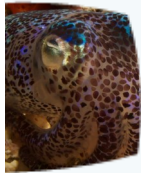


- CCC CARRIED OUT AN ASSESSMENT OF THE REEFS IN THE COASTAL WATERS OF BARANGUY CABULIHAN IN FEBRUARY AND MARCH 2017.



- ROCK WAS THE DOMINATING SUBSTRATE IN THE SURVEYED AREA, SHOWING POTENTIAL FOR FUTURE CORAL RECRUITMENT, IN TURN PROVIDING SUPPORT FOR THE RECOVERY OF COMMERICALLY IMPORTANT REEF SPECIES.



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

CREATED BY JORDAN WILLIAMS AND ANGUS MCREYNOLDS.
PHOTOS BY JASMINE CORBETT.



Barangay Cabulihan Proposed MPA

Cabulihan reef displays evidence of intensive overfishing and harvesting of commercially important species. However, the current percentage of hard coral, rock and herbivorous fish species indicate potential for positive recovery if protection and proper management is established.

The Current Status of the Cabulihan Reef

Following CCC surveys, it was found that the dominating substrate at Cabulihan reef was rock (37%); followed by hard coral (24%) and sand (18%). The relatively high abundance of hard coral indicates the reef is in a current state of good health, while the abundance of rock is essential for future coral growth potentially increasing the hard coral cover.

Invertebrate populations displayed a low mean abundance of 82.5 ± 23.83 per 100m^2 and the absence of commercially important species indicates an intense harvesting history on the reef. Overall, Cabulihan has a lower abundance of invertebrates

when compared to other surveyed reefs in Limasawa. The average fish abundance was low, at $N = 48.96 \pm 5.12$ per 500m^3 .

A low abundance and average size ($<30\text{cm}$) of commercially important fish indicate a highly overfished area, posing a long recovery process. However, the dominant presence of Parrotfish is promising for future coral recruitment.

No direct anthropogenic reef damage such as boat anchors or dynamite was observed. However, indirect damage in the form of fishing and general trash was recorded, with a higher number of general trash.



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 the Coral Reef of Cabulihan

The survey results suggest that Cabulihan's reef would benefit hugely from protection, as it has the capacity to support a higher assemblage of reef fish if overfishing is reduced and MPA status is assigned.

The prevalence of hard coral and rock within the Cabulihan survey area indicates that settlement potential of coral larvae is supported by stable substrate within the area. The presence of fast growing, competitor, and stress tolerant corals suggests a highly diverse reef ecosystem.

Although commercial fish numbers are low at Cabulihan reef, the sighting of schooling, herbivorous Parrotfish indicates that the reef could be healthy enough to support a large schooling population. Parrotfish and other herbivorous fish play a profound role in exposing reef substrate for coral settlement, and limiting macro algal growth. It is important that herbivorous fish are given protection from unsustainable fishing practices and ensuring that these roles remain a functional part of ecosystem interaction.

Removing top-down stressors such as overfishing and limiting

recreational impacts by establishing an MPA status with associated conservation strategies will provide the Cabulihan reef with a greater chance of survival.

Key Recommendations:

- The marked Marine Protected Area boundary should include a NTA (no take area), surrounded by a 50m Marine Reserve buffer with restricted fishing activity.
- High MPA enforcement will be necessary to prevent illegal fishing or poaching within the site as to prevent marine resources from becoming depleted.
- Fishermen should be involved in the establishing and monitoring process in order to ensure continual success of the MPA. If illegal fishing or poaching is present at an MPA, the reef will be unable to recover and fish populations will continue to dwindle to unsustainable levels.
- Coastal management regimes should be introduced to control anthropogenic induced reef damage.

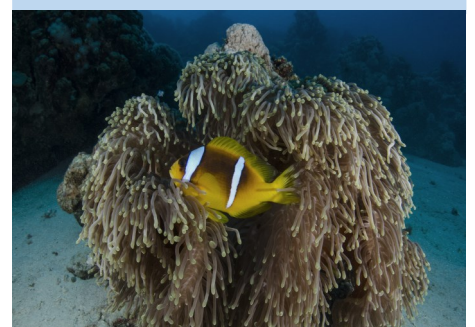
An abundance of Anemonefish



Anemonefish were the third most abundant species of fish found during the surveying of Cabulihan's coastal waters. There are twenty-eight known species of the fish and most have a colour pattern consisting of an orange, red or black, with one to three vertical white bands.

Anemonefish inhabit the Indo-Pacific region, ranging from the shores of East Africa to Polynesia. The largest number of species occurs in the Coral Triangle, which includes Indonesia, the Philippines, and Papua New Guinea.

They are never found without a host anemone, which offers a safe refuge amongst its tentacles. The tentacles are covered with microscopic stinging cells which keep most fish intruders away. However, there is a special chemical substance in the skin mucus of the Anemonefish which keeps the stinging cells from firing into them.



Coral Cay Conservation

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