

National Fish and Wildlife Foundation

NFWF/Legacy Grant Project ID: 0301.14.041092

NOAA Directed Projects 2013 - Submit Final Programmatic Report (Activities and Outcomes)

Grantee Organization: Gulf and Caribbean Fisheries Institute, Inc.

Project Title: Follow-up on Priority Caribbean Marine Protected Area Capacity-building

<b>Project Period</b>	01/15/2014 - 05/31/2015
<b>Award Amount</b>	\$31,500.00
<b>Matching Contributions</b>	\$0.00
<b>Project Location Description (from Proposal)</b>	NOAA priority MPAs within the wider Caribbean region, as included in the CaMPAM MPA Management Capacity Assessment.

**Project Summary (from Proposal)** Build upon previous peer-to-peer capacity-building workshops with priority Caribbean Marine Protected Areas. Project will address desired follow-up on sustainable financing and enforcement.

**Summary of Accomplishments** Building upon previous peer-to-peer capacity building workshops by GCFI and supported by NOAA CRCP for priority Caribbean marine protected areas (MPAs), this project helped to address desired site-level follow-up training in MPA law enforcement for Belize and Mexico, enabled program design for replication of Makai Watch experience from Hawaii to The Bahamas, helped unlock sustainable financing for the Turks & Caicos Islands, and supported innovation in MPA management planning for Grenada and St. Vincent and the Grenadines. Networking of Caribbean MPAs was achieved through regular correspondence with 27 MPAs on news and follow-up activities and through follow-up webinars on sustainable financing and law enforcement.

**Lessons Learned**

- At the closure of the earlier peer-to-peer workshops and at each major project activity we took time with participants to discuss and record any desired follow-up activities. This enabled us to capture input on the topic at hand while it was still top of mind and participants could focus on most suitable and feasible approaches to follow-up. The lesson learned is that this is highly beneficial in enabling targeted follow-up when resources ultimately permit this. We recommend that all facilitators of such capacity building and peer-to-peer sharing exercises strive to capture desired follow-up input before bringing their activities to closure.
- The project indicates the value of strategic capacity building. We have learned that there is a cumulative impact from NFWF funding that builds on earlier CRCP-funded activities, especially where follow-up is specifically designed to address gaps identified in the MPA Management Capacity Assessment.
- However, we are also learning that information in the capacity assessment in some cases is becoming outdated, and there is a need to respond to this in our follow-up activities. For example, in the Turks & Caicos Islands changes in territorial governance since 2011 have had a significant impact on MPA management and financing became a high priority need that was expressed to us through on-going networking. A review of the capacity assessment may be timely.

Conservation Activities	There were no metrics required for this proposal
Progress Measures	Other (There were no metric required for this proposal)
Value at Grant Completion	N/A

Conservation Outcome(s)	There are no 'Outcomes and Metrics' associated with this project.
Conservation Indicator Metric(s)	Other (There are no 'Outcomes and Metrics' associated with this project.)

Baseline Metric Value	N/A
Metric Value at Grant Completion	N/A
Long-term Goal Metric Value	N/A
Year in which Long Term Metric Value is Anticipated	0



Shane's Top Photos in 2015  
in Timeline Photos

Tag Photo Options Share Send

**Shane Young**  
April 3 · 🌍

Introducing Ranger Wade, Maza, and Caal in their official uniform-"Officer Presence is important!"- GCFI MPA Law Enforcement Training 2014. Thank you Belize Audubon Society for supporting this initiative. — with Amanda Burgos-Acosta.

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👍 You, Amanda Burgos-Acosta, Arreini Palacio and 11 others like this.

**Luci Castle** Tell the guys I send my love...and I think they look great!  
April 3 at 6:01pm · Like

**Arreini Palacio** Excellent!  
April 3 at 6:08pm · Like

**Amanda Burgos-Acosta** 😊 proud!  
April 3 at 6:35pm · Like

**Emma Doyle** Great work!  
April 3 at 6:44pm · Like

Write a comment... 📷 😊

People You May Know See All

**Ana Jones**  
1 mutual friend  
Add Friend

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# NFWF

## Final Programmatic Report Narrative

**Instructions:** Save this document on your computer and complete the narrative in the format provided. The final narrative should not exceed ten (10) pages; do not delete the text provided below. Once complete, upload this document into the online final programmatic report task as instructed. **Please note** that this narrative will be made available on NFWF's Grants Library and therefore should provide brief context for the need of your project and should not contain unexplained terms or acronyms.

### 1. Summary of Accomplishments

In four to five sentences, provide a brief summary of the project's key accomplishments and outcomes that were observed or measured. This can be duplicative to the summary provided in the reporting 'field' or you can provide more detail here.

Building upon previous peer-to-peer capacity building workshops by GCFI and supported by NOAA CRCP for priority Caribbean marine protected areas (MPAs), this project helped to address desired site-level follow-up training in MPA law enforcement for Belize and Mexico, enabled program design for replication of Makai Watch experience from Hawaii to The Bahamas, helped unlock sustainable financing for the Turks & Caicos Islands, and supported innovation in MPA management planning for Grenada and St. Vincent and the Grenadines. Networking of Caribbean MPAs was achieved through regular correspondence with 27 MPAs on news and follow-up activities and through follow-up webinars on sustainable financing and law enforcement.

### 2. Project Activities & Outcomes

#### Activities

- Describe the primary activities conducted during this grant and explain any discrepancies between the activities conducted from those that were proposed.

Project activities were based on needs identified by participating MPA Managers in the CaMPAM MPA Management Capacity Assessment and were drawn from participant input received at the peer-to-peer workshops about the follow-up activities that were desired by participants for ongoing capacity building. The activities funded through this grant were:

#### **i. On-site MPA enforcement training at Half Moon Caye Natural Monument for Belizean and Mexican participants**

Belize Audubon Society (BAS) manages priority sites Half Moon Caye and Blue Hole Natural Monuments. Following P2P II, the Marine Manager (S. Young) expressed his desire for on-site enforcement training for rangers and field officers as a follow-up activity. CONANP staff from neighboring Parque Nacional de Arrecifes de Xcalak (J. Gomez Poot) echoed this and since they share similar challenges in enforcement they identified an opportunity to come together for joint enforcement training. There were 28 participants and trainers, including nine participants from Belize Audubon Society, 10 from Fisheries Department, two from Coast Guard, one from Port Honduras Marine Reserve and five from Parque Nacional de Arrecifes de Xcalak. Participant evaluation indicated a strongly positive reaction to the training. This training was partly supported via a NOAA Coral Reef Conservation Program (CRCP) grant to GCFI and partly via NFWF funding to GCFI for participation by BAS and CONANP. Local co-funding helped to make possible the participation of Belize Fisheries Department and TIDE. The workshop report with training agenda and photos is attached as Appendix 1.

#### **ii. Sharing Strategies from the Pacific Ocean to Build Marine Protected Area Compliance in The Bahamas The Bahamas National Trust**

Following an introduction to Makai Watch at P2P II, The Bahamas National Trust (BNT) was among the most motivated of MPA managers to build community involvement in MPA enforcement. Potential for this was also flagged in the Caribbean MPA Management Capacity Assessment. The Bahamas is one of few locations in the Caribbean whose legislation confers powers of enforcement on volunteers appointed by BNT. The organization has been exploring approaches to co-management of protected areas, and they identified a need to determine the most feasible level of community involvement in MPA enforcement in The Bahamas and to agree on how BNT's existing wardens will work

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with volunteers from the community. GCFI developed and coordinated a detailed program for a visit to learn from Hawaii's Makai Watch program (attached as Appendix 2). Two representatives from The Bahamas National Trust together with two representatives from the Abaco Association for Flying Fishing Guides took part in a series of meetings with the coordinators and volunteers who run Makai Watch programs in Hawaii, as well as with the fisheries management authority (Division of Aquatic Resources) and with the local natural resources law enforcement agency (Department of Conservation and Resources Enforcement). The visiting group also participated in a volunteer training session hosted by the Ka'anapali Makai Watch group on Maui and joined the local Makai Watch group on patrol in Maui. The visit helped BNT learn how to train community members, the needs for ongoing coordination of community enforcement efforts, and on how to evaluate performance of the program. Co-funding for travel by two of the participants was provided by TNC.

### **iii. Unlocking Sustainable Financing for MPAs in the Turks & Caicos Islands**

In the MPA Management Capacity Assessment, Caribbean MPA managers across the region identified the top priority management capacity building need as the development and implementation of sustainable finance strategies for their MPAs. P2P I in 2011 was a direct response to this, and the head of the Department of Environment and Coastal Resources (now Department of Environment and Maritime Affairs, DEMA) from the Turks & Caicos Islands was one of the participants. DEMA and the Turks & Caicos Reef Fund participated in GCFI's webinar on sustainable financing in 2015 (funded through the GCFI-NOAA CRCP partnership on Caribbean MPA capacity building). Following this, DEMA expressed their need for assistance on sustainable financing mechanisms, especially given the dissolution of the Turks & Caicos Conservation Fund in the intervening period since P2P I. This project made it possible for a financing expert from Wolfs Company in Bonaire to work with DEMA, with other agencies in the Ministry of Tourism, Environment, Heritage and Culture, with other marine protected area managers and with stakeholders from the tourism sector in order to first understand the existing and potential funding streams and the processes for allocation of funds to MPA management. This included a series of face-to-face meetings with key representatives of government and stakeholder groups, working sessions with DEMA staff, participation in a meeting with tour operators and a half-day workshop with key stakeholders. The report from Wolfs Company is attached as Appendix 3.

### **iv. MPA Management Planning**

This activity builds on NOAA CRCP and TNC support for the review and updating of management plans (P2P III) for Sandy Island/Oyster Bed Marine Protected Area in Grenada and Tobago Cays Marine Park in St. Vincent and the Grenadines. During the management planning review process, MPA managers and the MPA boards indicated that they would welcome updated formatting for the revised management plans and user-friendly summaries or highlight materials as pull-outs. Working review documents are shown in Appendices 4-5. Findings from coral reef and MPA monitoring for the Grenadines Network of MPAs (also supported by NFWF) were incorporated into this work. GCFI and TNC continue to work with graphic design/GIS expertise to develop innovative outputs for the two participating MPAs.

### **v. Networking**

This project included regular correspondence by GCFI with the group of 27 MPAs that participated in the MPA Management Capacity Assessment. This included sharing of news and information on follow-up activities. Networking also took place through interactions between MPA staff involved in the project activities already mentioned.

#### **Outcomes**

- Describe progress towards achieving the project outcomes as proposed, and briefly explain any discrepancies between your results compared to what was anticipated.
- Provide any further information (such as unexpected outcomes) important for understanding project activities and outcome results.

The activities implemented through this grant achieved real conservation action at site level for the participating MPAs. In particular, the following outcomes were achieved from each activity:

#### **i. On-site MPA enforcement training at Half Moon Caye Natural Monument for Belizean and Mexican participants**

Enforcement training had the significant outcome for Belize Audubon Society of achieving the deputization of their marine protected area rangers as Fisheries Officers, with full powers to enforce fisheries laws and regulations in Belize. The training also resulted in Belize Audubon Society investing in new uniforms for their rangers which has contributed to enforcement effectiveness. As a result of joint training with Fisheries Department and other MPAs, there have been improved partnerships for MPA enforcement and enhanced networking among MPAs with similar goals and challenges.

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For CONANP staff at Parque Nacional Arrecifes de Xcalak, the training helped to build more strategic enforcement with the Mexican Navy, who are key partners in MPA enforcement.

## ii. Sharing Strategies from the Pacific Ocean to Build Marine Protected Area Compliance in The Bahamas The Bahamas National Trust

The visit to Hawaii successfully exposed Bahamian participants to community-based, co-management and government approaches to resource management and conservation practices in Hawai'i. They learned how Makai Watch operates in Hawai'i and the challenges, successes and lessons learned in engaging, mobilizing and training communities. This gave them an understanding of the policies and procedures used to manage the Makai Watch program, including the staff capacity required of the MPA authority in order to support the program. This enabled the Bahamian participants to learn from Makai Watch experience and to input lessons learned to the planning of action steps for involving community members in MPA management, including enforcement, with The Bahamas National Trust. The summary of lessons learned and next steps is attached as Appendix 6. The activity also helped share MPA management experience between the Pacific and the Caribbean, representing a significant milestone in MPA networking for the two regions.

## iii. Unlocking Sustainable Financing for MPAs in the Turks & Caicos Islands

The exploration of sustainable financing for MPAs in the Turks & Caicos Islands highlighted a need to optimize existing funding streams and recommended possible approaches for next steps. The project also highlighted critical gaps such as the lack of a business plan for MPA management. GCFI is assisting with possible support for implementation of indicated next steps..

## iv. MPA Management Planning

By developing innovative outputs, this project helped the participating MPAs to keep the revised plans and strategic priorities top of mind for MPA staff, board members and stakeholders. This outcome represents significant value adding on top of the revision of the existing management plans, which in the past would otherwise have been relegated to a shelf in the office.

## v. Networking

Networking of Caribbean MPAs was a positive outcome of this project, especially between Belize and Mexico, between Hawaii and The Bahamas, and between Bonaire and the Turks & Caicos Islands. GCFI also continued networking between the 27 priority MPAs with relevant expertise and other MPAs in support of sharing of best practices.

Table 1 shows the tiered ranking of capacity reported by MPA managers for topics addressed through this project, indicating progress in building MPA management capacity for effective implementation of MPAs in the Caribbean region.

Table 1: Tiered ranking of MPA management capacity by MPA Managers

MPA	Enforcement		Sustainable Financing		Management Planning	
	2011	2014	2011	2014	2011	2014
Half Moon Caye and Blue Hole Natural Monuments	2	3	-	-	-	-
Parque Nacional Arrecifes de Xcalak	2	3	-	-	-	-
Pelican Cays Land and Sea Park	2	2+	-	-	-	-
Columbus Landfall National Park	-	-	2	2+	-	-
Princess Alexandra Land and Sea National Park	-	-	2	2+	-	-
West Caicos Marine National Park	-	-	2	2+	-	-
Sandy Island/Oyster Bed Marine Protected Area	-	-	-	-	2	2+
Tobago Cays Marine Park	-	-	-	-	3*	3

\*TCMP from 2011 MPA Management Capacity Assessment: "There is a need to review the monitoring and evaluation information collected since 2007 and update and adapt the plan to accurately reflect the current status of the site and necessary management actions needed to achieve site objectives."

## 3. Lessons Learned

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Describe the key lessons learned from this project, such as the least and most effective conservation practices or notable aspects of the project's methods, monitoring, or results. How could other conservation organizations adapt similar strategies to build upon some of these key lessons about what worked best and what did not?

- At the closure of the earlier peer-to-peer workshops and at each major project activity we took time with participants to discuss and record any desired follow-up activities. This enabled us to capture input on the topic at hand while it was still top of mind and participants could focus on most suitable and feasible approaches to follow-up. The lesson learned is that this is highly beneficial in enabling targeted follow-up when resources ultimately permit this. We recommend that all facilitators of such capacity building and peer-to-peer sharing exercises strive to capture desired follow-up input before bringing their activities to closure.
- The project indicates the value of strategic capacity building. We have learned that there is a cumulative impact from NFWF funding that builds on earlier CRCP-funded activities, especially where follow-up is specifically designed to address gaps identified in the MPA Management Capacity Assessment.
- However, we are also learning that information in the capacity assessment in some cases is becoming outdated, and there is a need to respond to this in our follow-up activities. For example, in the Turks & Caicos Islands changes in territorial governance since 2011 have had a significant impact on MPA management and financing became a high priority need that was expressed to us through on-going networking. A review of the capacity assessment may be timely.

#### 4. Dissemination

Briefly identify any dissemination of project results and/or lessons learned to external audiences, such as the public or other conservation organizations. Specifically outline any management uptake and/or actions resulting from the project and describe the direct impacts of any capacity building activities.

Press notes were prepared for Belize enforcement training and the Hawaii-The Bahamas Makai Watch visit. These are attached as Appendices 7-8. PR was distributed through MPA practitioner channels and multiple email lists such as GCFI-Net, CaMPAM-L, Open Channels, and NOAA in Caribbean Newsletter, as well as being shared on GCFI's social media (Facebook and Twitter) and on partner websites and newsletters.

The following management uptake is noted:

- Belize enforcement training – this resulted in BAS rangers being deputized as fisheries officers, with greater powers for MPA enforcement than they would otherwise have had. This represents a milestone for BAS. In conjunction with this, BAS invested in new uniforms for their MPA rangers based directly on the recommendations of MPA Enforcement International through the project.
- Hawaii-The Bahamas Makai Watch visit – at the end of the visit, GCFI and BNT worked in depth to summarize lessons learned and to prepare a framework for replication of Makai Watch in The Bahamas. This could be applied to other MPAs also seeking to replicate the Makai Watch experience.
- Mexico – targeted MPA enforcement training has resulted in more strategic enforcement activities with the Navy.
- Financing – DEMA and relevant agencies in the Turks & Caicos Islands now understand the necessary steps in working towards sustainable financing and are requesting assistance via GCFI or other donors for tailored business planning follow-up and efforts to ensure that conservation funds reach MPA managers.
- Management planning – SusGren will share the outputs from the management planning assistance at the 2016 Grenadines MPA Network meeting, with potential for this to be scaled up from two to all six participating MPAs.

