REEF CURRENTS

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Editor's Note: Marine Protected Areas Management and Communication

This issue of 'Reef Currents' marks one year that we started publishing this newsletter and involves the collaborative efforts of staff from the three northern marine reserves; Bacalar Chico, Hol Chan and Caye Caulker. We have also been getting support articles from our partners in conservation.

The objective of this newsletter is to keep our stakeholders and communities neighbouring these protected areas informed of current issues and activities taking place at the Marine Reserves of northern Belize. We hope that this publication will serve as an important communication tool between management of the protected areas and stakeholders. We have initiated this process and wish to encourage our readers to contribute to this initiative in order to make it more dynamic.

Tour guides and tour operators are very supportive of our conservation efforts and we would highly appreciate sharing their experiences in any of our protected areas through this newsletter. So please send your contribution to the editor or visit me personally at the Hol Chan Office on Caribena Street, San Pedro Town.

INSIDE THIS ISSUE

Submit all comments, article, letters and other general correspondence to:

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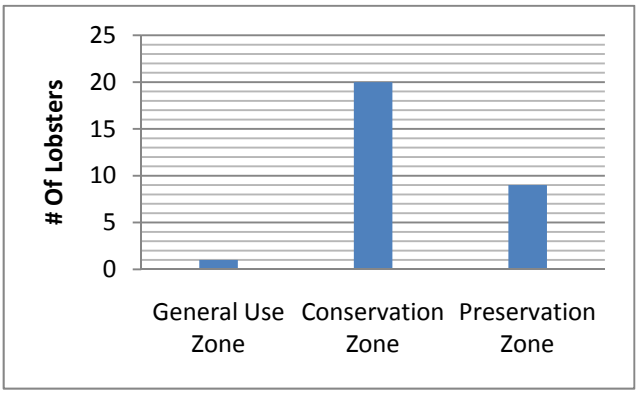
Caye Caulker: Lobster Monitoring Program

By Nidia Chacon



On February 15th 2010, staff of the Caye Caulker Marine Reserve and volunteers conducted Lobster surveys in the Conservation Zone (Zone 3), while on June 16th Lobster Surveys were conducted on the Preservation Zone (Zone 2) and the General Use Zone (Zone 1).

The assessment was done at the closing of the lobster season. 30 minute swim transects parallel to the reef crest were conducted at each site. Lobsters were searched for within the crevices of the coral heads. When lobsters were sighted the observer tried to identify it as female or male.

The survey yielded a total of 30 lobsters. Twenty were observed in the conservation zone including five males, seven females and eight unknown. In the Preservation Zone a total of 9 Lobsters were sighted; 4 males and 5 females. In the General Use Zone only a solitary female lobster was observed.

Interestingly we have been observing a higher density of lobsters in two no-take zones. In the Conservation Zone, in a single patch reef a total of nine (9) lobsters were seen, making it difficult to determine the sex of the individuals in the background. The same was proven during other trials. The results show significant improvement over last year's findings. In 2009 only a total of seven (7) lobsters were encountered in all the three zones. The zones for the Caye Caulker Marine Reserve were only legally established in November of 2008 so these are promising results.

Bacalar Chico Marine Reserve: Wildlife in the National Park

By Roberto Carballo

Bacalar Chico National Park and Marine Reserve is located on the northernmost portion of Ambergris Caye. It is one of the last pristine areas left on Ambergris Caye and is very rich in wildlife and marine resources. Two of the most spectacular species at the marine reserve are birds and manatees.

The Bacalar Chico National Park is known for its pristine mangrove forest, salt marshes and littoral forest. There are roughly about two hundred species of birds that nest within the Bacalar Chico national park on a yearly basis. Out of that two hundred species, one hundred and ninety four species of birds were seen and identified within the Cantena Lagoon alone. In Cantena Lagoon there is a particular island named Bird Island where hundreds of birds can be seen. In the first quarter (January to March) of 2010 a total of twelve species of birds were observed here. Roseate Spoonbills, White Ibis and Double Crested Cormorant were seen in numbers over a hundred.

