

Delivered by

Marine Conservation Philippines - MCP



SEMIANNUAL **REPORT**

ZAMBOANGUITA

May 2024



EXECUTIVE SUMMARY



CORAL REEF MONITORING

From January to March 2024 MCP completed 312 surveys on the reefs of Zamboanguita. Fish biomass has been generally maintained, fish density has increased and fish size has decreased. The Coral Reef Status shows that reefs of Zamboanguita are less healthy than the Philippines and East Asia reefs but better than the global average. Aesthetic values for the locals reefs show the presence of charismatic species at different dive sites, highlighting their potential for underwater recreational activities.



COASTAL CLEAN-UPS

In the first trimester of 2024, the MCP Coastal Collection team collected a total of 8.4 tons of trash from the beaches and coasts of Zamboanguita. Of this amount, 49% was composed of recyclable materials. The distribution of trash along the coast highlighted two areas as the biggest contributors to the amount: Lutoban (including Polo, Gac-ang, and the bay) and Poblacion (including the Cockpit, Punta Beach, and Bangcolutan). These areas should be targeted in the municipal solid waste management plan.



COMMUNITY PROJECTS

This year so far, we've had the honor of training local capacity for basic First Aid and worked on removing three ghost nets from the reefs in Lutoban and Kookoos. Additionally, we participated in the Women's Month celebration day and reached over 1800 children from grades 2 and 3 in South Negros, sharing with them the importance of Mangrove Forests. Our efforts were also recognized in a news article in 'The Guardian,' highlighting the crucial role of the Bantay Dagat in the success of local Marine Protected Areas (MPAs) and the food security of fishing communities in the Philippines.



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“

Using science to understand how local and global pressures affect marine ecosystems, we empower, engage, and build local and national capacity to reduce and adapt to these pressures, aiming for a sustainable future for the Philippine people and environment.

”

Mission Statement
Marine Conservation Philippines



INTRODUCTION

WHO WE ARE

Marine Conservation Philippines (MCP) is a registered non-profit, non-governmental organization (NGO) located in the Central Visayas, dedicated to the preservation and protection of coastal ecosystems and resources in the Philippines. MCP was founded in 2015.

Our mission is to achieve ocean health, food security and societal stability through a combination of coral reef monitoring, marine debris collection, community projects, alternate livelihood projects, information and education campaigns and local capacity building. We utilize scientific research to understand how local and global pressures impact marine ecosystems, empowering and engaging local communities while enhancing their ability to reduce and adapt to these challenges.

MCP currently has thirty two staff members, most of whom are Filipino as well 25-30 international volunteers at a time.



WHAT WE DO

To achieve our goals, we employ various approaches, including:

CORAL REEF MONITORING

Our Long-Term Monitoring Program currently assesses 12 coral reefs in neighboring municipalities.



COASTAL CLEAN-UPS

We organize dedicated daily campaigns for beach clean-ups and occasional dive clean-ups.



COMMUNITY PROJECTS

We support a range of community projects, from funding local initiatives to helping maintain demarcation in local Marine Protected Areas (MPAs), training government personnel, conducting mangrove plantings, and developing educational school modules.





CORAL REEF MONITORING PROGRAM

MCP operates a Long-Term Monitoring Program that has been ongoing since 2017, consistently collecting data on selected coral reefs in South Negros. The program aims to provide valuable information for local stakeholders, including coastal resources managers and other decision makers associated with the local reefs and Marine Protected Areas (MPAs).

To transform the data collected from the reefs into actionable information for positive change, we focus our results on three key aspects of the coral reefs:

FOOD SECURITY

By examining fish density, biomass, and the sizes of commercially important fish and macroinvertebrate families, we can determine if the reefs are contributing to ensuring that the local community has reliable access to sufficient, nutritious, and affordable food.



REEF HEALTH

By assessing the dynamics of hard corals and algae, we can compare our local reefs to reefs worldwide and determine if we have a balanced and diverse ecosystem that is resilient to threats and capable of providing the essential services we depend on.



AESTHETIC VALUE

By recording encounters with charismatic animals and assessing the environmental conditions of the site, we can estimate the tourism value and potential recreational uses of local sites, as well as identify their specific strengths.





REEFS WE MONITOR

The MCP Long-Term Monitoring Program currently surveys 12 coral reef sites across Zamboanguita and Siaton municipalities, as depicted in the map below. The majority of these sites are Marine Protected Areas (MPAs), varying in age from older established areas to more recently designated ones (see Table 1).

