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WORKSHOP REPORT

Providing a Model for Effective Co-management of The Narrows / Newcastle Bay, St. Kitts and Nevis

January 11 – 13, 2018



Caribbean Development and Environmental Consultants, Inc.

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Providing a Model for Effective Co-management of The Narrows / Newcastle Bay, St. Kitts and Nevis

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In collaboration with

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Funded by

Organization of American States (OAS)

The Sustainable Cities Resilient and Risk Management Section 18030

January 11 – 13, 2018

Cover Photo: Participants at co-management workshop group photo

Contents

Background	3
The Co-management Workshop	4
<i>Co-management Defined</i>	5
<i>The Benefits of Co-Management</i>	6
<i>Ecosystem Based Management</i>	6
<i>Sustainable Cities</i>	6
<i>Marine Managed Areas (MMAs)</i>	7
<i>Legal and Institutional Context</i>	8
Assessing Capacity	9
<i>Questionnaires</i>	13
The Proposed Co-management Model	15
Recommendations	18
Useful Resources	19
References	21

Providing a Model for effective Co-management of The Narrows / Newcastle Bay, St. Kitts and Nevis

Background

The Narrows has long been recognized as an area of high biodiversity and socioeconomic value. Turtle nesting occurs along the sandy beaches of The Narrows' coastline, both in St. Kitts and Nevis and the large seagrass bed serves as a feeding ground for turtles and nursery for commercially important juvenile species. The national bird, Brown Pelican, also nests in The Narrows. Historically, fishing has been the most important activity in The Narrows including the harvesting of lobster, conch and finfish. Tourism is the second major socio-economic activity, which is developing rapidly with the main activities including snorkeling, scuba diving, kayaking, and sport fishing. Infrastructure development to support tourism including piers and hotels are also located in The Narrows. Water taxis and a passenger ferry ply The Narrows daily. The Newcastle Bay fish landing site borders The Narrows and many of the fishers at that landing site depend on The Narrows for their livelihoods.

The first attempt at protecting the resources found in the Narrows dates back to 1986 when the Island Resources Foundation prepared a marine parks proposal for the Southeast Peninsula area of St. Kitts. In 1998 the St. Kitts Fisheries Management Unit prepared a proposal for the preparation of a Management Plan for the development of Marine Protected Areas and in 2006, the Nevis Department of Fisheries put forth a proposal for management of the Narrows (DMR Webpage). In 2008, the CERMES sponsored socio-economic (SocMon) monitoring program focused on The Narrows area to collect baseline socio-economic data. Additionally, in 2016 SocMon conducted a capacity building workshop for coastal management, focusing on The Narrows. In 2010 The Nature Conservancy (TNC), in collaboration with USAID and stakeholders in St. Kitts and Nevis, developed a draft marine zoning plan which identified priority use areas in the nearshore waters around St. Kitts and Nevis. The Plan identifies Conservation, Fisheries and multiple use tourism priority zones in The Narrows. In 2013 the Organization of American States (OAS) funded a REEFIX study in St. Kitts and Nevis, which estimated the Ecosystems Service Values for Coastal Resources in St. Kitts and Nevis to be approximately US\$400,000,000 per year. Under the Caribbean Aqua-Terrestrial Solutions (CATS) project and the Eastern Caribbean Marine Managed Area Networks (ECMMAN) Project, a major education and outreach campaign helped to raise awareness about the significance of the resources in The Narrows to support establishment of MMAs in The Narrows. In collaboration with the Department of Fisheries and the Department of Physical Planning Natural Resources and Environment in Nevis, a study funded by the Organization of American States (OAS) was conducted in 2015 to evaluate the risks to the Newcastle Bay Lagoon (and by extension The Narrows) from anthropogenic factors, using the Resource Investment Optimization System (RIOS) Habitat Risk Assessment (HRA) model. The results of the study indicated that management effectiveness poses the greatest overall risk for habitat exposure to stressors.

Conflict management, biodiversity and ecosystem protection, replenishment of fisheries and socio-economic benefits for fishers and the tourism sector are the expected outcomes of effective co-management of The Narrows.

The Co-management Workshop

This report is the result of a three-day workshop which was held January 11-13, 2018, at the St. Paul's Anglican Church Hall, Charlestown Nevis, to develop a co-management model for The Narrows. With participation and input from a broad cross section of representative stakeholders, the workshop included two days of interactive sessions and a one-day field trip. The objectives of the workshop were:

1. To enable multi-level interaction by recognizing and accommodating the different values, interests and concerns of the different actors with a vested interest in the natural resources of The Narrows;
2. Explore implications of the provision of FAMRA for the Department of Marine Resources to “delegate shared management responsibility to any local area authority.”
3. To bring stakeholders together to collaborate on the development of a co-management model for effective co-management of the natural resources in The Narrows.

