

Workshop on Caribbean MPA Effectiveness and Adaptive Management St. Croix, USVI May, 2005



Caribbean MPA Effectiveness Management

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- **NOAA partnership with TNC and TOC**
- **NOAA partners – OCRM, SP, IPO, CRCP**
- **32 participants from USVI, Puerto Rico, Grenada, BVI, Bahamas and Bonaire**
- **Reps from gov't, academia, NGOs**



Workshop Objectives

- **To build capacity for Caribbean-based marine managers to adaptively manage MPAs in the region.**
- **To strengthen existing management plans & assist in development of new**
- **To introduce concept of MPA effectiveness and evaluation process**

Workshop Process

- **Pre-workshop survey**
- **Management plan development training**
- **MPA effectiveness evaluation training**



MPA Definition

"Any area of the marine environment that has been reserved by federal, state, territorial, tribal or local laws or regulations to provide lasting protection to part or all of the natural or cultural resources therein"

(Executive Order 13158)

Survey Results

- **90 MPAs in 6 countries**
- **10% with complete management plans**
- **5% with plans in progress**
- **43% with specific goals and objectives**
- **30% with “on-the-ground” management action being implemented**

Survey Results - Management Action

- **Types of management action:**
 - **Enforcement of no-take or reserve areas and areas zoned for other activities**
 - **Permitting of fishing and recreational activities Mooring buoy use**
 - **Outreach and education**
 - **Natural resource monitoring**
 - **Beach clean-ups**
 - **Scientific research**
 - **Volunteer programs**

Survey Results - Most Common Goals

- Fisheries Management
- Biodiversity conservation
- Habitat conservation
- Tourism use/ recreational use

Survey Results - Conservation Targets

- **Focal Habitats:**
 - Coral Reef Ecosystem
 - Fishery Spawning Aggregation Areas
 - Fishery Nursing Grounds
- **Focal Species:**
 - Nassau grouper
 - Various snapper species
 - Lobster
 - Conch
 - Others: turtles, whelk, Margate, sea urchins, *Acropora palmata*.

Survey Results - Common Threats

- **Overfishing/ resource exploitation**
- **Incompatible coastal and marine development**
- **Land based pollution**
- **Mechanical/ anchor damage**
- **Marine pollution**
- **Coral diseases**

Survey Results - Challenges to Effective Management

- **Lack of Enforcement capacity**
- **Funding**
- **Local management capacity needs**
- **Lack of awareness of MPA importance**
- **Lack of political will**
- **Lack of stakeholder involvement**
- **Weak legislation**
- **Lack of management plans**
- **Lack of targeted scientific research**

Survey Results - Support Needed

- **Sustainable funding**
- **Training and capacity building for local managers**
- **Management plan development support and capacity building**
- **Improved collaboration/ partnerships**
- **How to involve stakeholders/ co-management capacity building.**

Management Plan Development Training

- **Conservation Action Planning:**
 - Identification of conservation targets

Management Plan Development Training

- **Conservation Action Planning:**
 - Identification of conservation targets
 - Development of broad MPA goals

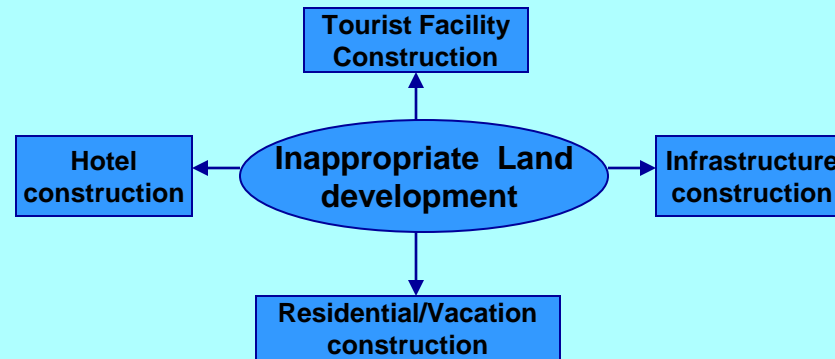
Management Plan Development Training

- **Conservation Action Planning:**
 - Identification of conservation targets
 - Development of broad MPA goals
 - Identification and analysis of stresses & threats