#### 5. Project Documents

Include in your final programmatic report, via the Uploads section of this task, the following:

- 2-10 representative photos from the project. Photos need to have a minimum resolution of 300 dpi. For each uploaded photo, provide a photo credit and brief description below;
- Report publications, Power Point (or other) presentations, GIS data, brochures, videos, outreach tools, press releases, media coverage;
- Any project deliverables per the terms of your grant agreement.

Photo: BAS ranger uniforms S Young.pdf (nb. uploaded as 'other document')

Photo: Mexican participants in enforcement training J Horadam.pdf (nb. uploaded as 'other document')

Photo: Agency visiting Honduras from Bahamas team E Doyle.jpg  
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Photo: Visit to Hanauma Bay for Bahamas team M Lameier.jpg

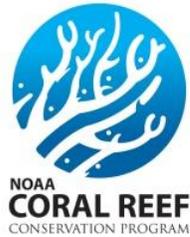
Photo: Maui closing session for Bahamas team E Doyle.jpg

Photo: Sustainable financing consultation with TCNT E Doyle.jpg

Photo: Consultation TCMP infographics for management planning A Hoffman.jpg

***POSTING OF FINAL REPORT:*** *This report and attached project documents may be shared by the Foundation and any Funding Source for the Project via their respective websites. In the event that the Recipient intends to claim that its final report or project documents contains material that does not have to be posted on such websites because it is protected from disclosure by statutory or regulatory provisions, the Recipient shall clearly mark all such potentially protected materials as “PROTECTED” and provide an explanation and complete citation to the statutory or regulatory source for such protection.*

Appendix 1



WORKSHOP REPORT  
MPA ENFORCEMENT TRAINING FOR  
BLUE HOLE AND HALF MOON CAYE  
NATURAL MONUMENTS, BELIZE  
AND PARQUE NACIONAL ARRECIFES DE  
XCALAK, MEXICO

DECEMBER 2014

**MPA Enforcement  
International**



Jayson Horadam, MPA Enforcement International, LLC  
[j.horadam@mpaenforcement.com](mailto:j.horadam@mpaenforcement.com)

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## Summary

MPA Enforcement International provided expert assistance for capacity building in MPA enforcement to Belize Audubon Society, co-managers of Half Moon Caye and Blue Hole Natural Monuments, Belize, and to CONANP staff of Parque Nacional Arrecifes de Xcalak (PNAX), Mexico. A training agenda was designed in conjunction with the MPA managers and was based on prior assessment of enforcement capacity needs. Training was held at Half Moon Caye on December 8-12, 2014. It was partly facilitated by MPA Enforcement International with some sessions facilitated by trainers from Belize Fisheries Department. There were 28 participants and trainers, including nine from Belize Audubon Society, 10 from Fisheries Department, two from Coast Guard, one from Port Honduras Marine Reserve and five from PNAX. Participant evaluation indicated a strongly positive reaction to the training.

## Introduction

In the Caribbean MPA Management Capacity Assessment (Gombos et al, 2011), enforcement capacity was ranked by managers at Belize Audubon Society (BAS) and at PNAX as Tier 2 (inconsistent enforcement of rules and regulations). At the conclusion of P2P II, BAS and PNAX expressed their interest in on-site enforcement training for their staff. BAS and PNAX networked at P2P II and had a positive experience working together during SocMon training with fishers from the northern Belize fishing communities (under GCFI-NOAA Cooperative Agreement). The MPA managers and staff share similar challenges in enforcement and they perceived an opportunity to come together for joint enforcement training, and to assist each other with enforcement planning and building compliance among similar fishing communities. Additionally, officers were invited to attend the training from the Belize Fisheries Department of the Ministry of Forestry, Fisheries and Sustainable Development and from PROFEPA and the Fisheries Office in Quintana Roo, Mexico.

Prior to running this training, MPA Enforcement International traveled to Chetumal, Mexico for meetings with MPA staff and associated stakeholders in order to conduct a brief assessment of PNAX

enforcement capacity (see separate assessment report). The understanding thus generated about the MPA context, enforcement challenges facing PNAX, personnel requirements, powers of enforcement for the rangers/wardens, their level of training, equipment available and overall enforcement capacity was input to the design of the training in Belize. Outcomes desired by PNAX included standardized procedures for boarding and inspection of vessels including officer conduct and authority, improved coordination of enforcement activities with partners via more strategic enforcement planning. Due to the fact that PNAX rangers do not have powers of arrest, their training concentrated on surveillance, equipment needs, report writing and the need to build strong relationships with the Mexican Navy, whom they depend on for enforcement needs.

Prior meetings were also held by MPA Enforcement International with BAS in order to tailor the content of the training to their needs. An enforcement assessment was not requested by BAS, and MPA Enforcement International drew upon existing experience from past work and other enforcement assessments completed in Belize. Outcomes desired by BAS included a training agenda to ensure improved case management skills; standardized procedures for vessel approach, boarding and inspection and through this improved staff personal security; the existing Belize Fisheries Department enforcement manual adapted to the remote setting of Lighthouse Reef Atoll.

This training was made possible through support from the Gulf and Caribbean Fisheries Institute and NOAA's Coral Reef Conservation Program (CRCP), in line with CRCP's international strategy to work with regional initiatives to develop and implement long-term MPA capacity building programs based on capacity assessments. Provision of funding for the training to BAS prompted the full involvement of Belize Fisheries Department and resulted in a joint training activity, with the unexpected but long-desired outcome that BAS field officers are now eligible for deputization as fisheries officers.

## Training Agenda

The training agenda developed for this activity permitted joint training for both BAS and PNAX, with some parallel sessions tailored to the particular needs of the two groups. Except for the specific time dedicated to the needs of Belize Fisheries Department, the workshop was structured with a mix of classroom time and "hands on" field training exercises designed to put into practical use what was being taught in the classroom. The agenda is provided in Appendix I and photos are in Appendix II

## Participants

All listed participants adequately participated in and completed the requirements of the training and received certificates of completion.

1. Jayson Horadam, Facilitator/Instructor: MPA Enforcement International, LLC
2. Shane Young, Facilitator/Coordinator/Sponsor: Belize Audubon Society, Manager
3. Reinaldo Caal: Belize Audubon Society, Ranger
4. Carlo Maza: Belize Audubon Society, Ranger
5. Shanton Coleman: Belize Audubon Society, Ranger
6. William Wade: Belize Audubon Society, Ranger

7. Jamal Martinez: Ranger, Belize
8. Clifford Cadle: Belize Audubon Society, Ranger
9. Richard Arenda: Belize Audubon Society, Ranger
10. Celso Sho: Belize Audubon Society, Ranger
11. Lyndon Rodney, Facilitator/Instructor/Coordinator: Belize Fisheries Department, Inspector
12. Michael Sabal, Instructor: Belize Fisheries Department, Enforcement Officer
13. Maurice Westby: Belize Fisheries Dept. Enforcement Officer
14. Rodney Castilla: Belize Fisheries Dept. Enforcement Officer
15. Clayton Gabriel: Belize Fisheries Dept. Enforcement Officer
16. Solomon Alvarez: Belize Fisheries Dept. Enforcement Officer
17. Edward Bochub: Belize Fisheries Dept. Enforcement Officer
18. Mark Gentte: Belize Fisheries Dept. Enforcement Officer
19. Elvis Williams: Belize Fisheries Dept.
20. Horrel Nicholas: Belize Fisheries Dept., Bacalar Chico Marine Reserve
21. Aldo Catzim: Belize Fisheries Dept., Caye Caulker Marine Reserve
22. Guillermo Rameriz: Belize Coast Guard
23. Meloin Barrientos: Belize Coast Guard
24. Egbert Valencio: Toledo Institute for Development and Environment, Head Ranger, Port Honduras Marine Reserve
25. Jorge Gomez Poot: Manager, PNAX, México
26. Oscar Ventura: Attorney, CONANP Mexico
27. Ángel Beltrán: Ranger, PNAX, México
28. Guadalupe Hernández, México
29. Leonardo Jiménez: México

## Participant Evaluation

At the closing of the training all participants were asked to complete an evaluation form. This contained a mixture of open and closed-ended questions intended to evaluate the perceived usefulness, impact and quality of the workshop. A total of 23 questionnaires were completed by training participants, thus the results should only be interpreted as indicative rather than statistically significant.

Key findings from the evaluation are:

1. 96% of participants reported that participating in the workshop was a good use of their time.
2. 72% of participants reported that the training contributed a lot to their knowledge of MPA enforcement, with 100% of participants having learned something that they will apply in their work. Among the most important things learned were verbal judo, a less aggressive approach to fishers and maintaining a cool head in all situations.
3. 75% of participants will change their approach to MPA enforcement after participating in the workshop. Among the ways they mentioned that they will do this are by being more aware of the situation they are in, improved body language, by being more professional in the line of duty and by proper case filing.
4. 64% do not foresee any obstacles in applying what they've learned to their job.

5. 100% of participants wish to pursue further training, including on fisheries regulations, navigation, self defense and risk management.

6. 100% of participants would recommend the workshop to other MPAs.

## Appendix I – Training Agenda



**MPA Enforcement  
International**



### On-Site MPA Law Enforcement Training, Half Moon Caye, Belize 2014

**Monday Dec 8th, 2014 ALL PARTICIPANTS**

Time Start	Time End	Item	Facilitator	Organization	Participants
10:00 AM		Depart Belize City	Shane Young	BAS	All
12:00 PM	1:30 PM	Lunch/Settle in	Shane Young	BAS	All
1:30PM	2:00 PM	Organization and Logistics of Training program	Shane Young	BAS	All
2.00 PM	5:30 PM	Situational Awareness/Officer Safety, Verbal Judo	Jayson	MPA Enforcement International	All

**Tuesday Dec 9th, 2014 BELIZE FISHERIES LESSON PLAN**

8:00 AM	12:00 PM	Belize Fisheries Regulation	Lyndon Rodney	Fisheries Department	Belizeans
12:00 PM	1:30 PM	Lunch			
1:30 PM	5:30 PM	Case file Compilation	Lyndon Rodney	Fisheries Department	Belizeans

**Tuesday Dec 9th, 2014 MEXICAN PARTICIPANTS ONLY LESSON PLAN**

8:00 AM	9:00 aM	The Compliance Pyramid	Jayson Horadam	MPA Enforcement	Mexicans
9:00 AM	11:00 AM	Interpretative Enforcement: Outreach, Education, Ambassadors	Jayson Horadam	MPA Enforcement	Mexicans

11:00 AM	12:00 PM	Roundtable Discussions; Issues and Problems in Xcalak; Problem Solving	Jayson Horadam	MPA Enforcement	Mexicans
12:00 PM	1:00 PM	Equipment needs	Jayson Horadam	MPA Enforcement	Mexicans
1:00 pm	3:00 PM	Nautical Chart Reading and Navigation	Jayson Horadam	MPA Enforcement	Mexicans
2:00 PM	3:00 PM	One on One Field Training Scenarios; Proper Boarding Techniques and Verbal Judo	Jayson Horadam	MPA Enforcement	Mexicans
<b>Wednesday Dec 10th, 2014 ALL PARTICIPANTS</b>					
8:00 AM	12:00 PM	Mock Court	Lyndon Rodney	Fisheries Department	Belizeans
12:00 PM	1:30 PM	Lunch			
1:30 PM	2:30 PM	Naval Terminologies & Navigation Rules	Michael Sabal	Fisheries Department	All
2:30 PM	4:30 PM	Position Finding and Measuring distance	Michael Sabal	Fisheries Department	All
4:30 PM	5:30 PM	Bends and Hitches	Michael Sabal	Fisheries Department	All
<b>Thursday Dec 11th, 2014 ALL PARTICIPANTS</b>					
8:00 AM	9:45 AM	Practical on Tuesday afternoon Session	Michael Sabal	Fisheries Department	All
9:45 AM	12:00 PM	GPS Theory Session	Lyndon Rodney	Fisheries Department	Belizeans
12:00 PM	1:30 PM	Lunch			
1:30 PM	3:00 PM	GPS Practical Session	Lyndon Rodney	Fisheries Department	All
3:00 PM	4:00 PM	Boat Handling– concurrent sessions	Michael Sabal/Jayson Horadam	Fisheries Department	Belizeans with Michael, Mexicans with Jayson
3:00 PM	5:00 PM	Defensive tactics	Michael Sabal	Fisheries Department	Belizeans
<b>Friday Dec 12<sup>th</sup>, 2014 ALL PARTICIPANTS</b>					
8:00 AM	10:45 AM	Practical session on Thursday afternoon Session	Michael Sabal	Fisheries Department	Belizeans
12:00 PM		Closing Ceremony	Shane Young	BAS	All

## Appendix II – Workshop Photos



*Figure 1 Arrival: Main meeting room in background, Half Moon Caye, Belize*



*Figure 2 Accommodations provided by Island Expeditions, Half Moon Caye, Belize*



*Figure 3 Simulated confrontation; Staying in control with Verbal Judo*

The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the National Fish and Wildlife Foundation. Mention of trade names or commercial products does not constitute their endorsement by the National Fish and Wildlife Foundation.



Figure 4 Simulated Boarding with violator in the bow; hard to spot is a large knife by his right hand. Situational Awareness



Figure 5 Bends and Hitches; Basic Seamanship



Figure 6 Breakout session for Mexico



Figure 7 Simulated enforcement stop. Instructor on left as violator



Figure 8 Discussing the enforcement stop; right way and wrong way



Figure 9 Simulated enforcement stop, Instructor on left is the violator



*Figure 10 Closing Ceremony, Certificates issued to all participants*

## About MPA Enforcement International

## Appendix 2



## The Bahamas/Hawai'i Makai Watch Learning Exchange

**April 23-April 27, 2015**

**Background** Following an introduction to Makai Watch at the second peer-to-peer workshop ‘Building Compliance and Enhancing Enforcement for Caribbean MPAs’ organized by GCFI and sponsored by NOAA CRCP in 2012, The Bahamas National Trust (BNT) was among the most motivated of MPA managers to build community involvement in MPA enforcement. Potential for this was also flagged in the Caribbean MPA Management Capacity Assessment. The Bahamas is unique in the Caribbean in having legislation that confers powers of enforcement on volunteers appointed by BNT, and the organization is currently exploring approaches to co-management of protected areas. The need now is to determine the most feasible level of community involvement in MPA enforcement in The Bahamas and to agree on how BNT’s existing wardens will work with volunteers from the community. Input is needed on how to train community members, on the needs for ongoing coordination of community enforcement efforts by BNT, and on how to evaluate performance of the program. See [www.bnt.bs](http://www.bnt.bs) for more information and Appendix 1 (below) about Pelican Cays Land and Sea Park.

**Goal** To learn from the Makai Watch experience in Hawai'i and input lessons learned to the planning of action steps for involving community members in MPA management, including enforcement, with The Bahamas National Trust.

### Objectives

1. To expose Bahamian participants to community-based, co-management and government approaches to resource management and conservation practices in Hawai'i;
2. To learn how Makai Watch operates in Hawai'i and the challenges, successes and lessons learned in engaging, mobilizing and training communities in the Makai Watch program in Hawai'i;
3. To understand the policies and procedures used to manage the Makai Watch program, including the staff capacity required of the MPA authority in order to support the program;
4. To inspire community representatives to lead and organize their communities in order to effectively implement co-management in The Bahamas;
5. To share MPA management experience from the Pacific region with the Caribbean region.