CORAL REEF MONITORING PROGRAM SITES

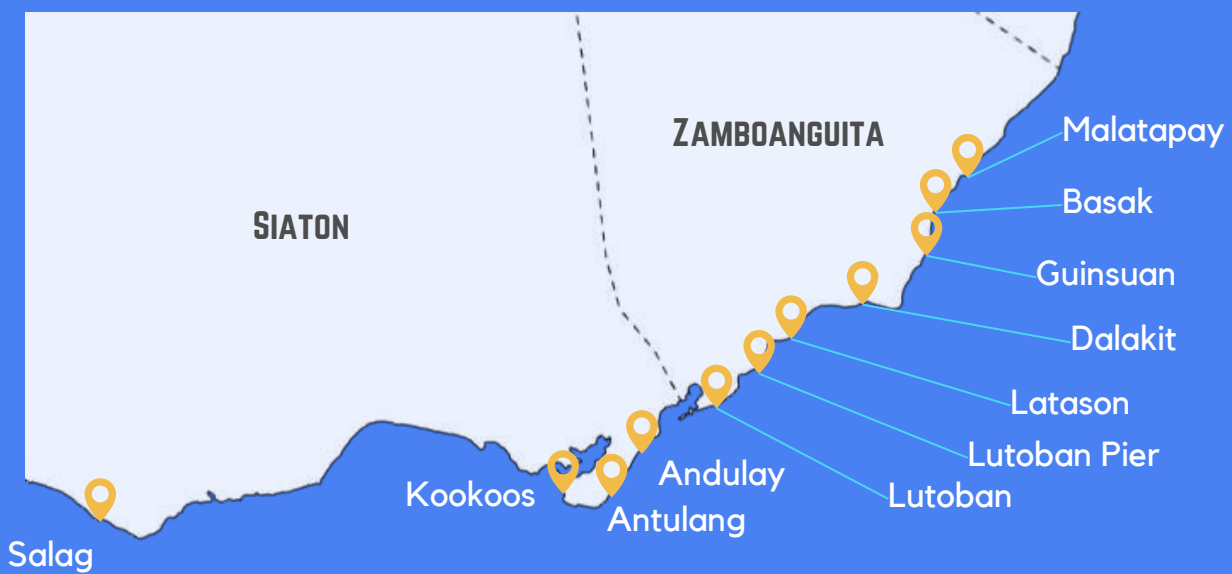


Table 1

Municipality	Dive Site	Protection	MPA Est.	Size (hec)
Zamboanguita	Malatapay	MPA	2022	2
	Basak	MPA	2006	9
	Guinsuan	MPA	2022	6
	Dalakit	MPA	2004	2
	Latason	MPA	2022	4
	Lutoban	MPA	2000	24
	Lutoban Pier	-	-	-
Siaton	Andulay	MPA	1993	6
	Antulang	-	-	-
	Kookoos	-	-	-
	Salag	MPA	2001	10



Andulay reef



LAST SURVEY SEASON

From January to March, we conducted a total of 491 surveys in the reefs of Zamboanguita and Siaton. Our trained citizen science volunteers collected reef data using one of the least destructive sampling methods available: visual census while scuba diving.

Our divers undergo comprehensive training to adhere to environmentally friendly techniques while diving, ensuring the well-being of the monitored sites.

491
SURVEYS
FROM JANUARY
TO MARCH 2024



FUTURE PLANS

In March 2024, under a MOA with the Local Government Unit of Sta Catalina, we began surveying two additional sites. These sites will be integrated into our Coral Reef Monitoring Program going forward.

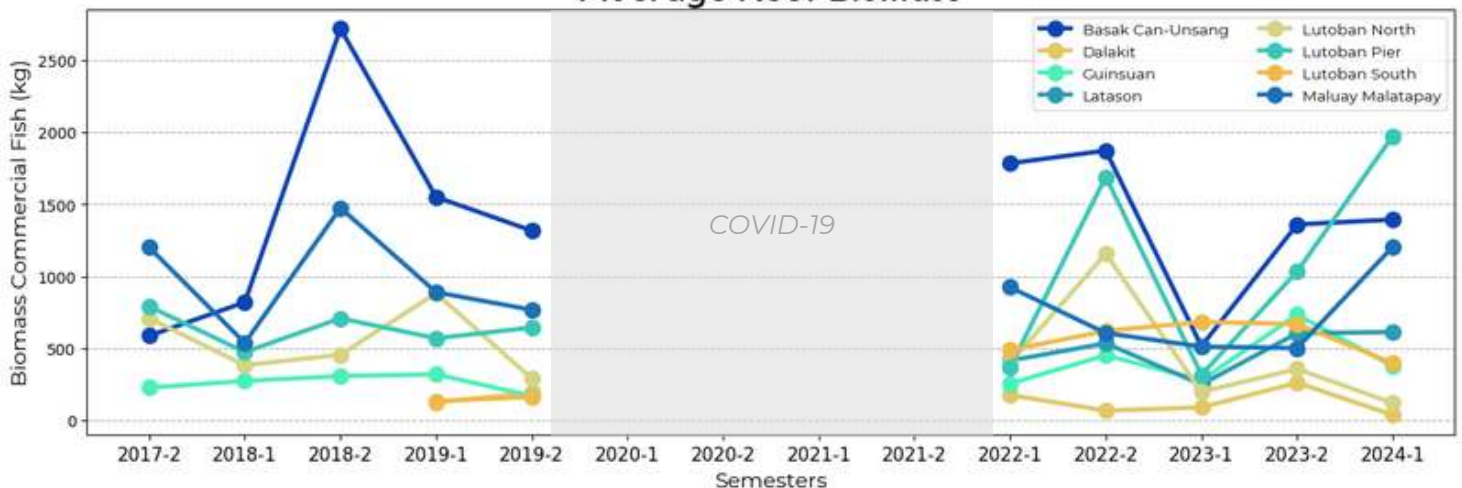


FOOD SECURITY



Initially, we will examine the characteristics of the coral reefs of Zamboanguita in terms of fish biomass, focusing on the density and average size of fish in each of the reefs. Given our focus on food security, we have specifically selected fish families of commercial interest for analysis.

Average Reef Biomass



WHAT IS

Food security?

Ensuring everyone has reliable access to sufficient nutritious and affordable food. This includes fish coming from sustainable fishing practices.

Over time, we have observed that certain sites, such as Basak, typically exhibit higher biomass. However, there is no clear distinction between non-MPAs, (i.e. Lutoban Pier) and MPAs (all other sites). The variation among reefs can be attributed to their distinct morphology and characteristics.





FOOD SECURITY



FISH X DIVE SITES

Estimated Biomass of commercial target Fish indicators (Kg) for Jul-Dec 2023.

