



- CCC CARRIED OUT AN ASSESSMENT OF THE REEFS IN MPA OF BARANGAY LIPANTO DURING THE MONTH OF AUGUST IN 2017



- THE DOMINANT SUBSTRATE RECORDED WAS SAND, THIS WAS FOLLOWED BY ROCK AND THEN HARD CORAL, WHICH WAS RECORDED IN VARYING GROWTH FORMS. THIS INDICATES A DIVERSE HABITAT THAT NEEDS CONTINUED ENFORCEMENT BY THE BARANGAY COMMUNITY



- ELECTRONIC AND HARD COPIES OF THE FULL TECHNICAL REPORT ARE AVAILABLE FROM OUR PROJECT SCIENTIST: LRCP@CORALCAY.ORG

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Barangay Lipanto MPA Assessment

Lipanto's MPA has a high coverage of hard coral throughout the site, showing that the MPA is placed in an area of high conservation value which is able to support a diverse community of fish and invertebrates.

The Current Status of the Lipanto Reef

Following CCC surveys, it was found that the dominant substrate was sand (21%) followed by rubble (19%) and then hard coral (17.5%). 13 instances of bleaching and 5 cases of coral disease were present. However, the percentage of the affected colonies was extremely low (0.9% and 0.01%).

Invertebrate populations displayed a mean abundance of 99.09 ± 17.33 per 100m². However, the majority of target species found were not commercially important, which is indicative of historic and current harvesting

Mean target fish abundance was 57.22 ± 7.62 per 500m³. Commercially important fish recorded at a relatively high

abundance at 5.84 ± 1.33 within the smaller size classes (<31cm). This suggests that fishing occurs in the area immediately outside of the MPA.

Overall anthropogenic impacts were varied, with no evidence of boat, anchor, dynamite or other coral damage being found. However, general trash was found in high levels (>5 counts) on 18% of transects, and medium levels (2-4 counts) on 37% of transects. Fishing trash was also found in high levels on 9% of transects and medium levels on 15% of transects.



Why Are MPAs Important?

Marine Protected Areas (MPAs) protect areas of reef from human impacts. Within an MPA, fish are protected and can grow larger, producing more offspring. This leads to 'overspill', increasing fish numbers outside the MPA. In the Philippines many very successful MPAs have been created including the famous Apo Island MPA. Not only do these well managed MPAs help to enhance fish stocks, they also provide income from tourism and other benefits such as protection of coastal habitats and communities from storms.

CCC's assessment of Lipanto's Coral Reef

The survey results suggest that Lipanto's MPA already is a structurally diverse habitat, but it could still benefit from increasing the MPA size or establishing a marine reserve.

The presence and proportions of all three coral life traits; competitor coral, fast growing coral and stress tolerant coral, indicates that the reef is resilient to stressors such as storms and sedimentation. It also indicates that the hard coral cover is abundant and structurally complex, this is supported by the presence of corallivorous butterflyfish. 41% of the individuals recorded were categorized as obligate and 18% were facultative feeders.

The absence of commercially important invertebrates such as edible sea cucumbers and lobsters indicates that harvesting is still occurring or the site is still recovering from historic harvesting. Increasing enforcement within the MPA is key as most of these invertebrates have fairly small home ranges.

The abundance of commercially important fish recorded indicates a well managed MPA where enforcement of fishing laws is occurring. This is supported by a

lack of coral damage from boats and anchors. However, the smaller size classes could be due to the MPA size not being sufficient to cover the full home range of these species. This would result in the fish not being able to reach sexual maturity and breed. This may be coupled with intensive fishing practices being conducted immediately after the MPA boundaries, so many larger species with larger home ranges are immediately removed from the waters once they leave the MPA and before they can reproduce.

Key Recommendations:

- Increase the size of the MPA to allow fish with larger home ranges to increase their chances of successful breeding. This could assist in increasing the resident fish populations.
- If increased size is not possible, a 50m marine reserve of 'buffer zone' where fishing is allowed but limited to less destructive fishing practises.
- Continue and encourage fishermen in the enforcement of fishing and harvesting practises.

What Is Coral Disease?



Disease is a natural aspect of all populations and even coral reefs experience outbreaks.

Coral diseases can be caused by both biotic and abiotic impacts. Temperature stress, sedimentation and nutrient imbalances are environmental agents for abiotic diseases. In comparison, infectious biotic diseases are caused by a microbial agent such as bacterium, fungus or viruses.

Disease can cause a loss of tissue, alter reproduction rates, cause growth rate changes and anomalies and also affect reef associated creatures. The two most common examples found in the Bay of Sogod is White band disease and Black band disease.

Since the 1970s coral disease outbreaks have been observed more frequently globally, which has resulted in a significant loss of coral cover. But there are natural predators which feed on diseased coral, such as Crown of Thorns sea stars and Drupella sea snails. These corallivorous creatures can help prevent outbreaks and maintain a healthy reef when in low numbers.



Coral Cay Conservation

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Expeditions

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