The participants for the workshop were purposefully selected based on consultation with the Department of Marine Resources and a review of stakeholder lists from previous workshops that focused on The Narrows, including stakeholder lists which were used for the 2016 SocMon workshop for The Narrows and stakeholder lists that were used for development of The Narrows management plan and The Narrows Fisheries Zone Management Plan. The 32 participants, most of whom were familiar with each other, represented government agencies including Marine Resources, Fisheries, Tourism, Environmental Health, Planning & Environment and Legal. Ports, Solid Waste Management Authority, NGOs, Community group and Fishers' representatives and the private sector were also present.

The sessions were recorded and at the completion of the workshop the facilitator had questionnaires, diagrams from focus group sessions and recordings of discussions to organize the output from the workshop.

Day 1

Presentations on the first day of the workshop were designed to a). Increase awareness and understanding about the Principles of Ecosystem Based Management (EBM) with emphasis on the human dimension in natural resource management. Ecosystem Based Adaptation to Climate Change and Ecosystem Based Fisheries were also be highlighted in the presentation; b).



Increase awareness and understanding of Marine Managed Areas (MMAs) highlighting the St. Kitts and Nevis Marine Management Area (SKNMMA) and c). Outline the management needs of The Narrows. Presentations were made by staff from the Department of Marine Resources, the workshop organizer and the representative of OAS. All participants participated in vibrant discussions on both days.

Co-management Defined

There can be no single (one-size-fits-all) model of co-management for the region. Each situation is unique and requires the development of plans, institutions and organisational arrangements that meet the conditions of that site and that country (CERMES Technical release No. 5). For this workshop, participants agreed to use the following definition, extracted from the Coral Triangle Initiative (2013) Guidelines for Establishing Co-Management of Natural Resources in Timor-Leste.

Co-management is a term used to refer to collaborative arrangements, whereby a community of local resource users work together with government and other stakeholders to share responsibility and authority for managing a specified area of natural resources. It is an approach which proves most effective when the local resource users are motivated to participate in management as a result of direct reliance on the natural environment for their food, livelihoods and other human needs, and when there are recognised benefits for the government of having aspects of management conducted by communities at the local scale.

There are various degrees of co-management between government centralized management at one end and community self-governance at the other (Figure 1).

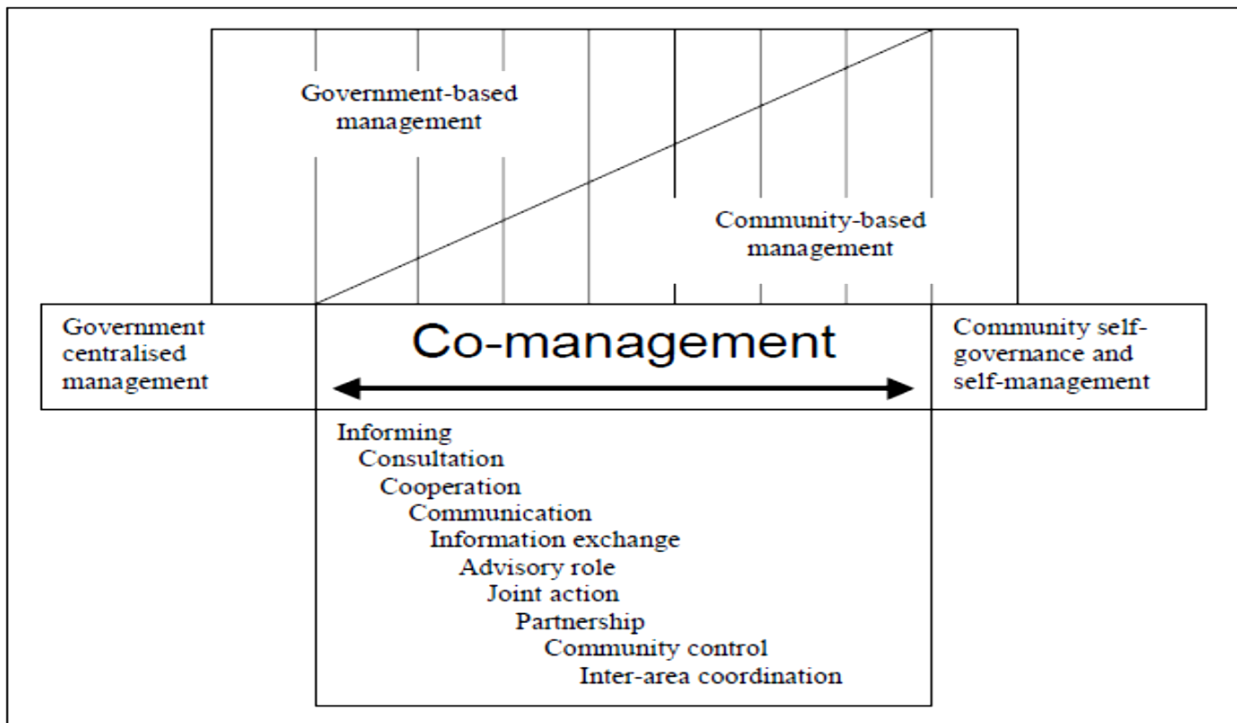


Figure 1. Varying degrees of co-management (Based on Williams and Pomeroy, 1994)

Consultative co-management occurs when government consults with stakeholders but makes all of the decisions. With delegated co-management Government allows formally organised users/stakeholders to make decisions. Collaborative co-management, where Government and the stakeholders work closely and share decisions may be the most appropriate for The Narrows co-management model because of inadequacies in the capacity of stakeholders to be a decision-making entity at this time. Fundamental to the concept of co-management is the active participation and involvement of resource users and their commitment to the co-management process. Without the commitment and willingness of resource users to participate in the co-management process, sharing of management responsibility cannot be achieved (Pomeroy, n.d.).

