

- CCC CARRIED OUT AN ASSESSMENT OF THE REEFS IN THE COASTAL WATERS OF BARANGAY PRESIDENT QUEZON FROM JULY—AUGUST 2017.

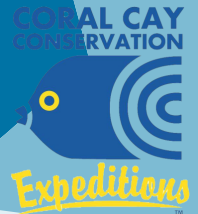


- ROCK WAS THE DOMINATING SUBSTRATE IN THE SURVEYED AREA, WHICH HAS THE POTENTIAL FOR NEW CORAL RECRUITS, IN TURN PROVIDING SUPPORT FOR COMMERCIALLY IMPORTANT REEF FISHES AND INVERTEBRATES IF PROTECTED.



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Barangay President Quezon Proposed MPA

The coral reefs of Barangay President Quezon are clearly exposed to detrimental impacts that are resulting in a low abundance of commercially important fishes and invertebrates, alongside a reduced habitat complexity. However, the site has potential for a positive recovery if protection is established and responsibly managed.

The Current Status of the President Quezon Reef

Following CCC surveys, it was found that the average fish abundance at President Quezon was low, at 24.75 ± 4.87 per 500m^3 . Of the commercially important fish, 66% of individuals were between 0-10cm; a clear indication that the population has been overfished.

There was a higher number of facultative butterflyfish recorded, at 1.19 ± 0.35 per 500m^3 , in comparison to their obligate (diet is predominantly coral) counterparts, at 0.84 ± 0.29 per 500m^3 , suggesting that the low abundance of hard coral does not dictate the feeding preferences within the President Quezon proposed MPA reef.

Commercially important invertebrate species, including lobster, squid and targeted sea cucumbers, were absent from the survey. However 29 giant clams were recorded in total, with 3 individuals larger than 21 cm in size.

Hard coral cover was recorded as low, with the most prevalent substrate within the proposed area being rock (29%); followed by silt (25%), and sand (19%). Overall bleaching, recently killed coral and coral disease recordings were low.

Indirect impacts on coral community structure was recorded as high across the survey including both fishing detritus and other trash items.



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 President Quezon's Coral Reef

The survey results suggest that President Quezon 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 low abundance and small size of commercially important fishes, as well as the absence of most commercially important invertebrates is indicative that President Quezon is a highly overfished area.

By protecting a proportion of the reef, commercially important fish and invertebrates are able to grow, become sexually mature and produce offspring. Through the "spill-over" effect, this will lead to a higher abundance, size and diversity of organisms in the area, improving the livelihoods of fishermen and reducing catch efforts.

The high composition of rock substrate within the area has a promising potential for recruitment of new coral colonies, which provide the foundations of survival for reef fishes and invertebrates.

Overall, by removing stressors such as overfishing, and limiting

recreational impacts by establishing an MPA status with associated conservation strategies, the coral reef community assemblage and structure will be improved.

Key Recommendations:

- CCC recommends an initial site clean up with an associated marine debris survey, alongside the establishment of the MPA.
- 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, and to ensure ecological benefits are obtained.
- Fishermen should be involved in the establishing and monitoring process in order to ensure continual success of the MPA.
- Coastal management regimes should be created to control threats originating outside of the MPA.

Giant Clams: What are they?



The Giant Clam is the largest bivalve in the world, reaching a diameter of up to 1.5 metres, and can live up to 200 years. This mollusc, like coral, lives in symbiosis with a single celled algae that resides in its mantle and provides the host with nutrients.

The calcium carbonate shell of the giant clam is an important contributor to the reef structure, and you will often see other marine organisms residing on the shell. As it is often attached to the reef, it is unable to actively search for food so will filter the water for plankton and other nutrients. This plays a very important role in the reef ecosystem, as it can counteract eutrophication through water filtration.

The Giant Clam is very sensitive to changes in light and pressure, so will often close its shell as you approach. However, if you wait around for long enough, it will open its shell for you to appreciate the vivid colours and patterns that its mantle displays.



Coral Cay Conservation

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