

DEVELOPMENT & IMPLEMENTATION OF A USER MONITORING PROGRAM

AT THE

SANDY ISLAND/OYSTER BED MARINE PROTECTED AREA



By

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2012

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Citation:

Whyte, B., J. Placid, , D. Baker and K. Gillespie. 2012. Development and implementation of a user monitoring program for the Sandy Island Oyster Bed Marine Protected Area. Report for MPA Governance Project. 15pp

Disclaimer: This report was prepared as an activity under the MPA Governance Project implemented by the Centre for Resource Management and Environmental Studies (CERMES) under award NA11NOS4820012 from the NOS International Program Office (IPO), U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of the NOS International Program Office (IPO) or the U.S. Department of Commerce.

Introduction

The Sandy Island/Oyster Bed Marine Protected Area (SIOBMPA), located in the Grenada Grenadines on the southwestern tip of island of Carriacou, was first considered for protected status in 1988 when Grenada developed a *Plan and Policy for a System of National Parks and Protected Areas*. The area proposed, referred to as Lauriston Point, was slightly smaller than the actual area of the SIOBMPA and consisted of Sandy Island, Mabouya Island and the sea surrounding these islands. It was selected because of its proximity to the capital of Carriacou and the quality of its ecosystems. Although this area was identified as a priority conservation area, it was local acceptance which led three different organizations to provide the support to move the project towards implementation. The process towards formally establishing the marine protected area (MPA) began.

In 2001 the Caribbean Regional Environmental Programme (CREP) initiated the “Grenada Amenity Area” project in Carriacou. The main objective of this project was to increase the capacity of Carriacou to manage and utilize the resources of the SIOBMPA in a sustainable manner by establishing an MPA. CREP formed a local partnership with an organization in C called the Carriacou Environmental Committee (CEC) to work towards establishing the SIOBMPA.

In 2003, the *Marine Protected Area (MPA) Planning for Carriacou and Petite Martinique* identified the establishment of a MPA in the Grenadine Islands as a priority area for action. The intent of the report was to acquire the “information pertaining to MPA development in Carriacou and Petite Martinique develop a proposal for the Sandy Island/Oyster Bed MPA and present stakeholder views on the feasibility of, and possible problems with implementing the proposal.”

Subsequently, the area was designated for protection in 2009 and officially declared an MPA by the Prime Minister of Grenada on July 31st, 2010, making the 659 hectare protected marine space a reality (see Figure 1). A co-management board was established through an agreement signed by the chairs of both the National MPA Committee and the SIOBMPA Co-management Board, and ratified by the Minister for Carriacou & Petite Martinique Affairs. This board, which is comprised of volunteer members and in the absence of administrative staff, has been the primary management agency for the protected, from inception to present.

The SIOBMPA Co-management Board recognizes the need to collect user data which to allow informed decisions on user control regulations. There is, at the same time, a critical need to strengthen public. The monitoring program was strategically designed to include other key stakeholders, such as the dive and water taxi operators, in collecting the data. The inclusion of stakeholders in the data collection process would further engender ownership of the MPA.

