



Caribbean Marine Biodiversity Program

Cooperative Agreement No. AID-OAA-A14-00064

Year 3 Annual Technical Report (October 2016 – September 2017)



Submitted September 30, 2017

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Cover Photo: Bajo Yuna Mangroves National Park, Dominican Republic. Photo: Steve Schill for TNC .

INTRODUCTION

Program Overview

The overall objective of the USAID Caribbean Marine Biodiversity Program (CMBP) is to reduce threats to marine-coastal biodiversity in priority areas in the Caribbean—including high biodiversity ecosystems such as coral reefs, mangroves, and seagrass beds—to achieve sustained biodiversity conservation, maintain critical ecosystem services, and realize tangible improvements in human wellbeing for communities adjacent to marine managed areas (MMAs). To achieve this objective, the CMBP addresses direct and indirect threats to marine and coastal biodiversity at multiple geographic scales simultaneously. More specifically, the CMBP includes nested and inter-connected actions across four geographic scales: site, seascape, national and regional. Most of the funding and activities are centered on *four targeted seascapes*: (i) North Coast of Hispaniola (focus on Haiti); (ii) Samaná Bay (Dominican Republic); (iii) Pedro Bank and Southwest Coast of Jamaica (Jamaica); and (iv) Grenadine Bank (Grenada and St. Vincent and the Grenadines).

The Program includes four major Expected Results:

- Expected Result #1: Enabling environment created for long-term Marine Managed Area (MMA) success
- Expected Result #2: Effective marine spatial plans and seascape governance mechanisms
- Expected Result #3: More sustainable fisheries sector by maximizing fishery benefits of MMAs, promoting innovative fishery management actions, and promoting sustainable livelihoods
- Expected Result #4: Effective management and governance of MMAs

This five-year program is being implemented through a cooperative agreement between the U.S. Agency for International Development (USAID) and The Nature Conservancy (TNC). Activities are being carried out through a consortium which includes four local NGO sub-award partners: (i) the Caribbean Coastal Area Management Foundation (C-CAM) (Jamaica); (ii) Center for Conservation and Eco-Development of Samaná Bay and Its Surroundings (CEBSE) (Dominican Republic); (iii) Foundation for the Protection of Marine Biodiversity (FoPROBIM) (Haiti); and (iv) Sustainable Grenadines Inc. (SusGren) (Grenada and St. Vincent and the Grenadines).

Reporting Period

As required under Cooperative Agreement No. AID-OAA-A14-00064 between TNC and USAID, this is the Annual Technical Report for Year 3 of CMBP, covering activities carried out from October 1, 2016 to September 30, 2017. This report highlights the most important activities carried out under CMBP during this period, and is not intended as an exhaustive account of all activities.

Submitted by

Mr. Winston Bowman
Chief of Party, Caribbean Marine Biodiversity Program
The Nature Conservancy

Submitted to

Mr. Benjamin Schapiro
Agreement Officer's Representative
United States Agency for International Development
Santo Domingo, Dominican Republic

ACRONYMS AND KEY TERMS

Acronyms

3BNP	Protected Area of Three Bays (Haiti)
ANAP	National Parks Agency (Haiti)
CaMPAM	Caribbean Marine Protected Area Managers Network
CARILED	Caribbean Local Economic Development Organization
CBF	Caribbean Biodiversity Fund
C-CAM	Caribbean Coastal Area Management Foundation (Jamaica)
CCI	Caribbean Challenge Initiative
CEBSE	Center for Conservation and Eco-development of Samaná Bay and its Surroundings (Dominican Republic)
CFO	Carriacou Fishers Organization (Grenada)
CMBP	Caribbean Marine Biodiversity Program
CODOPESCA	Dominican Council for Fisheries and Aquaculture (government agency)
DSS	Decision Support System
DR	Dominican Republic
ECMMAN	Eastern Caribbean Marine Managed Areas Network Project
EPP	Environmental Protection Program (USAID-supported program in DR)
FSAP	Fishery Sector Action Plans
GB	Grenadine Bank
GEF	Global Environment Facility
GOJ	Government of Jamaica
FoPROBIM	Foundation for the Protection of Marine Biodiversity (Haiti)
KfW	German Development Bank – German Acronym
MAF	Ministry of Agriculture and Fisheries (Jamaica)
MARENA	Ministry of Environment and Natural Resources (Dominican Republic)
MMA	Marine Managed Area
MSP	Marine Spatial Planning/Plan
MPA	Marine Protected Area
NEPA	National Environmental and Planning Agency (Jamaica)
NCTF	National Conservation Trust Fund
PASMP	Protected Areas System Master Plan (Jamaica)
CEPROBAC	Committee for Environmental Protection of Caracol Bay (Haiti)
CEPROFAC	Committee for Environmental Protection of Fort Liberte Bay (Haiti)
SFM	Sustainable finance mechanism (e.g. tourism fees)
SusGren	Sustainable Grenadines (Grenada & St. Vincent and the Grenadines)
SVG	Saint Vincent and the Grenadines
TEF	Tourism Enhancement Fund of Jamaica
TNC	The Nature Conservancy
UNDP	United Nations Development Program

SUMMARY OF KEY ACHIEVEMENTS

Regional

- Government agencies from Haiti and the Dominican Republic established a bi-national committee to promote cross-border cooperation and exchange of information on the management of fisheries in the 3BNP-Monte Cristi area.
- CMBP developed a regional parrotfish conservation outreach campaign to promote the non-harvesting, sale and consumption of parrotfish in view of the vital role this species plays in maintaining healthy coral reefs.
- Sandals International agreed to co-host the 2018 CCI Summit and provide support to galvanize additional private sector engagement in CCI and the marine conservation agenda.
- A comprehensive planning process was launched to prepare for a successful CCI Summit in 2018, with preliminary agreement reached by 11 Caribbean Governments and other stakeholders on the overall goals and desired outcomes.

Dominican Republic

- The Ministry of Environment created six fish reserves in Samaná Bay with extensive CMBP support.
- The Ministry of Environment signed a commitment letter for co-management of the Manglares del Bajo Yuna National Park with TNC, CEBSE and the PROPAGAS Foundation.
- The Ministry of Environment signed a concession contract for Espiritu Santo Cooperative to perform eco-tourism operations in La Farola Key.
- The first partnership agreement between the Caribbean Biodiversity Fund (CBF) and a National Trust Fund was signed with Fondo MARENA, which will trigger about \$300,000-\$400,000 in annual payments for marine conservation projects.
- The San Lorenzo Fishermen Cooperative is now conducting kayaking tours in Los Haitises National Park as an alternative livelihood.
- A CMBP feasibility study found that suripera nets, when compared to bottom trawl nets, are significantly more cost efficient, catch almost double the shrimp, and reduce bycatch levels and the negative impacts on benthic communities.
- Thirty-three fishers from Sabana de la Mar and Sanchez were trained on the use of suripera nets to increase sustainable shrimp fishing practices.
- The 2017 whale season monitoring report was prepared and presented to the authorities, boat owners association and other stakeholders in Samaná City Hall.
- The Seafood Festival in Sanchez, Samaná received around 2,800 visitors and raised awareness of conservation issues.

Haiti

- The first management plan and zoning plan for the Three Bays Protected Area were completed and approved by the government.
- Draft bylaws were prepared to establish the National Conservation Trust Fund.
- A legal framework assessment for 3BNP was completed that provides clear guidance related to park governance and surveillance.
- Eight environmental surveillance agents, or wardens, were hired and trained to patrol 3BNP.

- A feasibility study for a fishing gear exchange program was completed.
- Apiculture training was completed for 80 people in four communities.
- Environmental protection agreements were signed with seven fishers' associations to help protect and manage 3BNP resources.
- Sixty thousand mangroves seedlings were outplanted in 3BNP, contributing to improved biophysical conditions for 101.12 hectares of forested area.

Grenadine Bank Seascape

- Grenada declared a new MPA, Grande Anse Marine Protected Area, increasing the area of near-shore marine space under protected status from 0.4% to 1.25%.
- Forty fishers and other beneficiaries received economic from participating in trainings in post-harvest handling of seafood, safe water taxi operations, apiculture and lobster pot assembly.
- A fishers' and farmers' market was established in Carriacou, with supplies from CMBP, to help compensate fishers for their increased costs from fishing farther from the shore.
- Mooring management plans for Tobago Cays Marine Park (TCMP) and Sandy Island/Oyster Bed Marine Protected Area (SIOBMPA) were completed, along with a standard operating procedures manual for MPA enforcement.
- The Grenadines Network of MPAs was strengthened through trainings for MPA practitioners, improved coordination of biophysical monitoring in the area, the establishment of a "Technical Guru Team", and support for the 7th Annual Meeting in August.
- CMBP provided training in environmental studies to 12 members of SusGren's Junior Ranger Program, helping to build the next generation of environmental professionals in the Grenadine Bank.
- Ten acres (four hectares) of mangrove forest in Ashton Lagoon were replanted with 3,000 mangrove saplings, improving the biophysical condition of largest mangrove forest in Saint Vincent and the Grenadines.
- A partnership agreement was formed between SusGren Inc. and the Mustique Company to train and mentor wardens of the Sandy Island Oyster Bed Marine Protected Area (SIOBMPA) in mooring maintenance and repairs, customer service, conflict resolution and fee collection best practices.

Jamaica

- A sustainable lobster fishing campaign was completed, and 68 Pedro Cay fishers were trained in sustainable lobster harvesting techniques.
- A FishPath workshop was completed along with a report to help guide government officials in developing effective lobster fishery management strategies.
- The report, Length at First Maturity for Commercially Important Jamaican Reef Fish, was completed.
- A capacity assessment of the Jamaica Fish Sanctuary Network was completed along with training for eleven groups responsible for co-managing the sanctuaries with the Fisheries Division.
- Three game wardens and a sanctuary manager were hired to manage the Sanctuary in Bluefields Bay.

- CMBP-supported wardens completed 269 patrols of the Southwest Cay Sanctuary in Pedro; were trained in bird identification to increase biological monitoring skills; and designated as Game Wardens by NEPA to help protect Sanctuary.
- The proposed Pedro Cays and Surrounding Waters Management Plan and the Pedro Bank Marine Spatial Plan (MSP) were accepted by National Environment and Planning Agency (NEPA).
- Lionfish training was completed for 21 persons on Pedro Cays.
- Twelve people were trained in sea turtle tagging for three CMBP project sites and three other important areas for sea turtle nesting.
- Eight persons were trained and certified in SCUBA diving, including members of C-CAM staff, BREDS members and Bluefields members.
- Safety at sea training was conducted for 37 fishers on the Pedro Cays.
- Sub-grants of \$6000 each were awarded to four local NGOs to fund social marketing campaigns that raise awareness of the value of marine protected areas.
- Sanctuary marker buoys were installed at the South West Cay Fish Sanctuary.

PROGRESS AND MAJOR OUTPUTS

Expected result 1: Enabling environment created for long-term MPA success

One of the main goals of CMBP is to contribute to the creation of an enabling environment for long-term MMA success. MMAs will only be successful if supported by a strong enabling environment addressing key sustainability requirements for MPA success, such as high-level political commitment from countries; sustainable financing for conservation actions; local community and private sector support; and overall regional collaboration.

1.1. Regional

Caribbean Challenge Initiative (CCI)

CMBP provides extensive support to the Caribbean Challenge Initiative, which serves as a major regional platform for advancing the marine and coastal conservation agenda by mobilizing political will, funding and concrete actions by Caribbean governments, companies, and partners. (Further background on CCI is available at www.caribbeanchallengeinitiative.org.) At the regional level, CMBP continued to provide strategic and technical support to the CCI Secretariat, particularly through the preparation of major documents, meetings, and strategies. Key achievements involving significant CMBP engagement included:

Report on Regional CCI Meeting in 2016: Completed and widely circulated a comprehensive report of the highly successful three-day CCI-CBF meeting held in St. Lucia in September 2016. This was the first major regional CCI event since the 2013 Summit and involved the participation of 11 Caribbean Governments, several private sector entities, and a wide range of major public funders.

Preparations for a Second CCI Summit: At the September 2016 meeting in St. Lucia, participants agreed on the need for a second CCI Summit (CCI Summit II) in late 2018, to help accelerate progress on the two CCI Goals (20-by-20 and Sustainable Finance). During Year 3, solid progress was made in laying the groundwork for a successful CCI Summit. A major milestone was the regional CCI-CBF meeting in June 2017 in Puerto Rico (Summit Prep1) to prepare for the Summit, involving over 80

major stakeholders (11 Caribbean Governments, 5 private sector companies, key NGOs, major funding institutions and regional intergovernmental agencies). Highlights of progress in Summit preparations during Year 3 include:

- “Issues and Options Paper”. Completed a comprehensive *Issues and Options Paper* outlining preliminary ideas for a second Summit, including potential outcomes, a Roadmap of major preparatory activities, and other details.
- Additional CCI members. Completed and began to implement a strategy for stimulating additional government and company members in CCI. Toward this aim, a new general fact sheet and timeline document were completed to be used for outreach purposes. Discussions on joining CCI were held with Cuba, Dominica, and Aruba.
- New funding announcements. Held meetings with a range of public funders, to brief them on the CCI Summit and Roadmap process, and to brainstorm potential concepts for new, multi-country funding projects that might be announced at the Summit. Meetings were held with the Global Environment Facility (GEF), UNDP, German Development Bank (KfW), Inter-American Development Bank, Caribbean Community Climate Change Center (5 Cs), and the Critical Ecosystems Partnership Fund (CEPF).
- Agreement on overall Summit Outcomes. At Summit Prep1, participants agreed on five overall outcomes for next year’s Summit:
 - To catalyze a comprehensive and large-scale *CCI Financing Package*, involving the CCI’s sustainable finance architecture (i.e. set of trust funds) and various funding projects, and supported through a wide range of financial commitments by public/private funding sources.
 - To catalyze new concrete actions by governments, the private sector, and partners, designed to accelerate efforts to safeguard the Caribbean’s marine and coastal environment and achieve CCI goals.
 - To refine the two existing CCI goals, to help guide action and monitor progress.
 - To consider the need for a third CCI goal (ecosystem-based adaptation in the coastal environment) that could potentially expand the scope of CCI.
 - To generate significant visibility of CCI, its major goals, and the marine/coastal environment.
- Second draft of Summit Statement. Based on discussions at Summit Prep1 and a Summit Planning Team Meeting in Miami in August 2017, produced a second draft of the Summit Statement, to be endorsed at the Summit by all participants.
- Design of Finance Roundtable. A special session was held at Summit Prep1 to begin designing a *CCI Finance Roundtable* in April 2018, as a key step toward the CCI Summit. There was general agreement on the objectives and agenda for the Roundtable. Various partners presented funding opportunities that could be advanced at the Roundtable and announced at the Summit (e.g. Global Environment Facility: GEF-7 phase; debt swaps program led by KfW and TNC; Critical Ecosystems Partnership Fund: Phase II, and the Blue Finance model).
- Summit co-hosts. Requests were made to the Government of Bahamas, Sandals, and the Inter-American Development Bank (IDB) to serve as the three co-hosts of the Summit. Sandals has formally agreed, the Bahamas has formally submitted an expression of interest, and discussions are ongoing with IDB.
- Summit Roadmap. A Roadmap of activities to properly prepare and lay the groundwork for the Summit was developed, along with a detailed work plan.