	Basak	Dalakit	Guinsuan	Latason	Lutoban North	Lutoban Pier	Lutoban South	Malatapay
Barracuda	13.4 kg	-	192.6 kg	6.5 kg	16.1 kg	41.3 kg	102.1 kg	116.4 kg
Coral Bream	99.0 kg	2.8 kg	56.7 kg	22.6 kg	16.3 kg	17.2 kg	23.6 kg	74.0 kg
Emperor	53.1 kg	-	1.9 kg	-	1.2 kg	3.1 kg	1.1 kg	2.3 kg
Fusilier	650.9 kg	-	568.2 kg	834.7 kg	259.4 kg	770.4 kg	362.6 kg	174.9 kg
Goatfish	46.4 kg	37.7 kg	34.9 kg	46.2 kg	27.8 kg	24.6 kg	60.7 kg	78.4 kg
Grouper	60.4 kg	23.5 kg	6.2 kg	16.2 kg	28.7 kg	33.9 kg	58.6 kg	24.6 kg
Mullet	65.2 kg	-	-	-	-	-	-	-
Needlefish	4.6 kg	-	-	-	-	7.7 kg	-	0.6 kg
Parrotfish	58.5 kg	10.7 kg	21.4 kg	8.5 kg	21.9 kg	36.1 kg	38.1 kg	40.0 kg
Rabbitfish	5.8 kg	29.0 kg	1.1 kg	1.5 kg	0.3 kg	0.4 kg	4.1 kg	15.0 kg
Snapper	564.6 kg	128.1 kg	16.1 kg	6.2 kg	3.1 kg	520.6 kg	11.6 kg	32.6 kg
Spadefish	94.0 kg	4.2 kg	0.6 kg	-	0.4 kg	-	2.5 kg	1.0 kg
Squid	-	-	-	-	2.2 kg	4.6 kg	-	-
Surgeonfish	195.0 kg	118.6 kg	267.8 kg	109.4 kg	71.4 kg	71.9 kg	230.4 kg	174.1 kg
Sweetlips	24.7 kg	48.1 kg	4.2 kg	-	-	0.7 kg	0.1 kg	-
Trevally	24.3 kg	2.6 kg	0.0 kg	-	-	0.1 kg	2.5 kg	14.6 kg
Unicornfish	122.6 kg	12.1 kg	44.0 kg	0.6 kg	125.8 kg	365.2 kg	106.6 kg	118.5 kg
Wrasse	78.8 kg	25.6 kg	45.8 kg	30.0 kg	67.2 kg	72.9 kg	109.0 kg	134.9 kg
Total	2,161.4 kg	443.1 kg	1,261.5 kg	1,082.4 kg	641.8 kg	1,970.7 kg	1,113.7 kg	1,002.2 kg

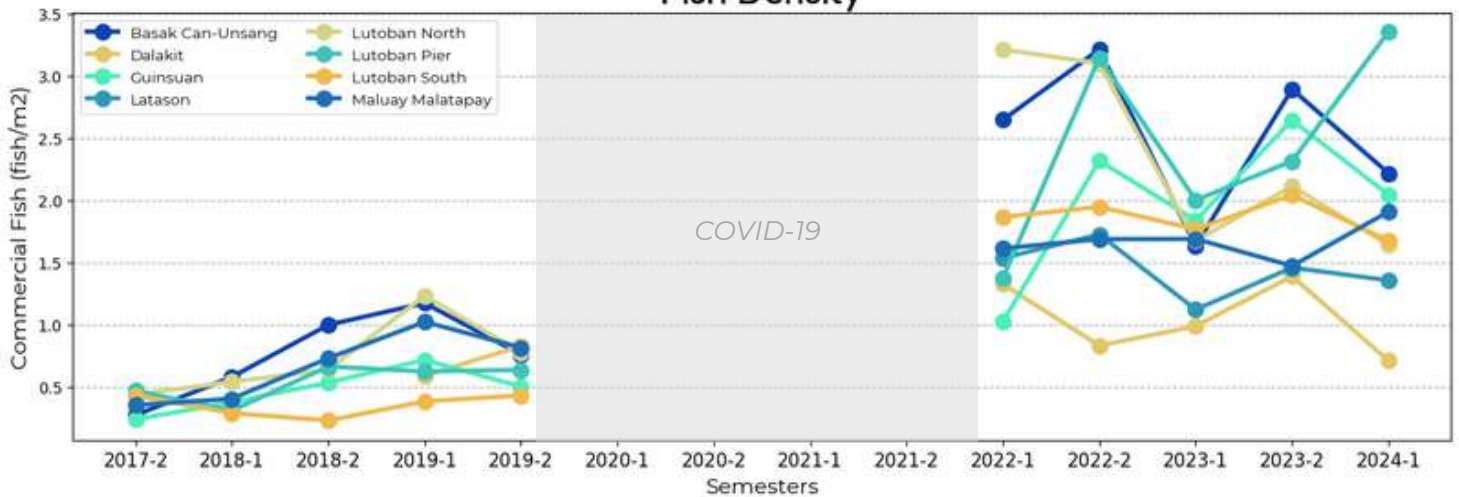
In the table above, we present an estimate of fish biomass for the entire reef area of each site. As anticipated, Basak continues to exhibit the highest values, followed by Lutoban Pier and Guinsuan. We also notice that certain fish indicators are more common in specific reefs, highlighting differences in fish populations among them.



