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FORMALIZATION, FINANCIAL SUSTAINABILITY AND CIVIL SOCIETY MONITORING IN THE SANDY BAY-WEST END MARINE PARK

MARINE INFRASTRUCTURE INSTALLED ON THE MARINE PARK AND IMPROVED PATROL PROGRAM



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ROATAN MARINE PARK (RMP) GRANT DELIVERABLE REPORT

Project Deliverable: Marine infrastructure installed on the Marine Park and improved patrol program

Deliverable Goals:

- To reduce overcrowding at dive sites and increase diver safety by maintenance of dive moorings.
 - To stop conflicts between the dive community and fishermen.
 - To reduce damage cause to reef by strikes from boats by guiding boat traffic.
 - To improve law compliance at the Marine Park.
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Background:

Due to its natural beauty, the growing popularity of Roatán as an international dive destination is rising, resulting in an ever increasing number of visitors, dive shops and boats. Before 2006 approximately 25 dive sites were in use within the Sandy Bay-West End Marine Park. The majority of the lines were in poor array due to the wear and tear incurred over years of constant use and covered in fire coral or hydrozoans, making it a hazard for divers. Polystyrene balls or plastic bottles were being used as buoys at many dive sites which were cosmetically unpleasant and a hazard to boats. All the moorings were in dire need of inspection and maintenance. With limited sites and 14 dive shops, most operating 2 boats, it was not a rare occurrence for several boats to share the same mooring, resulting in eventual damage to the groundings and lines. This situation also endangered divers and caused friction between many of the dive shops. It was apparent that the marine infrastructure was insufficient to handle the increasing volume of visitors. In 2006 the RMP association began an extensive revamp of the marine infrastructure within the Marine Park. The main focus was the installation of new dive moorings and channel markers, as well as the maintenance of existing moorings. The number of dive sites was increased by seventy percent, bringing the total number of operational sites to 50. While many of the moorings are under two years old, it is essential that the lines are routinely inspected and maintained, and that damaged or missing dive moorings are replaced.

In addition to divers, there are a large number of other stakeholders which operate in the Park, including artisanal and charter fishermen, snorkel tours, yachts, pleasure boats etc. To ensure overall compliance of Park rules and regulations, it was essential to improve the infrastructure to accommodate these users. This resulted in the installation of yacht moorings, fishing moorings and additional channel markers.

Description:

Well maintained marine infrastructure is necessary for coral health and to handle the increasing volume of divers. The improvement of the existing marine infrastructure and patrols supports the implementation of voluntary standards for recreational boat operations through the improvement of facilities and enforcement of existing laws and regulations.

Dive moorings:



Chain cemented onto reef

Construction of moorings consists of 2 basic steps: installation of the grounding and the placement of the mooring line and buoy. This process applies to all moorings, whether it is a fishing, diving or yacht moorings. Within the Marine Park several different methods of groundings have been adopted. These include using sand screws, heavy duty metal pins, anchor blocks or chain cemented directly onto the reef. Each method has its advantages and disadvantages including cost, limitations in location, ease of installation, and disruption to the reef. The method of using cement and chain to securing the grounding directly onto the reef is a cheap and effective technique in creating mooring groundings and one that have been adopted for the majority of the new dive moorings in the Marine Park.

Once the grounding is ready, it is a simple process of attaching the line and the site is ready for use. The rope used is 7/8' polypropylene rope approximately a third longer than the depth of the site. To attach the line to the grounding, a 7/8' eyelet, a 1/2' swivel and a 1/2' D-pin or an appropriately sized stainless steel quick link is used. The buoys used for dive moorings are 14' white heavy duty trawl buoys, able to withstand even direct hits with propellers. The RMP logo is engraved onto the buoy and then painted to ensure that stolen or lost buoys can be identified and retrieved. USAID stickers are added to inform users that the establishment of the new marine infrastructure has been possible with this organization's funding. The buoys are attached directly on the lines with a knot tied 6ft from the spliced loop to ensure that if the line is damaged by a boat, the buoy does not simply float away.



Dive mooring buoy with logo



Divers inspecting mooring groundings and shackles

The infrastructure project has been an ongoing program that requires continuous supervision and maintenance. Moorings are monitored and replaced when necessary, D-pins or quick links are tightened, lines and buoys will to be cleared of algae and epiphytes regularly. Dive shops that use the moorings every day act as watchdogs for the Park and are continuously reporting any damaged or missing moorings. Finally, sustainability to the marine infrastructure program is achieved by divers paying the voluntary user fee.

The Marine Park hosts regular meeting attended by dive shop owners, instructors, dive masters and any other interested parties. The purposes of the meetings are to address issues regarding operational standards and dive etiquette, introducing divers to any new volunteer projects and informing them of the Marine Park's recent operations. There has been an increased awareness of the Park and its responsibilities through involving the diving community via meetings, newsletters, the web, brochures and posters.



