

FISH SANCTUARIES

Saving Our Fish, Saving Our Fishers



Managing Fish Sanctuaries in the
Portland Bight Protected Area

Caribbean Coastal Area Management Foundation



Powering Innovations in Civil Society and Enterprises for Sustainability in the Caribbean (PISCES)

About C-CAM and this photo story

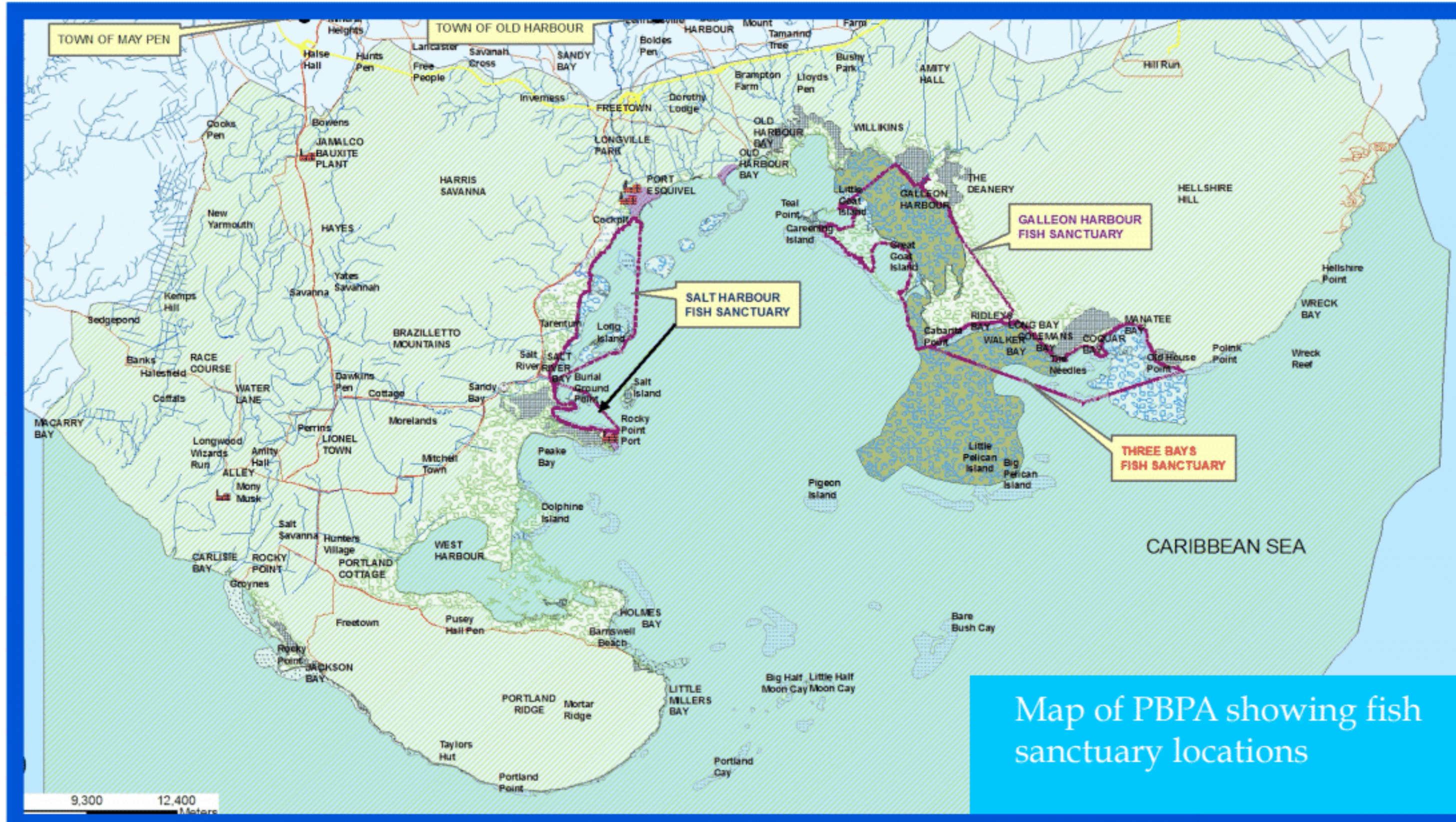
Caribbean Coastal Area Management Foundation (C-CAM) is an environment and sustainable development non-government organisation (NGO) that manages the **Portland Bight Protected Area (PBPA)** (including **three Fish Sanctuaries**) on behalf of the Jamaican government.