Caribbean Biodiversity Fund (CBF) and Sustainable Finance

The CBF and its associated national conservation trust funds (NCTFs) serve as the financial architecture of CCI, designed to generate reliable and long-term funding to help safeguard the region's marine and coastal environment. At the regional level, CMBP continued to provide extensive strategic and technical support to the CBF Secretariat and CBF Board, particularly through the preparation of major documents, meetings, and strategies. Key achievements involving significant CMBP engagement included:

- Design of the Ecosystem-based Adaptation (EbA) Facility. Completed an *Annotated Outline of an Operations Manual* (Design Document) for the new, five-year \$26.5 million EbA Facility under the Caribbean Biodiversity Fund. In close collaboration with the German Development Bank (KfW) and the CBF Secretariat, CMBP led the preparation of this Annotated Outline, and is now leading preparation of the full Operations Manual, expected to be completed by December 2017. This Operations Manual will guide the grant-making program for this major sub-fund within the CBF structure. This new EbA Facility will focus on the marine/coastal environment and support marine conservation projects in all five CMBP target countries (as well as others).
- Partnership and Pre-financing Agreements: CBF and NCTFs. To receive annual payments from the CBF, the associated NCTFs need to negotiate and sign Partnership Agreements. In December 2016, completed the first Partnership Agreement between the CBF and a NCTF - Fondo MARENA in the Dominican Republic – setting the stage for Fondo MARENA to receive annual payments from the CBF in the amount of approximately \$300,000-\$400,000. In June 2017, the CBF signed pre-financing agreements with the trust funds in Antigua and Barbuda and St. Lucia. This will allow them to accelerate progress toward a Partnership Agreement.
- Debt swaps. Advanced significant progress toward a debt swap in Grenada and St. Lucia, which would generate millions of dollars to support marine conservation efforts and serve as the required match to annual CBF payments. More specifically, working in close collaboration with the Grenada Government and Grenada Sustainable Development Trust Fund (GSDTF), secured formal Cabinet approval to move forward with the debt swap transaction and to channel debt swap revenues through the GSDTF. Secured cabinet approval for a debt swap transaction in St. Lucia.

Public-Private Partnerships (PPP)

Sandals Resorts International, Tropical Shipping, and Grupo Punta Cana: Multiple meetings were held with Sandals Resorts International (SRI), Tropical Shipping, and Grupo Punta Cana to discuss potential public-private partnerships to support CMBP and the broader marine conservation agenda in the Caribbean. Highlights include:

- Sandals. CMBP led a delegation to Montego Bay in May 2017, to meet with the CEO of SRI (Adam Stewart) and the Director of the Sandals Foundation. The meeting achieved a very positive outcome. Mr. Stewart agreed to co-host the 2018 CCI Summit and provide proactive support to help galvanize additional private sector engagement in CCI and the marine conservation agenda. (A target list of companies is currently being prepared for Mr. Stewart, along with a roadshow schedule.) In addition, Sandals is currently considering a major in-kind contribution toward a successful Summit. Most recently, Sandals has been working with CMBP on developing a communications strategy for the Summit and the Roadmap process, including media events, social media and other activities.

- Tropical Shipping. In-depth discussions were held with Mr. Gerard Bergasse, Director for Inter-Island Shipping for Tropical Shipping, the region’s leading shipping company. Mr. Bergasse agreed to serve on the CCI Steering Committee. In addition, possible announcements by Tropical Shipping at next year’s Summit were discussed.
- Grupo Punta Cana. Discussions were also held with Mr. Jake Kheel, Director of the Punta Cana Foundation. One topic under discussion is hosting the Summit Prep2 and Finance Roundtable in Punta Cana in April 2018, and a major in-kind contribution toward these important events. Discussions are ongoing.
- Joint Corporate Campaign. Discussions were held with all three companies about a possible joint campaign, tentatively called “The One Caribbean Campaign.” The campaign would be designed to coalesce several leading companies around a major marine conservation effort (e.g. on coral restoration and/or parrotfish conservation). CMBP is currently preparing a short concept paper outlining this idea, which could potentially be discussed at a Corporate Roundtable event in the coming months.

Women in Marine Conservation

As part of the CMBP gender action plan, CMBP led a special session on women in marine conservation at the CCI-CBF Meeting in Puerto Rico in June 2017. This included a presentation of results of a recently completed study of gender and marine conservation issues in the Pacific. There was significant interest expressed during the discussion regarding specific steps that could be taken in the Caribbean to promote the role of women in marine conservation and achieve greater gender empowerment. CMBP will be following up with the CCI Participants Assembly members in the coming months.

1.2. Dominican Republic – Samaná Bay Seascape

Caribbean Challenge Initiative (CCI)

Declaration of New Protected Areas. CMBP completed an analysis of the existing legal framework in the Dominican Republic for the establishment of fisheries reserves in the territorial waters of the country and facilitated a series of meetings with technicians from the Environmental Ministry and CODOPESCA to draft a resolution declaring the first six no-take fisheries reserves of the country. These new areas total 22,554 hectares, all of them located within the Samaná Bay Seascape. The resolution 0025-2017 was announced by the Minister of Environment on August 29, the first of its kind in the Dominican Republic. Specific actions to make these exclusion zones operational will be included in the Year 4 workplan.

CBF Partnership Agreement. The first partnership agreement with the CBF was signed in December 2016 with Fondo MARENA. Afterwards, in February 2017, CMBP facilitated a workshop with key stakeholders to discuss investment priorities and a strategic plan (developed with CMBP assistance) to guide the programming of the CBF resources allocated to Fondo MARENA. The main investment priority will be on coastal-marine protected areas. The first disbursement will be approximately \$USD 160,000 and should be processed as soon as the CBF finalizes their internal fulfillment procedures.



Eleanor Philips, Caribbean Director of External Affairs (TNC) signs the first partnership agreement. Observing from left to right Benjamin Schapiro (USAID), Stanley Javier (Fondo MARENA) and Katia Mejía (Sur Futuro). Photo TNC.

1.3. Haiti Seascape – Protected Area of Three Bays

New MMAs Declared. In April 2017, the Government of Haiti gazetted three new MPAs, totaling 104,835 hectares, or 259,055 acres. The new MPAs are as follows:

- “Aire Protégée de Ressources Naturelles Gérées de Jérémie-Abricots (7, 574 Hectares)
- " Aire Protégée de Ressources Naturelles gérees de Baradères-Cayemites (87, 621 Hectares)
- “Parc National Naturel de Lagon des Huitres (PNN-LDH) (9,640 Hectares)

While this brings Haiti over the 20% threshold established by the CCI for nearshore area under protected status, significant work remains to establish effective management and sustainable financing. Recently the Haiti government and UNDP issued a call for proposals for ecological baseline assessments at these new MPAs. Management plans are expected to get under way once the baseline assessments are completed.

Sustainable Finance

Support for NCTF Establishment. During this year CMBP supported the Haiti Trust Fund steering committee in preparing drafts bylaws and an action plan to guide activities during the next few months leading up to formal establishment of the Trust Fund structure. The draft bylaws were subsequently reviewed by TNC attorneys for conformity with international trust fund rules established by Conservation Finance Alliance (CFA) and Caribbean Biodiversity Fund (CBF) requirements.

Funding Commitment from KFW. During the CCI/CBF annual meetings in Puerto Rico, KFW representative and CBF chair, Jen Mackensen indicated a soft commitment to provide initial endowment capital through the CBF. While KFW’s usual funding level for CBF varies from \$1.5

million to \$6.5 million, Mackensen stated future funding will depend on the current funding gap identified and match funding committed by others.

Potential additional support. CMBP has reached out to both the World Bank and GEF about support to CBF. There is a possibility the Bank might contribute about \$3.0 million to an endowment, and GEF indicated it may directly provide small seed funding to support early operations or preparing founding documents for the trust fund.

1.4. Grenadine Bank Seascape

New MMAs Declared

New MMA in Grand Anse. CMBP made significant progress on the establishment of new MMAs in the Grenadine Bank with the declaration of a new MPA at Grande Anse in Grenada. On May 25, Minister of Agriculture, Lands, Forestry and Fisheries, Hon. Alvin Dabreo, announced the new MPA. TNC played a major role in planning Grande Anse MPA under the ECMAN project, which has provided match funding to CMBP. The declaration of Grande Anse MPA increases the nearshore area under protection in Grenada by 1,965 hectares.

Plan for a New MMA at Petite St. Vincent. In St. Vincent and the Grenadines, CMBP also provided feedback to the National Parks, Rivers and Beaches Authority on a draft 'Road Map to Advance Declaration and Effective Management of a new MMA at Petite St. Vincent'. The draft plan is to upgrade the existing marine conservation area at Petite St. Vincent to the higher category of protection of marine park, potentially increase the geographic scope of the area, and to establish effective management. The National Parks Authority has outlined a series of planning activities toward declaration, operation and management of the area.

Sustainable Finance

Support to SVG Conservation Fund. CMBP contributed to progress towards establishing the SVG Conservation Fund Inc., the national conservation trust fund for Saint Vincent and the Grenadines. Through the participation of Sustainable Grenadines Inc. (SusGren) on the board, CMBP contributed to the development of the Fund's grant-making framework, an essential requirement for a partnership agreement with the Caribbean Biodiversity Fund (CBF). CMBP also contributed to a "financial gap analysis" led by the CBF that calculated the costs of managing the SVG national protected areas system. The outputs of this exercise – budgets for the current and optimal management of the national protected area system – will assist with fundraising for the CBF and provide insights for protected area system planning. SVG Conservation Fund Inc. has submitted its application to the CBF for pre-financing, which will enable the start-up of the Fund.

Policy Briefs to Increase MMA Fees. CMBP, through a partnership between SusGren and Colorado State University, drafted policy briefs to inform decision-makers in Grenada and Saint Vincent and the Grenadines on the level of MPA user fees. The briefs aim to synthesize existing information and present it to decision-makers in a readily digestible format. The findings will be presented to the Grenada Ministry of Agriculture, Lands, Forestry and Fisheries, SVG National Parks, Rivers and Beaches Authority, SIOBMPA co-management board and TCMP board members next quarter FY18Q1. Based on their feedback, CMBP will refine the briefs and present them to decision-makers with a view to inform cabinet submissions for updated MMA fee schedules and increased

fees. If successful, this initiative will result in substantial increases in long-term finance for marine conservation in one or both countries in the seascape.

Local NGO Capacity Building

Support to SusGren. During Year 3 TNC/CMBP continued to support the professional development of key SusGren staff members as follows:

- CMBP enabled SusGren to establish a new position, fisheries coordinator, and train the person hired for the position through participation in the fisheries biology and management module of the Natural Resource and Environmental Management master's degree program at the University of West Indies Centre for Resource Management and Environmental Studies at Cave Hill, Barbados. Mr. Andrews' course fee was waived as an in-kind contribution from the University of West Indies.
- CMBP supported the participation of SusGren program manager Orisha Joseph in two training programs, the International Coral Reef Management and Leadership Program in Australia from 16th to 29th October 2016 and the Dalhousie University International Ocean Institute course on Ocean Governance: Policy, Law and Management from 22nd May to 23rd July 2017.
- SusGren MMA Coordinator Sonia Jind was trained in the Atlantic and Gulf Rapid Reef Assessment (AGRRA) method of coral health monitoring and receiving the AGRRA Certificate of Completion.

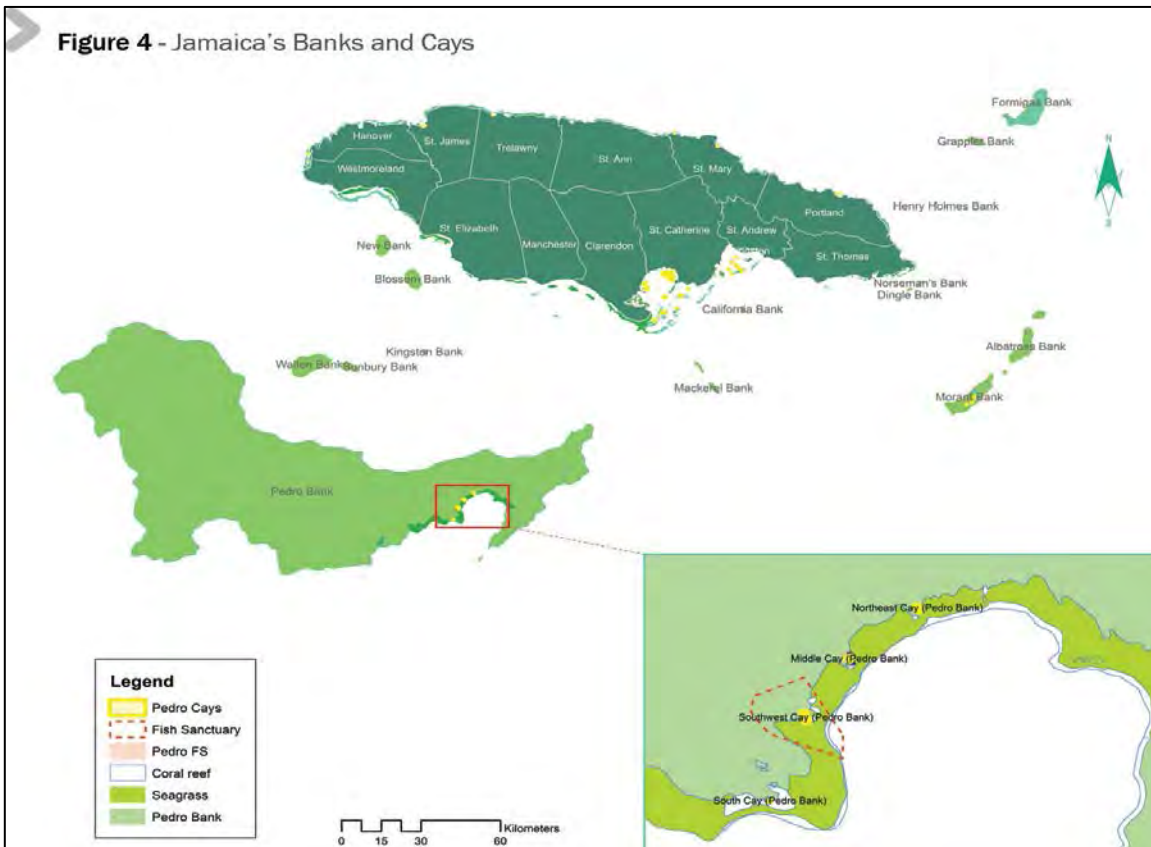
1.5. Jamaica seascape: Southwest Coast of Jamaica and Pedro Bank

Caribbean Challenge Initiative (CCI)

New MMAs Declared

Plans for Two New MPAs. While there were no new declarations completed by the Government of Jamaica during this year, the National Environment and Planning Agency (NEPA) worked on plans to declare 2 areas: Pedro Cays Protected Area (3 Cays on the Pedro Bank including the SW Cay SFCA - a fish sanctuary and a CMBP core site); and the Black River Protected Landscape (including the Lower Black River Morass and adjoining coastal areas between Black River and Santa Cruz, the Parottee Great Salt Pond and the Galleon mangroves which adjoin the land portion of the Galleon SFCA, a CMBP network site). Both declarations are relevant to the CMBP in terms of expanding the marine protected areas under declaration and effective management. There is not yet an estimate of the percentage increase in coverage by MMAs because the boundaries of the proposed sites are not yet known.

CMBP was in dialogue with NEPA for several months during Year 3 regarding the required steps to complete the declaration for the Pedro Cays Protected Area. Based on this dialogue, NEPA submitted a proposal to CMBP for technical assistance in Year 4 that would define the boundaries - an important step - of the proposed Pedro Cays MMA declaration. The approach will be to use the 3-meter resolution maps and satellite imagery that were developed or purchased during the Pedro MSP process to propose the boundaries of the sanctuary.