The West Indian Manatee is an endangered species that lives amongst the mangrove channels of the National Park. These spectacular creatures are commonly sighted in the canal that leads to Cantena Lagoon. One particular manatee that lives here has already been hit and bears the propeller scars on his back, lucky for him it didn't result in his death. This is why boaters are asked to exercise extreme caution in order to avoid accidents with manatees.

When visiting Bacalar Chico please:

1. Do not engage in illegal harvesting of marine resources (taking undersize products and fishing in no take zones).
2. Take back all garbage and dispose of it properly.
3. Do not hunt within the national park nor disturb any creatures encountered.
4. If engaging in recreational fishing only take what is needed for ones use.
5. Do not cut any mangroves or littoral forest within the national park.

Hol Chan Marine Reserve: Education Program quarterly news

By Mariela Archer, Environmental Educator

Slogan Competition

It's here again! Yes, the annual Reef Week event and in order to find a theme for this year's event, Hol Chan Marine Reserve hosted its annual Slogan & Poster Competition. Entries were received, from several primary schools; however, the Holy Cross Anglican School claimed that spot, with their slogan '***Save the Reef Today; Tomorrow Might be Too Late!'*** Therefore Reef Week will be celebrated under that theme from April 19th to the 25th.

Pre-school Visits

Throughout the month of March, pre-schools celebrated child stimulation month. As part of their activities they visited the Hol Chan office and visitor's center. The students were given a presentation about the different ecosystem found at Hol Chan and the animals found within each ecosystem. In addition they got the opportunity to see several marine creatures in the touch tank and get prizes from the turtle mascot. Overall it was an interactive learning activity with over 100 pre-school children from Ambergris Caye.

Have You Seen This Fish?

By Kirah Forman, Marine Biologist

The impressive Sawfish at one time was a common occurrence in the bays, lagoons, rivers, and estuaries in Belize. Fishermen used to catch saw fish in gill nets for sale in Mexico. For many years these fishes have been believed to be locally extinct in the waters of Belize, but reported sittings in recent years have now changed that belief. It is now taught that they may still exist in very low numbers in isolated lagoons along the main coast of Belize. Reports have come from areas within the Corozal Bay from fishermen who frequently fish this area. The most recent report is from October 2009.

Although not completely extinct throughout the world their numbers have been reduce to near extinction. In 2000 Sawfish were added to the IUCN Red List for endangered species. Very little is known about the life history of these amazing fish. What is certain is that they play a major role as an apex predator in many coastal ecosystems. Sawfish have been caught traditionally for their meat, for their saws to be sold in the marine trade, and for their fins which is prized on the Asian market.

According to Dr. Rachel Graham Belize's long coastline and large stretches of good quality habitat and low human population density may represent one of the last regional strongholds for sawfish if these species still exist in our waters. This is important given that this species have disappeared in many areas throughout the world. These areas in Belize are under threat from development hence it is critical that information be gathered as to the status of these unique fish in our waters.

An assessment was carried out in March 2010 to try and document Sawfish in Belize, and while none was found by the research team, the search for this illusive fish will continue through the help of fishermen in the area. Any reports of sighting of Sawfish in recent years and the location of those sittings are well appreciated.

Caye Caulker Forest Reserve: At-Risk Habitat Restoration

Ellen McRae, Secretary-FAMRACC

The Forest and Marine Reserves Association of Caye Caulker (FAMRACC) is a Community Based Organization designed as a consortium of representatives from interested community groups and NGO chapters on Caye Caulker. FAMRACC is the designated co-managers of the two Reserves, Caye Caulker Forest Reserve (CCFR) and Caye Caulker Marine Reserve (CCMR). This project funded by the PACT Foundation focuses on the restoration of natural habitats within the CCFR.

The principal ecosystems protected within CCFR include fringing and basin mangroves in addition to littoral forest. Both systems have suffered attrition, from Hurricane Keith (Cat.4-2000), agricultural (removal for coconut production) and more recently, housing and resort development. Therefore our Reforestation project has concentrated on restoration of mangrove and other plants found in the littoral forest.