The Benefits of Co-Management

- Enables multi-level interaction by recognizing and accommodating the different values, interests and concerns of the different actors with a vested interest in natural resources;
- Integrates a variety of actors in a variety of roles in natural resource management;
- Incorporates traditional and scientific approaches in natural resource management;
- Promotes transparency, equity and justice in natural resource management;
- Promotes continuous consultation and a ‘learning by doing’ approach;
- Encourages participatory training, by using participation as a tool throughout;
- Assists the establishment of information loops between local and national levels;
- Strengthens management by optimizing the contributions of different stakeholders at the levels where they can be most effective.

Two of the commonly cited factors in favor of co-management include: (1) local knowledge and scientific knowledge, when combined, offer a more complete picture; and (2) monitoring and enforcement will be more effective because they will have local legitimacy, while still remaining accountable to state oversight (Gray, n.d.).

Ecosystem Based Management

Given the importance of The Narrows to biodiversity protection and socioeconomic development in the country, the Ecosystem Based Management approach adopted by the Department of Marine Resources provides a critical framework for managing the resources of The Narrows. By definition, Ecosystem Based Approach is considered to be human centric and “an intervention which has restored, maintained or enhanced the capacity of ecosystems to produce services on which local human communities depend for their wellbeing, adaptive capacity or resilience, and which reduces vulnerability, and allows the ecosystem to withstand climate change impacts and other stressors” (iied, 2018).

Sustainable Cities

The OAS representative introduced the Millennium Development Goals through a presentation about Sustainable Coastal Management. Highlights of the presentation were case studies of sustainable urbanization in Latin America and the Caribbean, tools to promote energy efficiency and sustainable financing opportunities.

Marine Managed Areas (MMAs)

Marine Management Areas are spatial planning tools used globally to manage fisheries, protect biodiversity and enhance livelihoods. The St. Kitts and Nevis Marine Management Area, which encompasses the two (2) miles radius of sea water around the St. Kitts and Nevis' coastline including the Monkey Shoals area, was established by Government declaration in August, 2016. Within the SKNMMA, conservation, fisheries and multiple use tourism priority zones were established in The Narrows (Figure 1).