Map of Jamaica Banks and Cays, highlighting the Pedro Cays at bottom right.

Sustainable Finance

Jamaica NCTF Development. During Year 3 CMBP continued to help strengthen and capitalize the National Conservation Trust Fund of Jamaica (NCTFJ). The Board met monthly over the last year and continued to work on all aspects of operationalization. At the end of the GEF NEPA-led protected areas system project, the NCTFJ was provided with approximately US\$74,000 for operationalization. Those funds are used to pay for the Administrator, accountant services, office expenses, taxes and annual business registrations and other company requirements.

In March 2017, the NCTFJ Executive Director job offer was declined by the selected candidate after protracted negotiations due to the low compensation for the position. The Board decided to substantially revise the position's TOR, including changing the terms. The position will become a limited term contractor with some key deliverables, thereby reducing remuneration package expectations and allowing the person to have other sources of income. The revised TOR was prepared in September 2017 and will be posted in October 2017.

At the recently concluded meetings of the CBF and CCI held in June 2017 the NCTFJ Board Chair and the Administrator met with CBF representatives to discuss the CBF EbA facility, including the expectations of the CBF and the readiness of the NCTFJ to manage such a funding stream and grant-making mechanism. As a result, the NCTFJ is in the process of considering an arrangement with a local NGO that has grant-making and management expertise.

The NCTFJ is far advanced in its preparations for signing a Caribbean Biodiversity Fund (CBF) Partnership Agreement. The Fund submitted its request for eligibility in May, which was reviewed by CBF and TNC attorneys in June. A few changes were recommended to the NCTFJ Articles to fully meet the CBF's eligibility requirements, and those changes are being made. The CBF approved the NCTFJ's pre-financing request in June 2017 for US\$127,588. NCTFJ is seeking financial resources to create a local endowment and meet the CBF's match requirements. To that end the Board submitted a proposal to the Tourism Enhancement Fund (TEF) Board for US\$6.5 million in capital and operating funds over the next 5 years as follows:

1. Year 1 contribution of US\$1,500,000 to the NCTFJ endowment account and US\$100,000 to the NCTFJ operating account;
2. Year 2 contribution of US\$1,000,000 to the NCTFJ endowment account and US\$850,000 to the NCTFJ operating account;
3. Year 3 contribution of US\$1,250,000 to the NCTFJ operating account;
4. Year 4 contribution of US\$1,450,000 to the NCTFJ operating account; and
5. Year 5 contribution of US\$1,300,000 to the NCTFJ operating account.

The US\$2.5M for the endowment would be part of the capitalization of the NCTFJ, and the US\$4.0 million in operating funds would allow for the disbursement of grants after selecting a grant-making entity which would implement the granting process. The proposal was submitted to the TEF Board retreat in November 2016 and no formal response has been received to date, except for a request for minor tweaking of the proposal. However, since the submission, the Executive Director of TEF retired and he was replaced in March, likely delaying a decision on the proposal. Further and more importantly, the GOJ decided to convert the TEF from a statutory entity into an entity under the Consolidated Fund, changing the way TEF operates and makes grants.

The NCTFJ Chair, Vice Chair, Administrator and CMBP met with Minister Daryl Vaz, Minister in the Ministry of Economic Growth and Job Creation (responsible for the environment portfolio), and discussed the NCTFJ in late August. The Minister agreed to write a letter of support for the NCTFJ proposal to the TEF Board; to support a Cabinet Submission on the operationalization of the NCTFJ, including GOJ's request to endorse the NCTFJ as the primary entity to receive additional GOJ, bi-lateral and multi-lateral funding; and play the role of champion of the NCTFJ.

Result #2: Effective marine spatial plans and seascape governance mechanisms

Effective Marine Spatial Plans (MSPs) will lead to more effective management of marine space, since MPAs are part of geographies that encompass different uses and socio-economic needs. To date MSPs have completed for each seascape, either with direct CMBP support or through another program. Going forward CMBP's work in MSPs will focus on effective governance mechanisms and science-based information on ecological, socio-economic, and climate resilience conditions.

2.1. Regional level

CaribNode is an easy-to-access, GIS-based decision support system designed to facilitate MPA planning and management in the Caribbean region. It brings together the best available data on key marine natural resources and tools to improve the understanding of marine biodiversity conservation, including the health of coral reef ecosystems. One main feature of CaribNode is the Coral Reef Assessment Tool, which incorporates spatial layers on key marine habitats and marine

protected area boundaries to deliver a dashboard display of baselines for coral reef health. CaribNode also contains associated PDF report cards for selected countries available for download.

During Year 3, CMBP extended the CaribNode structure from six countries in the Eastern Caribbean to the Dominican Republic, Haiti and Jamaica, updating the data catalog for the bathymetry, habitats, MPA boundaries and reef units for these seascapes. In addition, CMBP demonstrated CaribNode during a workshop with 19 members of the Dominican Reef Network in the Dominican Republic so that they will be able to use it.

2.2 Dominican Republic – Samaná Bay

Seascape Governance

DR and Haiti Joint Cooperation. During the year CMBP facilitated a dialogue between Haiti and the Dominican Republic to promote bi-national cooperation on the management of the 3BNP-Monte Cristi area. This dialogue started with a meeting held on January 25 at FoProBiM offices in Caracol between the CMBP Haiti seascape team (FoProBiM, TNC), Haitian officials (Ministry of Environment and ANAP), Dominican counterparts from TNC, and Dominican government officials (Ministry of Environment and Fisheries Bureau). During this meeting, the Management Plan for 3BNP was discussed and the Dominican team made a few presentations on the management of the Monte Cristi network of MPAs and lessons learned to date. This meeting promoted sharing of good practices and allowed the Haitian actors to benefit from the DR's longer experience with MPA management. As a result of this meeting, the Haiti and DR participants agreed to form a bi-national committee to continue this dialogue, prioritizing fisheries as the main theme for coordination along Hispaniola's northern coast.



Patrick Dunn Charge D'affaires of the US Embassy delivers the opening remarks during the Binational meeting in July. Photo: TNC.

CMBP organized the first meeting of the bi-national committee on July 12 in Santo Domingo to discuss how to operationalize this collaborative initiative. Members of the relevant government agencies and ministries for both countries participated along with representatives from The Nature Conservancy, USAID, and other NGOs (AgroFrontera and Reef Check DR). CMBP facilitated a discussion on common issues and problems in the area. It was agreed to develop a bi-national action plan on collaboration in addressing fisheries-related issues in the seascape, including coordination mechanisms and standardized data collection. CMBP has engaged a consultant to prepare the draft action plan in Year 4 for feedback from all the participants.

Co-management Agreement. On late August, TNC, CEBSE, PROPAGAS Foundation and the Ministry of Environment committed to establish a co-management agreement for Manglares del Bajo Yuna National Park. The signing was witnessed by the US Embassy. The terms and conditions of the agreement are being negotiated, but it is expected that TNC and CEBSE will be closely involved in the management of the no-take zones as well as the area's mangroves restoration.

2.2. Haiti Seascape – Protected Area of Three Bays

MSPs Developed

3BNP Zoning Plan. During Year 3 CMPB completed a zoning plan for the Three Bays National Park through a highly participatory process with the Haitian Government and key stakeholders. The zoning plan, which is included in the management plan, was officially presented to the public and validated by the government at the validation meetings for the management plan on June 19 and June 20. This zoning plan establishes clear delimitations of where fishing activities should or should not take place within the marine managed area. Supplies are currently being purchased to start implementing physical zoning structure, such as buoys and markers at Three Bays National Park.

Seascape Governance

DR and Haiti Joint Cooperation. As noted in the previous section, CMBP facilitated a dialogue between Haiti and the Dominican Republic to promote bi-national cooperation on the management of the 3BNP-Monte Cristi area. Refer to page 16 for details.

2.3 Jamaica seascape: Southwest coast of Jamaica and Pedro Bank

MSPs Developed

Pedro Bank MSP. CMBP continued TNC's previous work under a NEPA grant for the development of the Pedro Bank MSP, which was submitted to NEPA in Year 2. Multi-agency approval of the MSP is required, and NEPA advised CMBP that the National Council on Ocean and Coastal Zone Management must review, recommend any changes, and approve the Pedro MSP. Due to the infrequency of Council meetings and higher priority items, the Pedro MSP has not yet been presented to the Council, though NEPA has committed to have the MSP presented and approved as soon as possible.

Expected Result 3: Promote sustainable fisheries sector and sustainable livelihoods

CMBP has developed Fishery Sector Action Plans (FSAP) for each seascape that provide a blueprint for achieving more sustainable fisheries over the coming years and guide sustainable fisheries demonstration projects that will be carried out during Years 3-5. In addition, CMBP is strengthening the capacity and motivation of fishers and local fisher associations to support sustainable fishing in tandem with providing options for sustainable alternative livelihoods that help reduce pressure on fisheries.

3.1. Regional Level

Regional Parrotfish Conservation Outreach and Education Initiative

During Year 3, CMBP developed a regional parrotfish conservation outreach campaign to promote the non-harvesting, sale and consumption of parrotfish in view of the vital role this species plays in maintaining healthy coral reefs. Fewer parrotfish results in algae overgrowth on the reef, causing the reef to die and ultimately impacting other fisheries that rely on this habitat.

The CMBP team developed a catchy hashtag, #PassOnParrotfish, that enables the campaign to target many groups with the same hashtag while delivering different messages through social media. For example, consumers are asked to pass on eating parrotfish when they are offered in restaurants or sold in shops. The team also developed a campaign toolkit at USAID's request that outlines the campaign's strategy, targeted audience and campaign content, including 12 social media posts. CMBP also contracted a graphic designer to create the campaign's imagery and a communications specialist to develop and disseminate messages that will be posted on TNC's Caribbean Facebook page and shared with consumers, market owners, restaurants and other social media groups in all five CMBP target countries. Additionally, a digital magazine and a public service announcement video will be completed and shared on TNC's Caribbean Facebook Page and with the target audience. To date, CMBP engaged many organizations and groups, such as SevenSeas Media, PEW, Sandals Resorts International, Jamaica Environmental Trust, ISER Caribe, Mission Blue, Marine Conservation Institute, Waitt Institute and Rita Seller's group, who have agreed to further post CMBP's parrotfish related messages on their social media pages to increase the reach of the campaign. Once the campaign is officially launched, its progress will be monitored by the communications specialist and TNC's marketing team by viewing Facebook likes and trends.

The campaign was recently approved by USAID and is expected to be launched by October 20, 2017 and run through December 1, 2017. It will extend beyond CMBP's target countries to networks throughout the wider Caribbean, thereby increasing the campaign's visibility and impact.

3.2. Dominican Republic – Samaná Bay

Fishery Policies

New Government Resolution to Protect Threatened Species. During the third quarter, the Environment Ministry enacted Resolution 23/17, which prohibits the catch and marketing of all species of shark and rays (all *Elasmobranches*), parrot fish, doctor fish and black sea urchins. These measures have caused concerns among fishers, since regular fishing gears used for giant squid or pelagic catchments are also capable of incidentally catching sharks. CMBP organized fisherfolk roundtable meetings in Los Cacaos, Sanchez and Sabana de la Mar in July to facilitate discussions between fishers and the government authorities on the resolution. As a result of these meetings, fishers had a better understanding of the policy. This resolution shows the commitment of national authorities to the CCI goals.

Action Plans to Protect Whales and Corals. Through CMBP, two action plan proposals were drafted for discussion and approval by the Ministry of Environment. The plans focus on conservation of corals and marine mammals in the Samaná Bay and the marine mammals in the Santuario de Mamíferos Marinos Estero Hondo and Santuario Marino del Norte (Estero Hondo Marine Mammals Sanctuary and Northern Marine Sanctuary). A meeting with the Planning Director of the Ministry is planned to discuss these plans in Year 4.

Sustainable Fishing

Suripera Net Gear Exchange. During Year 3, CMBP initiated a pilot gear exchange activity to replace unsustainable bottom trawl nets, popularly known as *licuadoras*, with a more sustainable fishing gear called suripera nets (casts net adapted for shrimp fishing) in Sabana de la Mar and Sanchez. As

a first step, CMBP conducted a technical and economic feasibility study in September and October 2016 of the suripera nets in the Dominican Republic. The assessment found that, compared to bottom trawl nets, suripera nets are 65% less expensive; their operational costs are 50% less; and the shrimp catch is roughly doubled. In addition, suripera nets minimize bycatch and impacts on benthic communities significantly. Twelve fishers from the San Lorenzo Bay Fishermen's Cooperative (COOPESAN) and the Fishing Workers' Association of Sabana de la Mar (ASOTRAPESAMAR) were also trained in the knitting of the nets; the necessary adaptation of the boats for effective net use; and the proper use/handling of the nets in the water. Based on the results of the feasibility study, CMPB designed a fishing gear exchange pilot program during April and May 2017 with the following strategic approach:

- Focus the pilot activity on owners of fishing gears and fish shop owners;
- Obtain long-term support from CODOPESCA for suriperas as a sustainable fishing gear;
- Disseminate the results of the feasibility study to further communicate the benefits of the suripera nets with a broad group of stakeholders, including the government; and
- Conduct a social marketing campaign to targeted gear owners, fish shop owners and fishers' cooperatives and associations.

This pilot activity will be complemented with the handover of an exchange kit consisting of stickers, caps and t-shirts so that those fishers who use the new nets can be easily identified. The gear exchange activity will be advanced in Year 4 in line with this implementation strategy.

Sustainable Alternative Livelihoods



Kayaking in Los Haitises. Photo: J. Bauer.

Ecotourism: During Year 3 CMBP supported the San Lorenzo Fishermen Cooperative to develop a kayak ecotourism business in Los Haitises National Park. CMBP provided technical assistance to the Cooperative to develop a business plan and setup a bookkeeping system to track incomes of separate business areas (fishing and ecotourism). Additional support was provided for training on tour guiding, ecotourism, first aid and aquatic rescue. CMBP also assisted the group to obtain preliminary approval from the Environmental Ministry in June for a kayak roof

rack in Los Haitises National Park. Kayak Ecotours is now providing supplemental income for seven members of the cooperative, as well as two hired helpers, and payment for a secured storage place for the equipment. With revenues generated for the cooperative, the venture is in the process of manufacturing its own fiberglass kayaks and considering expansion of the kayak activity to Laguna Cristal and along the Manglares del Bajo Yuna National Park to increase potential income. However, a concession contract still needs to be issued, and the Cooperative's current income is not sufficient to cover the required monthly fee as well as an insurance fee.

CMBP also continued to provide support to the Espiritu Santo Fishers Cooperative in developing ecotourism activities in La Farola Cay. With the assistance and follow up of CMBP, the Cooperative signed a concession contract with the Environment Ministry for ecotourism operations in La Farola

Key. The contract allows the Cooperative to use an area of one thousand square meters inside the marine mammal sanctuary, in return for a monthly fee of RD\$7,735 and an environmental bond of RD\$1,000,000 to the Ministry to cover for possible remediation expenses. The Cooperative has requested a grace period of 1 ½ years to allow time to develop the ecological trail and other access facilities so that these commitments can be met. During the year CMBP also supported the Ministry of Environment in providing basic training in ecotourism guiding to 23 members of the Cooperative in La Farola, all of whom received official certification as nature guides. CMBP also provided support for marketing and promotion materials in both English and Spanish. Notably the German government, through the German Agency for International Development (GIZ), provided the fishermen cooperative with a donation of RD\$915,756.00 for the construction of the eco-trail and observatory deck in La Farola Key.