Threat Analysis

Inappropriate Land
development

Threat Analysis



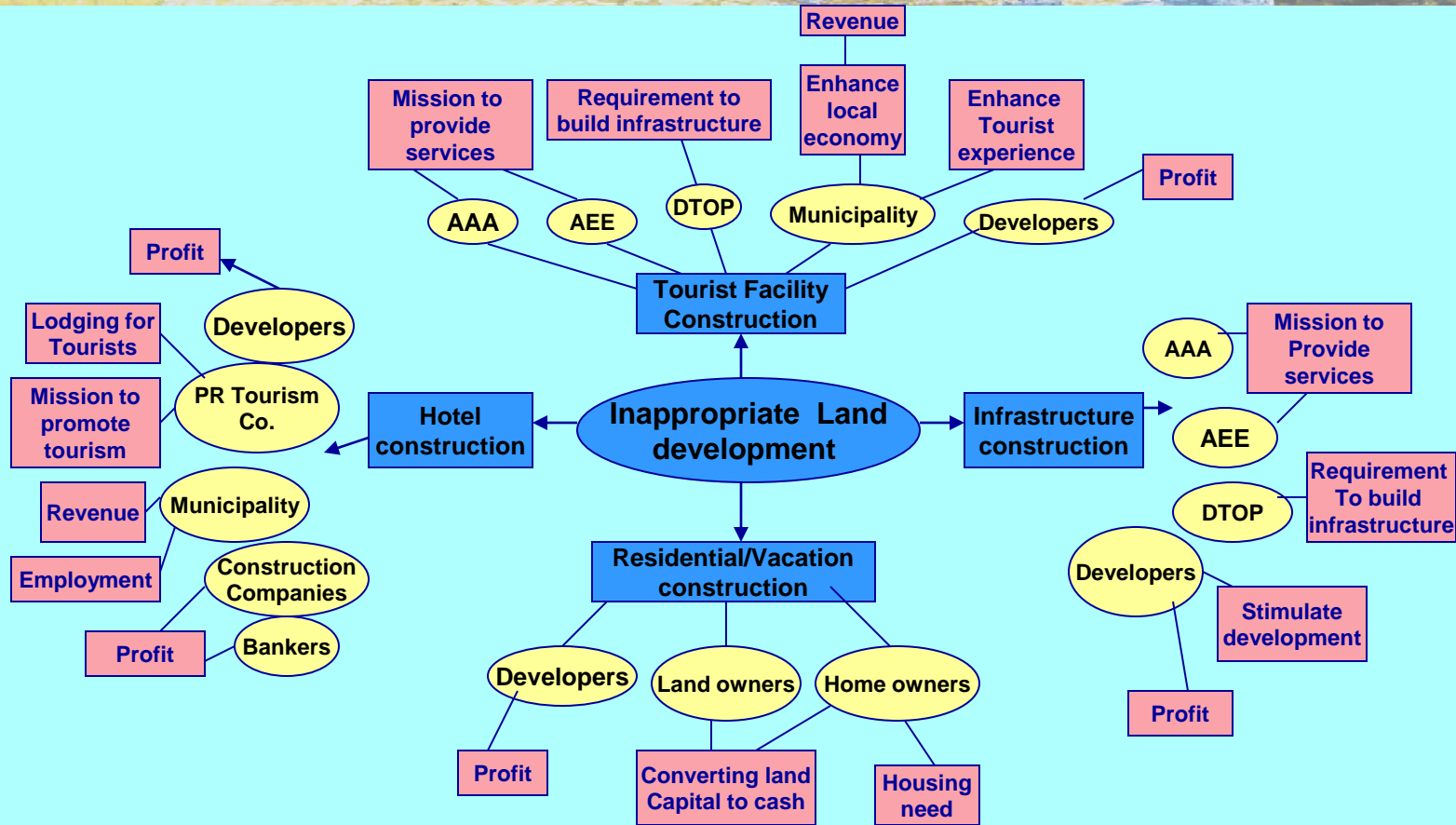
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- boating damage
- sewage pollution
- incompatible land development
- inappropriate boating practices



Management Plan Development Training

- **Conservation Action Planning:**
 - Identification of conservation targets
 - Development of broad MPA goals
 - Identification and analysis of stresses & threats
 - Development and prioritization of management objectives