FOOD SECURITY

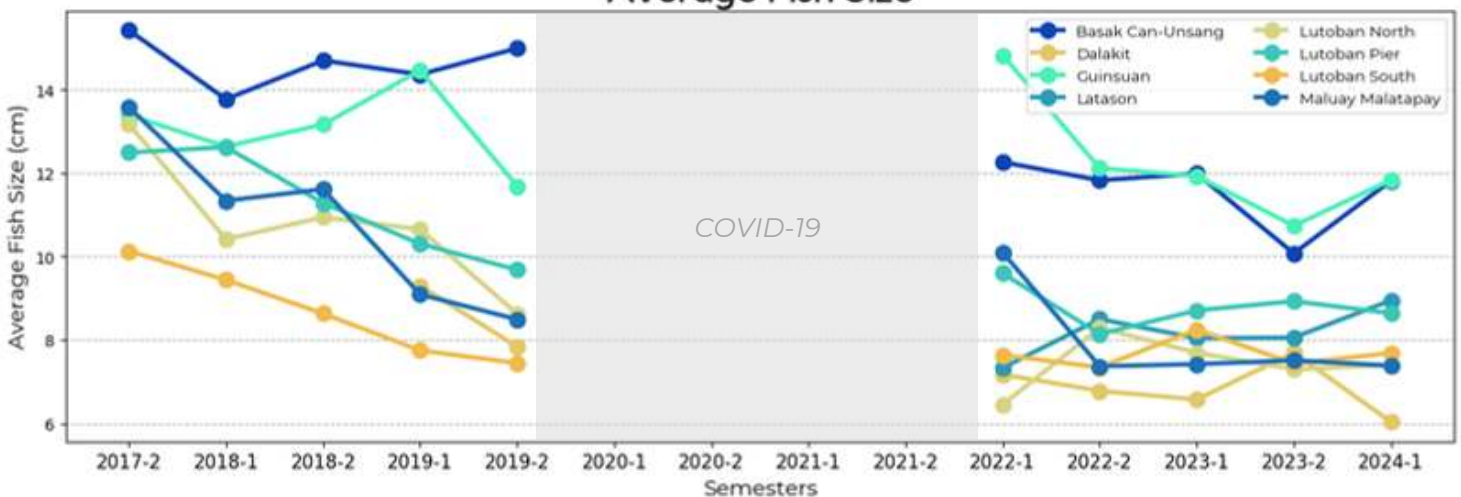


Fish Density



Fish density has generally increased across all sites since monitoring operations resumed after the pandemic, even after considering the large inter-annual variation in fish density at each site. It should be noted that no significant increase in biomass was observed for most sites, suggesting that whilst average density increased, average fish size decreased.

Average Fish Size



This is supported by the data for average fish size, where it can be observed that average fish size was generally higher before the pandemic. The above graph also shows the sites that host the largest average fish: Basak and Guinsuan. It is expected that the established nature of the MPA at Basak would support higher average fish size, but it is interesting to see similar values for Guinsuan, which has only been protected since 2022.



REEF HEALTH



The Philippines is situated in the Coral Triangle, an area of huge biodiversity that contains 30% of global reefs. There are many factors that determine the health of coral reefs, but two of the most important and useful ones to measure are Hard Coral Cover (HCC) and Algae Cover (AC). HCC measures the percentage of hard corals on the reef. These corals build the reef itself, providing the habitat for the thousands of species that live there. AC is a measure of how much of the reef is covered by particular types of algae that are in competition with corals.

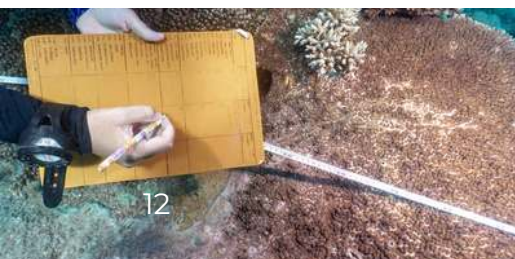
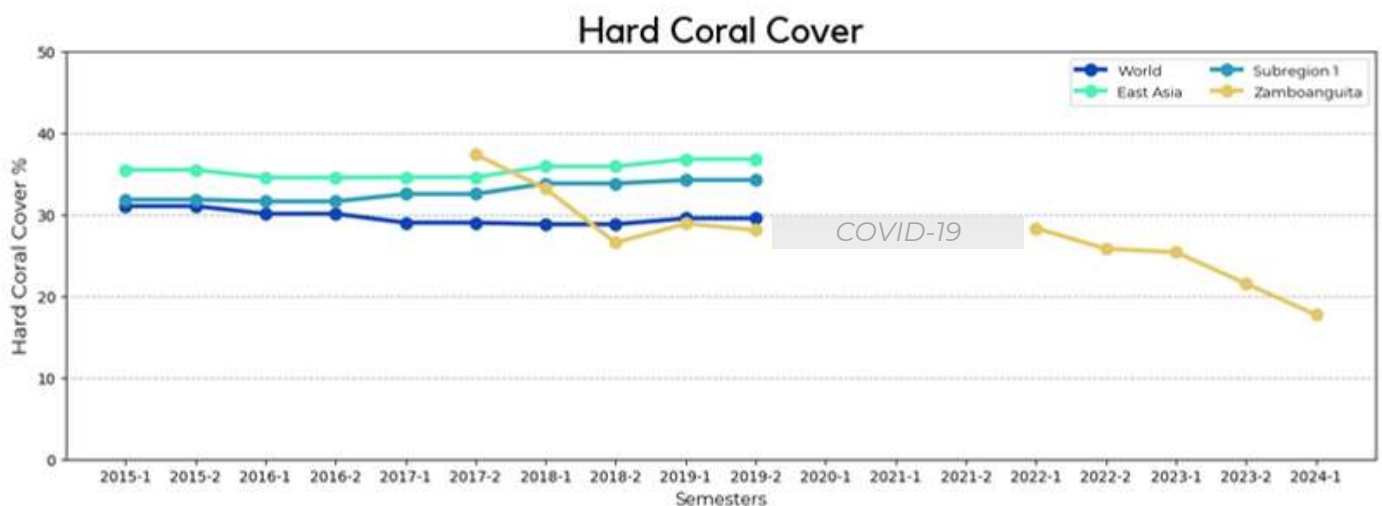


WHAT IS

Reef Health

Having balanced and diverse coral reefs that are resilient to threats and able to offer the services we need of them.