This photo story explores how **C-CAM is working to** develop and implement **Fish Sanctuaries in the PBPA**, where fishing is the main source of income for most people.



Busy fishing beach at Old Harbour Bay, St. Catherine, Jamaica

Portland Bight Protected Area



The Portland Bight Protected Area (PBPA) is located in south central Jamaica.

★ It includes both terrestrial and marine areas and extends to the edge of the island shelf.

★ Its total area is 187,615 ha (724 sq.miles); 51,975 ha (200 sq. miles) of land and 135,640 ha (524 sq. miles) of marine space.

★ The land area is bigger than Barbados.



The problems

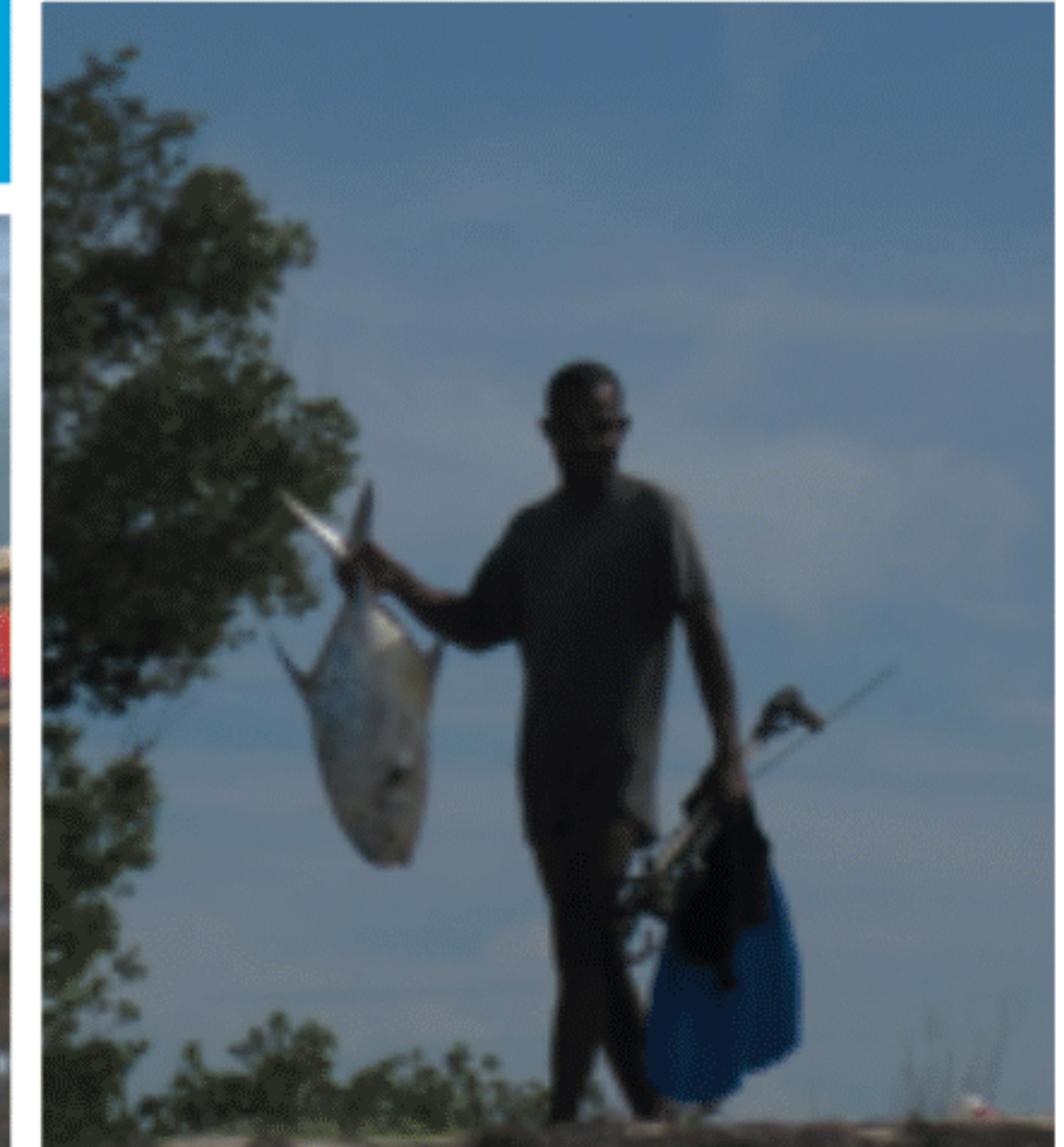
Over the last 50 years the fisheries of the PBPA have declined due to overfishing, bad fishing practices, pollution and climate change.