Management Plan Development Training

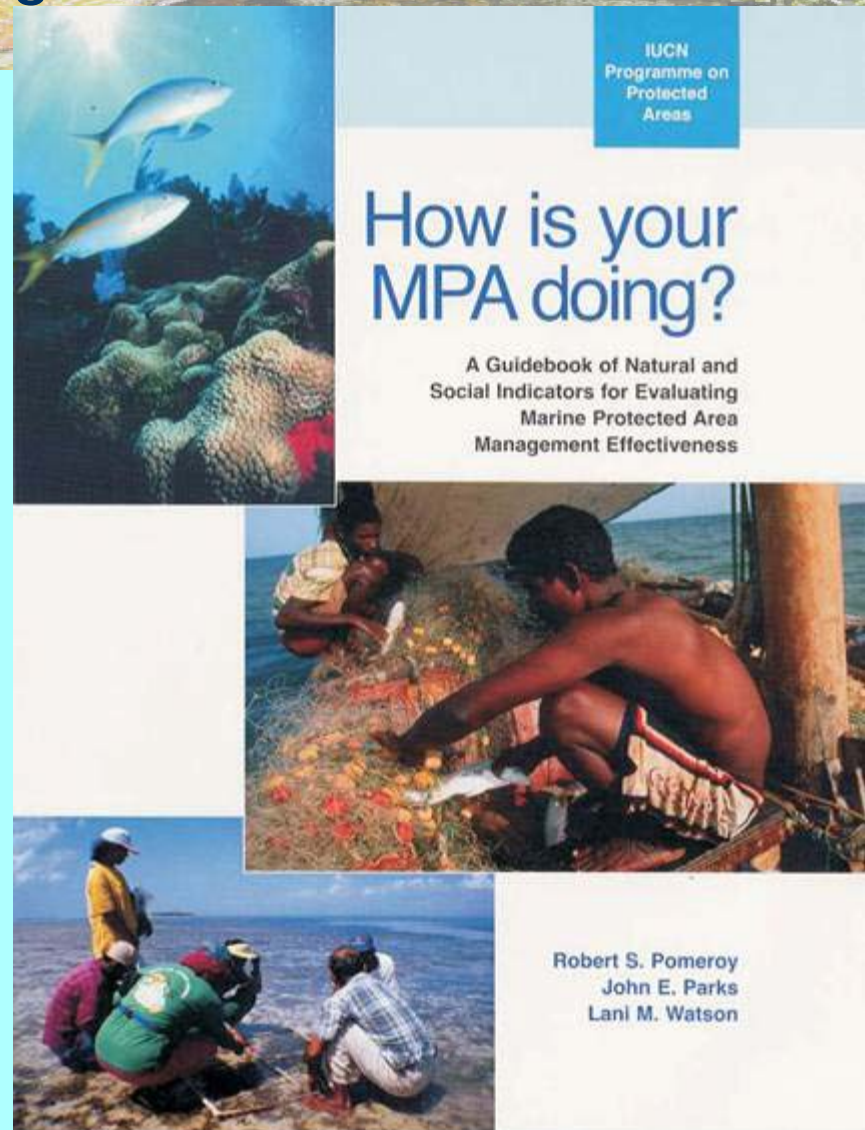
- **Conservation Action Planning:**
 - Identification of conservation targets
 - Development of broad MPA goals
 - Identification and analysis of stresses & threats
 - Development and prioritization of management objectives
 - Development and planning of management action

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To help managers and conservation practitioners to evaluate & adaptively improve the effectiveness of their MPA efforts through time

4-Steps in developing an evaluation plan
42 Indicators for measuring effectiveness:
Biophysical
Socioeconomic
Governance



MPA Effectiveness Evaluation Training

- **Concept of evaluating effectiveness**
- **Linking goals and objectives**
- **Selecting relevant indicators**
- **Prioritizing indicators and how they relate**
- **Planning an Evaluation**

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Linking goals and objectives