Key Contact Information			
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Ala Moana Hotel, Honolulu +1-808-955-4811		Royal Kahana, Lahaina, Maui +1-808-669-5911	

Wednesday, April 22, 2015		
Time	Activity	Participants/Presenters
1:05pm	Emma Arrives Honolulu on UA 253	Emma Doyle, GCFI
3:00pm	Briefing at Ala Moana	Emma Doyle and Kristen Maize, TNC
9:36pm	Bahamians Arrive Honolulu on AA 267, take taxi to Ala Moana Hotel	David Knowles, Ellsworth Weir, Cindy Pinder, Paul Pinder
Overnight Ala Moana Hotel, Honolulu		
Thursday morning, April 23, 2015		
<b>Objectives</b>		
<ol style="list-style-type: none"> <li>1. Understand how Makai Watch operates in Hawai'i and the challenges, successes and lessons learned in engaging and mobilizing communities in the Makai Watch program in Hawai'i</li> <li>2. Understand staff capacity and funding required of the MPA authority in order to support the program</li> <li>3. Understand importance of communities' role in assisting the state in marine management, how these roles have changed over the past 5-10 years and what is envisioned for the near future.</li> <li>4. Understand roles of site coordinators</li> </ol>		
Time	Activity	Participants/Presenters
7:30am	Breakfast meeting at Ala Moana	Bahamas Team
8:30am	Departure for Hawai'i Division of Aquatic Resources, Commission on Water Resource Management conference room, 1151 Punchbowl St, Honolulu (parking pass from Luna)	Bahamas Team
9:00am-9:30am	Welcome and Introductions	Emma Anders, Division of Aquatic Resources (DAR), Hawai'i Coral Program Coordinator and USCRF POC
9:30am-9:45am	PIMPAC and MPA enforcement	Mike Lameier, Co-Coordinator, PIMPAC
9:45am-10:00am	The context for MPA Management in The Bahamas	David Knowles, Director of Parks, The Bahamas National Trust
10:00am-10:15am	Introduction to the Abaco Fly Fishing Guides' Association and their role in environmental stewardship	Cindy Pinder, Secretary, Abaco Fly Fishing Guides' Association
10:15am-10:30am	Introduction to Hawaii's Makai Watch Program	Luna Kekoa, State Makai Watch Coordinator
10:30am-10:45am	Community Based Subsistence Fishing Area Program	Erin Zanre, Program Coordinator
10:45am-11:00am	Hawai'i Eyes on the Reef Network and Rapid Response Contingency Plan	Anne Rosinski, Hawai'i CRCP Fellow
11:00-11:15am	TNC Hawai'i - support to community partners to manage marine resources and the Reef Resilience program	Kristen Maize, Strategic Communications Manager, TNC
11:15-11:30pm	A donor's perspective on Makai Watch	Eric Co, Senior Program Officer for Marine Conservation, Harold K.L. Castle Foundation
11:30pm-12:00pm	Closing summary	Mike Lameier, Co-Coordinator, PIMPAC and Emma Doyle, GCFI
12:00pm-1:00pm	Lunch	Kindly hosted by TNC

**Thursday afternoon, April 23, 2015**

**Objectives**

1. Participants exposed to protected area co-management
2. Understand the co-management of tourism and sustainable financing of Hanauma Bay
3. Understand potential for and challenges of collaborating with local government
4. Learn about sustainable tourism strategies applied at Hanauma Bay

<b>Time</b>	<b>Activity</b>	<b>Participants/Presenters</b>
1:30pm	Departure for Hanauma Bay	Bahamas Team and Mike Lameier
2:00pm-3:00pm	Introduction to Hanauma Bay Marine Life Conservation District (MLCD) and co-management of conservation area by DAR and local government	Elizabeth Kumabe Maynard, Environmental Education Extension Agent, Hawai'i Sea Grant
3:00pm-4:00pm	Snorkel in Hanauma Bay	Bahamas Team
5:00pm	Meet with Joe Scarpa, NOAA Officer of Law Enforcement Officer at Kona Brewing Company	Bahamas Team

Overnight Ala Moana Hotel, Honolulu

**Friday, April 24, 2015**

<b>Time</b>	<b>Activity</b>	<b>Participants/Presenters</b>
9:15am	Departure for Honolulu airport	Bahamas Team
11:00am-11:39am	Departure on Hawai'ian Airlines HA 246 Honolulu-Maui	Bahamas Team
Afternoon	Pick up rental vehicle, drive Kahului to Lahaina	Bahamas Team
4:00pm	Informal meeting with Ka'anapali Makai Watch & West Maui Ridge to Reef Initiative Coordinators and community volunteers at Maui Brewing Company, Kahana	Liz Foote, Executive Director of Project S.E.A.-Link & Coordinator, Ka'anapali Makai Watch; Tova Callender, Coordinator, West Maui Ridge to Reef Initiative

Overnight Royal Kahana, Lahaina, Maui

**Saturday, April 25, 2015**

**Objectives**

1. Gain real world experience of Makai Watch volunteer training
2. Community representatives inspired to lead and organize their communities in order to effectively implement programs, projects and activities to improve resource management

<b>Time</b>	<b>Activity</b>	<b>Participants/Presenters</b>
8:45am	Departure for Kaunoa Senior Center, Lahaina, Maui	Bahamas Team
9:00am-1:00pm	Kaunoa Senior Center, Lahaina, Maui Participate in Ka'anapali Makai Watch training	Liz Foote, Executive Director of Project S.E.A.-Link & Coordinator, Ka'anapali Makai Watch; Luna Kekoa, State Makai Watch Coordinator Anne Rosinski, Hawai'i Coral Reef Conservation Program Fellow, NOAA
2:00pm	Snorkel in the Kahekili Herbivore Fisheries Management Area (optional and weather-dependent)	Liz Foote, Executive Director of Project S.E.A.-Link & Coordinator, Ka'anapali Makai Watch

Overnight Royal Kahana, Lahaina, Maui

**Sunday, April 26, 2015**

**Objective**

Obtain volunteer and officer perspectives on design and functioning of Community Fisheries Enforcement Unit (CFEU) for input to The Bahamas

<b>Time</b>	<b>Activity</b>	<b>Participants/Presenters</b>
8:15am	Departure for Old Kahului Armory, 175 S. Puunene Ave., Kahului, 96732	Bahamas Team
9:00am-10:00am	Introductions and Talk Story	Brooks Tamaye, Supervisor, CFEU Kuheha Asiu, Makai Watch Coordinator
10:00am-11:15am	Site Visit to DOCARE Armory	Bahamas Team
11:15am-11:30am	Wrap up	Emma Doyle

Overnight Royal Kahana, Lahaina, Maui

**Monday, April 27, 2015**

**Objectives**

1. Summarize lessons learned so far by BNT
2. Outline proposed action steps for adaptation of Makai Watch to The Bahamas
3. Incorporate feedback from Makai Watch and DAR representatives into action steps

<b>Time</b>	<b>Activity</b>	<b>Participants/Presenters</b>
8:00am	Luna arrives Maui	Luna Kekoa, State Makai Watch Coordinator
9:00am	Departure for Kaunoa Senior Center, Lahaina, Maui	Bahamas Team
Morning	Review session for GCFI and BNT	Bahamas Team with Luna Kekoa
12:00pm-1:00pm	Lunch	Bahamas Team with Luna Kekoa and others as available
1:00pm-1:30pm	Which aspects of Makai Watch could work from a community perspective in The Bahamas?	Paul Pinder, President, Abaco Flyfishing Guides' Association
1:30-2:00pm	What's next for The Bahamas National Trust? Proposed action steps	David Knowles, Director of Parks, The Bahamas National Trust
2:00pm-3:00pm	Feedback session	Luna Kekoa, Liz Foote, Darla White, Kristen Maize, Ekolu Lindsey
3:00pm	Wrap up	Emma Doyle, GCFI
5:56pm	Luna departs for Oahu	Luna Kekoa, State Makai Watch Coordinator

Overnight Royal Kahana, Lahaina, Maui

**Tuesday, April 28, 2015**

<b>Time</b>	<b>Activity</b>	<b>Participants/Presenters</b>
6:45am	Departure for airport	Bahamas Team
8:41am-9:16am	Departure on Hawai'ian Airlines HA 145 Maui-Honolulu	Bahamas Team
12:25pm	Departure on flight AA 162 Honolulu-LAX-MIA-Bahamas (arrival Tuesday morning)	Bahamians

Emma overnights Honolulu for departure Tuesday morning

## Contact List – The Bahamas

Name	Title/Organization	Contact Information
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Paul Pinder	President, Abaco Flyfishing Guides' Association	<a href="mailto:blackfly.paul@gmail.com">blackfly.paul@gmail.com</a>
Cindy Pinder	Secretary, Abaco Flyfishing Guides' Association	<a href="mailto:skeeterone@coralwave.com">skeeterone@coralwave.com</a>
Emma Doyle	Marine Protected Areas Support, Gulf and Caribbean Fisheries Institute	<a href="mailto:Emma.doyle@gcfi.org">Emma.doyle@gcfi.org</a> 1-832-5660484 Skype ID: emmacaracas @EmmaCaribMPA, GCFI on FaceBook

## Contact List – Hawai'i - Honolulu

Name	Title/Organization	Contact Information
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Kristen Maize	Strategic Communications Manager, The Nature Conservancy, Hawai'i Program	<a href="mailto:kmaize@TNC.ORG">kmaize@TNC.ORG</a> +1-340-513-85
Luna Kekoa	State Makai Watch Coordinator	<a href="mailto:Edward.L.Kekoa@hawaii.gov">Edward.L.Kekoa@hawaii.gov</a> +1-808 349 6095
Jason Redulla	Acting DOCARE Administrator	<a href="mailto:Jason.K.Redulla@hawaii.gov">Jason.K.Redulla@hawaii.gov</a>
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Erin Zanre	Program Coordinator, Community Based Subsistence Fishing Area Program	<a href="mailto:Erin.Zanre@hawaii.gov">Erin.Zanre@hawaii.gov</a>
Anne Rosinski	Anne Rosinski, Hawai'i Coral Reef Conservation Program Fellow, NOAA	<a href="mailto:hicoralfellow@gmail.com">hicoralfellow@gmail.com</a>
Eric Co	Senior Program Officer for Marine Conservation, Harold K.L. Castle Foundation	<a href="mailto:eco@castlefoundation.org">eco@castlefoundation.org</a>
Liz Kumabe Maynard	Education Program Leader, Hanauma Bay Education Program and Environmental Education Extension Agent, Hawai'i Sea Grant	<a href="mailto:kumabe@hawaii.edu">kumabe@hawaii.edu</a> +1-808-956-2860

## Contact List – Hawai'i - Maui

Name	Title/Organization	Contact Information
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Tova Callender	Coordinator, West Maui Ridge to Reef Initiative	
Brooks Tamaye	Supervisor, Community Fisheries Enforcement Unit, DOCARE	<a href="mailto:Brooks.H.Tamaye@hawaii.gov">Brooks.H.Tamaye@hawaii.gov</a>
Kuheha Asiu	Makai Watch Supervisor, DOCARE	<a href="mailto:kuhea4@gmail.com">kuhea4@gmail.com</a>
Darla White	DAR Maui	<a href="mailto:Darla.J.White@hawaii.gov">Darla.J.White@hawaii.gov</a>
Ekolu Lindsey	President, Maui Cultural Lands And <a href="https://www.facebook.com/polaniuhiucmma">https://www.facebook.com/polaniuhiucmma</a>	<a href="mailto:ekolu333@hawaii.rr.com">ekolu333@hawaii.rr.com</a> <a href="mailto:EkoluMCL@hawaii.rr.com">EkoluMCL@hawaii.rr.com</a>

**Appendix 1:** from Caribbean MPA Management Capacity Assessment (Gombos et al, 2011)

For methodology and self-assessment questionnaire please see the full report on the [MPA Management Capacity Assessment](#)

## Pelican Cays Land and Sea Park

**Name:** Pelican Cays Land and Sea Park (PCLSP)

**Country:** Bahamas

**Year established:** 1972

**Size:** 2,100 acres (8.5 km<sup>2</sup>)

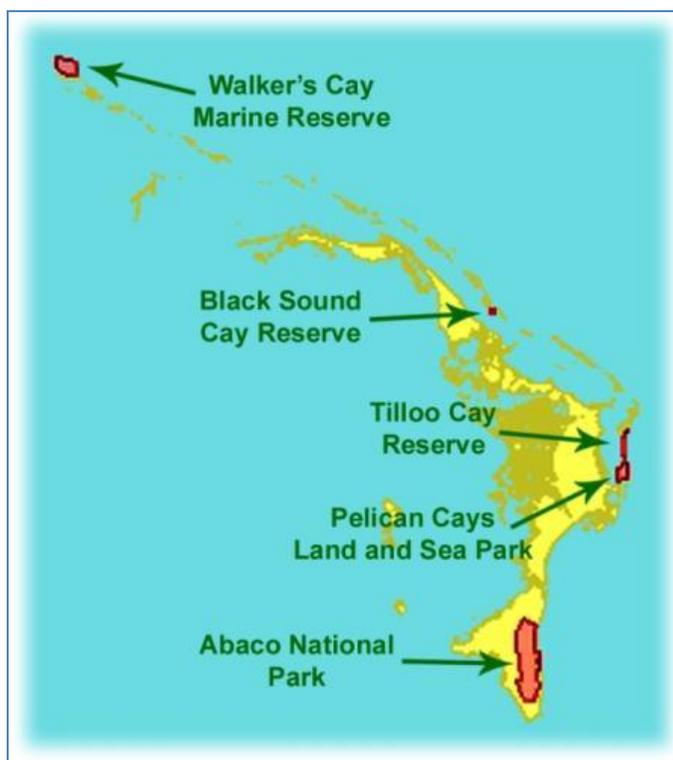
**Management Agency:** Bahamas National Trust (BNT).

**Site Resources:** Located 8 miles north of Cherokee Sound, Great Abaco, this 2,100 acre land and sea area is a sister park to the Exuma Cays Land and Sea Park. It contains beautiful undersea caves, extensive coral reefs and abounds with terrestrial plant and animal life.

**Site Uses:** This is a high use area for snorkeling. The entire PCLSP is a no-take zone.

**Threats:** Illegal fishing and recreational over-use are the primary threats

**Site Contact:** Director of Parks & Science, Bahamas National Trust - (242) 393-1317



**Figure 1. Map of Abacos Islands National Parks Including Pelican Cay Land and Sea Park**

Question	Relevance of Site Objective to Designation Purpose			
1a	According to the official designation of the site, what is the purpose of the MPA?			
	The site was designated in 1972 with push from local stakeholders who recognized Pelican Cays as an important area with a unique coral reef system. The main purpose of designation was for conservation of this unique reef system.			
Question	Purpose	Yes	No	N/A
1b	Are the MPA management plan objectives in line with the site designation purpose? (no plan)			x

<b>CURRENT MANAGEMENT CAPACITY SUMMARY</b>				
<b>Question</b>	<b>Assessment Area</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 3 (highest)</b>
2	<b>Management Planning*</b>	x		
3	Ecological Network Development		x	
4	Governance		x	
5	On-Site Management		x	
6	<b>Enforcement*</b>		x	
7	Boundaries		x	
8	Biophysical Monitoring		x	
9	Socioeconomic Monitoring	x		
10	MPA Effectiveness Evaluation	x		
11	Stakeholder Engagement	x		
12	Financing		x	
13	<b>Outreach and Education*</b>	x		
14	Conflict Resolution Mechanism			X
15	Resilience to Climate Change	x		
16	Alternative Livelihoods	x		
17	Fisheries Management			
18	Integrated Coastal Management			X
19	MPA Sustainable Tourism	x		
20	Organizational Management		x	
21	Partnerships/Coordination		x	
	<b>Assessment Area</b>	<b>YES</b>		<b>NO</b>
22	Economic Valuation			X
23	Emergency Response			X
24	Ecosystem Based Management	x		
<b>ENABLING ENVIRONMENT</b>				
	<b>Assessment Area</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>
25	Public Support		x	
26	Government Support		x	

\*denotes identified priorities for capacity building

## **2. Management Planning (Tier 1)**

Rationale: There is currently no management plan at the site. On-site management noted the development of a management plan for the site as the highest priority for building capacity. It was recognized that a management plan is needed to have clearly defined objectives to drive priorities and activities at the site and to develop the rules and regulations that best meet the objectives of the site. The site manager also recognized that the planning process could be used as means to engage all stakeholders, a process which has been lacking in the past given the lack of on-site management by BNT. The main support deficiency identified for the development of a management plan was technical support to help facilitate the process and to focus the effort to ensure a plan was completed.

## **3. Ecological Networking (Tier 2)**

Rationale: This site was established in 1972 prior to the development of the Bahamas Protected Areas System. As such, the site is currently part of an ecological network but was not designed to help achieve the network goals. Additionally, given that on-site management has been lacking at the sites until recently, coordination across sites within the system has not been feasible. Additionally, there are five other protected areas on Abaco aimed at protecting various ecologically important features of the area. While these sites have not been designed specifically to function as an ecological network, there are likely linkages among these systems. Finally, The Nature Conservancy carried out a Conservation Action Planning process to explore priority areas of Abaco for bio-diversity protection. PCLSP was identified as a priority site for conservation and recommended an extension of the site to a nearby cay.

## **4. Governance (Tier 2)**

Rationale: All national parks in the Bahamas fall under the legal framework of the Bahamas National Trust Act which established the BNT and gives it the authority to purchase or declare areas under protection “for the purposes of promoting the permanent preservation for the benefit and enjoyment of The Bahamas of lands and tenements (including buildings) and submarine areas of beauty or natural or historic interest and as regards lands and submarine areas for the preservation (so far as practicable) of their natural aspect, features, and animal, plant and marine life.” The Act also establishes a set of by-laws by which BNT can manage sites. As a national park, the PCLSP is designated as “no take”. The legal designation also includes defined penalties of up to \$500 and confiscation of boats and equipment for those convicted offenders. Additionally there are a set of by-laws that have been developed for the site mainly modeled after the Exuma Cays Land and Sea Park which was the first national park established in the Bahamas. Management noted a need for updating a set of PCLSP by-laws. New by-laws have been drafted recently; however, there is an interest in developing the management plan for the site to ensure that the by-laws are compatible with the site management objectives prior to passing the by-laws. The recent by-laws have been developed in collaboration with the local NGO “Friends of the Environment”.

## **5. On-Site Management (Tier 2)**

Rationale: There is currently two BNT staff that are stationed on the island of Abaco where the site is located. This includes a Chief Warden, and Administrative/ Office manager. Staff on Abaco is responsible for management of all six national parks in Abaco. While these staff are stretched thin, their presence in the past three years has significantly improved management activities on Abaco.

Additionally, a 27' boat was recently donated to the BNT on Abaco to support management of Pelican Cays and Fowl Cays. Having a boat will greatly improve the ability of managers to carry out patrols, research, and education activities. Local BNT staff also consider local stakeholders as stewards of the site who can and should provide direct management support. Because of the small staff capacity on Abaco, there is interest by site management to further develop stakeholder engagement programs to help share and implement management responsibilities, with their role as the "overseers" of management. Site infrastructure includes some mooring buoys which were initially installed and maintained by stakeholder groups. While BNT now is in supporting mooring buoy maintenance, there is still a strong collaboration with local partners (in particular "Friends of the Environment") to carry out these activities. There is an interest to develop basic amenities at the site to foster use such as benches and beach cabanas. While funding and capacity has increased, BNT management headquarters in Nassau identified funding to increase capacity as a priority.