Illegal fishing with small mesh nets



Bycatch from bottom trawling for shrimp



Spear fishing

The decline in the fish stocks has negatively impacted the livelihoods of the fishing communities of the Portland Bight Protected Area.

The solution: Engaging stakeholders in managing fisheries

Realising that fishers must be actively involved in management of the fishing resources on which they depend, C-CAM led the establishment of the **Portland Bight Fisheries Management Council (PBFMC)**, which has been meeting for more than 20 years.

Every month representatives of fishers from all the fishing beaches in the PBPA come together with government agencies, experts and other stakeholders to share information, learn about fisheries management and discuss how to manage the fisheries in the best interest of all stakeholders.



Community members participating in a discussion with C-CAM

What the stakeholders recommended

One of the first things that the PBFMC identified was the need to allow the fisheries to recover as quickly as possible by setting aside no-take zones or **fish sanctuaries** in important nursery and feeding habitats.

Baseline assessments were carried out so that the design could be based on the best available scientific and socio-economic information. The members of the PBFMC worked together to identify the best areas and draw the boundaries.



Salt Harbour Fish Sanctuary and environs



Stakeholders were provided with the best available information from scientific studies.



It was essential to engage as many groups of stakeholders as possible in the planning process.

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Funding and support

CORE FUNDING

Funding was received from the Government of Jamaica (Fisheries Management and Development Fund). This supports operating costs and salaries for enforcement.

PROJECT FUNDING

International donors provided funding for boats, equipment and special projects. They included CANARI, Seacology, CaribSave, and Caribbean Community Climate Change Centre with support from KfW German Development Bank and others.

Local donors included the Environmental Foundation of Jamaica, National Integrity Action, WINDALCO and many others.



Patrol boat donated by USAID



KFW



Three Fish Sanctuaries were established

WHAT ARE FISH SANCTUARIES?

Fish Sanctuaries are areas in which all fishing is **prohibited**.

How are Fish Sanctuaries created?
Fish Sanctuaries are declared under the Fishing Industry Act by the Minister of Agriculture and Fisheries

How were the Portland Bight Fish Sanctuaries chosen?
By the Portland Bight Fisheries Management Council (PBFMC), Fisheries Division and experts.

Who will manage the Fish Sanctuaries?
In Portland Bight they will be co-managed on behalf of Fisheries Division by the Caribbean Coastal Area Management Foundation and PBFMC

Who benefits from Fish Sanctuaries?

- Fishers will have increased catches, incomes and opportunities
- Communities will have more options for recreation, tourism and education
- Communities will be protected from climate change and storms by healthy reefs and mangroves

How can stakeholders support Fish sanctuaries?

- Do not dump garbage, sewage or solid waste in or near fish sanctuaries.
- Report illegal fishing
- When fishing in other places, use 1 1/4 inch mesh or larger for fish pots.
- Protect forests and wetlands
- Support alternative livelihoods such as tourism
- Report use of dynamite.