Meeting with dive shop representatives

Fishing moorings:

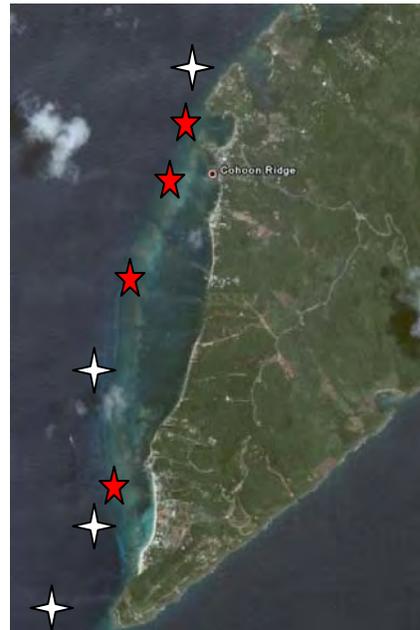


Fishing buoys

Until recently there were no moorings available throughout the Park designated solely for fishermen. Though dive boats have priority with diving moorings, fishermen do however tie up to these when not in use. When no options were available to fishermen, it was not uncommon for them to use anchors or breeze blocks to ensure that they remain in the correct fishing spots. This had caused growing animosity between divers and fishermen as on numerous occasions, divers have cut anchor lines in an attempt to prevent further damage to the reef. By providing fishing moorings whose sites have been specified by the fishermen and which are to be solely used by fishermen, we hope to build alliances between the two major stakeholders

operating within the Park, as well as reduce anchor damage. This project will develop the relations between the Marine Park and the fishermen, showing that the organization has the intention of involving all stakeholders and not just the diving community.

The project provides fishermen a variety of locations where fishing moorings are present so it is not necessary to drop anchor. The deep sea moorings are located in 500ft of water and are ideal for deep water fishing where fishermen can tie to the lines and drift into deeper water, avoiding any conflict with divers. Other moorings are in 150ft of water, just off the wall and are located in areas where high anchor damage has been reported. The final moorings are within the lagoon and are in shallow water areas where fishermen not only take customers to fish, but also for snorkel tours. The map adjacent indicated the four main locations where the fishing moorings are located.



Location of fishing moorings and marked channels

Channel markers:



Construction of new channel markers

There are 4 major channels located within the West End and West Bay region, all of which used to be poorly marked due to lack of funds or loss of markers during storms. Channel markers were installed in each of the channels to make boating safer by clearly defining the channels, especially to visiting yachters, tourists renting speed boats, kayakers, and others. The markers were constructed from PVC pipe and Styrofoam, with a chain attaching the marker to a concrete-chain grounding. All markers have a USAID sticker and reflective tape attached to enable safe access in and out of the channels at night. The map on the previous page indicates the

four main boating channels which have been markers.

Patrols:

The RMP association beginnings took place in 2005 with the running of a patrol program supported by the National Police. Currently the Park uses two primary boats for patrolling the local waters with a third smaller boat on standby. In November, all three boats were severely damaged due to several consecutive storms, resulting in no water-based patrols taking place for almost four weeks. The inadequate sizes of engines for the boats limit the speed of response when incidents are reported and the distance the boats can travel, plus they have been starting to spend more time being fixed than in the water running. This had as a consequence a reduced effectiveness of patrols due to time taken to get to sites. With the purchase of a Suzuki four-stroke 25hp engine and the repair of the boats, patrols are back in the water. The Park has opted for four-stroke engines as they are less harmful to the environment, have improved fuel efficiency compared to two-strokes, and produce noxious fumes. These attributes provide consistent starting, better idle and reduce fuel consumption.



Recently renovated boat patrolling



Police and Park Ranger with confiscated net

Since lack of contact with Park Rangers used to limit the effectiveness of patrols, communication lines were improved by the purchasing of VHF radios with waterproof casings to ensure rapid response and establish direct communication between patrol boats and the office. Also, safety items on-board were purchased to ensure the boat captains are equipped for worse-case scenario apparatus. The captains have also been provided with cell phones to enable continuous contact when out of radio range.



Every month the National Police that work together with the park rangers go through an induction course regarding coral reef conservation and Marine Park legislation. The purpose of this is to properly train the police that are part of the RMP patrol team to enforce compliance with the laws of the Marine Park, thereby enhancing protection of the reef. They are taught the Park's rules and regulations, how to deal with scenarios concerning poachers or any other arrestable offences and also with tourists.

Police officer being taught by Marine Park staff

Achievements

- 50 well maintained dive moorings within the Marine Park.
- No more overcrowding at dive sites.
- Increased diver safety.
- The Marine Park has been able to strengthen relations between dive shops. Content dive shops and divers which ensures support to the RMP and selling of bracelets for Marine Park sustainability. Communication between shops and the Park has ensured that standards are met and maintained, with dive professionals acting as additional watchdogs.
- A variety of shallow, mid-range and dive sea fishing moorings within the Marine Park.
- Reduced conflicts and confrontations between divers and fishermen.
- Anchoring within the Marine Park by all boats has been greatly reduced.
- Damage to reef caused by direct strikes from boats has been reduced with the installation of channel markers.

- Alliances have been forged between the RMP association and the local community.
- Community involvement has increased.
- Adequate patrol system.
- Rapid response to reported incidents has enabled the Marine Park to be an entity that people can contact.



Map of all the dive sites within the Park