## **6. Enforcement (Tier 2)**

Rationale: Currently there is inconsistent enforcement of the PCLSP. Due to lack of staff, patrols are not carried out on a regular basis. Additionally, a boat was acquired only recently thus providing more direct presence at the site. The site warden is also responsible for outreach, enforcement, and administrative duties at all six sites (terrestrial and marine) on Abaco. Additional enforcement support is provided periodically, through fisheries patrols, and police patrols, as well as stakeholder that report infractions that are witnessed.

In late 2010, National Trust Act was amended to specifically allow the BNT to use volunteer wardens for enforcement purposes. This act will provide BNT with the authority to train and deputize local volunteers as park and fisheries wardens. This will provide wardens with the authority to give citations and make arrest for all regulations within national parks and for all fisheries regulations outside of parks. Volunteer wardens will not be allowed to carry weapons and outreach will also be a part of the responsibility of these wardens. Abaco is particularly poised to implement this progressive initiative. There are plans to coordinate a team of volunteer wardens who will be trained in various aspects of laws and enforcements. In the beginning of this program, it is likely that volunteer wardens will accompany police or fisheries officers to carry out patrols. This will be done to ensure volunteers get experience with trained enforcement officers and to establish a perception of legitimate authority among new wardens. Upon further training and improved public understanding of that wardens have authority to enforce rules and regulations, they will likely patrol on their own. Additionally, the aim is to have a team that is trained and can provide a presence on the water regularly as it is likely that these volunteers will be out both formally and as users of the area on a regular basis. The main needs identified by site managers to implement this program is time to develop a training program, as well as funding to support program activities (uniforms, fuel, equipment, etc.) Additionally, the need for a management plan and associated by-laws was identified as a need to ensure that rules and regulation can be clearly stated upon approaching users of the area.

This initiative can have great implications for improving site management of park, as one of the main challenges to enforcement is lack of staff capacity. Additionally, as in many sites, there is a lack of confidence by stakeholders that existing sites are being enforced and therefore disinterest in

creating new MPAs. This new law also provides an excellent opportunity for the development of a volunteer bases enforcement program that could be a model for the Caribbean region and beyond.

### **7. Boundaries (Tier 2)**

Rationale: When the sites were designated, the boundaries were defined on maps using specific land points as markers in legal documents. These boundaries have not been geo-referenced however. There are no on-site boundary markers and signage has not been posted to inform stakeholders. GPS/GIS capacity is needed to gather information and develop shape-files of the sites. There is no zoning within the sites but zoning may not be necessary as the entire area is a no-take zone with very few conflicting uses.

### **8. Bio-physical Monitoring (Tier 2)**

Rationale: Some bio-physical monitoring activities have occurred at the site. In 2009, a group of volunteers was formally trained to carry out Reef Check monitoring protocols. This activity was coordinated through the local NGO and BNT partner “Friends of the Environment”. Monitoring occurred six times that year at various locations both within protected areas and outside of protected areas. PCLSP was one of the sites used during this effort. The aim by Friends was to continue assessments at all sites twice a year. However, limited funding for this effort has impacted the ability of this program to be implemented on a regular basis. Therefore funding for a boat, fuel, and equipment is needed to carry out on-going monitoring efforts. There is also an interest by park management to foster dive boat operators to carry out surveys through their operations, but this has not yet been explored for feasibility.

### **9. Socio-economic Monitoring (Tier 1)**

Rationale: While community meetings and informal discussions with local stakeholders have been held, there has been no formal socio-economic assessment of users/stakeholders of the PCLSP. The main barrier for carrying out formal socio-economic assessments and monitoring has been a lack of staff in both numbers and skills. Both external technical support and increases staffing are needed to carry out socio-economic assessments. Additionally the lack of a management plan has been noted as a barrier to reach out to various stakeholders on Abaco.

### **10. MPA Effectiveness Evaluation (Tier 1)**

Rationale: Through the master planning process, a RAPPAM was carried out. However, this was done for the entire system of protected areas of the Bahamas without a focus on specific sites. This information can provide a good baseline for management capacity effectiveness, however. The lack of a management plan, bio-physical monitoring, and socio-economic monitoring have been identified as barriers to carrying out MPA Effectiveness efforts. Monitoring of effectiveness evaluation was noted as a priority by BNT management headquarters in Nassau.

### **11. Stakeholder Engagement (Tier 1)**

Rationale: The designation of the PCLSP came about mainly due to local stakeholder groups who were interested in seeing conservation of the site that they knew had unique ecological value. Since that time, stakeholder groups have continued to provide management support, particularly prior to BNT presence at the site in the past few years. However, engagement has mainly been focused on one major user group rather than the broader community where engagement has been limited. Currently, there remains a very good collaboration with the local NGO “Friends of the

Environment” who have historically been very engaged in implementing management activities. In the past (and in the absence of BNT staff on-site), Friends supported conservation efforts in PCLSP by funding and implementing mooring buoys, and outreach activities. This partnership still exists among BNT and Friends although BNT has begun providing funds for moorings. A formal MOU has not been established to define the relationship and roles of Friends within the PCLSP and there is interest and an effort underway to develop a more formal agreement. Friends has noted that they would like to focus primarily on outreach activities in support of conservation efforts in the Abacos (including the PCLSP). They are also interested in continuing to carry out Reef Check monitoring around the Abacos (also including PCLSP). While this partnership among BNT and Friends is strong, management express an interest in engaging more stakeholders in the site management. The management planning process was noted as the primary way to begin this engagement and bring in new stakeholder groups who can become empowered as stewards of the site.

### **12. Financing (Tier 2)**

Rationale: There are consistent funds to support the management of the site, which are derived from core funds provided to the Trust by The Government of The Bahamas and by donations. In 2007, the government increased funding to BNT from 100K USD per year to 1 million USD. This increased funding has significantly helped BNT expand efforts and capacity, although additional funds are still required to support effective management of all 26 sites. In addition, there is a sustainable finance plan that has been drafted to establish a Bahamas Protected Areas Trust Fund. This effort is being developed with the support of The Nature Conservancy (TNC) and is part of larger sustainable financing efforts being carried out to support the Caribbean Challenge. Through this larger effort, an additional Trust is being established to receive large donations that will be aimed at supporting protected areas in the wider Caribbean region with those countries that have signed on as participants. Interest from these funds will be provided to those jurisdictions that can provide match from local trust funds. At a local level, the Bahamas is moving forward in developing this mechanism for sustainably financing their protected area system but are in need of the political will to determine appropriate methods for generating funds (e.g. conservation tax, user permits).

### **13. Outreach and Education (Tier 1)**

Rationale: Site management identified that while the site specifically has little on-going outreach and education activities, they are moving forward in this area. Many outreach and education activities are implemented through the local NGO “Friends of the Environment” who carry out awareness programs about conservation and the environment specific to Abaco. Additionally, BNT has a program called “Parks Pals” which takes school groups out the site to provide awareness of conservation efforts. These efforts have been mainly aimed at school children and often focus on conservation efforts throughout all the Abacos rather than site-specific awareness. Park management noted a priority in building capacity in this area is to hire an Outreach Officer who could focus developing a program that supports the goals of all national parks in the Abacos.

### **14. Conflict Resolution Mechanism (Tier 3)**

Rationale: Park management felt that users are aware of BNT offices and staff as a means to report and resolve conflict both on the ground in Abacos and in Nassau. The mechanism used to resolve

conflicts vary depending on the situation but BNT staff are accustomed to working with stakeholders to resolve conflicts.

### **15. Climate Change Resilience (Tier 1)**

Rationale: Climate change resilience principles have not been considered in the management of the site. However, based on the site description, the reef is in an area of strong currents, and upwelling of colder waters. This has been noted as the reason for the unique species and structure of the reef which consists of species normally found in deeper water. As such, the area may be well suited for resiliency to future increases in sea surface temperatures.

### **16. Alternative Livelihoods (Tier 1)**

Rationale: Historically, the PCLSP was used as a major fishing spot for local fishers, in particular for conch and lobster. While the site has been in place for over 40 years, there still is some opposition from local fishers about the site protection as well as poaching that occurs in the site. No assessments were carried out during site designation or since, therefore it is unknown how the site designation and regulations may have negatively impacted stakeholders. As such, no alternative livelihood programs have been established.

### **17. Fisheries Management (Tier N/A)**

Rationale: The only recent assessment has been through Reef Check in 2009. There is also baseline assessment information from a study done through the development of the site. However, there is no fisheries management plan because the site is a no-take area.

### **18. Integrated Coastal Management (Tier 3)**

Rationale: There is currently a proposal for a new national park that is linked to the PCLSP and consists mainly of mangrove systems. The proposal for this site was done through a collaborative effort between various agencies involved in resource management (marine and terrestrial) including the Department of Marine Resources and The Nature Conservancy. A formal threats assessment has not been done for land based threats, but coordination among agencies is strong on Abaco.

### **19. Sustainable Tourism (Tier 1)\*\***

Rationale: Historically, there were use surveys carried out at the site to collect information about what uses occur, and if stakeholders are aware of the site and its resources. Site managers noted an interest in continuing these surveys through collaborations with tour operators. No plans for sustainable tourism have been developed. Increased staff and technical support would be needed to develop this capacity.

### **20. Organizational Management (Tier 2)**

Rationale: Currently there are only two staff on-site on Abaco who are responsible for managing six parks around the island. Additionally, some management support is provided by the BNT main office in Nassau who are aimed at carrying out over-arching support for the entire protected areas system such as fundraising, administration, education and awareness raising, and legal infrastructure. While the staff on Abaco is highly skilled, there is a lack of staff numbers to fully implement desired management of all sites including PCLSP. Funding is the factor limiting increasing staff numbers at the site.

### **21. Partnerships/Coordination (Tier 2)**

Rationale: Partnerships and Coordination among the various ngo's and agencies involved in protected area management on Abaco is strong and positive. These relationships are currently informal but there is an effort to develop a more formal MOU which would more clearly define roles and partnership activities.

### **22. Economic Valuation (No)**

Rationale: Abaco is very interested in having an economic valuation carried out for the site to support conservation efforts.

### **23. Rapid Response Protocol/Team (No)**

Rationale: There is no emergency response protocol on-site. However, through the NISP partnership on Nassau, Abaco has access various experts who can mobilize to address emergency situations.

### **24. Ecosystem-Based Management (Yes)**

Rationale: While the site was not initially designed with ecosystem-based management principles, it is hoped that new sites linked to the PCLSP will support ecosystem function by protecting habitats (i.e. mangrove) that support the coral reefs. Additionally, it is anticipated that the management planning process will incorporate human dimensions.

### **25. Community Support (Medium)**

Rationale: While existing support is high among certain stakeholder groups on Abaco, management felt that it could be improved through further outreach and engagement processes (e.g. management planning process).

### **26. Government Support (Medium)**

Rationale: Government support has been good as there is funding provided to BNT in addition to good access to decision makers regarding legal matters however additional support is needed to effectively manage all the MPAs in the Bahamas.

### **Management Capacity Priority Needs**

1. Management planning – including stakeholder engagement, and the development and approval of a management plan
2. Enforcement – management noted a priority for the site to implement the volunteer warden program
3. Outreach and Education

### **Priority Capacity Building Approaches**

1. More staff
2. Training
3. Learning exchanges

**Mentoring:** the site has expressed an interest and willingness to share lessons learned and information on areas of strength.

## References

Bahamas Environment, Science and Technology (BEST) Commission , Department of Marine Resources (then named the Department of Fisheries), the Bahamas National Trust and The Nature Conservancy (2006) *The Bahamas Ecological Gap Analysis*. PoWPA document.

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# Implementing Sustainable Finance based on Tourism Value of the Turks and Caicos Islands

Version 1.0

Report on phase I scoping the feasibility to implement a Sustainable Finance Mechanism based on the Tourism Value of the Natural Capital of the Turks and Caicos Islands

June 2015

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## List of abbreviations

<b>PA</b>	Protected Area
<b>GCFI</b>	The Gulf and Caribbean Fisheries Institute
<b>TCI</b>	Turks & Caicos Islands
<b>TCIG</b>	Turks & Caicos Islands Government
<b>AGC</b>	Attorney General's Chambers
<b>MTECH</b>	Ministry of Tourism, Environment, Culture and Heritage
<b>DEMA</b>	Department of Environment and Maritime Affairs
<b>TCRF</b>	Turks & Caicos Reef Fund
<b>TCNT</b>	Turks & Caicos National Trust
<b>TCHTA</b>	Turks & Caicos Hotel and Tourism Association

## Acknowledgements

Our visit and the meetings would not be possible without the engagement, enthusiasm and input of the representatives of the Turks and Caicos Islands Government' Ministry of Tourism, Environment, Heritage and Culture, the Turks and Caicos Reef Fund, The Turks and Caicos National Trust, the Tourist Board and the Turks and Caicos Hotel and Tourism Association. Their support in setting up meetings at short notice is gratefully acknowledged. The discussions during the debrief workshop contributed a great deal to making it a successful visit, and in identifying obstacles to address in future research. Special thanks go to the Honourable Minister of Tourism, Environment, Heritage and Culture Portia Stubbs-Smith and the Permanent Secretary Mrs. Desiree Lewis, the Acting Director of the Department of Environment and Maritime Affairs Mr. Henry Wilson and Dr. Eric F. Salamanca, for making this possible.

## Executive summary

Natural resources make an enormous economic contribution to tourism in the small island nations in the Caribbean. A healthy tourism industry depends on a healthy environment, and conserving natural capital means ensuring jobs and income.

Moreover, sustainable development, including natural capital, of the economy will generate sustainable income and additional jobs in other sectors as well.

The natural capital, especially the beaches and coral reefs, of the TCI serves the very important tourism industry, and faces severe threats, like impacts of coastal developments, damage to coral reefs attributed to ship grounding, inappropriate waste disposal, lack of enforcement officers and support system, illegal fishing, erosion of the beaches, lionfish invasion, and the effects of climate change. Despite the valuable contribution and importance of the natural capital of TCI for tourism, TCI resources to protect and conserve these natural capital are scarce.

To support a healthy tourism industry there is a clear need to establish sustainable finance mechanisms for nature conservation of the marine and terrestrial protected areas to be effectively managed. In order to establish or optimize any such mechanisms, this research (Phase 1) focused on understanding the potential and existing funding streams and the allocation of these funds to marine and terrestrial protected area management in TCI.

It turned out that many sustainable financing streams for nature conservation in and out of marine and terrestrial protected areas already exist in TCI, if not under DEMA then under other ministries and under TCNT and TCRF. Also several organizational structures for protected management areas do exist as well in TCI consisting of government, non-government and statutory bodies. The most significant need turned out is ring fencing and optimizing existing financing streams so that funds reach marine and terrestrial protected area managers. Furthermore, there is a potential of creating new financing streams, such as marine protected area user fees or debt-for-nature swap<sup>1</sup>.

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<sup>1</sup> The financing mechanism for debt-for-nature swaps is an agreement among the funder(s), the national government of the debtor country, and the conservation organization(s) using the funds. The national government of the indebted country agrees to a payment schedule on the amount of the debt forgiven, usually paid through the nation's central bank, in local currency or bonds.

A government authority such as DEMA could manage these funds or the funds could be managed by institutionalizing non-governmental organisation or a statutory body at arms length of the local government through a Memorandum of Understanding. These institutions would not only be able to receive or collect funds, but also mandated to manage the marine protected areas. Furthermore, there is potential quick win for incidental funding by considering strategies for recovery of fines/settlements for damage done to coral reefs by ship grounding and the like. However, buy-in from the TCI government is crucial to continue with this research and thus making progress on any next steps. In order to build political will for nature conservation financing amongst budget-holders, stakeholders conveyed a need for the development of a solid business plan and enhanced communications about the contribution of marine and terrestrial protected area management to the TCI economy.

## Sustainable Financing – the highest priority need amongst Caribbean MPAs

The Turks & Caicos Islands (TCI) is one of ten countries and territories that took part in a regional assessment of marine protected area (MPA) management capacity in the Caribbean supported by NOAA's Coral Reef Conservation Program (CRCP) in 2011. Some thirty participating MPA managers across the region identified the top priority management capacity building need as the **development and implementation of sustainable finance strategies** for their MPAs.

In response, NOAA CRCP supported a workshop on sustainable financing for Caribbean MPAs at the 2011 Gulf and Caribbean Fisheries Institute (GCFI) conference in Mexico, in which a DECR/DEMA representative participated. Since then, GCFI and NOAA CRCP have assisted priority Caribbean MPAs with tailored follow-up support as they work to address priority MPA management needs. This included GCFI-NOAA CRCP sponsorship of SocMon training for the Department of Environment and Maritime Affairs (DEMA) and Turks & Caicos Reef Fund (TCRF) in 2013 by the regional SocMon Coordinator from the Centre for Resource Management and Environmental Studies at the University of the West Indies – Cavehill. This report describes the first on-island effort by GCFI/NOAA CRCP to provide tailored assistance on sustainable financing to TCI.