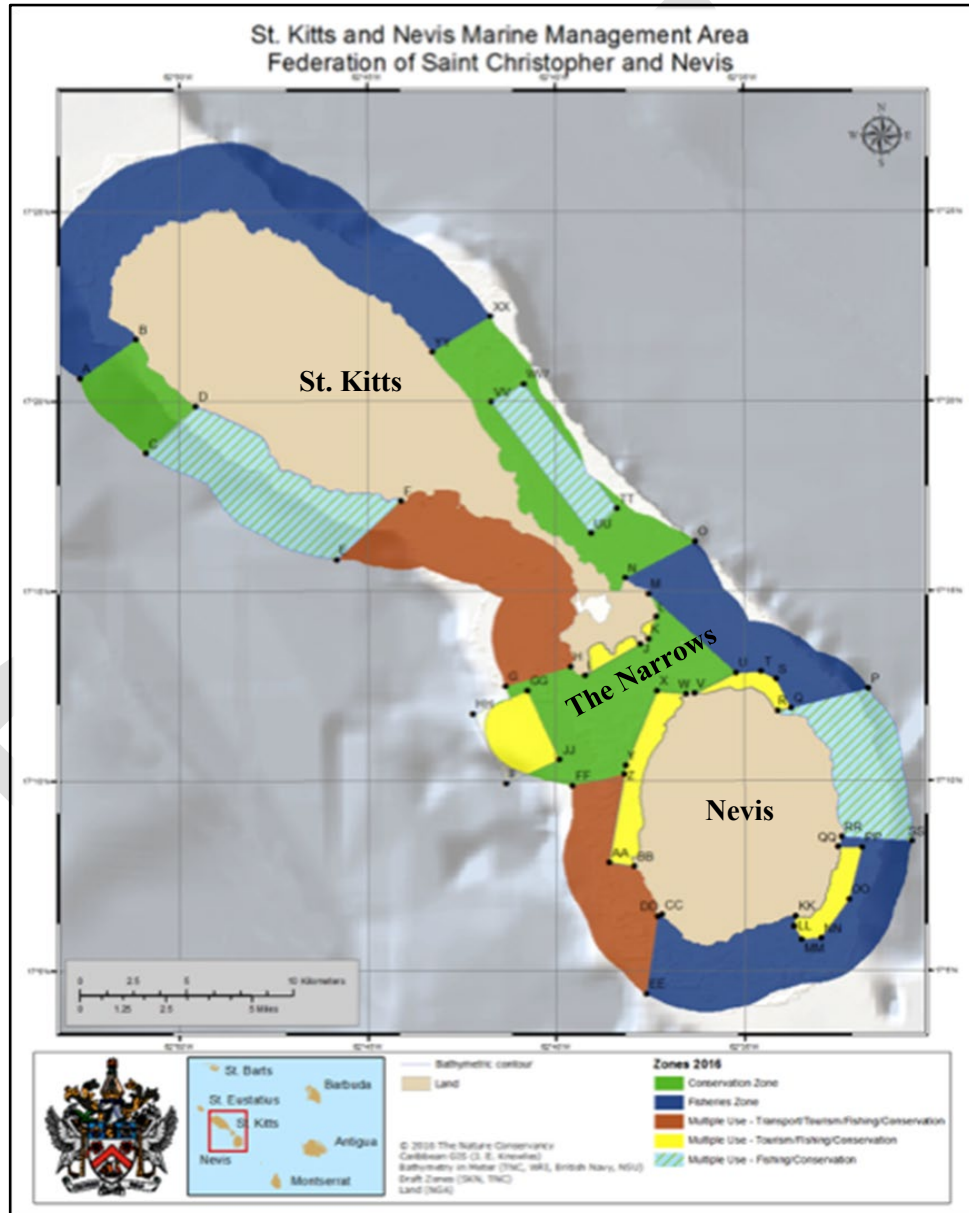


Figure 2. Map of the St. Kitts and Nevis Marine Management Area showing general location of The Narrows between St. Kitts and Nevis.

Legal and Institutional Context

The Department of Marine Resources (DMR) is the agency within the federal government that has lead responsibility for fisheries, aquaculture and marine resources, pursuant to the provisions of the **Fisheries, Aquaculture and Marine Resources Act of 2016 (FAMRA)**. The Department of Marine Resources has adopted the Ecosystem Based Management (EBM) approach to guide implementation of its marine management policies. EBM is an *integrated management approach that recognizes the full array of interactions within an ecosystem, including humans, rather than considering single issues, species, or ecosystem services in isolation (NOAA)*. The Narrows co-management model is developed within the EBM planning framework.

The Minister with responsibility for fisheries, aquaculture and marine resources issued a declaration to establish the St. Kitts and Nevis Marine Management Area (SKNMMA) to include a conservation zone, a fisheries zone, and a multiple use tourism zones within The Narrows. Pertinent provisions of FAMRA that are applicable to the co-management of The Narrows are as follows:

Section 5 (1) (a): All natural living resources of St. Christopher and Nevis, as well as the environment in which they exist and non-living resources of the sea, are a natural asset and heritage of all its people, and should be managed and developed for the benefit of present and future generations in the country as a whole.

Section 7 (d): The Minister may on the advice of the Director, designate local fisheries management areas and devolve designated governance functions relating to fisheries conservation, management and development to local authorities in relation to those areas, while maintaining the oversight of the Ministry responsible for fisheries, aquaculture and marine resources, in accordance with requirements of this Act or as may be prescribed;

Section 10: Any delegation made by the Minister or Director under this Act shall be made in writing subject to such procedures and conditions as may be prescribed;

Section 13: requires that a Fisheries, Aquaculture and Marine Resources Advisory Council be established to advise the Minister and make recommendations at the request of the Director on matters relating to fisheries and aquaculture conservation, management, development and sustainable use and the exploration and exploitation of non-living marine resources.

Section 14: The Department of Marine Resources shall coordinate with the Ministry responsible for Sustainable Development, the environment and any other ministry as the Minister may deem appropriate with regards to the protection of Underwater Cultural Heritage.

Section 15 Encourages bilateral, regional and international cooperation for all matters within the scope of FAMRA.

Section 16. Requires the establishment of a Trust Fund for activities including monitoring, control, surveillance, research, education, training.

Section 19(1): The Minister..... [s]hall take into account the recommendations of applicable regional fishery bodies and international conservation and management measures adopted by applicable regional fisheries management organizations.

Section 19 (2): The Director may cause to be prepared Fisheries Management Plans at national or local levels for any fishery or fisheries... [a]nd in so doing shall ensure that consultations with stakeholders are undertaken.

Section 19(4): A Fisheries Management Plan may delegate shared management responsibility to any local area authority.

Section 20 (2) (d): multiple use zone for fishing and conservation...[t]he conservation of biodiversity and the marine environment may be regulated in cooperation with the Ministry responsible for sustainable use;

Section 20 (2) (e): multiple use zone for tourism, fishing and conservation...[t]ourism may be regulated in cooperation with the Ministry responsible for tourism;

Section 20 (2) (f): multiple use zone for transportation, tourism, fishing and conservation...[t]ransportation may be regulated in cooperation with the Ministry responsible for Maritime Affairs

Section 20 (4) (a): [t]he Director shall ensure the development and implementation of conservation and management measures for priority zones;

Section 20 (5)(a): The Director may appoint a management committee responsible for the management of any priority zone declared pursuant to Section 20 (2) of FAMRA.