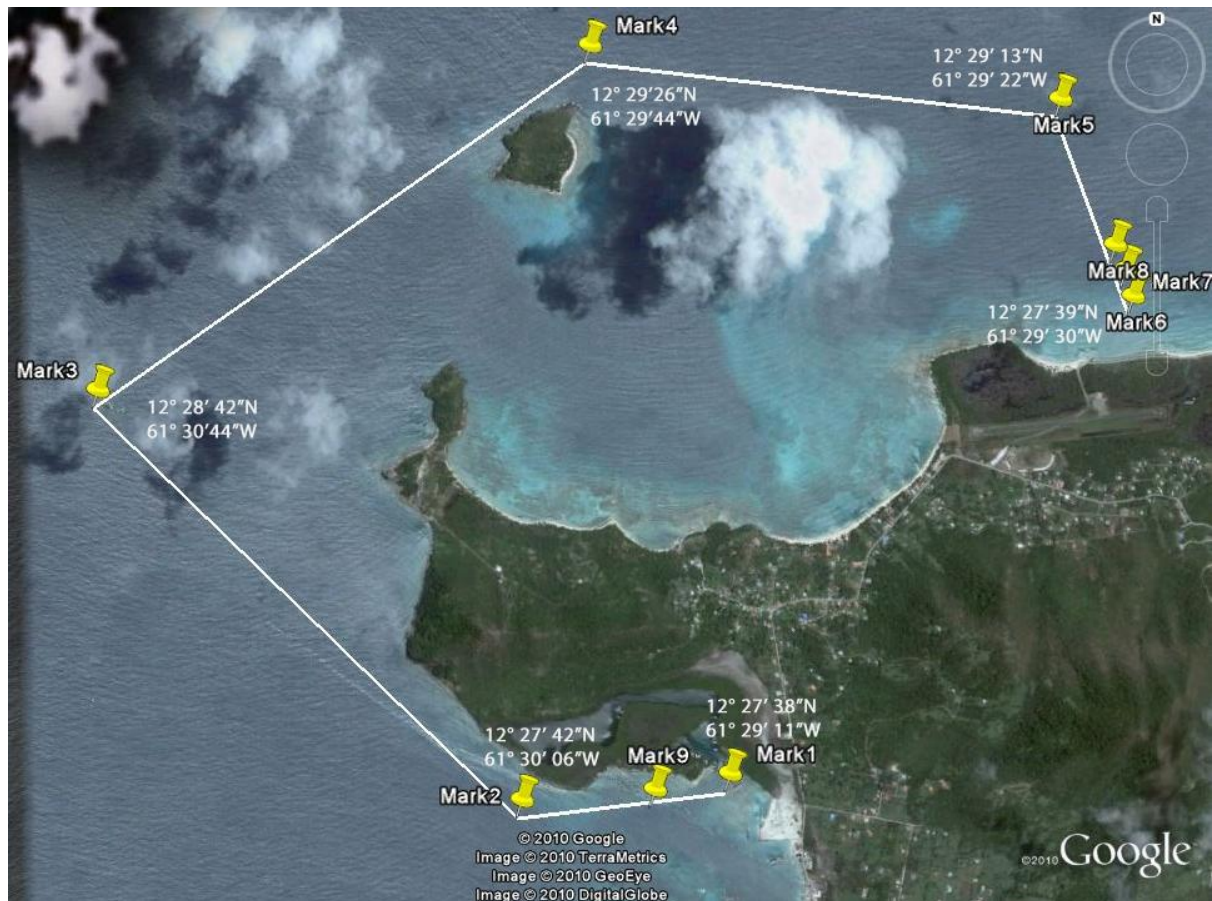


Figure 1: SIOBMPA Area

Rationale

Monitoring and collecting data on uses of the protected area would provide a clear picture to the co-management board of the activities and trends within the SIOBMPA. It would aid in determining whether current management initiatives are successful, and would guide the introduction of new measures, such as the implementation of MPA user zones, and also provide a practical means to realize the following objectives of managing the system, as articulated by the Management Plan:

- Monitoring for indiscriminate anchoring to ensure compliance with SIOBMPA Objective 7.
- Regulating vessel visitation, waste management and onshore activities (Objective 9).

Additionally, this activity would help in the prioritization of management activities, which in turn would contribute to the realization of the broader set of SIOBMPA management objectives. And since the activity was designed to capture both allowed and disallowed MPA activities, it would prove useful in plugging the enforcement gaps of SIOBMPA.

Methodology

The activity was conducted in the form of infield data collection, stakeholder consultations and interviews. Data collection forms were designed and discussed among the various stakeholders, namely water taxi and dive operators, as

well as board members. These stakeholders and wardens were then trained for the collection of the relevant data. The data collection sheets were designed to collect information daily on the following activities within the SIOBMPA:

1. Fishing – both authorized and poaching activity;
2. Visits to, and activities within, the Oyster Bed - all activities;
3. Yachting – both moored and anchored;
4. Recreational beach activities within the MPA – picnics, swimming, barbecues, etc., at Lauriston and Paradise Beach;
5. Diving;
6. Snorkeling – to distinguish between Sandy Island and other sites.

For each designated activity, data was collected thrice daily – morning, afternoon and evening. There was a separate sheet for each activity. The dive shops and water taxis were task to input information based on their respective customer activities. In the case of the water taxi operators, the assigned activity was snorkeling. The MPA wardens were responsible for capturing all other user activities, as they are encountered during daily patrols.

The data was tallied weekly and entered into a summary sheet. This data would then be analyzed to determine trends and use patterns. Refer to Appendix 3 to 9 for the data sheets which were designed.