The average HCC for Zamboanguita was compared with the average HCC for relevant subdivisions from the Global Coral Cover Reef Monitoring Network (GCRMN), a world leading scientific network providing the best available information on global coral reefs. The subdivisions used were 1: World HCC, 2: East Asian Seas (NE and SE Asia) HCC and 3: East Asian Subregion 1 (Philippines, North Borneo and Sulawesi Sea) HCC.





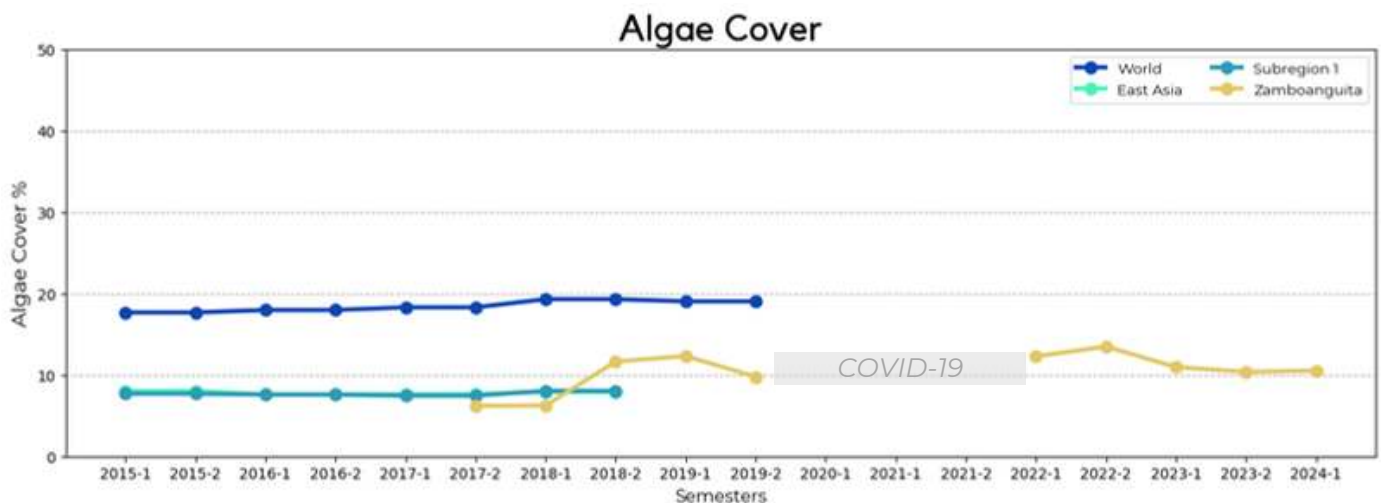
REEF HEALTH



Unfortunately, the GCRMN data is only available until 2019, since the last report was released in 2020. This gives a few points of comparison with our own Long Term Monitoring Program where we can see how the reefs of Zamboanguita compare with other regions.

It can be seen that the reefs of Zamboanguita show less coral than the global average, as well as the averages for East Asia and East Asia Subregion 1. There is also a general trend of decreasing hard coral cover in Zamboanguita. This is likely largely due to the global issues of increasing ocean temperatures, which are affecting reefs around the world, but local factors may also be contributing to this decline.

It can be seen that the reefs of Zamboanguita exhibit higher average algae cover than the average for East Asia Subregion 1, but lower than the global average.



This suggests that the reefs of Zamboanguita are not as healthy as the reefs of East Asia Subregion 1 (Philippines, North Borneo and Sulawesi), considering that algae cover has remained relatively stable whilst hard coral cover has decreased.