Assessing Capacity

Day 2

Participants discussed the roles and limitations of their respective agencies as indicated in table 1.

Table 1. Responsibilities and Limitations of Stakeholder Groups.

Institution	Roles and Responsibilities	Limitations
Department of Fisheries	Licensing of vessels; Data Collection; Training; Enforcement; Patrol Fisheries Management	Shortage of staff, lack of equipment such as boat vehicles, dive gear etc., lack of political will and inadequate training for staff
Stakeholder (Dive Operators)	Set up and maintain dive mooring in conservation zone	No authority to effectively manage use of moorings; Dive moorings cut by boats; inadequate resources to effectively maintain moorings
Stakeholder (Water Taxi)	Safe travel for passengers at all times	Fish trap lines get tangled in propellers; docking piers at Oualie and Reggae Beaches are too short and not safe.
Stakeholder (Biodiversity)	Protection of marine life	No government moorings for visiting and stay-over boats. No enforcement to prevent fishing in conservation zone
St. Kitts Turtle Monitoring Network	Management, protection and reporting of sea turtle activities on nesting beaches. Data and activities reported to relevant agencies;	Lack of sustainable financing; lack of adequate staff, lack of equipment (patrol vehicles).

Institution	Roles and Responsibilities	Limitations
NASPA	<p>Conservation education, ecotourism activities</p> <p>Manage moorings, ensure fees are collected; Ensure that anchoring do not damage coral reefs; patrol jurisdictional coastline; ensure that vessels check-in with Customs and Port Authority and ensure that vessels are not in territorial waters illegally. Help vessels that are in distress</p>	Lack of equipment; Shortage of staff
Stakeholder (UNDP Project)	<p>Zoning demarcation; Operationalize MMAs - employ marine staff for monitoring and Enforcement activities; purchase critical equipment for The Narrows such as surveillance and monitoring equipment; Develop Management Plan for The Narrows; develop and implement sustainable financing mechanisms & strategies; capacity building for stakeholders and users; develop and implement conservation monitoring programs; develop and implement public awareness plan; establish a unit / agency for the management / governance of The Narrows; support management efforts; strengthen laws and regulations; develop information system</p>	Effective collaboration; Time constraints – project is for a limited time.
Department of Environment (SK)	<p>Monitoring and control of illegal sand mining, illegal dumping outside Basseterre; Beach monitoring and profiling, Water quality testing; Automated weather station data collection, Ghaut research and monitoring,</p>	Lack of human resources, especially field officers; Need more public awareness; Need more transportation, more funding and more communication; Lack of enforcement;

Institution	Roles and Responsibilities	Limitations
	Enforcement of Protected Areas, Coastal Cleanup	
Environmental Health	Ensure adequate inspection of fish for public consumption and before exportation; Monitor disposal of garbage to ensure it does not reach the sea; Control mosquito breeding on public and private property; Provide public awareness about mosquito breeding; Address complaints regarding overgrown lands and nuisance rodents such as rats, cockroaches, flies et,	Need more effective communication strategy for within and outside the department.
Physical Planning and Environment (N)	Ensure appropriate use of land. Monitor mining (quarrying activities) and farming to avoid adverse impacts. Monitor sand mining and illegal dumping	Lack of quarry / mining ordinance / legislation. Need fines of EC\$25,000 to EC\$200,000.00 for violations. Need updated zoning map; Need more resources – vehicles, personnel, equipment (drones, GPS etc.). Lack of enforcement; need training in GIS
Tourism	Manage zones for water sports activities such as jet ski and diving; ensure that the businesses are properly registered and licensed. Ensure accessibility to beaches for tourists and locals; ensure shorelines are free of trash; respond to issues of illegal sand mining and illegal dumping. Ensure that yachting zones are designated and enforced; ensure that transportation zones are adhered to and that yachts are properly registered. Ensure that corals and other marine life are protected for the pleasure of tourists viewing.	Enforcement Officers and equipment are not in place.
Nevis Historical and	Provide a voice for	Need more staff; insufficient

Institution	Roles and Responsibilities	Limitations
Conservation Society	preservation, conservation and protection of marine and terrestrial life as it relates to coastal development, climate change or man-made threats; Environmental pollution data collection such as coastal cleanup; Provide environmental education and awareness.	funds; need more training opportunities
Nevis Solid Waste Management Authority	Ensure that waste collections are done efficiently, timely and as scheduled. Ensure the reduction of spillage or the prevention of spilled garbage which can blow into the ocean.	Lack of enforcement of Litter Abatement legislation. Inadequate support from Department of Environmental Health. Lack of compliance by sectors of the public
Department of Marine Resources	Responsible for the conservation, management, development and sustainable use of fisheries, aquaculture and marine resources of St. Kitts and Nevis, to monitor and control fishing vessels beyond the fisheries waters and related matters	Human and financial resources

Questionnaires

Participants were divided into six (6) focus groups based on their job duties as follows: 1). Marine Resources (Management) 2). Enforcement / Legal 3). Planning/ Environment 4). Tourism 5). NGO/Conservation 6). Fishers / Community. Each focus group completed questionnaires about their perceptions regarding co-management of The Narrows. The questionnaires were based on the “Coral Triangle Initiative (2013) Guidelines for Establishing Co-Management of Natural Resources in Timor-Leste”.