Despite the importance of the environment and coral reefs in particular for the economy of the TCI, financial resources to permit effective MPA management are scarce. As in other locations in the Caribbean, annual recurrent funds are insufficient to cover infrastructure, staff positions and the management activities, such as education, outreach and monitoring that are essential to ensure effective protection and the sustainable use of natural resources. The Conservation Fund, which was originally created to generate financial support for the conservation of marine and terrestrial protected areas, was dissolved in April 2012, in part due to the lack of a guarantee that revenues would actually be spent on nature conservation.

In April 2015, GCFI and Wolfs Company offered a webinar 'Unlocking sustainable financing for Caribbean MPAs'. DEMA and TCRF participated in the webinar and responded to GCFI about the need for sustainable finance mechanisms and their effective management to guarantee their use for nature conservation and sustainable development. The sustainable finance framework that was described in the webinar (see Appendix I) resonated with TCI and DEMA and TCRF subsequently requested a possible follow-up project based on this approach.

## Background and objectives

The Turks & Caicos Islands (TCI), a British Overseas Territory in the Caribbean, is well known for its beautiful beaches and coral reefs. The 8 main islands and more than 299 smaller islands host a total of 35 protected areas, which include 11 national parks, 11 nature reserves, 4 designated sanctuaries and 9 areas of historic interest. These protected areas attract many tourists. Although figures for TCI do not exist, research in other Caribbean overseas territories demonstrates that the economic contribution of natural resources to tourism is significant. For example, in the British Virgin Islands and Saba 61% and 74% respectively of the total added value of the tourism sector derives from natural resources. A healthy tourism industry thus depends on a healthy environment, and conserving natural capital means conserving jobs and income. Moreover, sustainable green development of the economy generates sustainable income and additional jobs in other sectors as well (United Nations, World Bank, World Council for Sustainable Development, Small Island Development States Network).

Whilst the environment of the TCI plays a very important role in underpinning the tourism industry, it also faces serious threats, such as from the impacts of coastal development, damage to coral reefs attributed to ship groundings, inappropriate waste disposal, lack of effective enforcement of protected areas and environmental regulations, illegal fishing, erosion of beaches, invasive species, and the effects of climate change. Despite this reality, TCI's resources for nature conservation in general, and marine protected area management in particular, are scarce. Yet research shows that tourists visiting the Caribbean have a willingness to pay for nature conservation in addition to what they are already spending, so long as it is

directly allocated to nature conservation.

In order to establish or optimize sustainable finance mechanisms for nature conservation, it is necessary to first understand the potential and existing funding streams and the allocation of these funds to MPA management in TCI. Within this context, the Gulf and Caribbean Fisheries Institute ([www.GCFI.org](http://www.GCFI.org)) commissioned Wolfs Company ([www.wolfscompany.com](http://www.wolfscompany.com)) to work with DEMA (the Turks and Caicos Islands Government Ministry of Tourism, Environment, Heritage and Culture), other marine protected area managers and stakeholders from the tourism sector to undertake Phase I of a follow-up project on sustainable financing.

From June 21-26, 2015 Emma Doyle, GCFI together with Esther Wolfs, Wolfs Company visited TCI to explore how best to assist the Turks & Caicos Islands with achieving sustainable financing for the management of MPAs. This involved:

- Presenting the results of the Caribbean MPA management capacity assessment;
- Discussing the importance of investing in nature conservation in support of effective MPA management and to help secure the sustainability of the tourism sector;
- Fact-finding and data collection about existing and potential financing mechanisms employed by MPA managers and associated organizations in TCI;
- Discussing findings from existing research on Tourism Value in the Caribbean and willingness-to-pay for nature conservation.

Through the visit we also sought to gauge whether the TCI government has a willingness and readiness to take steps to implement MPA sustainable financing.

This report lists the meetings that took place and summarizes the information gathered during these meetings. It also makes recommendations for concrete next steps and Phase II activities in order to bring about progress in MPA sustainable financing in TCI.

## Program & activities

The visit consisted of a series of face-to-face meetings with key representatives of

government and stakeholder groups, working sessions with DEMA staff, participation in a meeting with tour operators and a half-day workshop with key stakeholders. Arranged in conjunction with DEMA and TCRF, all meetings took place as planned and were productive. All meeting participants showed interest in the topic of sustainable financing and indicated support for the importance of investing in nature conservation and in MPA management for the future of the territory and its economy.

The meeting program is shown in Table 1. The list of invitees to the tour operators' meeting is shown in Appendix II. To help focus on the topic of MPA sustainable financing and to prompt discussion, a presentation was given in each of the meetings.

**Table 1: Meetings & Activities**

Date	Morning	Afternoon
Sunday June 21, 2015	-	Arrival of Esther Wolfs & Emma Doyle
Monday June 22, 2015	Meeting with the Honourable Minister of MTECH Mrs. Portia Stubbs-Smith, the Permanent Secretary Mrs. Desiree Lewis, Acting Director of DEMA, Mr. Henry Wilson, and Assistant Director for Research and Development of DEMA, Dr. Eric Salamanca	Continued meeting with Permanent Secretary Mrs. Desiree Lewis Data gathering with Assistant Director for Research and Development of DEMA Dr. Eric Salamanca
Tuesday June 23, 2015	Meeting with Turks & Caicos National Trust (TCNT) Chair Mr. Carl Simmons and Executive Director Mrs. Ethlyn Gibbs-Williams	Data gathering with Assistant Director for Research and Development of DEMA Dr. Eric Salamanca
Wednesday June 24, 2015	Meeting with the Tourist Board's Director Mr. Ralph Higgs	Meeting with TCHTA Executive Director Mrs. Stacy Cox Evening - Participation in National Operator's Meeting with DEMA and TCNT (see list of invitees in Appendix II)
Thursday June 25, 2015	Meeting with DEMA Caicos Pine Recovery Project Manager, Mr. Bryan Manco Visit to protected areas on Little Water Cay, North and Middle Caicos, visit to Caicos Pine Project	Preparation of presentation and exercises for workshop, reporting

Friday June 26, 2015	Workshop on sustainable finance framework with MPA managers and stakeholders	De-briefing with DEMA
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## Findings on MPA sustainable financing

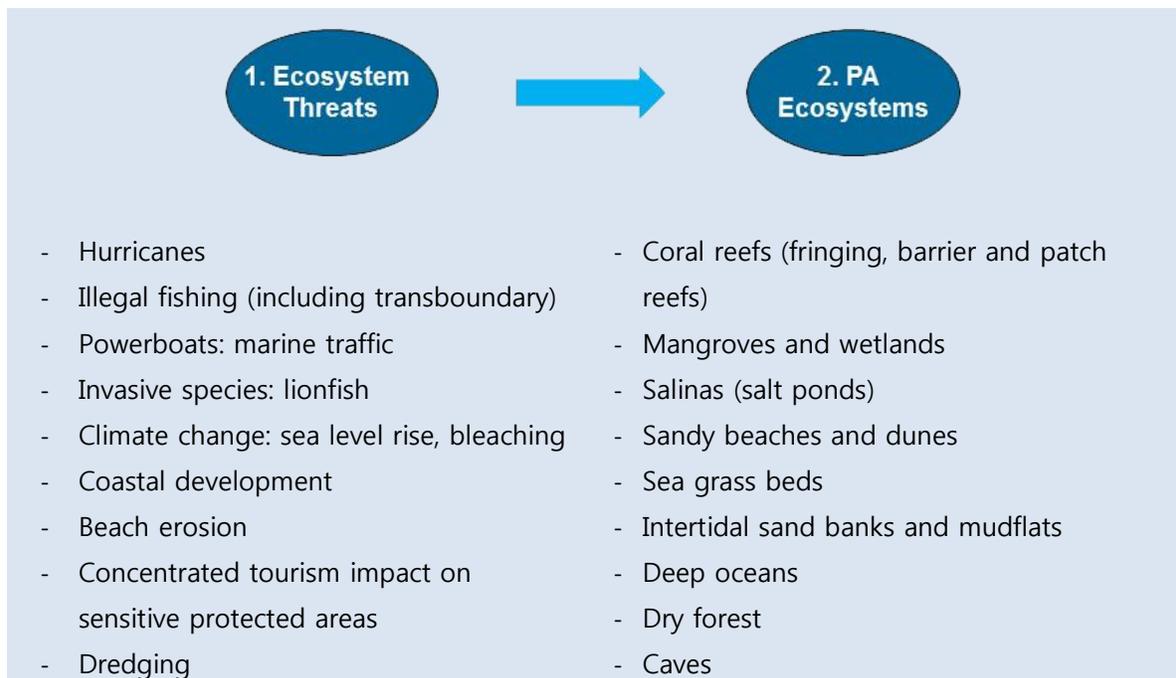
The meeting participants provided an understanding of the present day situation of TCI's MPA management, they shared information on the currently available financing mechanisms, they discussed obstacles to sustainable financing and considered the potential for implementing new sustainable finance mechanisms. Wolfs Company conducted this assessment using a Sustainable Finance Framework, and in this section we present the findings according to the categories and steps in the framework.

The framework starts with a Contextual Analysis, comprising steps 1-6 of the framework, including the ecological, socio-economic and governance contexts. We discussed and completed step 1 to 6 of the Sustainable Finance Framework as a group during the workshop.

### Ecological context

Table 2 shows TCI's most important **ecosystems** and it also summarizes the current ecosystem **threats** that were identified during the meetings and sessions.

**Table 2: Ecosystem Threats & PA Ecosystems**

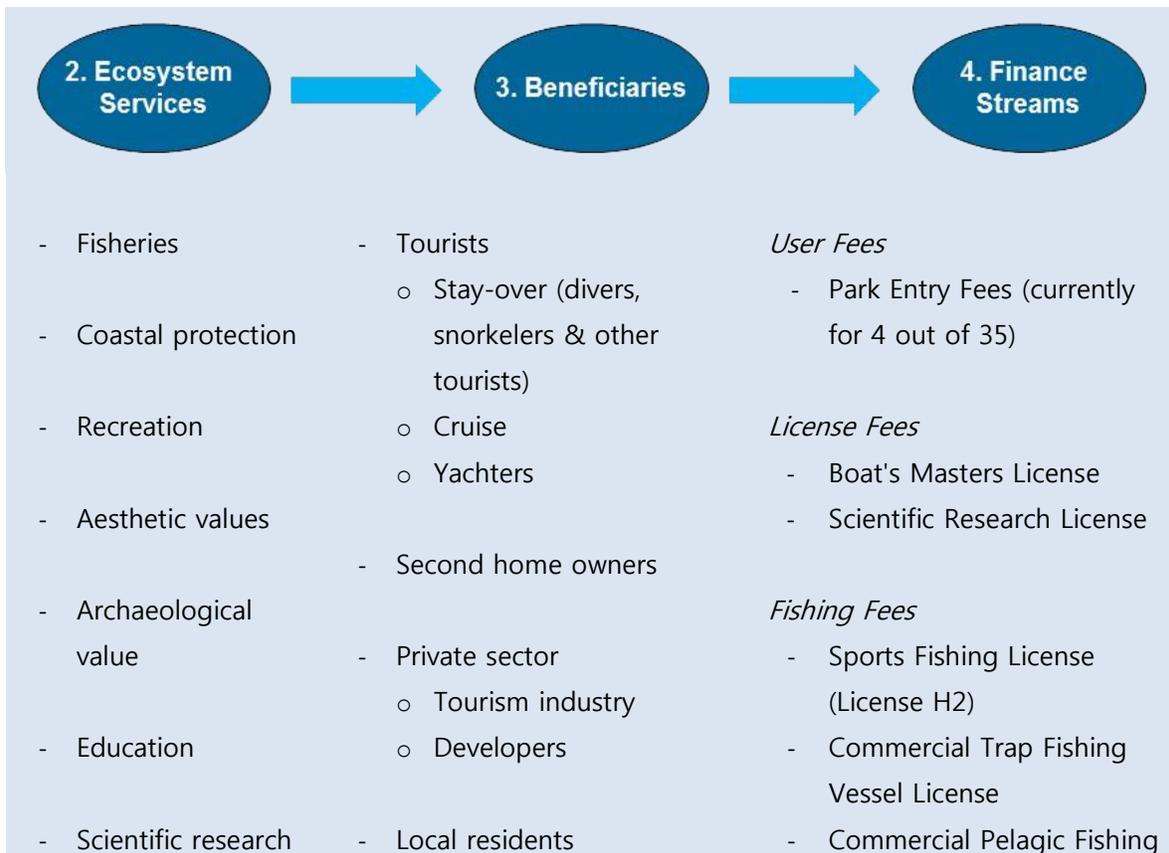


- Pollution (solid waste and run-off)
- Deforestation
- Sand mining
- Fires
- Protected species and special biodiversity (sea turtles, marine mammals, birds)

## Socio-economic context

Next, the services that the ecosystems deliver were assessed. **Ecosystem services** are described as the benefits that humans derive from these ecosystems (Millennium Ecosystem Assessment, 2005). Also the **beneficiaries**, i.e. the stakeholders that are affected or benefit from the ecosystem services, were identified. From this information, an inventory can be made of all the current and potential **financial streams** that may flow from these beneficiaries. Table 3 presents the socio-economic context for sustainable MPA financing.

**Table 3: Ecosystem Services, Beneficiaries & Finance Streams**



- Spiritual services
  - (Potential) bird watchers
  - Vessel License
  - Lionfish Hunting Fees
  - Tournament Fees
- Other*
- Local Recreational Rental Fees
  - Accommodation Tax
  - Water sport Tax
  - Fines & Financial Settlements
  - Donations
  - Sponsorships
  - Grants

## Governance context

For this last part, it is important to understand the institutional context of TCI and identify the decision makers involved in MPA funding and management. We also identify the persons responsible for the day-to-day operation and management of MPAs. Table 4 presents the governance contextual analysis.

**Table 4: Influential Institutions/Decision Makers & PA Managers**



## Obstacle Analysis

During the workshop we then divided the participants into two groups to examine obstacles to the flow of funds that were identified under the socio-economic context. Obstacles and bottlenecks in the system can prevent funding flows from being realized and/or prevent funding from reaching MPA managers. The obstacle analysis is a crucial step in the sustainable finance framework since it forms a basis for developing solutions to implement feasible sustainable financing mechanisms, and for optimizing their use for effective MPA management.

Table 5 summarizes the obstacles identified in the workshop, listed according to the different funding streams discussed. Appendix IV shows the direct outputs from the group work with the stakeholders.

**Table 5: Results of the mini-workshop obstacle analysis**

Funding Stream	Obstacles
<i>User fees:</i>	
Park Entry Fees	<ul style="list-style-type: none"> <li>- Lack of price regulation</li> <li>- Competition among operators</li> <li>- Inadequate communication about the allocation of the funds</li> <li>- Inadequate collaboration between environmental bodies and operators</li> <li>- Perception that fee is already too high</li> </ul>
Mooring Fees	<ul style="list-style-type: none"> <li>- Lack of enforcement</li> <li>- Lack of awareness of mooring fees</li> <li>- Lack of resources to install and maintain moorings</li> </ul>
<i>Fishing Fees:</i>	
Tournament Fees	<ul style="list-style-type: none"> <li>- Sometimes waived arbitrarily</li> </ul>
<i>Other:</i>	
Local Recreational Rental Fees, such as cabanas or	<ul style="list-style-type: none"> <li>- Low compliance</li> <li>- Lack of awareness of fees</li> </ul>

water slides hire	- Lack of willingness to pay
Accommodation + Airport Tax	- Low institutional support - The funds go into consolidated fund without being ring-fenced
Donations	- Low institutional support - The funds go into consolidated fund without being ring-fenced
<i>Conservation fund in general</i>	
<ul style="list-style-type: none"> <li>- Lack of overview of existing fees</li> <li>- Low awareness about the need for fees within communities</li> <li>- The funds are not divided, not ring-fenced, but go into consolidated fund</li> <li>- Policy makers reluctant to ring-fence the funds, allocate the funds to nature conservation</li> <li>- No insight in allocation of funds</li> <li>- Possible budget cuts without consultation</li> <li>- No administration occurring for allocation of funds</li> <li>- High cost for administration of allocation of funds</li> <li>- Absence of legislation to manage fees</li> <li>- Limited capacity at local government to manage fees</li> <li>- Focus on debt reduction (pressure on administration to pay nation's loan)</li> <li>- Competing priorities to pay back debt (development versus environment)</li> <li>- Lack of willingness to consider alternatives for paying loans</li> <li>- Political will to use investing in nature to pay back debt</li> <li>- The only fees that go directly to PAs are the park entry fees for TCNT-managed PAs (four of 35 PAs)</li> </ul>	

## Discussion

We found that many sustainable financing streams for nature conservation and MPA management already exist in TCI, if not directly under DEMA then under other ministries, under TCNT or via TCRF. However, not all funds from these financing streams are currently reaching MPA managers.

Two potentially significant and reliable existing funding streams that deserve further consideration according to the participants are:

1. The TCI Conservation Fund, which was originally created specifically to generate financial support for the conservation of PAs. This funding is not ring-fenced, meaning that monies raised are not necessarily spent on nature conservation, but instead are destined for the consolidated fund and are currently being used to pay off debt. Although building a strong economic framework, budgeting and good public finance management systems are important in achieving positive and sustainable growth for the foreseeable future, these are currently at the expense of effective MPA management. The failure to invest in the territory's natural capital means decreasing the stock of resources that supports the tourism industry, which in turn undermines the healthy future growth of TCI's economy. Ring-fencing the existing funds has been mentioned as a potential solution, however a corresponding lack of political will was raised as another obstacle.