The following table reflects the types of users from which data was collected, the specific activity recorded, and the MPA management objective to that activity:

Users	Activity	Collected By
Pleasure Crafts/Yachts	Authorized Moorings Anchoring	Wardens
Divers	Authorized Diving Marine Source (disallowed)	Dive Shops
Visits to Sandy Island	Picnics Snorkeling	Water Taxi Operators
Visit to Oyster Beds	Sightseeing/bird watching Oyster harvesting	Wardens
Users on Paradise and Lauriston Beaches	Beach recreation and relaxation (mostly local, cultural uses)	Wardens
Fishers	Authorized Fishing Unregulated Fishing	Wardens



Figure 2: Bait fishing at SIOBMPA



Figure 3: Engaging stakeholders

Results

Currently only two weeks of data have been collected as the pilot effort. The data have been summarized on the following sheets.

Week One:

Activity	Mon			Tue			Wed			Thu			Fri			Sat			Sun			Total
	M	A	Total	M	A	Total	M	A	Total	M	A	Total	M	A	Total	A	M	Total	M	A	Total	
Diving		12		6	12	18	3	3	6		1				0		3			10		
Total		12				18			6		1						3			10		49
Sandy Is	SI	S	Total	SI	S	Total	SI	S	Total	SI	S	Total	SI	S	Total	SI	S	Total	SI	S	Total	
Snorkeling	2			2			2												5			
Total				2			2												5			11
Fishing	P	A	Total	P	A	Total	P	A	Total	P	A	Total	P	A	Total	P	A	Total	P	A	Total	
											2			1								
TOTAL											2			1								3
Recreation	L	P	Total	L	P	Total	L	P	Total	L	P	Total	L	P	Total	L	P	Total	L	P	Total	
										7	7	14	4	3	7	7	6	13				
TOTAL												14			7			13				34
Yachting	M	A	Total	M	A	Total	M	A	Total	M	A	Total	M	A	Total	M	A	Total	M	A	Total	
										7	3	10	2	4	6		2					
TOTAL										7	3	10			6		2					18
Oyster Bed			Total			Total			Total			Total			Total			Total			Total	
										3	1	4		2	2							
TOTAL												4			2							6
Grand Total																						118

Week Two:

Activity	Mon			Tue			Wed			Thu			Fri			Sat			Sun			Total
	M	A	Total	M	A	Total	M	A	Total	M	A	Total	M	A	Total	A	M	Total	M	A	Total	
Diving										2		2		4	4	1						
Total											2			4		1						7
Sandy Is	SI	S	Total	SI	S	Total	SI	S	Total	SI	S	Total	SI	S	Total	SI	S	Total	SI	S	Total	
Snorkeling																						
Total																						0
Fishing	P	A	Total	P	A	Total	P	A	Total	P	A	Total	P	A	Total	P	A	Total	P	A	Total	
		1			1			1						1			1			1		
TOTAL																						6
Recreation	L	P	Total	L	P	Total	L	P	Total	L	P	Total	L	P	Total	L	P	Total	L	P	Total	
TOTAL																						0
Yachting	M	A	Total	M	A	Total	M	A	Total	M	A	Total	M	A	Total	M	A	Total	M	A	Total	
	6			3			8			5			7			6			10			
TOTAL	6			3			8			5			7			7			10			46
Oyster Bed			Total			Total			Total			Total			Total			Total			Total	
					1						2			1								
TOTAL					1						2			1								4
Grand Total																						69

Table Legend:

Diving	M = Marine-based
	A = Authorized (Dive Shops)
Snorkeling	SI = At Sandy Island
	S = Other MPA Sites
Fishing	A = Authorized
	P = Poaching
Recreation	L = Lauriston Point
	P = Paradise Beach
Yachting	M = Moored
	A = Anchored

Discussion

The gathered data captured most uses of the SIOBMPA. The wardens were also able to identify additional activities which were not previously identified in the planning stage. These included, for instance, traditional fishers from shore and industrial transportation illegally traversing through the park.

Preliminary data indicate that the actual level of recreational activity could possibly be less than what was widely assumed. However data collection must be continued to give a clearer picture which would allow comparison of seasonal use.

For sustainability of data collection, the frequency of collection may need to be revised over a long term period. Data collection by commercial users such as dive and water taxi operators may need to be regulated and mandated by SIOBMPA management.

