental awareness within the islands and beyond Perhentian Island.
- Strengthen our collaboration to external organisation for knowledge exchange and networking.



CONCLUSION



A big THANK YOU to

A HUGE thank you goes to our funders in 2025, without you we wouldn't have been able to achieve anything, our thanks goes to:

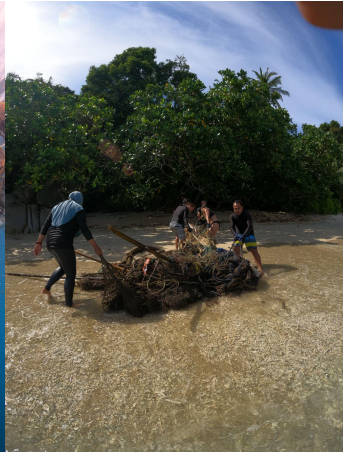
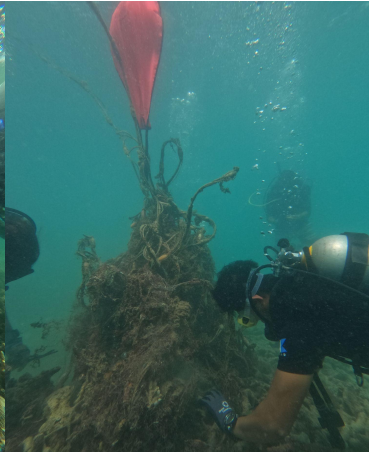
- ❖ Yayasan Hasanah
- ❖ Yayasan Sime Darby
- ❖ Sustainable Tourism Network
- ❖ SeeTurtle

Also thank you to our collaborators in 2025, without you we wouldn't have been able to achieve to this far. Our thanks goes to:

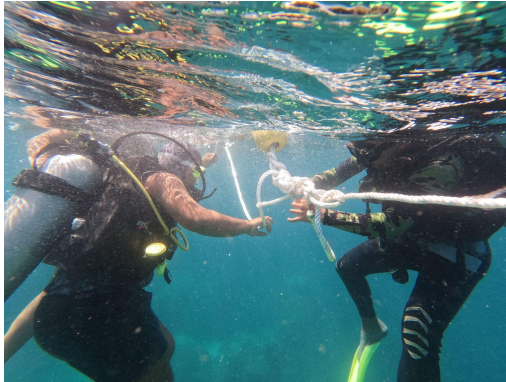
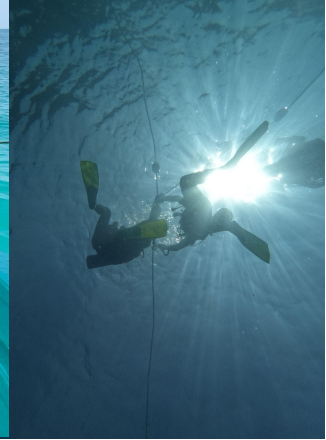
- ❖ Department of Fisheries Malaysia
- ❖ Reef Check Malaysia
- ❖ Dive centers & Chalets in Perhentian
- ❖ Boat operators
- ❖ Community of Perhentian Island



Ghostnet Removal & underwater Clean-Up



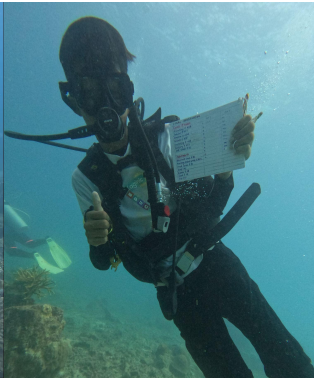
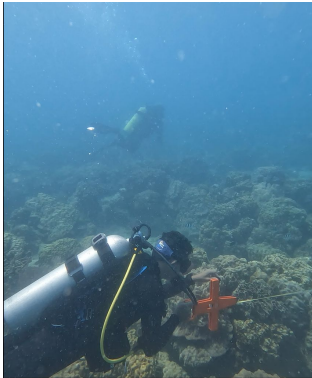
Safety bouyline & mooring line installation



Coral Restoration Project



Recruitment & Training



THANK YOU



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