Crafts: During Year 3 CMBP continued to assist the Women Artisans of Los Corozos to develop alternative livelihoods through the production and marketing of handicraft products. A consultant was hired to assist three women who will handle sales for the artisan's association to strengthen their sales and marketing skills. Three women were selected by the members because of their natural abilities and disposition. As part of the training, a series of visits to gift shops and hotels were organized to establish business relations, show the merchandise and receive orders for the next cruise ship season beginning in October. Some of the buyers suggested improvements in the quality and variety of the products, and the consultant recommended changes in the women's working schedule to stabilize production levels. With the assistance of the consultant, the association agreed to distribute the income as follows: 30% for the sales team, 50% for the person who produced the craft, and 20% for the capital fund, from which the association buys materials and pays bills. The 21 members of the women's group are now ready to sell their products in Samaná on market days and to participate in fairs and artisan's markets around the country.

CMBP also provided the women's group with the necessary supplies to set up a craft stall on the Samaná boardwalk to sell goods during cruise ship days. However, the group need to consolidate the production chain and have enough inventory to cover the demand that has been preliminary assessed by the consultant. Thus, they are going to focus on the production of items that have good quality and are easy to make. Notably, the group was formally accepted as active members of the Cooperative of Fishermen Espiritu Santo of Los Cacaos.

Community Engagement and Awareness-raising

Whale Festival. With CMBP's support, the sixth humpback whale festival was organized and celebrated in Samaná on January 27 and 28. This activity aims to promote whale watching as an economic alternative livelihood for fishers and local entrepreneurs and to position Samaná as a destination for humpback. Additionally, the event was used to promote the importance of sustainable fishing and coral reefs' conservation to help sustain a healthy marine environment. The opening ceremony was directed by the Major of Samaná with the unveiling of a large sculpture of a humpback whale in a seafront public plaza. Activities included recognition of community members who championed the whale watching program, a film festival, an artisans market, folkloric ballet presentations and a mural painting contest.

Closed Seasons Calendar. CMBP, in close coordination with CODOPESCA, designed and published a calendar of banned seasons for fishing. During the first quarter of the Year 4, the calendar will be distributed nationwide with the support of CODOPESCA, the Ministry of Environment and the Dominican Reef Network (RAD). A distribution plan to cover the landing sites, fish shops, restaurants, fisher's groups and institutions nationwide is being developed together with the CODOPESCA.



Presenting the closed season calendar to environmental authorities. Photo TNC.

Awareness Raising on Suripera Nets. CMBP is developing a communication campaign to promote use of suripera nets in Sanchez and Sabana de la Mar among fish shops, boat and fishing gear owners, as well as cooperatives and fisher associations. The campaign aims to reach 2,000 fishermen through radio spots and distribution of an exchange kit. The motto of this campaign is "Seamos Todos Suriperos" or "Let's all be Suripera Users". Signs and other materials will be distributed among participating fishers, so they can easily be identified and supported by authorities, while raising visibility for CMBP. The campaign will be launched in the next quarter at the Samaná city hall, with the participation of the local authorities, the IDECOOP (Dominican Cooperative Development Institute) and representatives of the fisher associations and fish shops. Afterwards, CMBP will start a thirty-day intensive campaign of local presentations, demonstrations at the landing sites, and technical assistance with fishers using the nets. In addition, CEBSE has negotiated a public-private partnership agreement with a local radio station in Sabana de la Mar to support this campaign by offering free airing of a radio spot promoting the use of suripera nets. Once signed, this will be the first public-private partnership for coastal conservation in the Samaná Bay Seascape. A similar partnership is being negotiated with another local radio station in Sanchez, with the same purpose.

Awareness Raising on Parrotfish Conservation. A second campaign for parrotfish conservation is also under implementation in Samaná, Los Cacaos and Las Galeras, all of which are communities that encompass the biggest number of divers and fishers. With the motto "Salvemos el Pez Loro" or "Let's Save the Parrot Fish", this campaign aims to reach around 600 fishers, 12 fish shops, and 10 small restaurants. Local radio stations have agreed to broadcast public service announcements pro bono in Sanchez and Sabana de la Mar. An evaluation of the effectiveness of the campaign will be conducted afterwards. This effort is closely aligned with CMBP's regional parrotfish conservation awareness campaign.

Seafood Festival: CMBP organized the annual Seafood Festival (Marisco Ripiao Festival) in Sánchez, Samaná on June 16-18, 2017. The festival promotes the fishing industry, history, culture and the gastronomy of Sanchez while raising awareness of conservation issues and contributing to the development of economic activities that benefit residents. This year, the festival received around 2,800 visitors, most of whom were Dominicans. Six artisan groups participated with exhibitions and sales of their products, and seven environmental organizations promoted the conservation of natural resources, sustainable fisheries, the importance of coastal and marine ecosystems and the protection of key species.

3.3. Haiti Seascape – Protected Area of Three Bays

Fishery Policies

3BNP Fishery Sector Action Plan. CMBP completed the final draft Fisheries Sector Action Plan for 3BNP and presented it to the public on January 25, 2017 at the University of Limonade along with the management plan. The document has been translated into French and is due for wide circulation with government and all key stakeholders in Haiti. CMBP is using the information and recommendations in the Action Plan to inform its interventions, including training needs, park zoning and management, and an upcoming pilot fishing gear exchange. In addition, the Fisheries Sector Action Plan provides much needed guidance to the MPA agencies on governance and management issues related to the fisheries around Three Bays National Park.

Legal Analysis. A CMBP consultant prepared an assessment of the legal framework for enforcement at Three Bays National Park, which provided clear guidance how current laws allow for effective park governance and surveillance. The main recommendations were the following:

- Obtain advance authorization from ANAP/Ministry of Environment to hire park wardens, thereby ensuring the legality and viability of the hiring process; and
- Include the local Mayors and the Administrative Councils of the Section Communales (CASECs) in the management and surveillance of the park and in the CMBP/GCFI warden training in Year 4, since they are mainly responsible for law enforcement.

Meetings were also arranged with ANAP, the Ministry of Environment, local mayors, and the local police to discuss their support for the work being carried out by the “environmental animators” trained by FOPROBIM. ANAP indicated it is open to hiring them as park wardens under the Ministry’s payroll when the CMBP ends, provided a proper authorization process is in place. ANAP’s Assistant Director Coudo Prenor suggested that another meeting be held with FOPROBIM in Year 4 to discuss this plan in greater detail.

Sustainable Fishing Practices

Fishing Gear Exchange. During the 4th quarter CMBP completed a gear exchange feasibility assessment and organized a meeting with mayors and local stakeholders to discuss the preliminary findings as well as collect additional input for preparation of the final report. Through this pilot, 30 participating fishers will essentially replace their small mesh nets with a 3-3.5-inch mesh size, which will allow the number of juvenile fish harvested to be reduced. The study found strong support for a fishing gear exchange pilot project and recommended that the pilot be launched at Madras and Caracol. The conditions at these two sites are more favorable than the conditions at Fort Liberte, where there is a larger number of fishers, uncontrolled entry of poachers and buyers from the Dominican Republic and, considerable illegal cross-border trade. Madras and Caracol on the other hand, are close to each other and have the same local government, whose officials have expressed strong interest in supporting and playing an active role in the project. The project team decided to start first with one pilot in Madras, a small community located within one of the Park’s no-take zones. Following discussions with different stakeholders, a tripartite cooperation system was proposed for the pilot gear exchange program with the following key groups:

- Fishing associations in Madras (OPDM)

- Local government authorities with the mayor's office as the focal point
- FoProPiM

In addition, the CMBP project management team recommended that ANAP be considered a fourth stakeholder in this initiative. The modalities for this collaboration will be described in an MOU to be signed by representatives of each party. Once in place, a framework for controlling and enforcing fishing regulations should be established. This will provide the fishers an incentive to switch to more sustainable (and legal) gear. CMBP is finalizing the Terms of Reference for the recruitment of a contractor to launch a pilot gear exchange program in Madras at the beginning of Year 4. Some of the main recommendations made by the consultant to help ensure the success of the gear swap pilot project are to:

- Conduct awareness trainings focused on the benefits of the gear swap for fishers and other relevant stakeholders to avoid conflicts and misunderstandings among fishers and other stakeholders;
- Buy-out old small mesh gear to transform them into marketable products (e.g., hammocks);
- Appoint game wardens to enforce regulations;
- Engage Fishing Associations to help manage the gear swap pilot and promote the adherence of fishing regulations;
- Monitor progress of the exchange pilot project at landing sites by collecting comparative data about currently used and larger mesh nets on fish size, volume of fish and value of fisheries products;
- Offer alternative income generating activities such as Factory in the Box, an initiative being considered in collaboration with a partner organization called Trees That Feed Foundation (TTFF) to support production and selling of breadfruit flour out of the breadfruits harvested locally;
- Provide incentives and discourage sales of illegal gears and undersized mesh netting; and
- Buy out or exchange all small mesh nets and replace them with acceptable larger mesh gill nets.

CMBP will be sourcing a contractor in Y4 to design, launch and manage the gear exchange pilot based on recommendations from the feasibility study. The contractor will work closely with the fishers in Madras, local mayors and FoProBiM to ensure effective execution of the pilot.

Alternative Livelihoods

Feasibility Studies. During Year 3 CMBP completed feasibility studies and mini-business plans for three potential livelihood areas - plastic collection/recycling, kayaking/canoeing, and honey packaging and selling. CMBP decided to focus on kayaking ecotourism and apiculture/ honey marketing since these areas have a better chance for long-term sustainability, compared to plastic collection and recycling. CMBP engaged a local consultant group, Initiative for Environment and Integrated Development in Haiti (IEDIH), to support development of pilot community-based enterprises for both kayaking ecotourism and apiculture/honey marketing within the Three Bays area. IEDIH prepared a workplan for these activities based on the findings of the feasibility study. Most recently, after completing a capacity assessment of the target communities, IEDIH designed a customized business training and mentoring program to assist associations in the communities to successfully launch and manage enterprises in these two areas.

Kayaking Ecotourism. CMBP selected APF (Association des Pecheurs de Fort-Liberté) in Fort Liberté to lead the first pilot kayaking ecotourism activities through a community-based enterprise. During the year the CMBP team met several times with officers and members of APF to plan activities, and CMBP has started the procurement process for kayaks and other equipment. Discussions were also held with the local mayor's office and the Institute for the Safeguard of the National Heritage (ISPAN) to determine the location for a container in which to store this equipment. The local mayor, who has become very interested to see this activity in his community, provided CMBP a letter of authorization for the placement of the container in a public land in Fort Liberte.

Apiculture and Honey Production/Marketing. CMBP contracted an expert apiculturist who began extensive training activities in March for 80 people, 20 each from Bord de Mer Limonade, Jackzyl, Phaeton and Derac. Classes are held weekly for approximately 3 months, based on a list of subjects the apiculturist recommended that the participants should learn, and handouts were produced with relevant information. After the training, CMBP installed 20 hives at each of the communities to allow the participants to begin managing the apiary. Two fisher associations with a total of 40 participants are now operating hives and producing honey. Production is currently 15 gallons/month on average, but it is expected to ramp up to about 40-50 gallons once the remaining 4 associations start operating their hives. Honey samples have already been submitted to a registered lab for testing and certification. The six participating fishing associations have been grouped within a cooperative which is being legally registered in Haiti. Once this process is completed the cooperative will be able to negotiate/sign contracts and sell its product under its official label on the local and international market.

Awareness Campaigns and Strengthened Fisheries Associations

Community Awareness of Marine Ecosystems. During Year 3 CMBP implemented one-day activities to raise awareness about the value and sustainable use of coral reefs, seagrass meadows, mangroves, and fisheries in nine communities - Derac, Phaeton, Chabanon, Fort-Liberté, Jaquesyl, Bord-de-Mer Limonade, Madras and Garde-Saline. In addition, a short presentation was made on pollution in general and specifically on plastic pollution, including its impacts on marine life. These awareness raising activities help engage communities in protecting the natural resources surrounding Three Bays National Park and supporting park management efforts.

Business Awareness of Sustainable Fishing. During the year CMBP contacted local businesses and started plans to organize a meeting to raise awareness about impacts of overfishing and other destructive practices at the Three Bays National Park. Initial work was completed on pamphlet design, messaging, and planning around logistics. The meeting was postponed due to the hurricanes (Irma and Maria) that affected the North and Northeast coasts of Haiti. It will be rescheduled during the first quarter of Year 4.

Support to Associations. CMBP works with many community and fisheries associations, as effective platforms for implementing and sustaining activities. However, these organizations typically have very weak capacity to organize members and carry out activities. In this connection CMBP led two-day training sessions on association strengthening for 30-40 participants from eight fisheries associations - Asosiyasyon Pechè Fayeton (ASPF), Cooperative des Pecheurs de Derac (CPD), Organisation des Citoyens pour le Progrès Avisé de Chabanon (OCPAC), Rasanbleman Peyizan pou

Devlopman Jakzi (RPDJ), Brigade Maritimes en Action (BMA), Oganizasyon BaSalin pou Devlopman Karakol (OBDK), Asosiyasyon Pechè Karakol pou Devlopman laPèch (APKDP) and Association des Pecheurs de Garde-Saline (APGS). The two-day training was identical to the one offered in Year 2 to a different set of associations, focusing on how well-running associations should be structured. CMBP also provided these associations one-day training sessions on conflict resolution, particularly related to resource usage, and a one-day leadership training session to approximately 25 members of these associations who showed a higher capacity level and demonstrated potential to lead their associations.

3.4. Grenadine Bank Seascape

Sustainable Fishing

Sustainable Lobster Fishing. In October 2016, CMBP facilitated two meetings with 25 fishers on Mayreau, equipment suppliers and lobster buyers to obtain a consensus on changing current fishing methods. The fishers currently use trammel nets, which have detrimental effects on the marine environment, including bycatch and harm caused to the coral reefs and marine benthic habitats. With training provided by fishers from Bequia (another Grenadine island), the participants built fifty lobster pots and tested them to determine if this more sustainable gear was economically feasible for the fishers. Lobster pots are a more sustainable fishing gear, as they cause less harm to the marine environment and reduce bycatch significantly. After three months of use, the fishers provided feedback regarding the effectiveness of the lobster pots, the challenges faced and the next steps for CMBP in supporting more sustainable fisheries in Mayreau. The main points were:

- Design of the lobster pot: The design of the lobster pots constructed in the December workshop should be improved to make the pots more effective. Specifically, the pots should be made from dark materials, such as plastic-coated wire mesh instead of the shiny galvanized wire mesh, and the design of the funnel where the lobsters enter the pots should be modified.
- Sustainable and effective bait: The pots must be baited to be effective. Cattle hide, which was used in the initial phase of the pilot, is very effective and the preferred bait. However, cattle hide is costly (8 XCD/lb. x 2.5 lb. per pot per fishing trip = 20 XCD per pot per fishing trip) and shipping it from mainland Saint Vincent to Mayreau is a challenge. When cattle hide is unavailable, fishers use discarded fish waste such as shark skin (after being legally captured), and sting ray skin (from those inadvertently caught) by other fishers. However, despite the legal laws allowing the harvesting of sharks, globally, this species is considered threatened and, reduced populations will have a negative impact on biodiversity and ecosystem health. Therefore, this presents an opportunity for the team to pursue future work with the government and fishers to strengthen both shark and ray protection laws while improving the lobster fishery value chain.
- Optimal number of pots: Fishers must deploy at least 10 pots per fishing trip to justify the cost of gas (15 XCD/gallon x 16 gallons per fishing trip = 240 XCD/fishing trip). Two pots are not enough and so fishers have been teaming up and pooling their pots.