Funded by Environmental Foundation of Jamaica
Prepared by Caribbean Coastal Area Management Foundation

In 2009, three Fish Sanctuaries were declared in the PBPA as part of a new national system:

- ★Three Bays;
- ★Salt Harbour; and
- ★Galleon Harbour.

C-CAM took on the task of managing them on behalf of the Government of Jamaica.

The next steps included management planning; boundary marking; an education and awareness campaign to encourage compliance; developing the capacity for enforcement; and monitoring.

These banners were used in the education campaign.

HOW DO FISH SANCTUARIES WORK?

Stopping fishing in the sanctuary allows fish and habitats to recover

- More fish survive to grow bigger
- Bigger fish produce more eggs
- More young fish survive to breed

Coral reefs recover from dynamite, pollution and over-fishing

Fish spread out into adjacent areas

Options for tourism open up

Fish populations may get 3 to 21 times bigger over 5 years

Protecting habitat protects fish life cycles

YOUNG FISH GROW UP IN THE MANGROVES

ADULT FISH LIVE, FEED AND SPAWN ON THE REEF

JUVENILE FISH DEVELOP IN SEAGRASS BEDS

Funded by Environmental Foundation of Jamaica
Prepared by Caribbean Coastal Area

Participatory management planning

★Recognising the importance of getting stakeholder engagement from the beginning, C-CAM led a participatory management planning process for all three sanctuaries.

★This involved working together with stakeholders to collect the baseline data, determine priorities, and identify feasible strategies for implementation of the fish sanctuaries.

★The process was guided by the Open Standards for Conservation and used the *Miradi* programme.

★This resulted in the development of a management plan for each of the three sanctuaries. These plans guide the development and implementation of annual operation plans.



C-CAM staff member and a fisher talking on a fishing beach



C-CAM, Fisheries Division and a fisher discussing management plan

Enforcement in the Fish Sanctuaries

Some of the work C-CAM is doing:

- ★Carries out regular patrols;
- ★Engages and trains enforcement officers;
- ★Develops supportive relationships with other enforcement agencies including the police through the PBPA Enforcement Council;
- ★Maintains a ranger station built using recycled shipping containers;
- ★Uses the government contribution to leverage international and local funding;
- ★Protects mangroves from illegal harvest;
- ★Rescues crocodiles and other protected wildlife.



Making, installing and maintaining marker buoys



Conservation Officers assist with monitoring fish populations



Ranger station was built from shipping containers

Fishers are employed as Conservation Officers



One of C-CAM's Conservation Officers on patrol in the PBPA

C-CAM employs fishers as Conservation Officers (COs) in the sanctuaries.

The COs carry out regular patrols and work with the support of the Marine Police to enforce environmental laws in the sanctuaries.

They also assist with monitoring and public education.

Education and awareness build compliance

CORAL REEFS - GARDENS OF THE SEA



WHAT ARE CORAL REEFS?

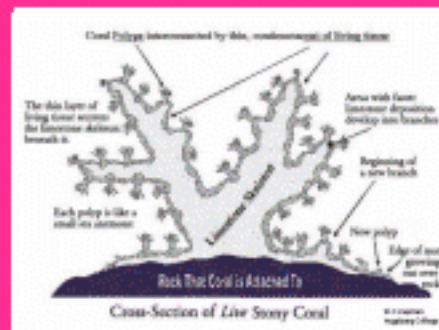
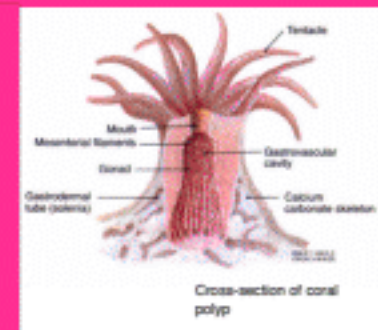
People sometimes think that coral reefs are made of rocks. In fact, coral reefs are formed by thousands of tiny animals called polyps. A polyp is like a tiny sea anemone. Polyps are mostly less than 1.5 cm wide but they live in colonies that can be huge. The polyps of hard or stony corals have calcareous (chalk-like) skeletons, which build up to form the structure of the reef. Soft corals (often called leather in Jamaica) do not have hard skeletons.



