

Focus of TCMP

Added in April 2015 review

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

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 |

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

AGRRA research, September, 1999 vs September, 2014

✗ Lack of large-sized commercially important fish

✓ No signs of coral disease

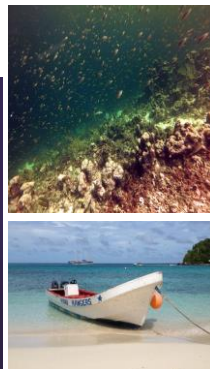
✗ Black sea egg, lobster, lambi, rare

| | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Marine Park Name | Tobago Cays Marine Park (TCMP) |
| Site name | Northwest Passage North |
| Survey date | 09/12/2014 |
| Location of survey | Transect #1 - last visit to east |
| TCP | Transect #1 - last visit to east |
| TCP2 | N 12 43575 W 61 34862 |
| TCP3 | N 12 43572 W 61 34853 |
| Site selection | Site selected because of availability of historic and previous survey data (our report in 1999 by AGRRRA, Doreen 2003, other surveys) and it is frequently visited by park visitors. |
| Number of benthic surveys | 8 |
| Number of fish surveys | 8 |
| Video and Photo | Yes |
| General comments | One of the most encouraging signs at this site is the reef fish populations - both in number and diversity. 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 baby coral recruits observed, which is important for further reef growth. Diadema, 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 aimed on reducing the illegal use of fish especially at night. Outreach efforts to local nearby communities the importance of keeping TCMP are take care should be done with emphasis on how protecting TCMP will allow fish populations to increase which will benefit surrounding areas (conceptual diagrams 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 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 used you 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 AGRRA expedition |
| Sedimentation from erosion and development in Canouan, Mayreau | Present historical images of Baradal to board and explain dynamic coastal processes Seek support for TCMP in EIA and national development approval processes |

Fish/Conch- Activities

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

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 | <p>Encourage reliable operation and good practices by rubbish pick-up service</p> <p>Encourage solid waste management authority to address waste collection and deposit in Mayreau (especially from Salt Whistle Bay)</p> <p>Help organise clean-ups by volunteer groups</p> |
| 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 | <p>Focus beach cleaning on western/leeward side of Baradal and vendor beach/leeward side of Petite Bateau only</p> <p>Communicate with visitors about which beaches of TCMP will be cleaned (targeted communications in media, face-to-face communications by rangers)</p> <p>Share communications about sargassum influx with the public</p> |

Stakeholders/Livelihoods

| Threat | Activities - Next 1-5 years |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| User conflict/negative visitor perception of water taxis, vendors, rangers | <p>Clarify regulations - TCMP management to get files from Chairman of the Board (Heriman Belmar) and Mr. Williams. Jayson Horadan can assist with advice on enforcement</p> <p>Verify zoning on communications materials and update maps with GIS expertise</p> <p>Focus on providing good value to park users; e.g. courteous rangers, well-maintained moorings, litter-free park, good signage</p> <p>Seek funding to install dry toilet system on Petit Bateau</p> |
| 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. |

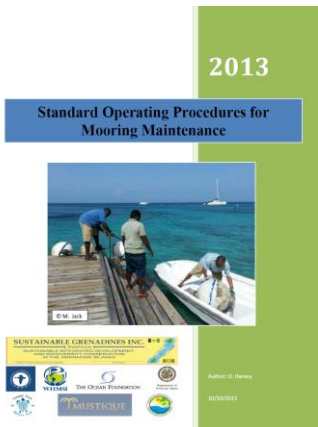
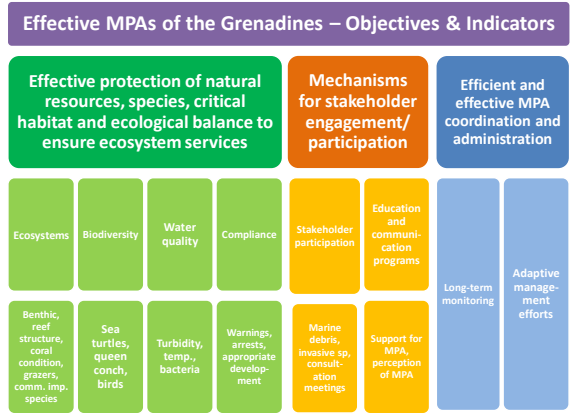
Administration

| |
|--------------------------------------------------------------------------------------------------------|
| 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 |

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