Overall, the fishers acknowledged that trammel nets are highly destructive, welcomed the lobster pots and indicated their interest in continuing this initiative. They also stated several challenges had to be overcome to replace the trammel nets with pots: a more effective pot design, an affordable and environmentally sound source of bait, and a larger supply of pots. However, it would take at least another two lobster seasons to address these issues, assess the results of the pilot and scale

up to commercial levels of production. Given current conditions, the team decided to discontinue the pilot at this juncture and continue it under another project if funding became available. The team is dedicated to improving this fishing practice and will continue to partner with Mayreau fishers outside of CMBP to develop a viable sustainable alternative to trammel nets. Some of the fishers stated that they would continue to use the pots to catch fish, since it has proven to be an effective non-specific passive fishing mechanism to earn extra income.

Alternative Sustainable Livelihoods

Water Taxi Operators. During Year 3 CMBP provided training and safety supplies to fishers in Carriacou to enable them to perform as licensed water taxi operators and earn additional income without putting pressure on the fishery resources within SIOBMPA. CMBP completed training for 30 Water Taxi Operators/Fishers in First Aid, Quality Customer Care, Introduction to Tourism and Hospitality and Survival and Safety at Sea. In addition, seventeen Water Taxi Operators/Fishers were trained in the use of “Safety *at Sea*” equipment provided by CMBP, including 150 Life Vests, 32 VHF Radios, 30 First Aid Kits, 30 Flash Lights, 30 Flare Guns and 30 GPS. The training was considered a success by the participants, and the supplies are expected to boost business and improve the economic situation in Carriacou.

Improved Seafood Handling. CMBP trained 51 fisherfolk (48 males and three females) from Mayreau, Union Island, Carriacou and Petite Martinique in post-harvest handling of seafood, based on the international accredited standards for Hazard Analysis and Critical Control Point (HACCP). In addition, seventeen fishers each received an ice chest to store their catch. The remaining participants will receive ice chests in Y4Q1. This training assistance will reduce spoilage and increase the value of product brought to market, thus increasing the value extracted per unit of catch. By increasing economic benefits through efficiency gains, without increasing resource extraction, CMBP is contributing to sustaining the country’s fisheries.

Apiculture in Union Island and Carriacou. CMBP started apiculture as a supplemental livelihood option for fishing communities in Union Island and conducted an assessment in Carriacou to determine suitability for beekeeping there. Apiculture activities will not only allow the community beneficiaries to earn additional income but will also contribute to less pressure on marine resources and improve the health of mangrove ecosystem and surrounding vegetation. Major achievements regarding apiculture activities in Union Island and Carriacou are as follow:

- **Apiculture in Union Island:** CMBP, in collaboration with the Ministry of Agriculture, St. Vincent and the Grenadines, trained twelve members of the Union Island Fisher Folks Cooperative Society on the basic theory and practice of apiculture. Approximately eight persons took a bee sting allergy test in advance of the training tested negative and could not participate. This was a “hands on” training and the participants were actively engaged in the different aspects of bee keeping. CMBP also provided the necessary equipment and supplies, including 30 complete hives, 15 bee suits, 15 bee gloves, 8 smokers, 8 hive tools and 2 honey extractors.



A practical session during the apiculture training. Photo: TNC

- **Apiculture Assessment in Carriacou:** CMBP conducted a feasibility assessment to determine the suitability for apiculture on crown lands at Lauriston Carriacou (areas in and around the Lauriston mangrove ecosystem), in collaboration with the Ministry of Agriculture, Lands, Forestry and Fisheries (MOALFF) and the Ministry of Carriacou and Petite Martinique Affairs (MOCPPMA). The study confirmed the crown lands at Lauriston are suitable for apiculture and recommended that a pilot apiculture activity be implemented before making a more significant investment in this initiative. It was advised that 5 hives be first installed and monitored along with training for a small group of community members. In Year 4 CMBP will implement this pilot apiculture activity.

Fisher/Farmer Market. During Year 3 CMBP provided equipment for a fisher/farmer market that will be held each month in Carriacou, starting in October 2017. The market, the Paradise Beach Seafood Fest (PBSF), was initiated under the Caribbean Local Economic Development (CARILED) Project to conserve near-shore marine biodiversity through the generation of revenue opportunities for local fishing communities that border the SIOBMPA. CMBP provided the market three tents, twenty folding tables and one hundred folding chairs. Since the nearshore in SIOBMPA is now protected, local fishers need to fish farther from the shore and travel a greater distance to catch fish. The PBSF helps compensate the fishers for their increased costs by providing a larger and more stable market that can convert their catch into additional income. The PBSF also adds value by preparing a variety of dishes for lower-priced fish that would otherwise spoil or go to waste. Further, the market benefits women who are actively involved in market activities.

Sea Moss Ice Cream: CMBP also identified the manufacture and sale of sea moss ice-cream as a viable sustainable livelihood for women and men in Mayreau, which is a cruise ship stop and has many visitors. The Mayreau Explorer’s Cooperative, which is comprised of most fisherfolk in the community, is already growing sea moss and selling sea moss ice-cream in Mayreau but, at present, the ice-cream is produced in mainland St. Vincent. The Cooperative could increase its profit margin if it obtained an ice-cream making machine and freezers, but it does not own a building in which to locate this equipment. CMBP assisted the Cooperative with finding a location that could house the equipment on a temporary basis while the Cooperative establishes a permanent venue. In Year 4 CMBP intends to provide these productive assets to the Cooperative to generate additional income.

Eco-tourism. CMBP trained twelve individuals from Union Island communities in August 2017 in eco-tourism/tour guiding. The training was tailored so that the trainees will be able to effectively identify and interpret the natural and manmade resources (particularly those with historical significance) in the Grenadines. This assistance will enable the trainees to serve as tour guides and increase their household incomes, thereby reducing their dependence on marine resources for their livelihood.

Networking between Grenada and SVG. Organization among fishers is an important factor in sustainable fisheries since tackling fisheries sustainability requires collective action. CMBP facilitated dialogue and networking between fisherfolk from different islands and between fisherfolk and fisheries divisions in Grenada and SVG. CMBP convened a meeting to discuss the findings of the Fisheries Sector Assessment and Action Plan for the seascape attended by fisher organization leaders and senior fisheries officers. The participants had candid discussions regarding such challenges as illegal, unregulated and unreported fishing and the need to improve standards in food safety to meet export requirements. CMBP catalyzed exchange between fishers in Carriacou and Petite Martinique, and between Union Island and Mayreau, as well as between fish vendors and fishers, through joint participation in training on food safety. During these training sessions, fishers shared experiences and best practice in seafood handling and fishing techniques. Leaders of fisher organizations in Petite Martinique and Union Island agreed on plans for a learning exchange to build the capacity of Union Island Fisherfolk Cooperative. CMBP also facilitated dialogue between the executive board and the members of the Union Island Fisherfolk Cooperative. This dialogue began to address internal disputes and build cohesion within the group. While there is still much that needs to be done, these activities contributed towards the development of well-organized and functional fisherfolk organizations that provide tangible benefits to their members and encourage their members to follow sustainable fishing practices.

3.5. Jamaica seascape: Southwest coast of Jamaica and Pedro Bank

Fisheries Policies and Regulations

Fisheries Regulations. In Year 2 CMBP offered to provide technical assistance to the Ministry of Industry, Agriculture and Fisheries (MICAF) for preparing regulations to accompany the Fisheries Bill. The Bill had been recently completed and was expected to become law very soon but the implementation and enforcement of the Fisheries Bill would be limited without effective regulations. The Minister accepted CMBP offer of technical assistance in September 2016, and TNC met with Ministry officials in March 2017 to discuss the TOR for a consultant to update draft regulations to accompany the Fisheries Bill. However, the Ministry has not yet provided feedback on the draft TOR, despite TNC's many requests and the Ministry's request that the contractor be hired by May 2017. In August, the Ministry wrote TNC that it wanted technical assistance for Year 4. In view of the importance of a strong legal framework for sustainable fisheries, TNC will continue to vigorously pursue this initiative next year.

Sustainable Fishing Practices

Length at First Maturity of Commercially Important Reef Fish in Jamaica. During the 3rd quarter, CMBP completed the report, "Literature Review of the Length at First Maturity of Commercially Important Reef Fish in Jamaica." This review is significant because Jamaica currently has no legislation which defines a juvenile reef fish, and juvenile fish are regularly caught and consumed.

The review document makes recommendations to reduce juvenile fish catch based on the best available scientific evidence. The document was shared with the Ministries responsible for fisheries and the environment. Additionally, the information and recommendations coming out of the report can be used immediately in awareness programs throughout the Seascape to help encourage sustainable fishing by focusing on the reduction of the juvenile fish catch.

Sustainable Lobster Fishing. The Spiny lobster fishery is an important part of the Pedro Bank range of species and it is heavily exploited by commercial and artisanal fishers for export and local market. A new management regime was instituted in 2017 by the Fisheries Division because the species is overexploited and in need of active management by regulators. As a result, CMBP decided to focus its interventions in Jamaica on the Spiny lobster fishery. Main achievements and activities during Year 3 were the following:

- Spiny Lobster Strategy Development: CMBP organized a three-day FishPath workshop in February 2017 for the Jamaica Fisheries Division to improve management of the lobster fishery. FishPath, a software application developed by TNC, provides information to decision makers to identify realistic options for management strategies based on available data and capacity. The Fisheries Division was provided access to the FishPath tool which they can now apply in examining various aspects of the fishery (e.g. artisanal or commercial) and in determining which strategies would be more effective under different scenarios. Besides the Fisheries Division, the workshop involved TNC global, regional and national staff as well as external fisheries experts. As a follow-up to that workshop, CMBP offered further assistance to the Division to conduct a management strategy evaluation of their preferred top 5-10 strategies for lobster management identified during the FishPath process. While the Fisheries Division was very receptive to this offer at the time, they were not able to provide the necessary data to move forward.

- Sustainable Lobster Fishery Social Marketing: CMBP designed and implemented a social marketing campaign focusing on the sustainable Spiny lobster fishery called “Size Matters”. The Campaign for Conservation (C4C) methodology was adopted from a previous training. The major components of the campaign included the following:

- To guide the design of C4C campaign, C-CAM conducted a rapid lobster fishery awareness survey among thirty-four stakeholders on Pedro Cay to measure awareness and the practice and management of the lobster fishery. The survey revealed that while there was general knowledge about sustainable practices and acceptance that the catch has declined, participants did not think that lobsters were overfished. Additionally, respondents prefer to get their information from radio, TV and posters. During the survey, there was a suggestion that a DJ



The first-place winner was a crowd pleaser. His content covered at least three methods of sustainable lobster fishing include observing the size limits. Photo: C-CAM.

competition among Pedro fishers about sustainable lobster fishing would help engage people in the campaign.

- A DeeJay competition called “SingJ” was held at Middle Cay in July. Twelve persons participated and the songs they wrote and performed focused on Pedro relevant messages regarding proper harvesting of lobsters. The Pedro Cays audience selected the first, second and third place winners, who each received prizes.

Sustainable lobster fishery message boards and signs were developed with the theme “*Lobster size matters*” and placed in targeted locations within the Seascape that are visited by Pedro fishermen to get their attention and prompt discussions about best practices for sustainable lobster fishing.

- A speech and DJ competition was held again in August. This session was designed to assess what lessons were learned by fishers during quarter 3 and 4. The fishers developed messages how to increase the fish population on the Pedro Bank and communicated the messages through either speech or DJ categories. The top 3 speech entrants and top DJ entrant received prizes.
- C-CAM distributed 47 lobster gauges, which will be used by fishers to measure the carapace of the lobster so that undersized lobsters are not kept even if caught.
- A survey was administered July through September 2017 to assess the impact of the campaign on stakeholders on the Cays. This will guide future sustainable fishery campaigns with fisherfolk on the Cays.



A fisher in Pedro Cay demonstrates how to use a lobster ruler to assess if the lobster is legal size. Photo: C-CAM

Lobster Regulations: In June, CMBP trained 68 fishers on Top Cay and Middle Cay and 11 members of the Jamaica Defense Force on Middle Cay in lobster regulations, highlighting the legal minimum size, best handling and harvesting techniques and the closed season.

Lionfish Removal. Lionfish is an alien invasive species that threatens biodiversity and reef fish community structure and has caused direct harmful impacts on key ecological and economic species across the southeast U.S., Caribbean, and Gulf of Mexico. Efforts such as recreational lionfish removals, bounties, and removals by

conservation staff in marine parks and fish sanctuaries have helped to control lionfish populations in selected areas across the region. However more consistent, long-term solutions must be implemented to better manage lionfish populations in the region. During Year 3, CMBP experimented with one strategy to reduce the lionfish population - increase both the catch and consumption of the fish. Major interventions included the following:

- Lionfish training: CMBP conducted 3 lionfish handling and awareness sessions, including a session on how to make safe lionfish containers on Middle Cay. After attending the lionfish training, Ms. Samuels, an entrepreneur and wife of a fisher, became interested in the sale of lionfish. She has since engaged a potential buyer and sent lionfish to Old Harbour Bay, where it

was successfully sold. She received an ice chest to encourage her to continue her efforts at reducing the lionfish population and improve/diversify her livelihood.

- Lionfish market survey: CMBP conducted a rapid survey of seven restaurants on the South coast of Jamaica to assess the potential of a lionfish market within the Pedro landing sites. Six of the restaurants did not have lionfish on the menu, primarily because there does not appear to be a market for it. The one restaurant which had lionfish on the menu indicated the supply was inconsistent. When the restaurants without lionfish on the menu were asked if they would consider offering lionfish, two of them said no, one said yes, and two replied they were not sure. On the supply side, fishers on the Cays told CMPB after the awareness and training sessions that they were willing to catch lionfish if the price covered the higher costs associated with the extra handling and necessary precautions and if there were a stable market.

In view of this market uncertainty, CMBP reached out to Food for the Poor, a local NGO that assists community fisheries and people in poverty. Food for the Poor conducted a study on the lionfish market some months ago and found that there is a market for lionfish, but the supply has not been consistent. CMBP is assisting Food for the Poor to collect some additional information about the supply situation before they contact potential buyers. Specifically, CMBP is asking fishers the average size of lionfish; size of catch per week and regularity of landing lionfish. This information will also help inform CMBP's planned activity in Year 4 to increase the lionfish catch by facilitating market linkages that can align lionfish supply with its demand. If restaurants can be assured a consistent supply of lionfish, and fishers assured a stable market for their catch, then fishers would likely catch more lionfish and earn a steady income, allowing them to catch less reef fish.

Safety at Sea Training for Fishers on Pedro Bank: In December, the C-CAM Foundation organized a Safety at Sea awareness session for 37 persons which featured presentations from the Jamaica Defense Force (JDF) Coast Guard. The objective was to provide fishers an essential education in personal survival techniques and explain how to use the various safety items that they should have on board when at sea. The session also provided the opportunity to meet with stakeholders on the Cay, many of whom were in attendance. Subsequently a curriculum was created with the JDF Coast Guard to guide Safety at Sea training sessions with the Pedro Bank fisherfolk. Training modules included: a) preparation and planning; b) survival at sea; and c) navigational equipment. The Coast Guard agreed to facilitate more of these training sessions. C-CAM also drafted a "what to have on board" poster for fishers, which will be used in future awareness activities.