The first PACT Foundation grant (2007-8) established experimental forests at 3 sites and introduced the Riley Encasement Methodology as a means of prolonging propagules survival. To date survival following 16 and 7 months in two planting waves is 44% which is far superior to the results we saw in mangrove plantings without the use of this methodology.

The second grant (2009-10) is focusing on increasing experimental forest size and diversity; community and student education; and propelling CCFR into an ecotourism recreational site via the establishment of trails, proper signage, and a website to be shared between CCFR and CCMR. In progress is a COMPACT grant designed to involve community members in increasing the knowledge base of CCMR, which is relatively poorly-known in comparison to its companion marine reserves.

The Belize Lionfish Project Launched with the Belize & Bahamas Fisherman Exchange

Press Release: ECOMAR

The increasing numbers of invasive lionfish in the Belize Barrier Reef World Heritage Site and associated reef systems caused additional negative impacts on an already stressed ecosystem affected by overfishing, coral bleaching and ocean acidification.

In December 2008 ECOMAR began working with the Belize Fisheries Department in highlighting the invasive lionfish issue in efforts to raise awareness on the destructive nature of this invasive species and the problems that are anticipated as a result of their presence on the reef. These actions resulted in the development of the "Belize Lionfish Project," an outreach program that is being coordinate by ECOMAR in association with the Belize Fisheries Department, fishing cooperatives, fishermen, tours guides, and other NGOs in Belize.

The goal of the Belize Lionfish Project will be to raise awareness on this invasive fish, educate key stakeholders on how they can become involved in protecting their future livelihood, determine the source of lionfish in Belize through scientific studies, and garner renewed enthusiasm and interest in protecting the Belize Barrier Reef Reserve System and the associated marine areas.

In February 2010 ECOMAR also received a grant from the Gulf & Caribbean Fisheries Institute (GCFI) through the Caribbean Environment Programme (CEP), UNEP (United Nations Environment Programme) and CaMPAM, for the Belize Bahamas Fishermen Exchange whereby fishermen from Belize were able to travel to the Bahamas for a workshop on lionfish handling and preparation techniques.

It is hoped that these initial timely efforts undertaken by ECOMAR, the Belize Fisheries Department, and the National Coral Reef Monitoring Network, will prevent a similar explosion of lionfish populations in Belize.

Reef Facts: Mangrove Wetlands

By Miguel Alamilla

Mangroves are an integral part of our coastal ecosystem and form a transition zone between land and sea. Most of Belize's 386 Km coastline and cayes are lined by mangrove forest. We have three species of mangrove; the red mangrove (*Rizophora mangle*), black mangrove (*Avicennia germinans*) and the white mangrove (*Languncularia racemosa*).

Mangrove wetlands are an important natural asset for coastal areas because they provide invaluable environmental services. They are salt tolerant and are perfectly adopted to withstand and dissipate wave energy form the sea. Their arching prop roots are able to trap and stabilize sediments, thus providing excellent protection against the erosive forces of the ocean. Runoffs loaded with pollutant and nutrients are also trapped and processed before they reach the coral reef.

It is also common knowledge that coastal mangroves serve as habitat and nursery grounds for countless species of fish and invertebrates. Many species of important commercial value, such as snappers and spiny lobsters, find refuge amongst the red mangrove roots during their juvenile life stage. As adults they migrate to the reef. Lagoons and flats protected by mangroves provide perfect habitat for bonefish, permit and tarpon which are highly prized by sport fishermen. The flats at the Cangrejo Shoals are a perfect example. Daily, tour guides take their fly fishing clients to this area and has become a sustainable and important economic alternative for local guides.

Records from 1990 show that 98% of Belize's original mangrove cover (80,016 Ha.) remained intact. Twenty years later there is an urgent need to quantify current mangrove cover in the country. Do we know the actual mangrove cover that remains in Ambergris Caye? How much is privately owned? What type of development if any should we allow? These are just a few questions we need to consider in order to properly manage this valuable coastal resource.