Figure 3. Stakeholder groups discussing perceptions about co-management of The Narrows

Following completion of the questionnaires, each focus group engaged in discussions and produced a concept map for co-management of The Narrows. Each concept map was presented to all of the stakeholders for discussion and comments. Copious notes were taken so that the comments raised during discussions could be incorporated in the final co-management model. The responses to the questionnaires and concept maps are presented below in Table 2 and Figure 4, respectively.

Table 2. Stakeholders perceptions regarding co-management of The Narrows

1. What do stakeholders want to achieve? (May be multiple answers)
Compliance, Financing, Replenishment of fish stocks, Biodiversity
Coordination, Data collection, Bridge construction, use of Cameras, Solid waste management
Good workers
Revenues, Habitats, Water taxi safety
Water taxi safety, Education awareness for water taxi operators about co-management
Monitoring, Sustainability
Fish availability

2. What do people want to do? (To Co-manage)
Education, Enforcement
Encourage more community-based ownership, Reporting of violations, maintain database, Improve communications
Enforce regulations, Install designated swim areas, Have more accountability
Train staff to take enforcement action
Monitoring, Delegation of responsibility
Enforcement of regulations
3. Why do you want to do it? (Skills, Job, Tradition etc.)
Food Security, Economic Stability, Biodiversity, Replenishment, Data collection
Accountability, Responsibility, Passion
Collect fees to manage resources
Need to enforce government regulations
Ecosystem health, Create new jobs
More money and more fish for fishermen
4. Is there sufficient incentive/motivation to make this a worthwhile pursuit? (Why do it?)
Yes
No, Underpaid, Need certification and Risk pay, Enforcement officers should be armed
No
Yes, valuable services and food provided. Uses need to be balanced
Yes
Yes
5. How do you want to do it, and what impact does this have on the skills you will need? (Part of job, volunteer, part time)
As Job duties
Get the Police department to assist with enforcement
Collaboration and cooperation
Job duties
Collaboration, Education of Citizens, Lobby policy makers
Conduct monitoring and surveillance
6. What skills, knowledge and resources do you already have to draw upon? (Traditional knowledge, Institutional knowledge, Captain, equipment etc.)
Traditional knowledge, Institutional Knowledge
Stakeholder groups, Private sector involvement
Traditional knowledge and Institutional knowledge
Legal knowledge, Institutional knowledge, Traditional knowledge, Equipment
Monitoring, Partnerships, Equipment, Training, Transportation, Staff
Knowledge of boats, knowledge of marine equipment, traditional knowledge

The relationship among the various entities of The Narrows co-management Group (TNCG) is depicted in Figure 5. The Department of Marine Resources will be the lead agency pursuant to the provisions of FAMRA. TNCG would therefore operate under the provisions of FAMRA as outlined in the agreement that is to be negotiated with and executed by the head of each TNCG member and the Department of Marine Resources.

The Stakeholders of The Narrows are divided into three main groups – Government, NGO & Academia and Users of The Narrows. The Narrows co-management Group will be comprised of representatives from the twenty entities listed above; The Narrows is used for multiple purposes and as such the stakeholder group is relatively large. However, it is important that the various stakeholder groups have the opportunity to participate in the management process to enhance the likelihood of success.

As the lead government agency with authority to establish the management committee, and the agency with ultimate responsibility for managing the resources, the Department of Marine Resources will serve as Chairperson to the group. It is envisioned that The Narrows Co-management group would liaise with the Department of Marine Resources through its chairperson, who would have the responsibility to ensure that coordination between the Co-management Group and the Department is effective.

With some oversight responsibility, The Narrows Co-management Group would ensure that the manager with responsibility for day to day operations of The Narrows priority zones develop practical workplans that reflect awareness of on-the-ground issues, avoid duplication of efforts, demonstrate linkages with TNCG member initiatives and capitalize on available resources. TNCG should receive progress reports from the manager/ management team of The Narrows and forward to the Department of Marine Resources, via the Chairperson of the group, with comments and recommendations where necessary to optimize management effectiveness. The Department of Marine Resources will establish the extent of oversight that TNCG will have and the extent of guidance / recommendations that will be provided to the day-to-day manager by the Group.

The necessary infrastructure to facilitate the operationalization will be coordinated by the Department of Marine Resources with the expectation that prospective members of TNCG will contribute and assist where their resources would allow.