A fisherman demonstrates his understanding of a Radar reflector. Photo C-CAM.

In the speech competition mentioned earlier, one fisher demonstrated his Radar reflector as a safety technique, based on what he learned during the safety at sea training. He created his own radar reflector from zinc and plans to install it on his canoe.

Alternative Livelihoods

During Year 3 CMBP continued to develop ecotourism and crafts as two areas for potential alternative livelihoods in Jamaica. Major progress achieved is described below.

Ecotourism. CMBP engaged a contractor to work with the community of Bluefields to assess existing community-based/nature-based tourism activities and build upon and/or develop at least one new activity. The contractor will begin training community members in November in product development, marketing and other relevant skills. Strategic links will be made with existing tour companies to include the Bluefields community tourism products in their packages.

Crafts Production and Marketing. The CMBP contractor is also working in Bluefields, Treasure Beach and Crawford (a community associated with the Galleon sanctuary) to assist craft makers to further develop their products, improve their business processes (e.g. costing, sourcing of materials, etc.) and market their products. Training in crafts production and marketing will begin for about 20 people in October with an assessment of their existing work, capabilities and needs. To date the contractor has identified the trainees and completed a preliminary assessment of their skills, and is currently developing a training plan. Strategic links will be made for at least one entity (a hotel or craft store) to buy products from the craft makers.

Community Engagement and Awareness-raising

Outreach and Education at the Pedro Cays. To raise awareness about sustainable fisheries and the importance of fish sanctuaries, public awareness sessions were held with stakeholders on Middle Cay (the most populated cay on the Pedro Bank) in November and December 2016. These sessions featured films about Jamaican fish sanctuaries and the effects of overfishing in Jamaica. Each film was followed by discussions with participants to further engage and educate them. Presentations were also conducted on the CMBP project and the role and benefits of the Sanctuary. In addition, teaching aids were developed for wardens and supervisors to guide them in public awareness sessions with fisherfolk. These teaching aids addressed lobster conservation, relevant regulations and Safety at Sea.

Public-Private Partnership for Parrotfish Conservation. Overfishing of parrotfish throughout the Caribbean is having a negative impact on the health of coral reefs because these species play a critical role in maintaining reef health. Fewer parrotfish results in algae overgrowth on the reef, causing the reef to die and ultimately impacting other fisheries that rely on this habitat. In this

connection CMBP is establishing a public-private partnership with Sandals Resorts International (SRI) to collaborate on a national parrotfish awareness campaign that aims to conserve parrotfish and reduce its consumption. Under this partnership, Sandals and CMBP will align and coordinate their respective parrotfish awareness campaigns. CMBP's messages developed for its regional parrotfish campaign will be distributed through Sandals' existing radio and visual media platforms, including social media and a national newspaper. TNC is currently drafting the MOU for this partnership. Further, Sandals has offered to host a sustainable fisheries forum at one of their resorts, and invite the relevant government, private sector and civil society entities. CMBP's recently completed Literature Review on Length at First Maturity of Commercially Important Fish Species will be one of the important discussion topics at the forum. The outcome of the forum will be the development of a sustainable fisheries strategy document, which Sandals will present to the government of Jamaica.

C4C Social Marketing Campaigns: Following on the Campaigning for Conservation (C4C) training conducted in Year 1, CMBP awarded sub-grants of \$6000 each to four local NGOs to fund social marketing campaigns that raise awareness of the value of marine protected areas. Special consideration was given to campaigns that address parrotfish, in line with the regional parrotfish campaign being undertaken by CMBP, and to campaigns that focus on women. All four NGOs participated in the previous C4C training and will use the C4C methodology in developing campaigns in their MMA communities. The grants were awarded in September 2017 and the campaigns will be conducted in Year 4. The grantees are:

- Alligator Head Foundation – co-managing the East Portland Special Fishery Conservation Area
- Montego Bay Marine Park Trust – co-managing the Montego Bay Marine Park
- Negril Environmental Protection Trust – co-managing the Orange Bay Special Fishery Conservation Area
- Oracabessa Foundation – co-managing the Oracabessa Bay Special Fishery Conservation Area

International Fisherman's Day. C-CAM, in collaboration with stakeholders in the fishing industry organized and hosted the International Fisherman's Day (IFD) Conference on June 29, 2017. Pedro staff had the opportunity to engage with representatives from the Jamaica Defense Force Coast Guard, Marine Police and Fisheries Division on issues affecting Pedro stakeholders, such as the need for toilet facilities, solid waste management and licenses. The CMBP project was highlighted at the event by the IFD Chairman.

Expected result 4: Effective management and governance of MMAs

During Year 3 CMBP made progress in building the essential "infrastructure" for successful MMAs: solid MMA management plans that guide action; effective MMA governance mechanisms; and sufficient human capacity to carry out community outreach, enforcement, monitoring, restoration, and other day-to-day management tasks.

4.1. Dominican Republic – Samaná Bay Seascape

MMA Governance

Fisherfolk Roundtable Meetings. CMBP continued to support Fisherfolk Roundtable meetings as an effective platform to increase fishermen's participation in policies issues and engage in dialogue

with the government. During Year 3 a total of ten meetings were held in Sanchez, Samaná, Los Cacaos and Sabana de la Mar. As a result, 120 fishermen received a basic orientation on Dominican fisheries legislation, which improved their understanding of allowed and un-allowed fishing practices. As mentioned previously, several roundtables were organized to identify and discuss implementation challenges related to new regulations enforced by the Environmental Ministry, such as Resolution 0023-2017 banning the catch and consumption of all species of sharks, parrotfish and rays.

Whale Watching Regulation: With CMBP support, CEBSE participated actively in the Evaluation Commission, which is the governance mechanism related to the license granting and monitoring of the whale watching season. Besides CEBSE, the Commission is composed of representatives from the Ministry of Environment; the Association of Boat Owners of the Samaná Bay, Asesoría Ambiental de Tecnología Marítima (ATEMAR), Ministry of Tourism, the Tourism Cluster of Samaná and the Navy of the Dominican Republic. The Evaluating Commission met twice during the year to review permit requests to conduct whale watching tours and recommended the approval of 39 regular permits and 4 rotating or split permits. To facilitate the monitoring process, CEBSE trained eight 8 persons in the use of the monitoring template, basic GPS and cameras.

During the whale watching season in Samaná Bay, which ran from January to March, CEBSE conducted 91 monitoring trips at sea to identify and describe anthropogenic impacts affecting the humpback whales. During the season 165 whales were sighted, and 117 individual whales were identified (six were mothers with calves). As result of these monitoring trips, CEBSE will propose two major recommendations to the Ministry of Environment:

- Regulate fishing with nets and other gears (either rope or compressor).
- Strengthen surveillance to prevent unauthorized vessels in the area.

DR/US Cooperation: The 30th anniversary of the Marine Mammal Sanctuary of the Dominican Republic and the 10th anniversary of the Sisterhood Agreement with the Stellwagen Bank National Marine Sanctuary of the United States were celebrated on October 25, 2016. The Environmental Ministry awarded CMBP implementing partners (and other civil society organizations) with certificates of acknowledgements for their continuous support over the past years.

Coral Conservation and Restoration

Coral Nursery Operations: During Year 3 CMBP consolidated the coral nursery at La Farola Key and expanded the coral frames from five to ten frames, with an approximate length of 15 meters of *Acropora cervicornis* coral tissue. The nursery is regularly monitored by CMBP and maintained by members of the Espíritu Santo Fishers Cooperative.

Coral Nursery Training. CMBP supported several training activities in coral nursery management. Two CEBSE staff members were trained, in collaboration with Punta Cana Foundation and FUNDEMAR, on the introduction of new coral tissues from the nurseries to the reef and on the new AGRRA Protocol 5.0. In addition, CMBP supported Open Water Dive training and an exchange visit to Bayahibe for several members of the Cooperative Espíritu Santos to further build their capacity for coral nursery management. During the exchange visit, the Cooperative members learned about the joint management system that FUNDEMAR established with private dive centers to manage the nursery in Bayahibe. As a result of this visit, they realized the possible benefits of collaboration with the private sector in coral nursery maintenance. Subsequently, CMBP assisted the Cooperative to

negotiate agreements with two local dive centers in Samaná - Cayo Levantado Water Sport Center and Scubaquatic - for the maintenance of the nursery in La Farola Key.

Coral Action Plan. With the support of CMBP, an action plan for the management of coral reefs in the Samaná Bay has been prepared under a consultancy with FUNDEMAR. Over the next fiscal year, the plan will be socialized with stakeholders, including government authorities, private tour operators, hotels and diving schools that offer aquatic activities.

Mangrove Restoration

Mangrove Nursery Expansion. CMBP expanded the mangrove nursery at the Arroyo Barril site in the Samaná area, in coordination with the Environmental Ministry. The expanded area helps ensure a sufficient variety of mangroves necessary for effective restoration. The nursery now has two new plant beds marked off by blocks and galvanized pipes and sarang roofing. The sarang roofing and tubes of the rest of the nursery have been repaired to provide space to the plants that will be used for reforestation at the lower Bajo Yuna National Park. In addition, CMBP provided training on mangrove plantules reproduction for seventeen members of the reforestation brigades of Arroyo Barril.

RAMSAR Workshops. In June, CMBP organized a workshop at Sánchez City Hall to identify sources of pressure depleting natural resources and discuss conservation strategies and implementation of sustainable actions at *Manglares del Bajo Yuna* National Park. This workshop was coordinated with the Biodiversity Department of the Vice Ministry of Protected Areas and the RAMSAR committee. Among the attendees were key stakeholders representing local and national authorities and local organizations. After the workshop, the Mayor of Sanchez and the Provincial Director of Public Health visited the municipal dump and reached an agreement among the stakeholders to identify a new place for the dump and start cleaning and restoring this Ramsar site with the help of the municipality. A similar workshop was also organized with the RAMSAR committee in the Rincón de Molenillo community to identify possible synergies among government authorities and civil society organizations to enhance conservation actions. There were 29 participants from government, NGO and local communities.

Coral Network. CMBP is providing support to the recently created Dominican Reef Network (RAD, Spanish acronym), which is a platform to coordinate actions and build capacity in coral conservation. During the Year 3 CMBP/TNC facilitated a series of meetings to facilitate government participation in the RAD. As a result, CODOPESCA and the Ministry of Environment will be joining the network next year. In addition, the bylaws were approved in the 4th quarter of Year 3, and it is expected that RAD will be legally registered in the next quarter.

4.2. Haiti Seascape – Protected Area of Three Bays

MMA Governance

Agreements with Local Associations. CMBP signed protocols in May with eight local associations to affirm their support in protecting the natural resources of 3BNP to the best of their abilities. The associations were Asosyasyon Fanm Vayan Maré Salan Jakzi (AFVMSJ) Jackzyl, Asosyasyon Peche Faeton (ASPF) Phaeton, Asosyasyon Fanm Agrikol pou Devlopmen Fayeton (AFADFA) Phaeton, Brigadye Maritim en Aksyon (BMA) Caracol, Oganizasyon Peche pou Pwoteksyon Bé Limonade

(OPPBL) Bord de Mer Limonade, Rassemblemen Peyisan pou Devlopman Jakzi (RPDJ) Jackzyl, Asosyasyon Peyisan pou Devlopman Karacol (APDK) Caracol, Asosyasyon Siveyans Mangwov ak Anviwonman (ASME) and Derac. The main themes covered by these protocols include protecting the mangroves and coral reefs; participating in trainings and outreach activities, encouraging sustainable fishing; and reducing pollution along the park area.

Co-Management Agreement. Discussions continued with ANAP for the development of a co-management agreement for 3BNP with FoProBiM as well as suitable enforcement measures for the implementation of the new management plan within the 3BNP.

MMA Management Plan

3BNP Management Plan. CMBP completed the draft 3BNP management plan through an extensive participatory process involving numerous meetings with Haiti’s central and local governments and local stakeholders in the main coastal communities, all of whom provided useful feedback and guidance.

The Management Plan presents a vision to guide 3BNP’s transition from a highly and unsustainably utilized environment, with its attendant poverty and poor living conditions, to a protected area characterized by sound environmental management, economic viability, and social balance. The plan includes nine management programs with approximately 120 specific actions to be implemented over ten years, from 2017 to 2027. The nine management programs are the following:

1. Biodiversity Conservation
2. Environmental Education and Awareness
3. Sustainable Resource Use
4. Cultural Resource Conservation
5. Ecotourism
6. Community Management
7. Governance, Co-management and Enforcement
8. Infrastructure
9. Monitoring

The Management Plan also presents a Zoning System for the management of 3BNP with the following five zones:

1. Regeneration Zone
2. Conservation Zone
3. Sustainable Use Zone
4. Community Management Zone
5. Cultural Conservation Zone

The final management plan was presented to municipal and central government officials in two separate meetings. First, it was presented on June 19 to the municipal and departmental authorities of 3BNP communities, including the mayors and “CASEC” from Limonade, Caracol, Fort-Liberté and Ferrier. This meeting was led by the Department Director of the Ministry of Environment, Luckin Charles. Second, it was officially presented at a meeting held in Port-au-Prince on June 20 for representatives from the Ministry of Environment, ANAP, USAID, other development agencies, other

relevant ministries and agencies, private sector stakeholders and the press. With this event, the management plan was officially approved or “validated”. Afterwards the CMBP consultants (Global Parks) prepared a corresponding action plan, which was presented to ANAP at the end of August.

MMA Management and Infrastructure

MMA Warden Training and Staffing. CMBP provided training in environmental science and ecology during the first and second quarters to eight community members (six men, two women) who were identified as potential wardens for ANAP. After the weekly classes, these warden candidates shared information in their respective communities. In May, CMBP signed contracts with the eight individuals, hiring them as surveillance agents for 3BNP under FoProBiM’s supervision. They have already begun to prepare basic reports of various environment-related events that occur in their communities to initiate them into their duties. Eventually these agents are expected to serve as ANAP wardens and carry out monitoring activities that will curtail mangrove cutting and destructive fishing practices.

In addition, CMBP reached agreement with the Gulf and Caribbean Fisheries Institute (GCFI) to jointly plan and implement an enforcement training workshop for wardens that work within in Three Bays National Park. This will be followed by a management training that will be attended by ANAP’s staff from other protected areas in Haiti as well. A capacity assessment will be conducted to determine capacity needs in advance of the workshop. After numerous consultations, GCFI and CMBP agreed on a scope of work and budget for these trainings. It is expected the training workshops will be held during the second quarter of Year 4.

MMA Enforcement. CMBP met with members of a local fishers’ association, *Brigade Maritime en Action (BMA)*, as well as the mayor’s office in Caracol to discuss potential collaboration with FoProBiM and ANAP to begin patrolling the Bord de Mer Limonade and Caracol area waters. It is expected that an agreement will be reached with all these parties about respective roles and responsibilities in patrolling and monitoring the western part of the 3BNP and carrying out educational activities. Under this agreement, it is further expected that BMA would provide the boats; the local government would provide fuel, enforcement and moral support; and CMBP would provide the motors, training, and uniforms to the wardens working under FOPROBIM. In addition, FOPROBIM’s wardens will use these boats for patrolling along the mangroves of Caracol and Limonade Bay. Purchase of the motors is pending USAID approval.