USVI

| GOALS RELATED TO YOUR MPA | OVERLAPPING GOALS FROM SUMMARY TABLES (Figures 2, 3 and 4 in Section 2) | OBJECTIVES RELATED TO YOUR MPA | OVERLAPPING OBJECTIVES FROM SUMMARY TABLES (Figures 2, 3 and 4 in Section 2) | RELEVANT INDICATORS FROM SUMMARY TABLES (Figures 2, 3 and 4 in Section 2) |
|--|---|--|--|---|
| To increase the use of BMPs for erosion & sediment control. | SE Goal 3 & 6 | Increase enforcement of rules in upland areas bordering the EEZ. | 1B, 2A, 1C } 2E, 1D } <i>See</i> | 65, 62, 615 614 |
| | Gov. Goal 5 | Increase awareness of the effects of pollution on ecosystems. | 6A, 6B, 3A (X) 3F | 60, 61 58, 58 |
| To provide HMP Managers w/ adequate means to enforce regulatory policies & provide for public awareness. | Goal (2) 1, 2 & 4 | Increase awareness of the effects of erosion regarding on-site disposal systems. | 6A, 6B, 3A, 3F (X) | 58, 58, 60 614, 615 |
| | | To secure funding for training, technical support of HMP Enforcement officers. | 1D, 2E 4A } <i>See</i> | 66 65, 614, 613 615 |
| | | To develop a staff of park rangers for monitoring, education, public outreach and to supplement enforcement. | 1D, 4C, 4B 4F } <i>See</i> | 60, 610 616, 614 |
| | | Est. a system of new & boundary markers. | 4E, 4F } <i>See</i> 2E } <i>See</i> | 61, 65, 614 |

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Identifying indicators

USVI

Worksheet # 3 - Indicator Prioritization
For use with the "How Is Your MPA Doing?" guidebook (Pomeroy et al. 2004), Step 1-3 (pages 17-18)

| Relevant indicators identified (taken from worksheet 2) | Difficulty rating (1-5) | Known technical capacity gaps | Known requirement or equipment gaps | Feasibility (0-4) | Priority (H/med/lo) | Selected |
|--|----------------------------|--|--|----------------------|------------------------|----------|
| Biophysical | | | | | | |
| 1) B3 - Hab. Dist/Comp | 5 | (2) staff, identify | S-side park \$ | 3 | H | |
| 2) B4 - Comm. Comp/Struc | 4 | - | " | " | " | |
| 3) B9 - Signs Recovery | 3 | det. of recovery + time determination + time determination | baseline data | 0 | H | |
| 4) B10 - No/Red Harm | 3 | | | | | |
| 5) Imp. | | | | | | |
| Socioeconomic | | | | | | |
| 1) S1 - Use Patterns | 3 | | | | | |
| 2) S2 - Values/Beliefs | 3 | | | | | |
| 3) S5 - Und. Habit. Impacts | 3 | partner for data analysis | complete background | 3 | H | |
| 4) S4 - Seafood Avail. | 3 | | | | | |
| 5) S5 - Local Harvest RH | 3 | | | | | |
| Governance | | | | | | |
| 1) G1 - Res. Conflict | 3 | | | | | |
| 2) G2 - Exist. of Mgmt Body | 2 | - | - | 4 | H | |
| 3) G4 - Und. K/R | 3 | | | | | |
| 4) G5 - Part/Inty. of Log. | 2 | | | | | |
| 5) G6 - Avail/Alloc. Res. | 2 | | | | | |

total # identified =

total # selected =

Version: 11 March 2005; developed by John Parks and Robert Pomeroy
Available for free online (along with the guidebook) at <http://effectiveMPA.noaa.gov>
Comments/suggestions to improve on this worksheet are warmly welcomed; email John at: john.parks@noaa.gov

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Tying it all together



Outreach Activity / Beach Clean Up



Workshop Evaluation and Outcomes

- Team achieved workshop goals - 92%
- Built capacity for adaptive management of MPAs – 100%
- Strengthened existing plans and assisted in the development of new plans – 88%
(3 participants neither agreed nor disagreed)
- Management effectiveness introduced – 84%
(2 non response, 2 neither agreed nor disagreed)
- MPA management abilities improved – 100%
- Recommend to colleagues – 100%

Workshop Evaluation and Outcomes

- PR is using the conservation action planning to incorporate stakeholders in plan development for 2 marine reserves
- Bahamas is planning a management plan development & effectiveness workshop
- Grenada is using the team and process developed at the workshop to spearhead plan development processes for an MPA site and have 3 workshops planned

Workshop Evaluation and Outcomes

- Grenada is using the effectiveness tools to develop MPA management objectives
- Bonaire is using the effectiveness indicators to evaluate current management activities and are applying the planning methodology in the development of their management plan
- USVI is developing a resource use monitoring program that incorporated the effectiveness indicators
- Follow up workshop in BVI in development using process to involve stakeholders

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Questions?



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