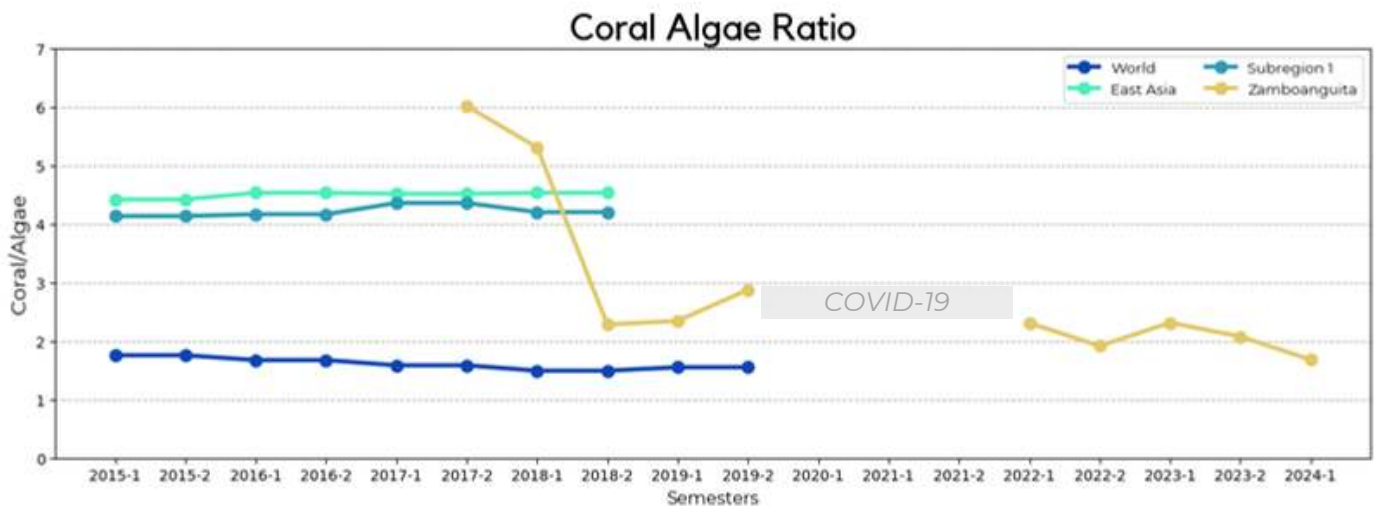


REEF HEALTH



Hard Coral & Macro Algae relations

On a coral reef, algae and coral (as well as other organisms) directly compete for space on which to grow. This competition had important consequences for the health of the reef. If a reef becomes dominated by algae there will be less space for coral to grow. A reef with less coral will typically support less biodiversity and fish biomass, which will negatively affect food security.



The ratio of coral to algae for reefs in Zamboanguita (with higher values suggesting greater reef health) is between about 1.8 and 2.2. This is higher than the global average, but poor compared to the values for East Asia and Subregion 1, which display ratios of over 4. This suggests that the reefs of Zamboanguita are potentially at risk from becoming algae-dominated, which could have negative consequences for food security.



Hard Coral dominated reef



Algae dominated reef



AESTHETIC VALUE



The aesthetic value of a reef is a useful way to measure its potential for providing economic benefits to the community through activities such as SCUBA diving. Factors such as the apparent health of the reef, water cleanliness, the amount of trash and the opportunity to see charismatic marine animals all contribute to this value. If tourism is developed and managed in a sustainable way, it can be of great benefit to communities.



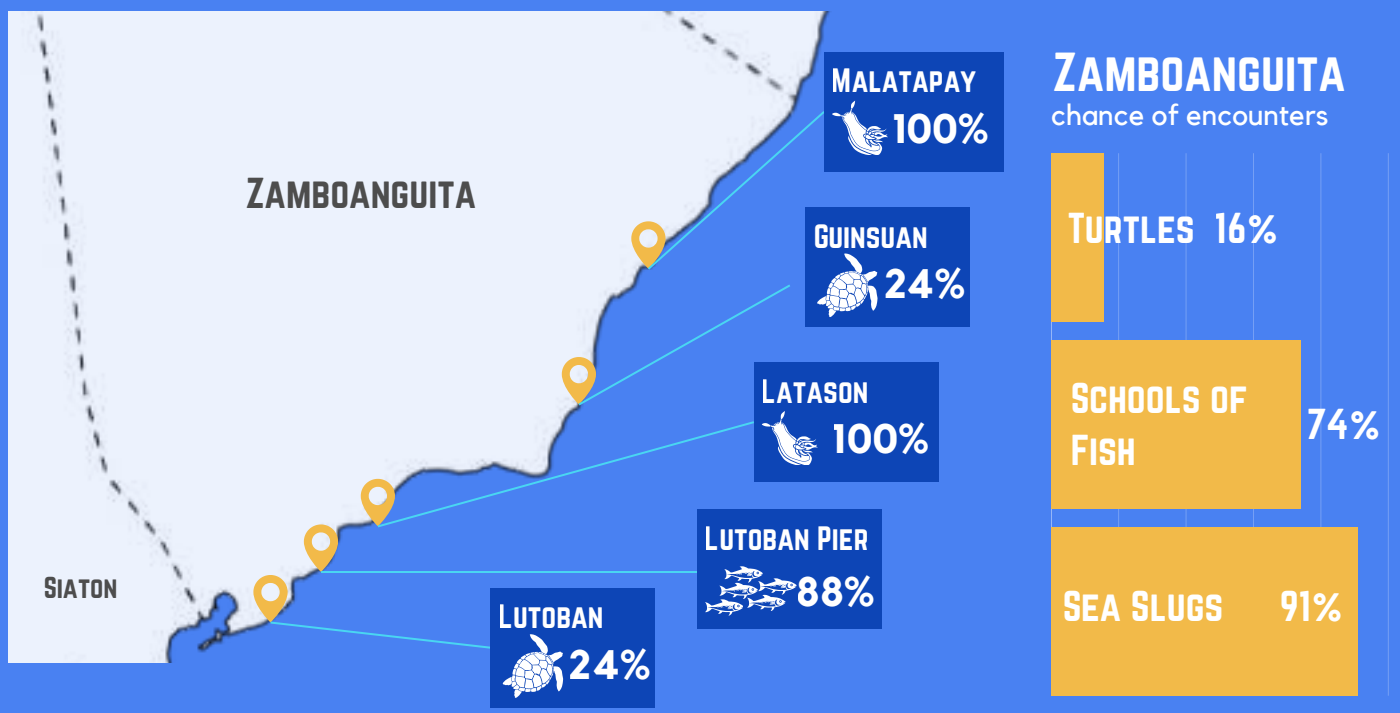
WHAT IS

Aesthetic value?

The environment's ability to create positive experiences for users. This includes factors such as perception of beauty, colour, cleanliness and health.