MMA Infrastructure. CMPB is planning the purchase of supplies for signage and marking buoys that will be installed along the zone boundaries established in the zoning plan. Discussions have been initiated with TNC scientist John Knowles to produce scorecards/posters for 3BNP, designed to raise awareness and strengthen management of the Park. A poster will be finalized and shared with relevant stakeholders during year 4.

Increase in METT Score: In November CMBP facilitated the second assessment of management effectiveness in 3BNP using the Management Effectiveness Tracking Tool (METT) developed by TNC. The assessment found that 3BNP’s METT score increased by 8 points, from 31 to 39. This improvement in score is partially due to the completion of the management plan and the increase in local staff. A meeting was held to discuss the assessment in July with representatives from the ministries of the environment and agriculture, ANAP (including the newly appointed 3BNP director), CEPROBAC and UGEBFO, UNDP’s EBA project and several mayors. The meeting was also a

networking opportunity for the various stakeholders in attendance, especially for the protected area's new director.

Coral Reef and Mangrove Restoration

Mangrove Restoration

During Year 3 CMBP outplanted 60,000 *R. mangle* mangroves seedlings in nurseries around 3BNP. To date CMBP/FOPROBIM's rehabilitation efforts have contributed to improved biophysical conditions for 101.12 hectares of mangrove forest. In addition, CMBP completed mangrove ground truthing at 3BNP in August, using a combination of remote sensing technology and field surveys to provide in-depth information on the spatial extent and biophysical conditions of the forest. CMBP plans to start new batches of mangroves at the Derac, Caracol, and Bord de Mer Limonade nurseries for Year 4.

4.3. Grenadine Bank Seascape

MMA Management and Governance (TCMP and SIOBMPA)

MMA Management Plans. CMBP created two adaptive mooring management plans for TCMP and SIOBMPA in consultation with MPA boards, staff, yacht charter companies and dive shops. The plans, which were officially approved by the MPAs' respective boards, will guide the installation of new moorings in TCMP and SIOBMPA. Work has begun to install 15 new moorings and repair existing moorings in the two MPAs. This work will be completed Y4Q1. CMBP supported TCMP to improve moorings maintenance by creating maintenance schedules and datasheets to record data on moorings condition and providing two new computers. In addition, CMBP facilitated the creation of an operational plan for the management of SIOBMPA by the co-management board for the MPA at a special board meeting. The operational plan will help guide the new manager, wardens and outreach officer as they implement the management plan.

MMA Governance: CMBP facilitated a special board meeting of the TCMP board. The main purpose of the meeting was to present the mooring plan for approval, but this was also an opportunity for the board members – many of whom were new and had never visited the MPA due to the reconstitution of the board in 2015 – to visit the MPA and interact with some of the stakeholders and hear their concerns.

MMA Enforcement. A standard operating procedures manual for MPA enforcement in SVG was created with counterpart funding from the German government through the ECMMAN. As with the Grenadines Network of MPAs (see below), the MPA enforcement SOP manual will improve management effectiveness at TCMP as well as all MPAs in SVG.

MMA Staffing: CMBP hired two wardens and an outreach officer for SIOBMPA in August 2017, enabling the MPA to improve collection of fees, moorings maintenance, surveillance and enforcement, education and outreach and other MPA management functions. Wardens now patrol 12 hours per day, seven days per week, instead of 8 hours per day during weekdays only. Wardens have removed illegal fish pots and repaired boat moorings. Education and outreach activities have involved school children in learning about marine biodiversity, the MPA and the work of the wardens. The outreach officer has been building relations with fishers and raising awareness of the

benefits of the MPA through informal meetings and by assisting with the HACCP training (see above). She has also begun work on a brochure for the MPA. The enforcement and outreach activities are anticipated to result in increased compliance with MPA regulations, reducing threats to biodiversity.

MMA Training: CMBP trained six rangers at TCMP and one SusGren member of staff in SCUBA diving. Four rangers and the SusGren staff member attained the PADI Open Water Diver certification and two TCMP rangers attained the PADI Advanced Open Water Diver certification. This training enables the MPA rangers to more effectively maintain yacht moorings and monitor MPA biophysical conditions. In addition, eleven staff members from TCMP (six males, five females) were trained in first aid and emergency first response with counterpart funding from the German government through the ECMAN project.

CMBP also trained SIOBMPA wardens to improve moorings maintenance. Proper moorings maintenance is crucial for maintaining visitor safety and satisfaction, as well as increasing willingness to pay MPA fees. Installation of new moorings and improved maintenance will reduce damage to marine habitats and increase MPA revenues.

Junior Rangers. In order to increase community participation in MPA management and the build capacity of the next generation of MPA personnel, CMBP trained 12 young people from Union Island through SusGren's pilot Junior Ranger Program. The participants gained skills and knowledge in areas such as mangrove ecology, shark biology and personal competences such as communications and managing personal finances. In Year 4 SusGren will complete a formal curriculum for the program to improve the quality of training and facilitate its expansion and replication. The relevant authorities – GND Fisheries Division, GND Forestry Division, SVG National Parks Authority, GND Fisheries Division and GND Forestry Division – have been consulted in defining the set of competences that the Junior Rangers should possess by the time they complete the program at age 16 and embark on careers as professional MPA managers.

Public-Private Partnerships for MMA Management: CMPB is establishing several PPPs to strengthen the management of SIOBMPA:

- During Year 3, Sustainable Grenadines, Inc, established a public-private-partnership (PPP) with the Mustique Company Ltd. to improve management of the Sandy Island/Oyster Bed Marine Protected Area (SIOBPMA). A seconded harbor master from the Mustique Company trained the SIOBPMPA wardens in moorings maintenance, visitor relations and enforcement; set up improved management processes; and provided technical advice to the Ministry of Carriacou and Petite Martinique Affairs, which heads up the local co-management board of the MPA. This support has resulted in increased capacity of MPA personnel, increased engagement of the Ministry in MPA governance and improved management, as evidenced by an increased METT score.
- Memoranda of agreements have been drafted to establish PPPs between SIOBMPA and three dive shops in Carriacou - Deefer Diving, Lumber Dive and Arawak Dive - pledging their support for MPA management activities, such as training wardens in SCUBA diving, biophysical monitoring and moorings installation and maintenance. These dive shops are already providing support to SIOBMPA on an informal, ad hoc basis and these agreements

will formalize and strengthen these partnerships, catalyzing more sustainable support for MPA management.

- CMBP also facilitated the drafting of a Memorandum of Understanding for a PPP between Deefer Diving Carriacou Ltd., and the Ministry of Carriacou and Petite Martinique Affairs, which is the government body that leads the local co- management board of the Sandy Island / Oyster Bed MPA (SIOBMPA). The MOU supports the effective management of SIOBMPA, which is the core CMBP site in Grenada. Under this agreement, Deefer Diving Ltd. will provide in-kind support to SIOBMPA in the form of training in SCUBA, SCUBA tank refills and assistance with moorings, while the Ministry will provide materials and equipment for moorings maintenance and improved publicity of MPA activities. Deefer Dive has indicated its approval of the MOU as it stands, and the Ministry has provided feedback on the draft MOU.

Ranger Station. With counterpart funding through the ECMMAN project, architectural designs were created for a multi-purpose ranger station, visitor center and eco-friendly washroom facility in TCMP. Such a facility would help to address some of the primary threats to biodiversity in the MPA, namely illegal fishing and discharge of sewerage from yachts into the MPA. CMBP funds were originally planned for the purchase, shipping and installation of two composting toilet units. The project is on hold until SusGren obtains the financial resources for the construction of this facility.

Awareness Raising. With counterpart funding through the ECMMAN project, 3,000 MPA brochures were printed and distributed to visitors to TCMP. The brochures included information on MPA regulations, with a view to increase compliance with MPA regulations and reduce threats to biodiversity.

Grenadines Network of MPAs: During Year 3 CMBP provide extensive support towards the development of the Grenadines Network of MPAs, which has proven to be an effective platform for sharing knowledge and experiences among seven MPAs in Grenada and SVG, including CMBP's two core MPAs. CMBP assistance resulted in the following achievements:

- MPA practitioners were trained in natural resource management during the 7th Annual Meeting of the Grenadines Network of MPAs in August 2017. In keeping with the objectives of CMBP, the training focused on the annual theme “fishers’ livelihoods and stewardship”. Lessons learned in sustainable livelihoods development through CMBP were shared with the wider network, and guest speaker Mr. Lucito Ayuso, the outreach program manager for the Belize Audubon Society, shared ideas and insights from years of experience with livelihoods and outreach programs with MPA stakeholder communities in Belize.
- A monitoring calendar was prepared to coordinate biophysical monitoring among the MPAs within the Network.
- Peer-to-peer training between member MPAs resulted in increased staff capacity, including water quality monitoring capacity at TCMP and moorings maintenance and visitor relations skills at SIOBMPA.
- Grande Anse MPA became the latest MPA to join the Grenadines Network of MPAs.
- CMBP assembled a “Technical Guru Team”, a set of experts who are willing to provide *pro bono* consultancy services to the Network member MPAs. The “technical gurus” and their fields of expertise are as follows:

- Dr. Robert Glazer, Gulf and Caribbean Fisheries Institute – conch
- Ms. Julia Horrocks, WIDECAST Regional Marine Turtle Tagging Center, University of West Indies – sea turtles
- Ms. Maria Pena, University of West Indies Center for Resource Management and Environmental Studies, Barbados – socioeconomic monitoring
- Prof. Clare Morrall, St. George’s University – marine biology and coralecology
- Cpt. (retired) Jayson Horadam, MPA Enforcement International – MPA enforcement
- Mr. Ken Marks, Atlantic and Gulf Rapid Reef Assessment (AGRRA) – AGRRA method
- Dr. Patricia Kramer, AGRRA – AGRRA method
- Dr. Kimberly Baldwin, University of West Indies Center for Resource Management and Environmental Studies, Barbados – geographical information systems
- Mr. John Knowles, TNC - geographical information systems
- Ms. Abena White, SVG Fisheries Division – water quality monitoring
- Ms. Cheryl Woodley, National Oceanic and Atmospheric Administration – water quality monitoring
- Ms. Christabelle Andrews, Grenada Fisheries Division – graphic design
- Mr. Seann Regan, National Oceanic and Atmospheric Administration – graphic design

Increase in METT Score: In January 2017, TNC and SusGren facilitated an assessment of management effectiveness in Tobago Cays Marine Park (TCMP) using the Management Effectiveness Tracking Tool (METT) developed by TNC. The assessment found that TCMP’s METT score had increased significantly to 71% since the previous assessment in August 2014, when the score was 55%. CMBP interventions, such as education of stakeholders through the Junior Rangers Program and training of six TCMP rangers in SCUBA diving, contributed to this increase, as did interventions through the ECMMAN project, which are considered match support to CMBP.

Mangrove Restoration

Ashton Lagoon Mangrove

Restoration. During Year 3 CMBP completed its planned reforestation of four hectares of degraded mangroves at Ashton Lagoon in Union Island. This planting activity is expected to significantly improve the health of the mangrove ecosystem by increasing ecosystem goods and services, including added protection from storm surge and increase production of juvenile fish, and to enhance livelihood opportunities including eco-tourism and apiculture for Union Island communities. Major achievements and activities to date are summarized as follows:



Placing Seedlings on Dingy for Transport to Planting Site at Ashton

- **Field Assessment:** TNC first conducted a field assessment of the mangrove ecosystem, in collaboration with SusGren, TCMP and key stakeholders from Union communities, to determine the cause of the mangrove dieback /degradation and formulate a feasible approach for reforesting the area. The assessment revealed that mangrove dieback took place predominantly in inundated areas populated with black mangroves (*Avicennia germinans*). Additionally, the few scattered black mangroves that survived the inundation were those with vertical roots (pneumatophores) above the inundation. The prolonged inundation within the dieback area was due to ill-conceived developmental activities, including the construction of an elevated and compacted causeway between the mangroves and the sea that prevents water exchange between the sea and the mangroves. Since black mangroves are not resilient in areas where their roots are submerged for significant length of time, it was decided to reforest the area with red mangrove (*Rizophora mangle*), which is more ecologically adaptable to such environmental conditions.
- **Training and Outplanting:** CMBP successfully trained eight individuals from Union Island, mainly from the Ashton community, in mangrove seedling propagation and out-planting techniques, installed a temporary nursery using local materials, propagated 3000 red mangrove seedlings and replanted four hectares of degraded mangroves. Community stakeholders (students, teachers, fishers and other community members etc.), were actively involved at all stages of the reforestation process.
- **Mapping and Monitoring:** CMBP also mapped mangrove areas around Ashton Lagoon to analyze and compare mangrove extent cover and biomass over time (i.e. from 2015 to 2017). This process required using the mean Normalized Vegetation Difference Index (NDVI) in combination with data from field surveys. The newly planted mangroves at Ashton Lagoon should be monitored continuously and data used to evaluate success and guide management decisions for future interventions in the area. During Year 4 CMBP will monitor the progress of newly planted seedlings through the collection of information such as salinity, PH, height of seedlings, and the survival of seedlings. This information will be analyzed and used as a baseline to monitor any impacts from possible future interventions.

4.4. Jamaica seascape: Southwest coast of Jamaica and Pedro Bank

MMA Governance

Fish Sanctuary Network. During Year 3 CMBP provided support to the Jamaica Fish Sanctuary Network (FSN), which is comprised of all the co-management entities in Jamaica which have arrangements with the government to manage fish sanctuaries. The Fisheries Division participates in the FSN since it is the Jamaican government entity responsible for fisheries and the declaration of the fish sanctuaries (officially called Special Fishery Conservation Areas). FSN interactions are an important means of exchanging lessons learned and developing opportunities for collaboration towards improved management of fish sanctuaries. CMBP assistance during the year included the following:

- In December 2016 CMBP supported a FSN meeting in Bluefields Bay. The FSN had not met in sometime due to scheduling and funding constraints and CMBP assistance with hosting the meeting was very timely. Twelve sanctuaries were represented and updates were given by each organization describing the status of each sanctuary including staffing, resources, enforcement activities, funding and challenges being experienced. One of the largest challenges being faced by the FSN members is funding to carry out the necessary work to manage the sanctuary.
- At the end of August 2017 CMBP facilitated a week-long workshop in St. Ann for the members of the network. This workshop facilitated the sharing of experiences among the members, and provided an opportunity for both the Fisheries Division and the National Environment and Planning Agency to meet with the members of the network, and discuss both existing and proposed legislation.

In preparation for the workshop, the CMBP contractor met with each management entity and carried out a Marine Management Effectiveness Assessment for each of their sites. Each management entity was able to review the results of this assessment at the workshop, identify strengths and weaknesses, and develop an action plan. Other capacity-building sessions included Facilitating Leadership Skills, Investment in Human Resources, Financial Management, Effective Enforcement, Adaptive Management, Sustainable Finance, Monitoring and Evaluation. A presentation was also given by CMBP on CARIBNODE. The FSN attendees did not feel that they would necessarily be able to meet all the data collection needs of CARIBNODE. However, they did find the outputs very promising and were interested in being involved.

MMA Management

Pedro Bank Southwest Cay Fish Sanctuary: priority management activities

MMA Staffing. NEPA granted two-year Game Warden status to the Pedro staff wardens, supervisors and Project Assistant. This status gives them increased enforcement capabilities and should result in better MMA management. Ms. Cedella Harvey was a full-time fisher and will now be the first female warden to be a part of the C-CAM enforcement team. She replaced a part-time Pedro warden who switched to working on C-CAM's other sanctuary sites.