The following are relevant factors which may affect the success of this management activity:

- ▶ Inability to meet with the Carriacou & Petite Martinique Water Taxi Association (CPMWTa) as scheduled. This association is in dire need of revitalization, especially since a majority of members interviewed stated that they no longer attend meetings of the association, if there are any. The water taxi operators who make most frequent use of the MPA are not members of the CPMWTa.
- ▶ We recognized the need to adapt our schedule to accommodate that of the dive operators and fishers. The scheduled meetings with these groups were unsuccessful, especially as the activity was conducted during the peak of local carnival festivities.



Figure 4: Water Taxi at Sandy Island - Operating from Paradise Beach, inside the MPA

Lessons Learned

1. Through implementation of the user monitoring program, the wardens observed a high level of activity in the Oyster Bed. Visitors engaged in sightseeing and a few residents carried out unregulated and illegal cutting of mangrove roots to harvest oysters.

2. Fishers continue to practice traditional on-shore line and hook fishing and even tourists join in the fun (see Figures 5 and 6). This type of fishing is allowed, however illegal fishing practices were observed specifically poaching of lobster and conch within the MPA.
3. SIOBMPA management was able to adapt their schedule to suit the fishermen to conduct regular meetings to discuss issues and concerns.
4. Commercial stakeholders were willing to collaborate on data collection.
5. For a more comprehensive overview, other MPA locations need to be covered in the gathering of data, especially as it relates to snorkeling and beach activities.
6. MPA wardens may need to assist with the gathering of snorkeling activity data, as not all snorkeling originate from on-shore Carriacou (for example, from yachts and cruisers) and as such, would not be included in data given by water taxi operators.
7. The completeness of the data would be affected by how frequently data gatherers are within the MPA. There, therefore, exists a need to supplement the efforts of the current participants, for on-going data collection.



Figure 5: Fishing from the shore



Figure 6: Beach recreation at Sandy Island

Bibliography

The Nature Conservancy and Grenada Fisheries Division, Sandy Island/Oyster Bed Marine Protected Area, Management Plan, USVI, 2007

Illustrations



Figure 8: Inside the Oyster Bed



Figure 9: Fishing Boat



Figure 10: Snorkelers at Sandy Island



Figure 11: Dive boats at the Sister Rocks

Photos by D. Baker

Appendices

Appendix 1 Activity Form

Adaptive capacity for MPA governance in the eastern Caribbean: Follow-up Activity Form

Please complete all sections and submit as an email attachment to patrick.mcconney@cavehill.uwi.edu

1. Contact information

Workshop #		Theme of activity	
Title of activity	Strengthening MPA Management Decision Making Process		
Organisation	Sandy Island/Oyster Bed Marine Protected Area (SIOBMPA)		
Town/location	Hillsborough		
Area/parish	Carriacou		
Country	Grenada		
Activity leader	Jody Placid		
Title of post held	MPA Head Warden		
Telephone(s)	473-419-9897		
Facsimile(s)			
Email address(es)	jp7_193@hotmail.com		
Skype name(s)	Jody.placid		

We will use e-mail for most communication so give addresses that are reliable and are checked regularly. Type responses in the boxes below and they will expand to fit the text. Try to be concise but very clear.

2. What is the purpose/objective of your activity related to adaptive capacity for MPA governance? (<100 words)

1. Work with relevant stakeholders, marinas, tour operators and local communities in collecting MPA visitation and user data.
2. Develop MPA visitation and user excel database and put in place administrative mechanism in data collection, processing and management.
3. Use the data to assist insights into visitor and stakeholder communication and in particular revision of pre-visit communications and numerous MPA governance decisions.

4. What specific (measurable, verifiable) outputs will you achieve by the end of the activity? (3-5 bullet points)

- a. Identify and list what specific visitation and user data to be collected.
- b. Collect data on the number of MPA user per activity during a specified period of time.
- c. Identify and rank the most prevalent user activities.
- d. Develop paper and software MPA data collection and processing tools.
- e. Identify which specific MPA management objectives and indicators are targeted.