CHARISMATIC ANIMAL ENCOUNTERS

Jul-Dec 2023





AESTHETIC VALUE



In the preceding map, we can identify the top reef sites where encounters with Sea Slugs, Turtles, and Schools of Fish (with more than 20 individuals, excluding Damselfish) are likely. Additionally, the sidebar provides an overview of the overall chances of encountering these animals on reefs in Zamboanguita. For specific site numbers, refer to the following table.

DIVE SITES X ENCOUNTERS

Chances of encountering charismatic species on the reefs (%), for Jul-Dec 2023

	Turtle	Fish school (more than 20)	Sea Slugs
Basak	12%	76%	95%
Dalakit	0%	50%	86%
Guinsuan	24%	72%	67%
Latason	17%	58%	100%
Lutoban North	11%	80%	89%
Lutoban Pier	19%	88%	86%
Lutoban South	24%	79%	100%
Malatapay	9%	66%	100%

Charismatic animals hold significant monetary value for water activities such as snorkeling and scuba diving. By recognizing locations where specific desired species can be found, hotspots for potential eco-tourism development can be identified.

Other aspects that make a reef attractive to people and can be enhanced for touristic purposes include site access, available facilities such as toilets, mooring for boats, road signaling, trash collection and information panels.



FUTURE PLANS

In the upcoming months we are working on calculating Aesthetic Scores for each of the reefs and also a heat map of Flagship Species.



ACTIONS TO PROTECT CORAL REEFS

Whether the reefs are situated within protected areas or not, local governments can implement various actions to ensure the continued health and provision of essential goods and services by the coral reefs in Negros and the Philippines. Here are some examples of actions that can have positive impacts on the reefs:



By adopting these measures, local governments can play a pivotal role in safeguarding coral reefs while simultaneously benefiting their communities, economy, and the environment. These actions collectively represent a holistic and proactive approach to ensuring the longterm health of coral reefs in Negros and the Philippines.

Adapted from <https://resourcewatch.org/dashboards/coral-reefs>

COASTAL CLEAN-UPS



MCP has been organizing beach and dive clean-ups since the inception of the organization in 2015. Since 2021, we have dramatically intensified our efforts in combating coastal debris and in collaboration with another non-profit organization sharing our goals, we have continuously expanded the team, and now have a full time team of eight employees, who drive along the coast and clean beaches and separate all trash by hand. All collected waste is meticulously weighed and then recycled if possible, or otherwise disposed of at appropriate land fills. Our team covers areas spanning from Dumaguete, Dauin, Zamboanguita, Siaton, to Santa Catalina.

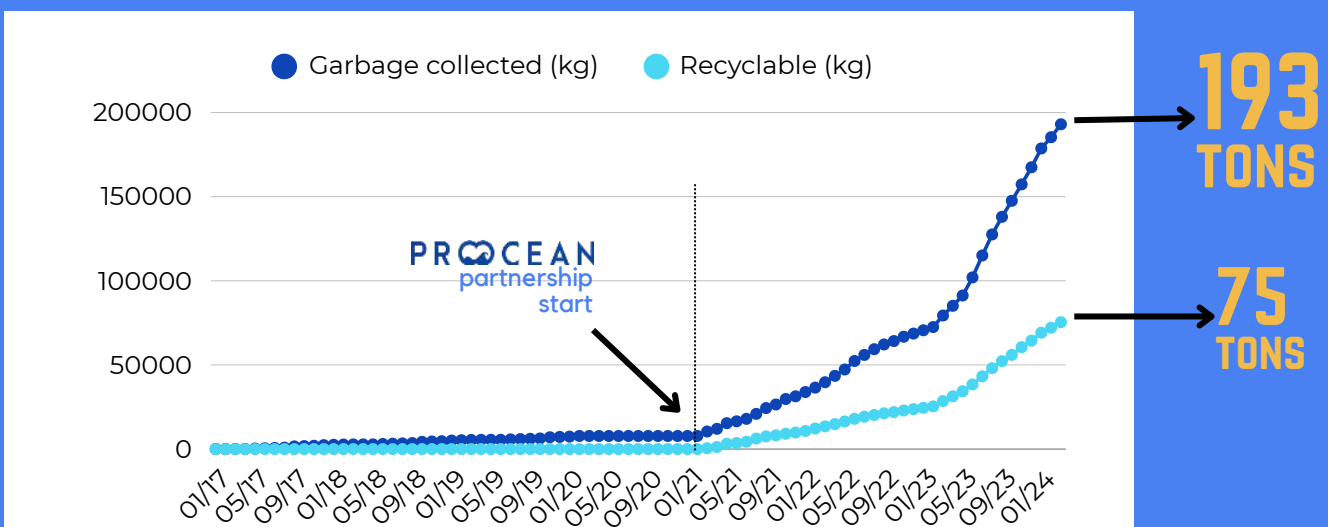


PR  CEAN

In 2023 we removed 98.8 tonnes of garbage from beaches, equaling approximately 5 million pieces of garbage. Numbers continues to steadily increase as our team remains steadfast in its efforts to clean our mangroves and beaches