Staff Training. A range of training sessions were conducted by CMBP for C-CAM staff: 2 staff were SCUBA certified, 8 staff received fish and bird identification training, 6 staff received CPR and first aid training, and conflict and dispute resolution training. Two C-CAM staff members attended turtle monitoring training in August and then cross-trained the Pedro Wardens. During August 22-25t, two staff members attended the Sea Turtle Tagging Training in Bluefields.

To improve the knowledge base and guide the supervisors and wardens, teaching aids were developed by CMBP for use in public awareness sessions with fisherfolk. They will be used to promote sustainable fishing practices among fisherfolk, specifically focused on lobster conservation, regulations and safety at sea.

MMA Infrastructure. Sanctuary staff and a contractor, with CMBP support, replaced eight lost marker buoys and maintained several others around the SW Cay sanctuary. A mooring was installed on Middle Cay and on SW Cay to allow the CMBP sanctuary patrol boat to be safely tied up. A new SWC fish sanctuary sign was also created and it was erected at each of the three Pedro Cays. The signs will further raise awareness of the SWC sanctuary and allow fishers to more clearly recognize the sanctuary.

MMA Enforcement. Pedro SWC sanctuary wardens completed 269 patrols between October and August, on average every 24 days per month. Patrol days were affected by the lack of transportation of CMBP personnel between the Cay and mainland, and the evacuation of the Cay because of severe weather events, the most recent being Tropical Storm Harvey in August and Hurricane Irma in September. During these patrols three warnings were issued, and two arrests were made by the Coast Guard and Marine Police.

Biological Monitoring. CMBP continued monitoring of adult turtle tracks and nesting birds. In July and August, 4 sets of adult turtle tracks were observed on South West Cay. Bird surveys were conducted at Middle and SWC in November, December and February. The surveys focused on the status of nesting activity of the Masked Booby (one of five important bird species which nest on the Cays).

Bluefields Bay: priority management activities

Support for Bluefields Bay SFCA. CMBP awarded a fixed price agreement to the Bluefields Bay Fishermen's Friendly Society (BBFFS) in May to support enforcement, training, conservation and public awareness for the Bluefields Bay SFCA, which they co-manage. The deliverables for this grant include salary support for wardens, support for local public awareness activities, turtle conservation and alternative livelihood support (ecotourism related training and apiculture). The public awareness activities include such topics as marine environment, the importance of fish sanctuaries, sea turtles, coral reefs, the legal mesh size for fishing nets, and the function of wetlands. Activities will involve visits to local schools, including the Mearnsville Primary and Infant School, the Bluefields Basic School and the Belmont Academy High School.

MMA Enforcement. Enforcement and monitoring activities commenced on May 4, 2017, with 140 patrols logged over the period May to July 2017. Three warnings were issued to persons observed in the sanctuary by the wardens. Two fishing traps and one fishing net were seized. The Ministry of Industry, Commerce, Agriculture and Fisheries continues to provide some support to the SFCA by providing salaries for eight staff members, fuel for patrolling and some maintenance of equipment.

Sea Turtle Tagging and Monitoring. Sea turtles are an important factor in the health of two ecosystems, the beach/dune system and the marine system. Sea turtles are protected by Jamaican law and are vulnerable creatures as their eggs and meat are sought after for their perceived “aphrodisiac properties”. Sea turtle tagging and monitoring help track the effectiveness of programs, protect the turtles and their nests from poachers (both human and animal), and raise community awareness about the value of sea turtles, thereby helping to increase biodiversity. CMBP activities in Year 3 were as follows:

- CMBP started monitoring the sea turtle nesting sites in Bluefields on May 4, 2017. 23 nests were recorded during the period, with eight nests confirmed and fifteen unconfirmed. A total of 266 hatchlings were recorded. In addition, BBFFS received a grant of US\$4,150 from the Brevard Zoo in Florida USA to assist with the Turtle Monitoring Program. This funding facilitated the construction of a tent on Farm Beach (the primary nesting site in the Bluefields area) and the purchase of supplies, such as repellent and batteries. Environmental outreach is also a component of this grant with special emphasis on turtles.
- CMBP facilitated sea turtle tagging training in Bluefields during August 22-24 for CMBP community groups as well as other groups carrying out turtle monitoring programs. The volunteer trainer was an expert from the Wider Caribbean Sea Turtle Conservation Network (WIDECAST), and the training included 3 days of classroom sessions and three practical sessions at night where monitoring was conducted on a turtle nesting beach at Bluefields. Four turtles were observed, and three of them were tagged. Participants included Alligator Head Foundation in Portland (a C4C grantee), BREDS (co-managing Galleon network site), the Treasure Beach Turtle Group, CCAM and BBFFS.

Coral Nursery and Training in Bluefields Bay. During Year 3 CMBP began supporting coral restoration work in Bluefields Bay Special Fishery Conservation Area (Fish Sanctuary) with the aim of restoring the fringing reef around and inside the Sanctuary boundary so that fish habitat will be increased and fish biomass and diversity can be restored to former levels. This work will also link the nursery and the reef to eco-tourism activities that bring income to the MPA community members and reduce their dependence on fishing as their primary source of income and livelihoods. The work started in Year 3 and continues into Year 4.

The coral nursery activities are being conducted by a coral and marine biodiversity specialist contractor whose scope of work includes the rehabilitation of the existing coral nursery. The nursery has 25 “trees” which were all stocked (under another project by another partner) with coral fragments, but were not maintained for many months. The trees were given to the Bluefields Bay Friendly Fisherman’s Society (BBFFS) for upkeep of the nursery when the previous project concluded. To date the contractor has cleaned the surviving coral fragments and harvested wild stock to restock the trees. The nursery currently consists of three species: *Acropora cervicornis*, *Acropora palmata* and *Millepora complanata*.

The contract also includes training in SCUBA diving and coral gardening to three members of BBFFS staff to facilitate the continued maintenance of the coral nursery as well as to establish a second nursery. The SCUBA diving trainings have been completed and all persons have been certified. One coral gardening training was also held, with six persons trained (including previously certified divers). The contractor has identified the possible outplanting sites, as well as relocation sites for

some of the “trees” and is awaiting permission from the National Environment and Planning Agency (NEPA) to move forward with the relocation.

Galleon(Network site): Priority management activities

MMA Support for Galleon SFCA. CMBP awarded an in-kind grant to BREDS (The Treasure Beach Foundation), which is the management entity for the Galleon SFCA. The grant provides equipment and training assistance to BREDS as follows:

- CMBP provided BREDS equipment for wardens to carry out their responsibilities, including a laptop computer for writing monitoring reports, sea turtle monitoring supplies, an underwater camera for patrols and basic biological monitoring, and two waterproof flashlights, which will facilitate night monitoring of the SFCA. All these items have been procured.
- CMBP also provided training to increase the capacity of the wardens for monitoring and community outreach. Training courses include SCUBA training (PADI open water), Sea Turtle Monitoring training, Emergency First Response training and Computer Literacy training. The SCUBA training will facilitate basic biological monitoring, as the wardens will be able to dive within the SFCA to observe conditions first hand. Additionally, the sea turtle monitoring training helps build the knowledge base of the wardens since it has a biological component, enabling them to conduct additional outreach activities. The training also prepared the BREDS team to attend the Sea Turtle Tagging training which took place in August. The computer literacy training will allow the wardens to prepare monitoring reports for both the SFCA patrols and the turtle monitoring. All trainings have taken place, except the computer literacy training which was delayed due to the longer than expected time to obtain a GCT waiver for the laptop computer. The laptop has now been acquired, and the training has been rescheduled in October.

Overall Program Management

Mangrove and Coral Monitoring: Data measuring the health status of mangroves in targeted CMBP seascapes (St. Vincent and the Grenadines, Haiti and the DR) were collected between July 2017 – September 2017 and analyzed. For CMBP purposes, the indicators evaluated were the extent of mangrove cover and biomass. Field surveys, remote sensing, satellite image classification and the mean Normalized Vegetation Difference Index (NDVI) were used in combination to determine the extent of cover and biomass of the mangroves at targeted sites. At all sites, there was a net increase in the size of areas with improved biophysical conditions. In Haiti, there was a reduction in biomass for 57.47Ha of forest, while 101.12Ha showed improved biomass since 2013. For Bajo Yuna in Dominican Republic, there was a reduction in biomass for 96.32Ha of forest, while 160.27 Ha improved, particularly in the southern sections of the forest, near to the mouth of the Barracote River. The baseline data for Los Corozos was also collected in FY17, showing a total of 41.71Ha of mangrove forest in the area. In Ashton Lagoon, St. Vincent, a total of 0.71Ha was lost, while 1.99Ha showed improved biomass readings between 2015 and 2017. Targeted reforestation/rehabilitation activities at all relevant sites contributed to the enhanced biophysical conditions observed. Monitoring of these sites will continue in the last year of the CMBP.

Gender Assessment and Action Plan. During Year 3 CMBP completed a gender assessment of the five target countries and developed an action plan to reduce potential gender inequities in CMBP activities. An online orientation on basic gender concepts and gender mainstreaming was

conducted with all CMBP partners in the 4th quarter. The action plan will be implemented during Year 4.

IMPLEMENTATION CHALLENGES

- Governments in the CMBP target countries typically have weak capacity and limited resources to enforce policies and regulations and to collaborate effectively with CMBP activities. Certain CMBP activities require government consultation or approval, and delayed responses from government agencies result in delayed project implementation.
- Local NGOs and associations in the region have weak capacity and require institutional strengthening before they can implement project activities and manage their operations.
- CMBP will spend the total amount of funds obligated in the cooperative agreement much sooner than originally planned (around Dec 2018) due to an accelerated average spending rate, thereby complicating program planning and communications with stakeholders.
- Pedro Bank remains a particularly challenging site for project implementation in view of its remote, offshore location; the limited availability of transportation to and from Pedro Bank; the vagaries of offshore weather; and the general capacity limitations of partners.
- The unexpected departure of CARIBSAVE from CMBP at the end of Year 2 delayed activities in Jamaica and the Grenadine Bank, as it took time for other CMBP staff or partners to reprogram and assume responsibility for CARIBSAVE's initiatives.
- The original targeted groups for the fishing gear exchange program in the DR show less demand for the suripera net than expected, requiring the target groups be expanded to include fish shop and fishing gear owners who have an important influence in fishing practices.
- It has proven more difficult than expected to fund the constructions costs of the planned ranger station in TCMP in St Vincent.
- While new young members are joining the Espiritu Santo Fishermen Cooperative for its ecotourism initiative at La Farola Key, the fishers' participation in the organization is declining.
- ASOTRAPESAMAR's management and Board members do not appear entirely committed to fulfill the organization's mission or to cooperate with CMBP's support activities.
- The approval process for VAT exemptions in the Dominican Republic has become longer with the Ministry of Foreign Affairs (MIREX) channeling requests to DGII, thereby delaying the implementation of activities, such as the contract for the Fishing Legislation workshops and the contract for the RAD coordinator.
- Sisalco and its agreement with the Haitian government to develop 2,000 ha of land within the boundaries of the 3BNP remains a lingering and contentious issue.

PROGRAM DEVELOPMENTS

- In March CMBP completed a “prioritization exercise” to increase both the focus and impact of project activities. Since the program had reached its mid-point, it was a good time to take stock of experiences to date and make any necessary adjustments. Basically, there were too many activities planned for Year 3 within staff capacity, and activities needed to be more clearly aligned with higher-level results. Also, some activities were no longer feasible for various reasons.
- The first step in the exercise was to identify the top achievements that each seascape expected to achieve by the end of the program and align them with the results framework. The next steps were to review activities against these expected top achievements, checking for alignment with higher-level outcomes and feasibility of implementation, and to adjust performance targets based on updated information. After this exercise, CMPB revised its Year 3 work plan activities and M&E plan with a view to sharpen the focus on expected results.

MANAGEMENT AND ADMINISTRATIVE ISSUES

- In November, TNC relocated its office in Santo Domingo to Arroyo Hondo. The new facilities are closer to the USAID Mission and provide improved operating conditions.
- In February, SusGren relocated its office in Union Island to Hospital Road, Clifton Hill. The new office is more secure and less prone to flooding than the previous office.
- Winston Bowman joined TNC in September 2016 as the CMBP Chief of Party, and Sheldon Cohen, the former COP, became a Senior Advisor to the Program.
- Giselle Hall joined CMBP as the Monitoring and Evaluation Specialist in January 2017, based in TNC’s office in Jamaica.
- Danielle Kitson joined CMBP as Marine Conservation Associate in January 2017, also based in TNC’s Jamaica office.
- Audwin Andrews joined SusGren as Fisheries Coordinator in April 2017.
- Myles Phillips, who previously worked on TNC’s ECMAN project, joined the CMBP team in Grenada in July as Marine Conservation Associate (40% LOE).
- Ronald Cademus joined FOBPROBIM in Cap Haitien at the end of September as Assistant Field Director, replacing Patrick Millet.

HIGHLIGHTS OF PLANS FOR THE NEXT QUARTER

Dominican Republic

- Distribution of the calendar of closed season for aquatic species.
- Conduct training on fishing legislation to local and national authorities.
- Start mangrove restoration activities in *Manglares de Bajo Yuna* National Park.
- Conclusion of the social marketing campaign on the exchange of suriperas fishing gear in Sabana de la Mar and reactivation of activities in Sánchez.
- Conclusion of the communication campaign on parrotfish and coral reefs Samaná, Los Cacaos and Las Galeras.

Haiti

- Delivery of two outboard motors and related supplies in the western part of the 3BNP.
- Training on boat handling, engine maintenance, and safety at sea for fishing associations
- Signing of an agreement between ANAP, local mayors, local fishing associations, and CMBP.
- Delivery of kayaks and associated gear to Asosyasyon Peche Ft. Libeté (APF) in Ft. Liberte.
- Training on the use of kayaks and business practices for APF.
- Associations training on marketing and business plans led by IEDIH.
- Launch of 2 community-based enterprises: kayaking ecotourism and honey packaging and selling.
- Continuation of apiculture training for two coastal communities (Garde-Saline and Derac).
- Agreements signed between CMBP and four coastal communities for the transfer of basic apicultural equipment (gloves, veils, etc.).
- Installation of 3BNP boundary marker buoys.

Grenadine Bank Seascape

- Present policy briefs to raise MMA fees to the Grenada Ministry of Agriculture, Lands, Forestry and Fisheries, SVG National Parks, Rivers and Beaches Authority, SIOBMPA co-management board and TCMP board members.
- Launch fisher/farmer market in Carriacou.
- Install new moorings and replace existing moorings in TCMP and SIOBMAP.
- Monitor progress of apiculture initiative and coordinate efforts for strategic collaboration/merger of participating organizations for honey production, marketing and other related apiculture issues.
- Monitor progress of newly planted mangroves at reforestation site in Ashton Lagoon, Union Island.
- Brief new Permanent Secretary in the Ministry of Carriacou and Petite Martinique Affairs on CMBP activities in the Grenadine Bank.

Jamaica

- Public awareness sessions will be held on Pedro and at Bluefields Bay.
 - A snorkel session will be held to assess what species are presently in the SW Cay Sanctuary.
 - The MOU for a PPP between CMBP and Sandals Resorts International will be signed.
 - Contracts for NCFTJ marketing and a PPP will commence.
 - Computer Literacy training for BREDS will take place.
 - Craft training for alternative livelihoods will take place in October 2017.
 - Ecotourism training is scheduled for November 2017
-