The Narrows Co-management Model

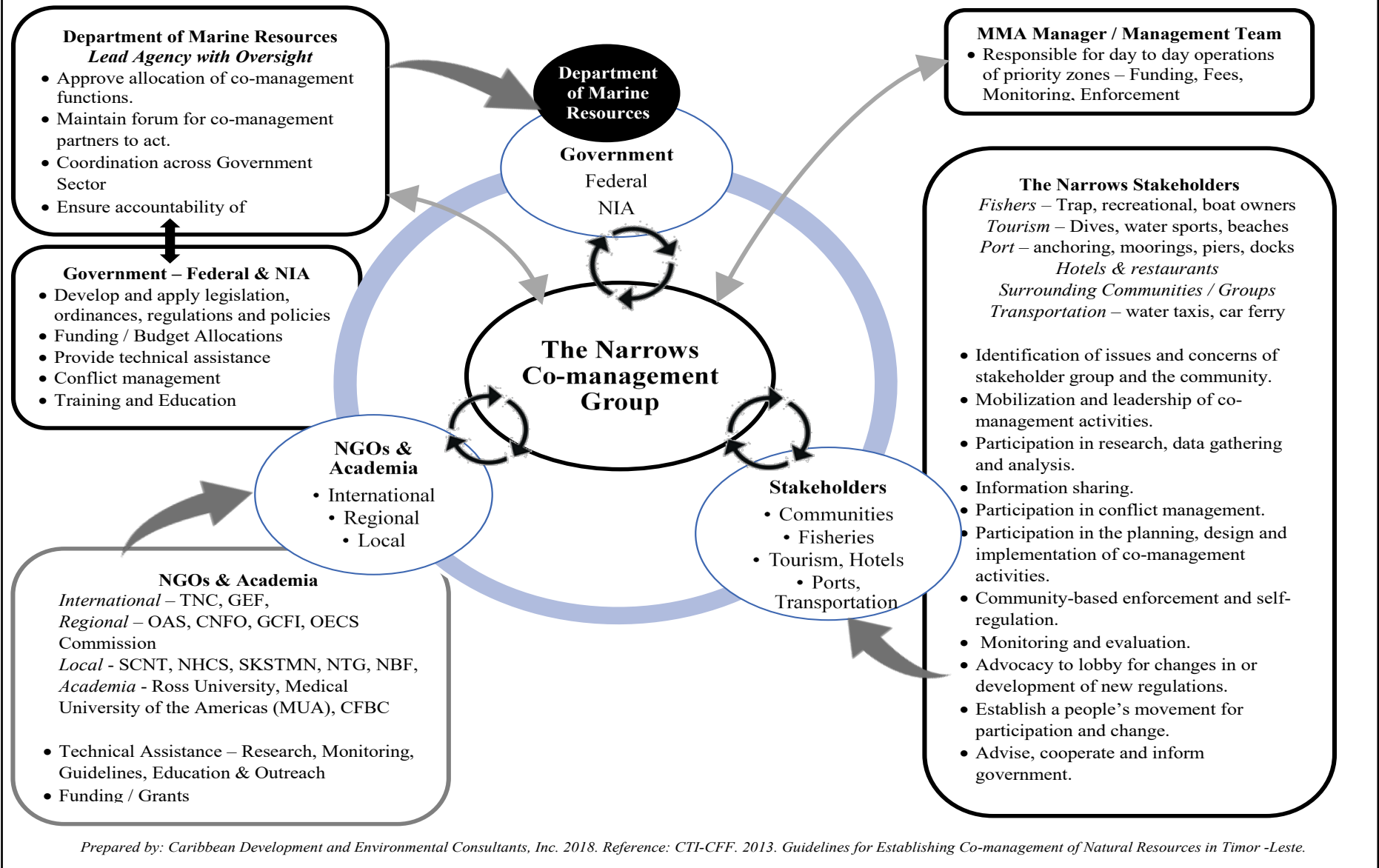


Figure 5. Proposed Co-management model for The Narrows

Recommendations

- The Director of the Department of Marine Resources is authorized to appoint a management committee for the management of any priority zone.
- The Narrows Co-management Group (TNCG) should be established as a management committee, pursuant to the provisions of FAMRA, to assist the Department of Marine Resources in achieving its management objectives of The Narrows priority use zones. TNCG should operate in “Joint Action” (collaborative co-management) with the Department of Marine Resources
- The Narrows co-management group should be chaired by the Department of Marine Resources.
- Government agencies should retain their statutory authority and responsibilities when participating in The Narrows Co-management Group.
- A Memorandum of Understanding (MOU), which outlines the vision, mission, objectives, regulations, zoning and programmes of The Narrows, should be negotiated among the members of TNCG and duly executed.
- TNCG should be comprised of representatives from the following entities that have a management function in The Narrows or are stakeholders of The Narrows.