2. The recovery of fines/settlements for damage caused to coral reefs by ship groundings and illegal anchoring. This deserves further consideration and input from specialists experienced in this field, such as MPA Enforcement International LLC (Retired Captain Jayson Horadam). This is seen as low hanging fruit, because supposedly some settlements have already been agreed upon and should be allocated to nature conservation and restoration.

There are two financing streams which are not currently being implemented in TCI and which could be considered, namely:

1. A nature fee for snorkelers and divers, such as exists on Bonaire, see [www.stinapa.org/naturefee.html](http://www.stinapa.org/naturefee.html). We note that meeting participants indicated concern about the addition of new user fees. As we see from research in other Caribbean countries and territories, tourists to the TCI will likely have some level of willingness-to-pay for nature conservation on top of what they already spend, so long as they are confident that those funds will actually be spent on nature conservation. Prior to any effort to introduce such fees, actual levels of willingness-to-pay should be researched in TCI, or comparative analyses made using other willingness-to-pay studies based on the profile of TCI's tourists. It would be essential to allocate these funds to nature conservation.

2. Debt-for-nature swap, which involves an agreement among the funder(s), the national government of the debtor country, and the conservation organization(s) using the funds. The national government of the indebted country or territory agrees to a payment schedule on the amount of the debt forgiven, usually paid through the nation's central bank, in local currency or bonds. This would require a signal of interest from the UK prior to further effort, and ring-fencing of these funds for nature conservation.

Furthermore, during meetings discussion took place on what kind of institution should manage the funds for nature conservation and be responsible for MPA management. Several institutional structures were found to already exist in TCI for the management of MPAs and for the administration of funding streams. These include government authorities (DEMA), non-government organizations (e.g. TCRF) and statutory bodies (e.g. TCNT). Therefore there could be a case not to establish a new type of organization to manage the MPA financials and conservation activities. It was considered that the challenge would be more on getting funding to those institutions already managing protected areas. A partnership between institutions is often employed for this purpose, for example, a non-governmental organisation or a statutory body could be appointed a supporting role through a Memorandum of Understanding to receive or collect funds and to contribute to MPA management.

In the course of the meetings we discussed various aspects of sustainable financing for MPAs. Stakeholders identified two important needs in order to realize progress in TCI. Firstly, a business plan needs to be developed by DEMA in order to better understand the financial and human resources required for effective MPA management. Secondly, stakeholders highlighted a need for enhanced communications with decision-makers and the public to create awareness and a sense of urgency about the importance of effective MPA management, that TCI's coral reefs need to be conserved and that funding must be allocated to enable this.

## Recommendations

1. The most significant need in relation to sustainable financing in TCI is optimizing existing financing streams so that funds reach MPA managers. In order to support the allocation of funding to nature conservation, there is a need for enhanced communications in order to build support for nature conservation financing amongst decision-makers and budget-holders.
2. Achieving buy-in from the Ministry of Finance is crucial to making progress on any next steps. The development of a factsheet and presentation on the importance of investing in nature conservation for tourism in TCI is suggested as supporting material.
3. Of the existing financing mechanisms in place in the TCI, in the immediate terms there is most potential to raise MPA financing by using the financial fines/settlements for damage done to coral reefs by recent ship groundings for restoration and related work, such as monitoring.
4. Currently lacking, a business plan and financial dashboard for MPA management could be developed by Wolfs Company and DEMA.
5. Further research could focus on budget allocation, the willingness of tourists to pay additional for nature conservation and a review of the legal framework underpinning MPA financing. The Tourism Value of MPAs could be estimated based on readily available secondary information and a benefit transfer database, made specifically for TCI by Wolfs Company and DEMA.
6. A respected local champion(s) could be identified to guide the implementation of further work on sustainable financing mechanisms.

## Appendices

Appendix I – Sustainable Financing Framework

Appendix II – Overview of tour operators

## Appendix I – Sustainable Financing Framework

The methodology applied is shown in the figure below. The project follows the 10 practical steps of this framework, whereby the potential financing mechanisms can be identified and assessed and insights are created about the feasibility to implement these mechanisms.

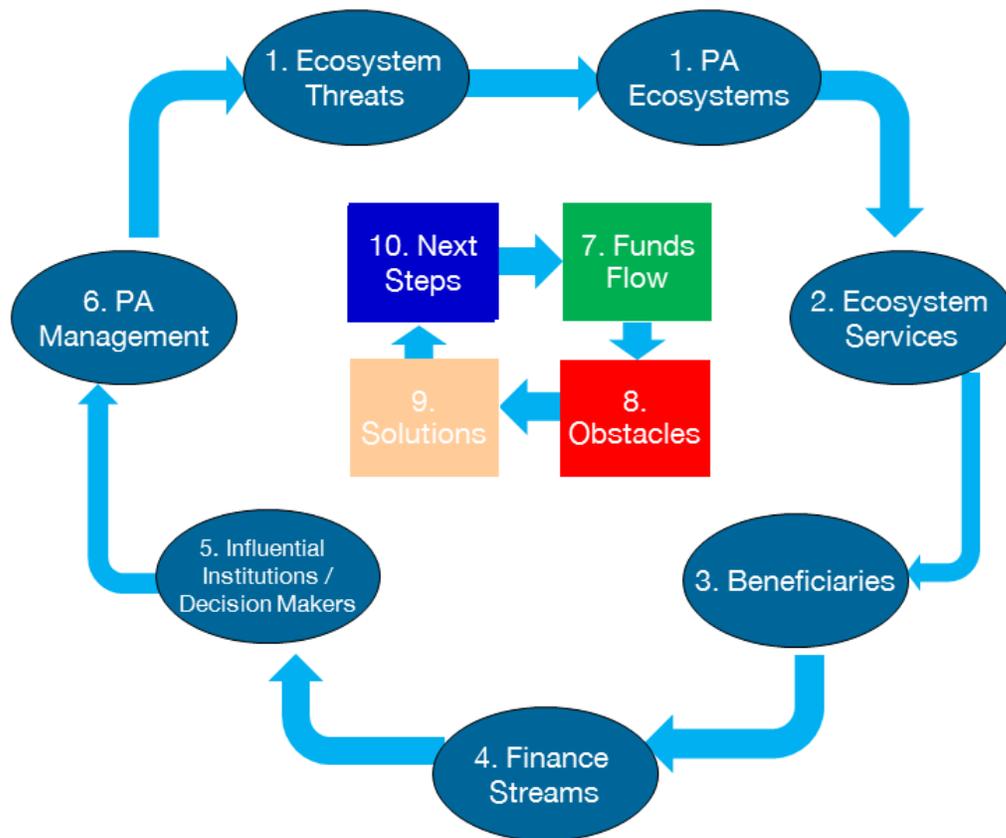


Figure 1: The Sustainable Financing Framework (Source: The Wolfs Company)

Steps 1-6 comprise the Contextual Analysis; steps 7-10 include the Funds Flow Analysis. Each step is explained in further detail in an overview in the table below.

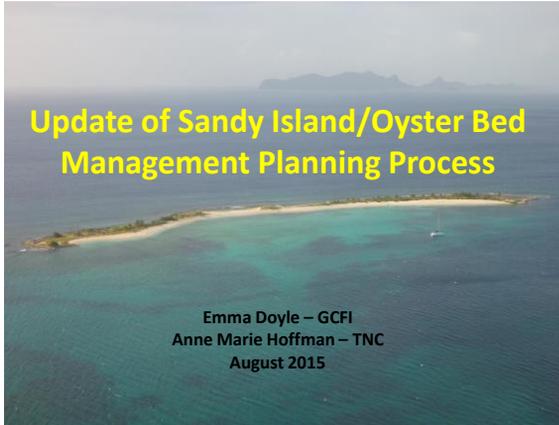
**Table 6: Steps of the Sustainable Financing Framework (Source: The Wolfs Company)**

Steps in the process of identifying the best solutions to achieve sustainable financing
<i>Contextual Analysis</i>
1) Identifying the relevant ecosystem <b>threats &amp; PA ecosystems</b>
2) Identifying the <b>priority ecosystem services</b>
3) Identifying the <b>beneficiaries</b> (stakeholders affected or benefitting from the prioritized services)
4) Making an inventory of all current and potential <b>financial streams</b>
5) Identifying the <b>influential institutions &amp; decision makers</b>
6) Identifying the <b>PA managers</b> , responsible for the day to day operation and management of the PA
<i>Funds Flow Analysis</i>
7) Deriving thorough understanding about the <b>current funds flow</b> of financial resources that go from beneficiaries to the PA managers
8) Identifying possible <b>obstacles</b> and bottlenecks in the system that prevent the financial flows to be realized or to flow to the appropriate level of PA management
9) Defining the best <b>solutions</b> to achieve sustainable financing
10) Defining the next steps: <b>actions</b> that will help highlighting the issues at stake, as well as provide direction or insights in how to achieve the desired measures to address the obstacles.

**Appendix II - Tour operators invited to National Park Operators Meeting,  
June 26, 2015**

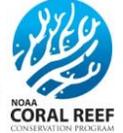
**Overview of tour operators on Providenciales**

<b>Tour Operators</b>	<b>Contact</b>
Island Routes Caribbean Adventures	abrown@islandroutes.com
Big Blue Unlimited – The Eco Adventures	tanya@bigblueunlimited.com
Sail Provo Catamaran Excursions	sailprovo@gmail.com
Sun Charters & The Good Ship Atabeyra	suntours@tciway.tc
Sail Beluga	info@sailbeluga.com
Blue Whale Tours & Excursions	info@bluewhaleexcursions.com
Caicos Dream Tours	info@caicosdreamtours.com
Catch the Wave Charters	catchthewave@tciway.tc
Captain Marvin's Watersports	parasail@tciway.tc
Discovery Tours and Adventures	info@discoverytours.tc
Caribbean Cruisin	doug@caribbeancruisin.tc
Kenard Cruises	reservations@kenardcruises.com
Nautique Sports	nautiquesportstci@gmail.com
Ocean Vibes	oceanvibes@tciway.tc
Parrot Cay	info@parrotcay.com
Shoreline Adventures	info@shoreline-adventures.com
Silver Deep	paola.silverdeep@gmail.com
SURFside Ocean Academy	surfsidetci@gmail.com
Seven Stars Resort	sflowers@sevenstarsgracebay.com



### Management Planning Process (2014-2015)

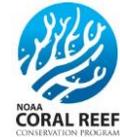
- ▶ Independent Review of existing 2007 SIOBMPA Management Plan (Oct 2014)
- ▶ Review and Prioritization of 2007 Plan Strategies, Development of Conservation Targets and Threats (Oct 2014)
- ▶ Validation of progress (April 2015)
- ▶ Drafting of document and optimization of format/design of plan to facilitate implementation (May–Aug 2015)
- ▶ Draft of Management Plan for review (projected Sept 2015)



### Independent Review of 2007 Management Plan

Raised attention to:

- ? Legal basis of SIOBMPA
- ? Ratification/formal adoption of plan
- ? Management structure
- ? Rules and regulations
- ? Goals–objectives–actions disjointed, some redundant and many unclear
- ? Feasibility of implementation of actions?
- ? Lack of stakeholder analysis



### Review of Legal Basis

- ▶ The MPA regulations define a **Marine Protected Area (MPA)** as “an area declared as such by the Minister by order under [the Fisheries] Act” (ELI, 2015)
- ▶ SIOBMPA established through Cabinet Conclusion



Legal Frameworks for MPA Enforcement in the Caribbean: Challenges and Opportunities  
February 2015



Review of 2007 Mgmt Plan, Conservation Targets, Threats  
Hillsborough, October, 2014



Photos: E. Doyle

SocMon workshop, GCFI Barbados, November 2014



Review of updates to 2007 Mgmt Plan, Hillsborough, April, 2015



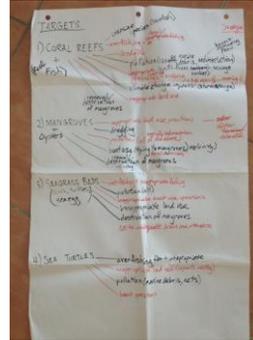
Photos: E. Doyle



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## Key Resources (Conservation Targets)



Key Resources
Coral reef communities
Mangroves
Seagrass beds
Sea turtles
Sandy beaches
Offshore islands
<b>Livelihood security</b>

Added in Oct 2014 review

## Resources and Threats Added In April 2015 review

Target	Threat
Coral reef communities (includes reef fish)	Overfishing Invasive species Pollution, especially land-based sources Dredging Inappropriate boat use Climate Change
Mangrove forests (includes oysters)	Removal/destruction Inappropriate land use Dredging Pollution Inappropriate boat use (abandonment, tying up) Anticipated higher levels of future use of Tyndal Bay
Seagrass beds (includes conch, sea eggs, sea turtles)	Overfishing Pollution Boat operations Inappropriate land use



## Resources and Threats (cont.)

Target	Threat
Sea Turtles	Overfishing/illegal fishing Pollution, especially land-based sources Boat operations (turtle strikes) Inappropriate land use (impacts on nesting)
Sandy beaches	Sand mining Vegetation removal (clearing) Inappropriate land use/infrastructure Pollution
Offshore islands	Clearing vegetation Climate change Over-visitation
Livelihood security (water taxi, cruise ship tender, cruise ship excursion, paradise beach, seine fishing, staff/jobs, tourism, food services, seafood fest)	Vandalism (eg. cutting of moorings) Community perception (including Lack of transparency/fairness/equity)



## Condition of Resources – 2014 AGRRA



## Achievements from 2007 Plan

- ✓ Install awareness signage
- ✓ Develop and implement park regulations (via MPA regulations)
- ✓ Set up monitor (patrol) regime
- ✓ Address Charter Companies on enforcement powers of rangers
- ✓ Prevent tying up of boats in the mangroves during non-emergency times
- ✓ Develop mooring buoy program within the Park, targeting sea grass beds, mangroves and coral reefs, with public consultation
- Identify baseline through survey and existing data and continue monitoring of overall health of reef

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## Actions **not** achieved from 2007 Plan, that remain **high priority**

- \* Develop zoning plan for the Park that includes "no take" areas and other areas that permit non-destructive fishing practices, with public consultation
- \* Maintain mooring buoys
- \* Enforce Forestry Legislation on mangrove cutting (upon approval of legislation)
- \* Create sensitization programs/develop and implement public awareness campaigns
- \* Implement adaptive management techniques

## Actions **not** achieved from 2007 Plan, that remain **high priority**

- \* The park authorities to approve any development that will impact park area
- \* Encourage implementation and enforcement of the present Land Use Plan
- \* Promote environmentally sound development practices within the park and in Carriacou as a whole, guided by St. George's Declaration ie. voice in EIA process
- \* Plant appropriate vegetation

## Actions **not** achieved from 2007 Plan, that remain **high priority**

- \* Removal of derelict vessels and other debris
- \* Initiate policies, via establishment of Park Regulations, that prohibit the abandonment of boats within the Park
- \* Initiate, working with the Port Authority and the Fisheries Department, the development of policies for removing abandoned boats, including enforcement issues
- \* Encourage more effective Carriacou-wide solid waste collection

## Actions **achieved** from 2007 plan, that remain a **priority**

- \* Setup monitor (patrol) regime (high)
- \* Identify baseline through survey and existing data and continue monitoring of overall health of reef (high)
- \* Prevent tying up of boats in the mangroves during non-emergency times (medium)
- \* Address Charter Companies on the issue (re. sewage disposal)
- \* Install awareness signage

## Actions **not** achieved from 2007 plan, that remain **lower priority**

- ▲ Promote sustainable harvesting practices
- ▲ Identify sensitive areas already impacted negatively (for re-vegetation)
- ▲ Establish a park monitoring protocol before operation of MPA (re. sewage disposal)
- ▲ Implement national legislation (re. sewage disposal)
- ▲ Encourage enforcement of existing laws against litter within the Park
- ▲ Provide/upgrade solid waste receptacles and frequency of collection within the Park
- ▲ Establish regulations for anchoring within mangrove areas in the Park during emergencies

## Additional Recommended Actions

- \* Patrol guidelines (high)
- \* Rangers are granted authority to issue tickets re. sewage disposal (high)
- \* Plant shade trees on Sandy Island (medium)

Photo: M. Phillips



### 2007 Management Plan Goals



1. Conserve the coastal and marine ecosystems through effective management for current and future generations.
2. Ensure that all stakeholders/communities are empowered and fully engaged in the management of the park.
3. Ensure that SIOBMPA is an integral part of a marine protected areas network in the Grenadines, the Caribbean and more broadly, the world.
4. Increase socio-economic benefits to the community of Carriacou and the wider Caribbean while preserving the cultural value of the SIOBMPA.
5. Increase awareness and knowledge about the resources of the SIOBMPA.