5. What is your scheduled work plan for the 1-4 week activity? (Insert or delete rows as necessary)

Task description (major tasks to be accomplished for deliverables)	Wk1	Wk2	Wk3	Wk4
Team meetings (Wardens, Chairman, Brian, Kyle)	x			
Board Presentation (Jody)	x			
Completing survey and data processing forms (Kyle, Zaidy, Brian)		x		
Collecting data and completing survey (TBD)		x	x	

Task description (major tasks to be accomplished for deliverables)	Wk1	Wk2	Wk3	Wk4
Developing database and training complete (TBD)				x
Inputting data complete (TBD)				x
Preparing Workshop Presentation complete (Chair, Jody, Brian)				
Delivering Workshop Presentation (Chair, Jody, Brian)				
Start date	January 15 th	End date	February 1 st	

6. In the table below list the critical resources or stakeholders in the activity and their roles. (Insert or delete rows)

Critical resource or stakeholder identified	Role in implementing the activity or specific tasks
Business Owners – on-site restaurants, bars, etc.	Provide Information
Tour Operators	Provide Information
Dive Operators	Provide Information
Fishermen	Provide Information
MPA Wardens	On-going data collection and entry

7. Are there any assumptions or circumstances that may impact on successful implementation? (<100 words)

- There is a lack of adequate baseline data with respect to MPA user activities
- There are on-going illegal activities within the MPA – poaching, dumping, damage to vegetation, etc.
- Local communities and organizations use MPA sites for commercial activities without management oversight

8. If you are not authorised to sign follow-up agreements on behalf of your organisation, identify the person who is

Authorised person	Davon Baker
Title of post held	Chairman – SIOBMPA Co-management Board

9. Any other pertinent information (<100 words)

Submitted to CERMES on (dd/mm/yy)	12/01/12	By (name)	Davon Baker
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The completed form is not expected to exceed three pages in length. Thank you.

Appendix 2 List of Project Participants

Names	Participating Activity
Jody Placid	MPA warden
Brian Whyte	MPA Board Member
Davon Baker	MPA Board Chairman
Zaidy Khan	MPA Consultant - Project Facilitator
Sherwin Noel	Water Taxi Operator
Joseph Edmund	Water Taxi Operator
Cuthbert Snagg	Water Taxi Operator
Bryan Prince	MPA Warden
Anique Coy	MPA Warden
Max Nagel	Diver Shop Operator
Lumbadive	Dive Shop
Georg Schmidt	Dive Shop Operator
Kyle Gillespie	Sustainable Grenadines Inc. Intern attached to Ministry of Carriacou & PM Affairs/SIOBMPA

Appendix 3 The forms designed for data collection

Date: _____ to _____, 20____

SIOBMPA - Diving Data

Day	Morning		Afternoon		Evening		Total		Dive sites
	Marine Based	Shop Based	Marine Based	Shop Based	Marine Based	Shop Based	Marine Based	Shop Based	
Sunday									
Monday									
Tuesday									
Wednesday									
Thursday									
Friday									
Saturday									
Total									Grand Total

Notes

Signature _____

Form 1: Data Collection – Diving

Date: _____ to _____, 20____

SIOBMPA - Snorkeling Data

Day	Morning		Afternoon		Evening		Total		Sites
	Sandy Island	Other Site	Sandy Island	Other Site	Sandy Island	Other Site	Sandy Island	Other Site	
Sunday									
Monday									
Tuesday									
Wednesday									
Thursday									
Friday									
Saturday									
Total									Grand Total

Notes

Signature _____

Form 2: Data Collection – Snorkeling

SIOBMPA - Fishing Data

Date: _____ to _____, 20__

Day	Morning		Afternoon		Evening		Total		Warden
	Poaching	Authorized	Poaching	Authorized	Poaching	Authorized	Poaching	Authorized	
Sunday									
Monday									
Tuesday									
Wednesday									
Thursday									
Friday									
Saturday									
Total									Grand Total

Notes

Warden Signature _____

Form 3: Data Collection – Fishing

SIOBMPA - Recreation Data

Date: _____ to _____, 20__

Day	Morning		Afternoon		Evening		Total
	Lauriston Pt.	Paradise Beach	Lauriston Pt.	Paradise Beach	Lauriston Pt.	Paradise Beach	
Sunday							
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday							
Total							Grand Total

Notes

Warden Signature _____

Form 4: Data Collection – Recreation

SIOBMPA - Yachting Data

Date: _____ to _____, 20____

Day	Morning		Afternoon		Evening		Total		Warden
	Moored	Anchored	Moored	Anchored	Moored	Anchored	Moored	Anchored	
Sunday									
Monday									
Tuesday									
Wednesday									
Thursday									
Friday									
Saturday									
Total									Grand Total

Notes

Signature _____

Form 7: Data Collection – Yachting

SIOBMPA - Oyster Bed

Date: _____ to _____, 20____

Day	Morning	Afternoon	Evening	Total
Sunday				
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				
Total				Grand Total

Notes

Warden Signature _____

Form 8: Data Collection – Oyster Bed