



- CCC CARRIED OUT AN ASSESSMENT OF THE REEFS IN COASTAL WATERS OF PUNTA IN APRIL 2017 TO ASSESS THE EFFICIENCY OF THE MPA



- SAND WAS THE DOMINANT SUBSTRATE 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



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Barangay Punta MPA Assessment

The coral reefs of Barangay Punta have been affected by top-down reef community impacts from anthropogenic and local environment stressors. Punta's MPA is located in a prime position in terms of conservation value, but there are some issues which have prevented fish stocks from recovering.

The Current Status of the Punta Reef

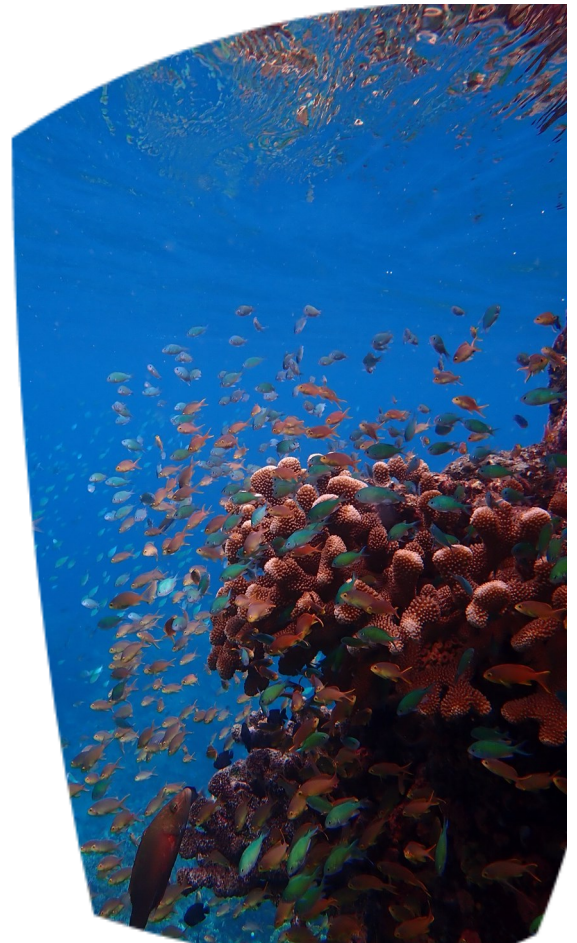
Following CCC surveys, it was found that the dominant substrate was sand (30.7%) followed by rock (21.8%) and then hard coral (13.9%). No evidence of coral bleaching or disease were found and recently killed coral showed the lowest cover percentage.

The average total target fish abundance per transect was low at $N = 27.33 \pm 2.72$. Commercially important fish were recorded in low abundance ($N = 1.04 \pm 0.34$ per 500m³) and in small size (<31cm) which is indicative of a highly overfished area. Only obligate corallivorous butterflyfish were observed, suggesting that the current hard coral cover is sufficient to

support their feeding preference.

A high abundance of invertebrates was recorded across the survey site ($N = 171.75 \pm 17.85$ per 100m²). However, the majority of these target species recorded were not commercially important, which suggests historic and current intensive harvesting.

Overall anthropogenic impacts were low, with no evidence of boat, anchor, dynamite or other coral damage being found. However, general trash was found in high levels on 33.33% of transects, and medium levels on 41.67% of transects, demonstrating that trash is a problem in the area.



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 Punta's Coral Reef

The survey results suggest that Punta's MPA could support a much more diverse reef community if 'top down' stressors such as overfishing and invertebrate harvesting are removed.

Although hard coral cover is low compared to other MPAs in Sogod Bay, a variety of life traits were recorded. These include competitor coral, fast growing coral and stress tolerant coral. This combined with the high abundance of invertebrates and corallivorous butterflyfish, indicate that the reef is a structurally diverse habitat capable of recovery from disturbances such as seasonal storms and sedimentation.

The low abundance and small size of commercially important fishes, as well as the absence of commercially important invertebrates is indicative that Punta is a highly overfished area. By removing the large adult spawning fish, the population decreases as extraction surpasses recruitment. In addition to this, the small size of the MPA could also be hindering the breeding success of fish that survive to spawning age as their home range is larger than the designated protected area. This could possibly

account for the low numbers and size of groupers recorded.

Results suggest that continued overexploitation of fish resources, combined with the small MPA size is the likely to be the cause of the depletion in fish stocks within the MPA.

Key Recommendations:

- If possible 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 expansion is not possible, a marine reserve of 'buffer zone' where fishing is allowed but limited to less destructive fishing practices.
- A 50m marine reserve is typical of MPAs within Sogod Bay, and restricted fishing practices are kept to hook and line only.
- Continue and encourage fishermen in the MPA management.

How do coral reefs protect our coastline?



Coral reefs are highly productive environments which are capable of growing on average 7mm in height per year. Not only do they provide countless homes for reef species; which in turn provides a source of food and income; they also protect our coastlines from storms and waves.

A healthy reef can act as a natural buffer by causing waves to break offshore and dissipate their energy. By the time the waves reach the shore their height and power has decreased, resulting in the waves direct impact on the coastline to be reduced. If a reef is in good health it can grow and recover after storm surges, making coral reefs an efficient and cost effective method of coast protection.

But when reefs are damaged or destroyed, the absence of this natural barrier can increase damage to coastal communities resulting in property damage, erosion of the landscape and even loss of life. Therefore, protecting coral reefs is essential for coastal preservation.



Coral Cay Conservation

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