### Draft Updated 2015 Management Goals

1. Conserve the coastal and marine resources of SIOBMPA for current and future generations (ie. **resource management**)
2. Increase awareness and knowledge about SIOBMPA and engage stakeholders/communities in the sustainable use, development and management of coastal and marine resources (ie. **governance**)
3. Provide opportunities for socio-economic benefits to the community of Carriacou and the wider Caribbean while preserving the cultural value of the SIOBMPA (ie. **livelihood security**)
4. Efficiently and effectively coordinate and administer the management of SIOBMPA (ie. **including financial sustainability**)
5. Ensure that SIOBMPA is an integral part of a marine protected areas network in the Grenadines, the Caribbean and more broadly



### Focus Areas of 2015 Management Plan

1. Resource Protection
  - Coral Reefs, Mangroves, Seagrasses, Sea Turtles, Sandy Beaches, Offshore Islands, Livelihoods
2. Governance
3. Livelihoods
4. Administration/Financing
5. Networking
  - Monitoring framework from Grenadines Network of MPAs
  - SOPs for Mooring Maintenance
  - SOPs for Enforcement Officers
  - Summary MPA regulations Grenada

### Focus 1 – Resource Protection – Coral reefs

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Overfishing/illegal fishing	Prevent illegal fishing in SIOBMPA	Work with Fisheries Extension Officer to raise awareness of rules and regulations for fishing (eg. strategically located signage, radio interviews and spots, printed media announcements and articles, brochures, visits to schools and stakeholders) Strategic marine and land-based surveillance and shore-based interception by wardens/ police  Introduce 24-hour SIOBMPA duty phone for community reporting of illegal activities in SIOBMPA and standard operating procedures for handling calls
Habitat damage by seine nets	Reduce physical damage to coral reefs	First step – face-to-face talk with fishers about seine fishing areas and issues (work towards developing zoning plan)
Invasive species	Encourage removal and commercialisation of lionfish from SIOBMPA	Work with partners to organise programmes for lionfish removal and commercialisation
Pollution, especially land-based sources	(not high priority)	If partner wishes to work on this then encourage study
Dredging	Implement mitigation initiatives for marina development	Encourage use of turbidity/silt screens around development

### Focus 1 – Resource Protection – Coral reefs

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Inappropriate boat use	Encourage use of moorings	Wardens enforce mooring use
		Targeted communications about moorings
		Establish SOPs for mooring maintenance Ensure regular maintenance conducted (with learning exchange via SusGren and MPA Network)
Climate Change	Prevent groundings of vessels in SIOBMPA	Respond to the impacts of climate change on coral reefs
		Develop coral bleaching response plan
		Check coral reef watch alerts and work with partners to monitor for coral bleaching
		Outplant from coral nursery to strategic areas with increased surveillance

### Focus 1 – Resource Protection – Mangroves

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Removal/ destruction	Prevent further destruction of mangroves by incursion of development	Lauriston mangrove – involve police to remove/close down hideout next to grounded vessel * critical (Crown Lands person suggested by Barriteau) Develop zoning plan for Oyster Bed with buffer zone adjacent to inappropriate development Install awareness signage about SIOBMPA, mangroves and importance of mangroves adjacent to inappropriate development (Lauriston mangroves first) Enforce Forestry Legislation on mangrove cutting (upon approval of legislation)
Inappropriate land use	Promote environmentally sound development practices	Seek a voice for SIOBMPA in EIA and development approval processes Develop zoning plan for Oyster Bed with buffer zone adjacent to inappropriate development
Dredging	Implement mitigation initiatives for marina development	Targeted communications to encourage use of turbidity/silt screens around development
Pollution	Prevent dumping of rubbish in mangroves	Educate stakeholders about importance of mangroves and wetlands and no dumping in mangroves (eg. strategically located signage, radio interviews and spots, printed media announcements and articles, brochures, visits to schools and

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## Focus 1 – Resource Protection – Mangroves

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Inappropriate boat use	Prevent tying up of boats in the mangroves during non-emergency times Removal of derelict vessels and other debris	Wardens enforce and seek win-win partnership with marina operator to prevent use of Oyster Bed for tying up Seek grant funding for removal/ livelihoods opportunity in scrap metal?
Anticipated higher levels of future use of Tyrrel Bay	Encourage best environmental practices by operators and businesses adjacent to Oyster Bed Prevent negative human impacts by users of facilities and visitors	Targeted outreach program via face-to-face meetings * (dialogue critical) Targeted outreach program via communications efforts (eg. strategically located signage, radio interviews and spots, printed media announcements and articles, brochures, visits to schools and stakeholders) Work with marina operator to prevent tying up in Oyster Bed ‘Baseline’ assessment of Oyster Bed

## Focus 1 – Resource Protection – Seagrass

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Overfishing	as for coral reefs	
Pollution	as for coral reefs	
Boat operations	as for coral reefs	
Inappropriate land use	as for coral reefs	
Inadequate drain maintenance	Encourage regular cleaning of litter from drains feeding into SIOBMPA	Encourage solid waste management authority to clean Hillsborough drains especially near end of dry season

## Focus 1 – Resource Protection – Sea turtles

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Overfishing/illegal fishing	Prevent fishing for sea turtles in SIOBMPA	Work with Fisheries Extension Officer and KIDO to raise awareness of protected status of sea turtles and closed season (eg. strategically located signage, radio interviews and spots, printed media announcements and articles, brochures, visits to schools and stakeholders)
		Strategic marine and land-based surveillance and shore-based interception by wardens/ police
Pollution, especially land-based sources	Encourage regular cleaning of litter from drains feeding into SIOBMPA	Help organise clean-ups with local ministry, Fisheries, local fishers, schools and volunteers, especially near end of dry season
Boat operations (turtle strikes)	Enforce speed restrictions in SIOBMPA eg. 5 knot limit	Educate stakeholders about speed restrictions (eg. on mooring receipt, in targeted communications with fishers) Strategic law enforcement patrols by wardens with police and forestry ranger
	Keep Osprey outside SIOBMPA boundaries	Communicate with Osprey company about designated route around SIOBMPA (also public safety for divers)

## Focus 1 – Resource Protection – Sandy beaches

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Sand mining	Prevent illegal sand mining in SIOBMPA (lower priority compared with overfishing, mangroves)	Educate local stakeholders about the importance of beach stabilization Enforce rules against illegal sand mining in SIOBMPA Engage police prosecutor and judiciary to support enforcement of SIOBMPA rules and regulations
Vegetation removal (clearing)	Prevent illegal removal of vegetation in SIOBMPA	Educate local stakeholders about the importance of beach vegetation Enforce rules against illegal vegetation clearing in SIOBMPA Engage police prosecutor and judiciary to support enforcement of SIOBMPA rules and regulations
refer to Lauriston mangrove squatters		
Inappropriate land use/infrastructure	Promote environmentally sound development practices Prevent installation of fixed infrastructure in SIOBMPA	Seek a voice for SIOBMPA in EIA and development approval processes
Climate Change	Respond effectively to the impacts of climate change on beaches	Baseline beach profiling (maybe through a project?)
Pollution	Encourage regular cleaning of litter from drains feeding into SIOBMPA	Help organise clean-ups with local ministry, Fisheries, local fishers, schools and volunteers, especially end of dry season

## Focus 1 – Resource Protection – Offshore islands

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Clearing vegetation	as for sandy beaches	
Climate change	as for sandy beaches	
Over-visitation (not big issue)	Promote environmentally sound behaviour by visitors to islands	Develop targeted communications materials with visitor etiquette

## Focus 1 – Livelihoods

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Vandalism, cutting of moorings	Seek to build community support for SIOBMPA	Develop an outreach campaign to educate local fishers and youth about the importance of marine protected areas
	Prevent acts of vandalism and illegal activities in SIOBMPA	Strategic marine and land-based surveillance and shore-based interception by wardens/ police
Community perception (including Lack of transparency/ fairness/equity)	Seek to build community support for SIOBMPA	Develop an outreach campaign to educate local fishers and youth about the importance of marine protected areas

### Add from April 2015 review

- Junior Rangers
- Community researchers (with stipend)
- Revolving line of credit for fishers/sustainable livelihoods

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## Focus 2 – Governance

Management Goals/Outcomes	Activities – Next 1-5 years
Strengthen governance foundation for SIOBMPA	Clarify status of SIOBMPA as MPA/LAMA and management structure re. roles and responsibilities
Enhance stakeholder engagement according to opportunities for participation under Objective 1	Work with partners to organise programmes for lionfish removal and commercialisation Help organise clean-ups of drains emptying into SIOBMPA with local ministry, Fisheries, local fishers, schools and volunteers, especially near end of dry season Work with Fisheries Extension Officer to raise awareness of rules and regulations for fishing (eg. strategically located signage, radio interviews and spots, printed media announcements and articles, brochures, visits to schools and stakeholders) Involve SIOBMPA in projects and programmes including expert advice related to water quality monitoring and appropriate data collection, analysis and interpretation Work with Fisheries Extension Officer and KIDO to raise awareness of protected status of sea turtles and closed season (eg. strategically located signage, radio interviews and spots, printed media announcements and articles, brochures, visits to schools and stakeholders)
Build engagement and buy-in from stakeholders that have significant impact on SIOBMPA management success	Prepare updated list of SIOBMPA stakeholders with contact information Develop and implement public awareness campaigns as per Objective 1 and Junior Rangers

## Focus 3 – Livelihoods

Threat	Management Goals/Outcomes	Activities – Next 1-5 years
Unsustainable and illegal resource use	On a continuous basis, promote alternative livelihoods options for local communities associated with SIOBMPA	Seek opportunities for funding to assist with development of alternative livelihoods options for local communities associated with SIOBMPA Establish a revolving line of credit for fishers and their families to help encourage the development of sustainable alternatives to fishing
	Encourage groups previously trained to apply their skills (eg. FAD fishing)	Help facilitate meetings for local stakeholders and potential partners/purchasers
	Incorporate community members (with stipend) into SIOBMPA activities eg. monitoring work	Determine funding for stipend? Grants? Ministry?

## Focus 4 – Admin/financing

Management Goals/Outcomes	Activities – Next 1-5 years
Ensure law enforcement in support of SIOBMPA is strategic and continually responds to changing threats	Summarize enforcement records related to SIOBMPA into a joint quarterly SIOBMPA compliance report that includes indicators under Objective 1 Review and compare reports on warnings issued by enforcement partners and condition of natural resources and re-direct enforcement effort and communications according to need
Continually build capacity of SIOBMPA staff, Board and partners for MPA management	Fill key staff positions Pursue training opportunities for SIOBMPA staff, Board and stakeholder representatives as opportunities arise Pursue joint training for law enforcement partners as under objective 1 Involve SIOBMPA in partner and expert programmes that assist with achievement of management objectives
Each year, review achievement of targets and acceptable ranges for indicators for objectives 1-4 and update management activities as needed	Review and report on how many and which indicators are on or outside target Review and update prioritisation and resourcing of management activities according to results

## Focus 5 – Networking

Management Goals/Outcomes	Activities – Next 1-5 years
Participate in the Grenadines Network of MPAs	Seek position for SIOBMPA representative on SusGren board Attend annual meeting Encourage staff involvement in activities and exchanges
	Stay connected with regional MPA network
Stay connected with international MPA network	Subscribe to groups such as IUCN

## Not updated in review of management plan and still needed:

1. Updated stakeholder analysis
2. Updated financial plan

### Note:

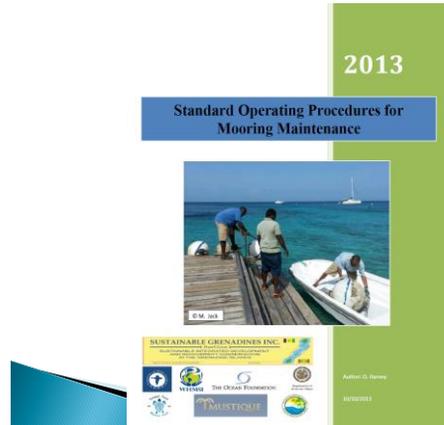
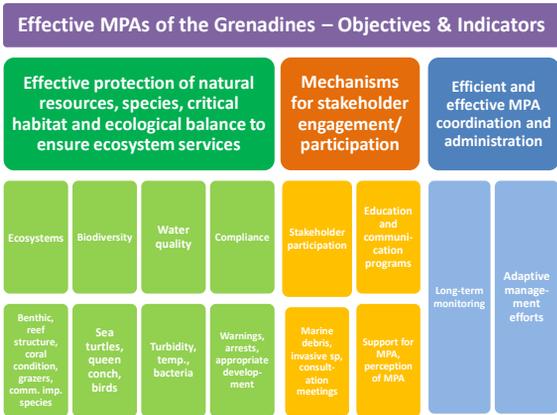
A key need for the new MPA manager is strong communications skills to lead outreach, education and build stakeholder relations in support of increased compliance



Photo: E. Doyle, removal of illegal fishing trap in SIOBMPA, April 2015

## Existing support/materials that can be incorporated into SIOBMPA management

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**FISHERIES DIVISION**



MINISTRY of AGRICULTURE, LANDS, FIS and ENVIRONMENT

**GRENADA MARINE PROTECTED RANGERS'**

**STANDARD OPERATION PROCEDURES MANUA**

MPA Rangers' Standard Operating Procedures Manual

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### Next Steps

1. Revision of text in management plan and optimization of format
2. Prepare supporting materials
3. Circulate for comments and revise accordingly
4. Present for approval



Photos: M. Morton/Durrell Wildlife Conservation Trust

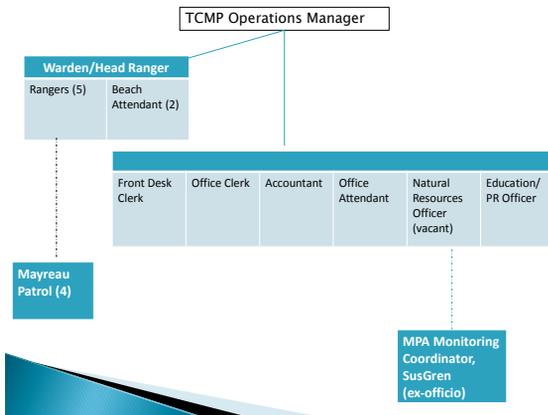
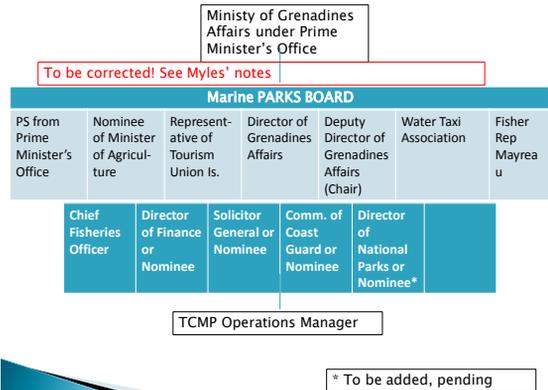
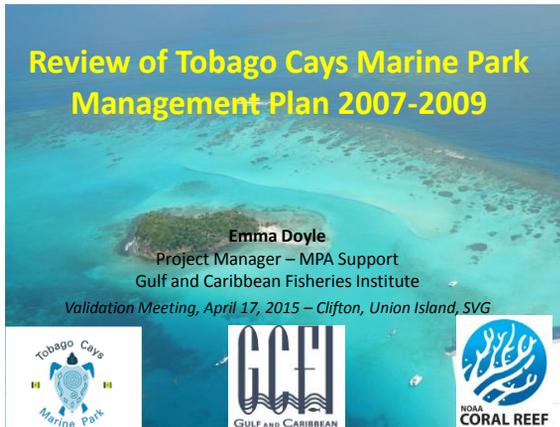
### Thank You

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### Focus of TCMP

Resources/Focus
Coral reef communities
Fish communities
Conch
Seagrass beds
Mangrove communities
Sea turtles
Sea birds
Sandy beaches
Stakeholders/Livelihoods
Administration of TCMP

Added in April 2015 review

### Resources and Threats

Coral reef communities	Illegal fishing with impacts on reduced herbivory Physical damage from anchoring, groundings, poor diver/snorkeler practices, illegal spearfishing Nutrient pollution eg. from yachts not using holding tanks, lack of washroom facilities Climate Change/coral bleaching Coral disease eg. white band disease Sedimentation from erosion and development in Canouan, Mayreau
Fish communities	Illegal fishing by fishers from Mayreau, Union or other islands Presence of lionfish
Conch	Illegal fishing by fishers from Mayreau, Union or other islands

### Resources and Threats

Seagrass beds	Nutrient pollution eg. from yachts not using holding tanks, lack of washroom facilities Seasonal changes in seagrass density/sedimentation Anchoring practices
Mangrove communities	Illegal dumping Proposed development at Salt Pond (Mayreau)
Sea Turtles	Illegal fishing especially for hawksbill shell Vessel traffic Harassment
Sea Birds	Excessive beach cleaning
Sandy beaches	Litter Sargassum influx

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## Focus and Threats

Stakeholders/ Livelihoods	User conflict/aggression by water taxis, vendors, rangers
Effective administration of MPA	Public hygiene concerns and lack of visitor/staff/vendor washroom facility Licensing of new operators using TCMP

## Condition of Resources

**AGRR research,**  
September, 1999 vs  
September, 2014

- ✗ Lack of large-sized commercially important fish
- ✓ No signs of coral disease
- ✗ Black sea egg, lobster, lambi, rare

Marine Park Name	Tobago Cays Marine Park (TCMP)
Site name	Northwest Passage North
Survey date	05/15/2014
Location of survey	Transect #1 - last point to east
TC1	Transect #1 - last point to east
TC2	N 12 43575 W 61 34883
TC3	N 12 43572 W 61 34853
Site selection	Site selected because of availability of historic and previous survey data (surveyed in 1999 by AGRR, Doreen 2003, other surveys) and it is frequently visited by park visitors.
Number of healthy surveys	0
Number of fish surveys	8
Site	Site
Notes and Photos	One of the most encouraging signs at this site is the reef fish populations - both in number and diversity.
General comments	Herbivores were some larger sized ones, more common on the reef. Missing though were a high abundance of larger sized commercially significant fish like groupers and snappers, although relatively more were observed here than in other areas.
	Coral colonies appeared in good condition with little or no evidence of coral bleaching or disease.
	There were several healthy coral recruits observed, which is important for further reef growth.
	Diplomata, lobster and conch were rare on this reef.