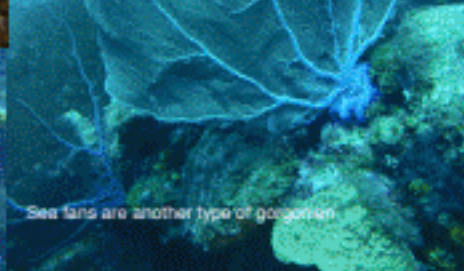
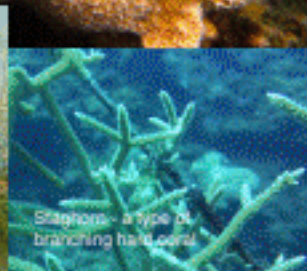
HOW DO CORALS FEED?

Coral polyps feed on tiny animals in the water. They catch them by waving their tentacles. The tentacles are equipped with stinging cells (called nematocysts) which will help them capture their prey.

Coral polyps have a second source of food. Tiny single-celled algae called zooxanthellae live inside their cells.



WHAT ARE THE MAIN TYPES OF CORALS?



WHAT OTHER ANIMALS LIVE ON CORAL REEFS?

Coral reefs are very rich in resources and many organisms live in or visit them. They offer many different places (called ecological niches) for animals and plants to live, breed, feed and shelter. Thousands of species of animals including turtles, fish, shrimps, worms.



C-CAM's Conservation Officers, Community Development Officers and the PBFMC work with the stakeholders to build support for sustainable management of the fisheries resources and the fish habitats, including mangroves, coral reefs and seagrass beds, as well as the species that inhabit them, such as crocodiles and birds.



Children are inspired by an educational tour of a sanctuary

Research and monitoring



Community Monitors are trained to assist with beach monitoring

C-CAM staff and volunteer Community Monitors assess the status of the sanctuaries and surrounding areas and assist researchers with their work. This includes monitoring of fish populations, water quality, beach conditions, weather and other environmental conditions.



Students assist with monitoring wetland birds

Habitat restoration

With the assistance of its partners, C-CAM is restoring wetlands and coral reefs, through replanting, artificial reefs and coral gardening. These measures actively support the recovery of fish and their habitats.



Coral gardening supports planting out of corals to restore reefs



Artificial reefs increase fish habitat



Towing an artificial reef into position



Students planting mangroves on World Wetlands Day

Key results achieved

✓ Surveys show that fishers agree that the fish sanctuaries have increased the fish populations in the PBPA – to such an extent that they have requested additional sanctuaries.

✓ The artificial reefs have increased the amount of habitat in the sanctuaries and enhanced fish populations.

✓ New approaches to mangrove restoration have been tested.

✓ Regular patrols have reduced the impacts of illegal fishing in the sanctuaries.

✓ Awareness of the importance of sustainable management of fisheries has increased.



Photo credit: Robin Moore

Lessons learned

Build and maintain strong partnerships from the beginning and throughout implementation:



Successful fisher on Old Harbour Bay fishing beach

- ★ **With government:** It is important to collaborate actively with all the relevant government agencies to enable leveraging of resources and maximize capacity to carry out activities;
- ★ **With the communities:** Involve fishers and other community members in sanctuary management through engagement in planning and decision-making, project development, awareness and education campaigns;
- ★ **With the private sector:** Tourism and other business interests need to know about the fish sanctuaries so they can get involved, appreciate how they benefit from the sanctuaries, and provide support to the sanctuaries financially and otherwise.

Identify sources of sustainable financing: Sanctuaries need a medium to long term sustainable financing plan, including adequate secure government support for salaries and operating costs for continued implementation of activities, e.g. enforcement, and patrols. Support for core operations is hard to find from other funders.

Next steps

★Although the fish sanctuaries have been successful, managing them is a work in progress. Many practical, technical and financial issues are still being addressed.

★Fishers have identified an additional sanctuary and C-CAM is seeking support to create it.

★If the management of the fish sanctuaries continues to improve, fishers in the PBPA can look forward to a brighter future.


Photo credit: Roger Moore


For further information



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