TOTAL TRASH COLLECTION

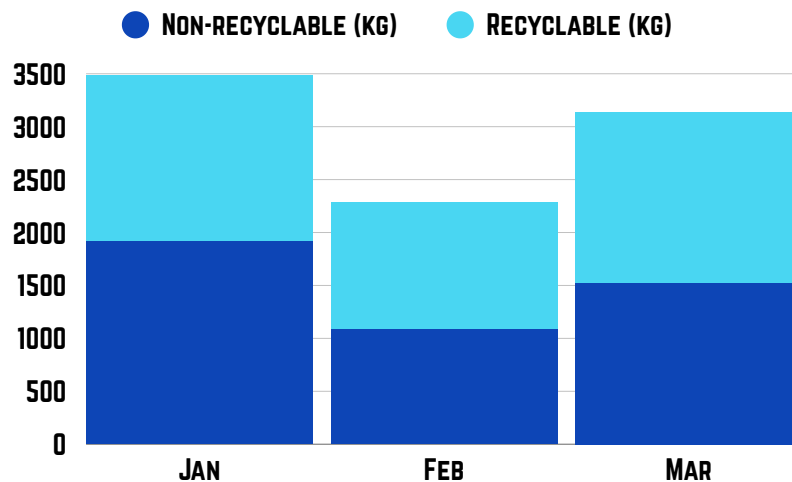


MUNICIPAL RESULTS



For the municipality of Zamboanguita, during the first months of this year (January to March), our team collected 8907 kg of trash from the beaches. Of this amount, 4351 kg were recyclable materials.

ZAMBOANGUITA 2024



8.9
TON
JANUARY TO
MARCH

In the following map, we can visualize the locations in Zamboanguita where trash was collected, along with the corresponding weight in kilograms for each area. Areas with higher amounts, such as Lutoban and Poblacion merit greater attention in the Solid Waste Management Plan.

COASTAL TRASH DISTRIBUTION



Jan to Mar 2024

MALATAPAY
621 kg

GUINSUAN
433 kg

POBLACION
2054 kg

LATASON
1287 kg

LUTOBAN
3294 kg

CAB CAB
1218 kg



COMMUNITY PROJECTS

MCP is committed to providing support and assistance to local government and communities. Throughout the year, we organise and participate in a wide range of activities, including educational presentations, beach clean ups, MPA demarcation, first aid training and mangrove planting.

FIRST AID TRAINING

April 11th, 11 participants

MCP provided Emergency First Aid and CPR training to newly elected Barangay officials in Siit, Siaton, as part of our commitment to build local capacity and enable community leaders to respond independently to emergency situations. MCP looks forward to providing the same training to the Barangay officials of Lutoban before we expand the training to other Barangays in Zamboanguita and Siaton.





MANGROVE MODULE

Oct 2023 to today, 1800+ participants



MCP developed a school module to be taught in grade 2 and 3 in local schools of Zamboanguita and Siaton, focusing on Mangroves. The module consists of three 45-minute sessions, where games are used as teaching tools to educate children about three key aspects of Mangrove forests:

1. What is a mangrove and its components.
2. Why mangroves are beneficial (Ecosystem Services).
3. Where mangroves are located.

The module is fully developed in Visayan and by March 2024, has reached 1850 kids in 47 different schools. The objective of the program is to keep reaching grade 2 and 3 in local schools and the program is open ended. With further funding we will expand the scope to other coastal communities with mangrove forests.





INTERNATIONAL WOMEN'S MONTH

March 27th, 150 participants



To mark the culmination of the International Women's Month Celebration in Zamboanguita, we collaborated with the Gender and Development Office and LUFMULA FFA to recognise and celebrate the vital role that women play in conservation, government and food security. Beach and dive clean ups were conducted, and a presentation was delivered to government and community stakeholders about the importance of MPAs in promoting food security.

GHOST NET REMOVALS

March 4th, 12 participants

Ghost nets and lost fishing gear represent a grave threat to coral reefs, and the ability of protected areas to provide food security. MCP's consistent presence at our monitoring sites throughout Zamboanguita and Siaton enables us to respond quickly and effectively to such threats.

Since Christmas, MCP has removed large ghost nets from Lutoban MPA, Kookoos reef and Tambobo MPA.

MCP is also pleased to assist local fishers with the recovery of lost gear.





EARTH DAY ACTIONS

April 22th, 100 participants



MCP collaborated with the MMM and LUFMULA Fisherfolk Associations to conduct coastal clean ups at Malatapay and Lutoban, in which over 100 kgs of trash was collected and processed. We also sent out dive teams to remove trash from the waters of Malatapay MPA and surrounding areas. A mangrove-planting activity was also conducted with the guidance of SIPAMACOWA People's Organisation in Tambobo, with over 100 mangroves successfully transferred to the nursery at Tambobo Bay.

SICFOA ANNIVERSARY

January 5th, 70 participants

Alongside Siaton LGU, the ENRD and BOFAS, MCP participated in a coastal and dive clean up at Tambobo Bay, in which 309 kg of trash was collected.

Work was also conducted on the demarcation of Tambobo MPA.





MEDIA



The Guardian (an international newspaper based in the UK) published an article highlighting the work done by the LGU and Bantay Dagat to safeguard the MPAs of Zamboanguita and Siit, the challenges they face doing so, and the support that MCP provides.

In line with May being the Month of the Ocean, MCP Spokesperson and community liaison officer Mario Neil Montemar, was featured on Radyo Pilipinas and discussed sustainable fishery practises and the scientific work conducted by MCP volunteers

COMING UP

In June, MCP is looking forward to providing SCUBA diving training to the inter-LGU BATASS Association, with members from Bais, Amlan, Tanjay, San Jose and Sibulan.

MCP is also pleased to restart our Summer Camp Program this year. Youth Leaders from local communities will join us for a 3 day program to develop their understanding of marine conservation, food security and positive actions they can implement within their own communities.

CONTACTS

Feel free to reach out for any questions or inquiries related to our activities, monitoring program, or data details and access. We're here to assist you with any information you may need.

Contact us at
info@marineconservationphilippines.org

Our data is also available on our data portal
www.marineconservationphilippines.org/data

Thank you for your interest in our work!
MCP team

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