**Initial Management considerations:**  
The protection of TCMP over such a long time frame has had significant benefits for the coral reefs, fish communities, and surrounding areas. The overall abundance of fish is encouraging especially with the presence of important grazing fish like parrotfish and surgeonfish. The lack of abundant large commercially important fish like groupers and snappers is a concern and a cause for potential issues of illegal fishing is warranted. There are reports of fishermen coming from other areas and taking fish, so efforts should be placed on reducing the illegal take of fish especially at night. Outreach efforts to local nearby communities the importance of keeping TCMP in a take zone should be done with emphasis on how protecting TCMP will allow fish populations to increase which will benefit surrounding areas (commercial fisheries are good for this). Efforts to minimize any potential impacts from visitors and users should continue including focus on reducing sewage trash and fish from boats and land day users. To **improve the reef** sewage issue, efforts to work with parent rental boat companies are likely needed. To provide sanitation facilities on the island, two impact systems like compost toilets are a good option if you see examples from a company working in Curacao. Additional training can be done with the rangers to increase and improve education outreach with visitors.

## TCMP Findings



2004 from Google Earth

2014 from Google Earth

**Note sand bank movement**

**October, 2014  
Lambi density (broad lip)** about 600 individuals/hectare

**October, 2014  
White sea egg density** about 5500 individuals/hectare

**October, 2014  
Sea turtle density** 3.4 turtles/hectare in survey area

= 13.6 turtles/hectare of sea grass (vs more than 20 turtle/hectare needed for over-grazing or damage)



**Note sand bank movement**

## Coral Reefs

Threat	Activities - Next 1-5 years
Illegal fishing with impacts on reduced herbivory	Enforce rules against fishing in TCMP including via spot checks outside normal hours by Mayreau patrol Ensure reliable operation of 24 hour reporting hotline Implement enforcement training for rangers and law enforcement partners Management and Board to increase expectations of enforcement success
Physical damage from anchoring, groundings, poor diver/snorkeler practices, illegal spearfishing	Develop and implement a TCMP Junior Ranger Programme (for Union and Mayreau, and Canouan?) to build compliance with regulations Enforce rules against no anchoring in coral in TCMP, dinghy moorings, etiquette Ensure high standards of mooring maintenance based on SOPs from Grenadines MPA Network Exchange with BVI to learn about linking GIS with fee payment in order to track use of moorings in TCMP vs anchoring
Nutrient pollution eg. from yachts not using holding tanks, lack of washroom facilities	Targeted communications with charter companies and yachties about use of holding tanks in TCMP
Climate Change/coral bleaching	Management to re-familiarize with Coral Bleaching Response Plan
Coral disease eg. white band disease	Sign up for coral reef watch alerts by emailing Britt.Parker@noaa.gov Monitor via annual Grenadines MPA Network AGRR expedition
Sedimentation from erosion and development in Canouan, Mayreau	Present historical images of Baradal to board and explain dynamic coastal processes Seek a permit for TCMP in EIA and potential development approval processes

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### Fish/Conch- Activities

Threat	Activities - Next 1-5 years
Illegal fishing by fishers from Mayreau, Union or other islands	Enforce rules against fishing in TCMP including via spot checks outside normal hours by Mayreau patrol Ensure reliable operation of 24 hour reporting hotline Implement enforcement training for rangers and law enforcement partners Management and Board to increase expectations of enforcement success Develop and implement a TCMP Junior Ranger Programme to build compliance with regulations
Presence of lionfish	Monitor via annual Grenadines MPA Network AGRRA expedition Work with partners to organise programmes for lionfish removal and commercialisation

### Seagrass

Threat	Activities - Next 1-5 years
Nutrient pollution eg. from yachts not using holding tanks, lack of washroom facilities	Targeted communications with charter companies and yachties about use of holding tanks in TCMP
Seasonal changes in seagrass density/sedimentation	Present historical images of Baradal to board and explain dynamic coastal processes (to support no management action)
Anchoring practices	Ensure high standards of mooring maintenance based on SOPs from Grenadines MPA Network

**October, 2014  
Lambi density (broad lip)**  
about 600  
individuals/hectare

**October, 2014  
White sea egg  
density**  
about 5500  
individuals/hectare



### Mangroves

Threat	Activities - Next 1-5 years
Illegal dumping	Encourage reliable operation and good practices by rubbish pick-up service Encourage solid waste management authority to address waste collection and deposit in Mayreau (especially from Salt Whistle Bay) Help organise clean-ups by volunteer groups
Proposed development at Salt Pond (Mayreau)	Seek a voice for TCMP in EIA and national development approval processes

### Sea Turtles

Threat	Activities - Next 1-5 years
Illegal fishing especially for hawksbill shell	Reduce demand for hawksbill jewellery by educating visitors about penalties associated with taking sea turtle products across international borders (e.g. CITES)
Vessel traffic	Enforce 5 knot speed limit within TCMP
Harassment	Leverage the high level of visitor interest in sea turtles by providing better information via park brochures, visitor receipts, and through a daily turtle talk at a set hour on Baradal

### Sea Birds

Threat	Activities - Next 1-5 years
Excessive beach cleaning	Conduct baseline bird survey in TCMP

### Sandy Beaches

Threat	Activities - Next 1-5 years
Litter	Task beach cleaners and rangers with collection of any rubbish appearing on beaches
Sargassum influx	Focus beach cleaning on western/leeward side of Baradal and vendor beach/leeward side of Petite Bateau only Communicate with visitors about which beaches of TCMP will be cleaned (targeted communications in media, face-to-face communications by rangers) Share communications about sargassum influx with the public

### Stakeholders/Livelihoods

Threat	Activities - Next 1-5 years
User conflict/negative visitor perception of water taxis, vendors, rangers	Clarify regulations - TCMP management to get files from Chairman of the Board (Herman Belmar) and Mr. Willaims. Jayson Horadan can assist with advice on enforcement Verify zoning on communications materials and update maps with GIS expertise Focus on providing good value to park users; e.g. courteous rangers, well-maintained moorings, litter-free park, good signage Seek funding to install dry toilet system on Petit Bateau
Public hygiene concerns and lack of visitor/staff/vendor washroom facility	Site visit for management and ranger to Half Moon Cay for composting toilet observation and learning about maintenance.

### Administration

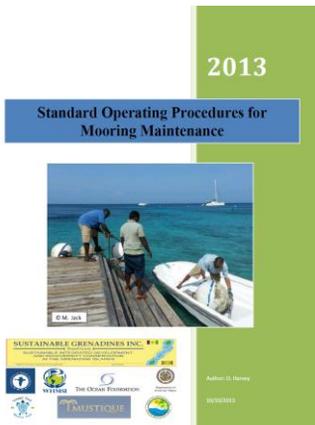
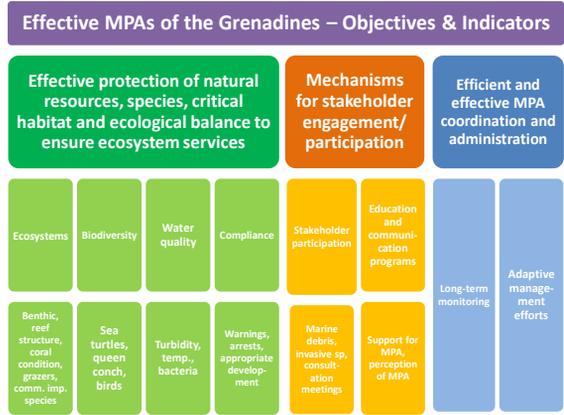
Communicate with new PSV dive shop about dive operator licensing
Ensure law enforcement in support of SIOBMPA is strategic and continually responds to changing threats
Ensure long-term financial sustainability of SIOBMPA
Continually build capacity of SIOBMPA staff, Board and partners for MPA management
Participate in activities of the Grenadines Network of MPAs
Stay connected with regional MPA network

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### Additional Sections of Plan

Adopt/insert existing relevant protocols from Grenadines Network of MPAs:

- ▶ Monitoring framework from Grenadines Network of MPAs
- ▶ SOPs for Mooring Maintenance
- ▶ Summary of MPA regulations from ELI
- ▶ SOPs for Enforcement Officers from GND



MPA Rangers' Standard Operating Procedures Manual

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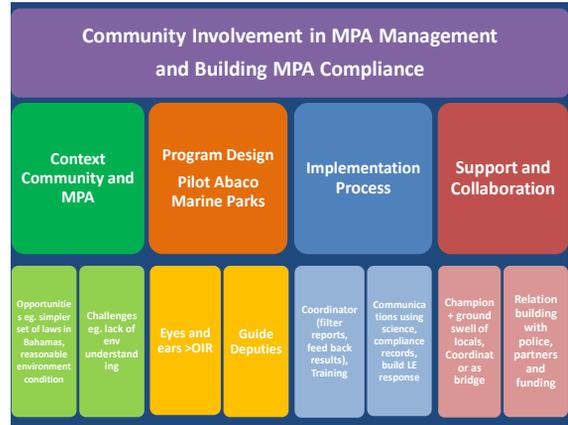


### Next Steps

1. Revision of text in management plan based on validation meeting
2. Prepare supporting materials
3. Print revised draft
4. Present for approval

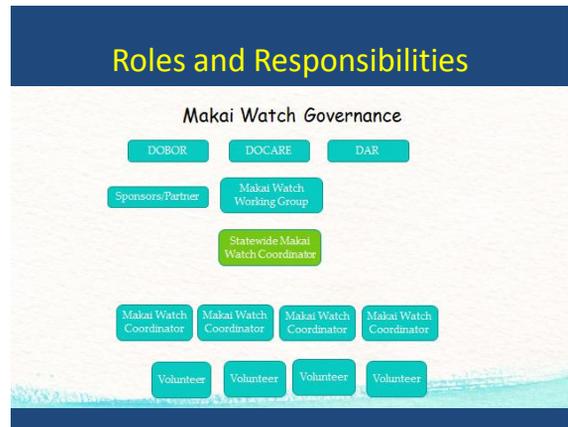


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### Action Steps Abaco Marine Parks Pilot Programme

1. Paul to present at FFGA national annual meeting with DMR as part of existing initiative
2. If embraced at national level then David to recommend approval for PAs; if not then David to recommend go ahead with pilot in Abaco Marine Parks
3. BNT/AFFGA to seek government approval of roles and responsibilities (ref. Makai Watch governance)
4. Appoint passionate coordinator/s
5. Concurrent focus on MPA enforcement training (community policing, volunteer relationships, enhanced LE response)



### Action Steps Abaco Marine Parks Pilot Programme

7. Stakeholder analysis
8. Identify key relationships to foster and build (champion, LE agencies [especially police chief to nominate contact point, work with all officers, one-on-one, police prosecutor])
9. Develop communications plan
10. Explore possible exchange by Hawaii colleagues to assist with community consultation(MW Coordinator and CFEU rep?)... by end September 2015?!

### Action Steps Abaco Marine Parks Pilot Programme

11. AFFGA and BNT develop selection criteria for deputy wardens, AFFGA present list of candidates for Guide Deputies; AFFGA and BNT discuss together; AFFGA approach to recruit for OIR
12. Identify 1-2 people in each community for education role
13. BNT design and implement training for Guide Deputies and volunteers in training
14. Launch OIR, education, record-keeping and response
15. Evaluate pilot for expansion to other MPAs with some standardization, potential model for wider marine compliance

## Obstacles, Challenges, Pitfalls

- Scarce human and financial resources for marine management and enforcement
- Lack of public environmental awareness/understanding
- Weak environmental support from police, prosecutors
- No environmental court in The Bahamas
- Limited enforcement powers (no on-spot fines)
- Little existing adult outreach about MPAs
- Achieve government buy-in (funding not realistic)
- Need champion
- Need good coordinator
- Nurturing of volunteers

## Opportunities

- Existing resources/models for programme design and training
- Complement existing education and science programmes (Discovery Club, Friends, AGRRA)
- Existing proposals for enforcement training
- Apply partner funding for consultation stage (and kick-off?)
- Seek partner/grant support for implementation (TNC, NOAA CRCP, NFWF etc)
- Establish working/advisory group

## Appendix 7



### Park Ranger Training at Half Moon Caye Natural Monument

**Belize City, December 31 2014 –Organized by the Belize Audubon Society, a group of park rangers and Fisheries Officers recently took part in joint law enforcement training for marine protected areas.**

The training was held over the course of a full week in December at Half Moon Caye Natural Monument. It addressed the specialist skills required by park rangers and fisheries officers to ensure that the rules and regulations of marine protected areas are understood and respected by all.

“The rangers and officers learned about many aspects of marine law enforcement, from standard procedures for ensuring public safety and officer safety to case management and court procedures,” explained Mr. Shane Young, Marine Manager, Belize Audubon Society. “This was an important step in having our park rangers officially deputized as Fisheries Officers.”

The training was capably delivered by Mr. Lyndon Rodney of Belize Fisheries Department and Retired Captain Jayson Horadam of MPA Enforcement International, both experts with extensive practical experience at the frontlines of marine conservation.

Also joining the training was a group of park rangers from nearby Parque Nacional Arrecifes de Xcalak in Mexico. “The park where we are based is ecologically connected to the Belize Barrier Reef and we face similar issues as our Belizean colleagues in ensuring compliance with park rules and regulations,” explained Mr. Jorge Gomez Poot, Sub-Director of the national park.

“All participants walked away with new information and, importantly, with confidence in practical skills that they can apply at their respective marine protected areas,” commented Mr. Young.

An initiative of the Gulf and Caribbean Fisheries Institute and NOAA’s Coral Reef Conservation Program (CRCP), this on-site training follows up on the regional MPA enforcement training organised by GCFI in Key West in 2012. NOAA’s support is part of CRCP’s international strategy to work with regional initiatives to develop and implement long-term MPA capacity building programs based on capacity assessments. Additional sponsorship was provided by the National Fish and Wildlife Foundation, Island Expeditions and by the Belize Audubon Society. For more information, please contact Belize Audubon Society, [marineparks@belizeaudubon.org](mailto:marineparks@belizeaudubon.org)



Park Rangers and Fisheries Officer in law enforcement training

(Photo: E. Bochub)

## Appendix 8



### Sharing Strategies from the Pacific Ocean to Build Marine Protected Area Compliance in The Bahamas

**[Lahaina, Maui] (April 25, 2015) Marine protected area staff and community representatives from The Bahamas are currently visiting Hawaii to learn about local partnerships between communities, government agencies, conservation groups and law enforcement authorities that serve to enhance the effectiveness of marine law enforcement.**

Hawaii is home to a number of innovative programs that provide community members with opportunities for direct involvement in the management of near-shore marine resources. “These are implemented in collaboration with the Hawaii Department of Land and Natural Resources, with NGOs and community-based organizations”, explains Mr. Luna Kekoa, State Coordinator for the ‘Makai (“Ocean”) Watch’ Program, an initiative that builds voluntary compliance through outreach and helps document and report violations to authorities.

“Other programs in support of marine conservation in Hawaii include the Community Fisheries Enforcement Unit, Community Based Subsistence Fishing Area Program, and the Hawai’i Eyes on the Reef Network and Rapid Response Contingency Plan,” he added.

Two representatives from The Bahamas National Trust together with two representatives from the Abaco Association for Flying Fishing Guides are taking part in a series of meetings with the coordinators and volunteers who are running these programs, as well as with the fisheries management authority (Division of Aquatic Resources) and with the local natural resources law enforcement agency (Department of Conservation and Resources Enforcement). The visiting group is also participating in a volunteer training session hosted by the Ka’anapali Makai Watch group on Maui.

“Coastal and protected area managers around the world face common challenges from scarce financial and human resources for effective enforcement of regulations,” said Mr. David Knowles, Director of Parks for The Bahamas National Trust.

“On this visit we’re seeing first-hand how other conservation managers address similar issues,” he explained. “Sharing in the lessons learned by the Pacific region is invaluable as we step up to the challenges of protected areas management in The Bahamas.”

The visit is hosted by the Gulf and Caribbean Fisheries Institute with support from NOAA's Coral Reef Conservation Program, the National Fish and Wildlife Foundation and The Nature Conservancy's Reef Resilience Program. It was organized in conjunction with the Pacific Islands Marine Protected Areas Community (PIMPAC). For more information please contact [emma.doyle@GCFI.org](mailto:emma.doyle@GCFI.org).



The Bahamas National Trust and Abaco Association of Fly Fishing Guides on learning exchange in Hawaii. Top left: Hanauma Bay Marine Life Conservation District on Oahu, Top Right: David Knowles, Bahamas National Trust, Below: meeting at the Division of Aquatic Resources (Photos: E. Doyle)



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