Government

1. Department of Marine Resources
2. Department of Maritime Affairs
3. Department of Fisheries
4. Ministry of Tourism / Tourism Authority SK /N
5. Department of Environment SK / N
6. Solid Waste Management Authority SK /N
7. Environmental Health SK /N
8. Legal Department SK /N

NGOs & Academia

9. Turtle Monitoring Group SK /N
10. Conservation NGO SC /N
11. Yacht Association SK / N
12. Regional / International NGO
13. Academia

Stakeholders (Users)

14. Coast Guard
15. Air and Sea Ports Authority SC / N
16. Community member
17. Fishers
18. Transportation – Water Taxi/ Car Ferry
19. Water Sports Association / Diving Association
20. Hotel & Restaurant

- TNCG should provide guidance and some oversight to the manager / management team charged with the day to day operations of The Narrows' priority zones. The Principles of Ecosystem Based Approach should be incorporated in guidance provided by TNCG.
- TNCG should contribute ideas to the development of annual workplans for The Narrows to ensure that management strategies reflect awareness of on-the-ground issues, avoid duplication of efforts, demonstrate linkages with TNCG member initiatives and capitalize on available resources.
- TNCG should receive progress reports from the manager/ management team of The Narrows and forward to Department of Marine Resources with comments and recommendations where necessary to optimize management effectiveness.

Useful Resources

As management of The Narrows contributes to the national MMA and to a regional network of MMAs, It is recommended that management data be collected stored and analyzed in a manner that is consistent with standards that can have regional and global relevance. This list is to be updated as additional resources are identified.

Resource	Description
Management Effectiveness Tracking Tool (METT) Scorecard	<p>The methodology is a rapid assessment based on a scorecard questionnaire. The scorecard includes all six elements of management identified in the IUCN-WCPA Framework (context, planning, inputs, process, outputs and outcomes), but has an emphasis on context, planning, inputs and processes. It is basic and simple to use, and provides a mechanism for monitoring progress towards more effective management over time. It is used to enable park managers and donors to identify needs, constraints and priority actions to improve the effectiveness of protected area management.</p> <p>https://www.protectedplanet.net/system/comfy/cms/files/files/000/000/057/original/METT.pdf</p>
St. Kitts and Nevis Marine Zoning Report	<p>Full Report TNC and USAID Marine Zoning in St. Kitts and Nevis</p> <p>http://marineplanning.org/wp-content/uploads/2015/07/StKitts_Nevis_Full_Report.pdf</p>
Caribnode	<p>CaribNode is a regional information system that brings together authoritative data from national and regional entities, making it possible to create tools for resource management across the region.</p> <p>Examples include the Caribbean Coral Reef Report Cards and the Coral Reef Assessment Tool. Both provide access to standardized indicators that allow you to monitor the status and trends of the marine environment, the effectiveness of their management, and the health of the communities that rely on it.</p> <p>http://www.caribnode.org</p>
SKNMMA Map	Map depicting the 2-mile radius SKNMMA with priority use zones

	http://dmrskn.com/marine-zone/
Information and Capacity Building Networks	<p>The OAS supports member states in the design and implementation of policies, and projects to integrate environmental priorities into poverty alleviation and socio-economic development goals. The Organization carries out several mandates designed to protect biodiversity, strengthen environmental law, manage water resources, raise awareness on climate change, and promote sustainability, among others.</p> <p>http://www.oas.org/en/sedi/dsd/networks.asp</p>
OECS Code of conduct for responsible Marine Research	<p>This document sets out a regional Code of Conduct for Responsible Marine Research in the Eastern Caribbean region, as part of the Eastern Caribbean Regional Ocean Policy (ECROP) and the OECS Marine Research Strategy (MRS). The Code, which is addressed both to marine scientists wishing to engage in research activities and to the national authorities of OECS Member States concerned with the granting of permission to conduct marine research activities. It seeks foremost to set general standards for conducting marine research in ways that minimise adverse impacts on the environment, provide the greatest results for the OECS region as an economic space and encourage the development of research capacity and technology transfer for the benefit of OECS Member States.</p> <p>http://www.oecs.org/ogu-resources</p>

DRAFT

References

Christie, P. and White, A. (2006). FAO Expert Workshop on Marine Protected Areas and Fisheries Management: Review of Issues and Considerations (12–14 June 2006).

Gray, J. (n.d.). Nicholas School of the Environment, Duke University, 135 Duke Marine Lab Rd., Beaufort, NC, 28516, USA

iiied (2018). Retrieved from <http://pubs.iiied.org/pdfs/G04045.pdf>

OECS Commission 2016. OECS Code of Conduct for Responsible Marine Research. OECS Commission, Castries St Lucia. Retrieved from <http://www.oecs.org/ogu-resources?task=document.viewdoc&id=522>

Pomeroy, R.S., J.E. Parks, and L.M. Watson. 2004. How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness. Gland, Switzerland: IUCN.

Pomeroy, R. (n.d.). Conditions for Successful Fisheries and Coastal Resources Co-management: Lessons Learned in Asia, Africa, and the Wider Caribbean. University of Connecticut – Avery Point Sea Grant Report.

CERMES Technical Report No 5 Reforming Governance: Coastal Resources Co-management in Central America and the Caribbean Final Report of the Coastal Resources Co-management Project (CORECOMP) A project funded by the Oak Foundation PATRICK McCONNEY and ROBERT POMEROY EDITORS

Soufriere Marine Management Area. Retrieved from <http://www.smma.org.lc/future/>

NOAA Retrieved from <http://ecosystems.oarhq.noaa.gov/EBM101/WhatisEcosystem-BasedManagement.aspx>