MPA Management tools



Management Effectiveness



Are You Being Effective?

- Are you making progress on your goals?
- Are your (short, mid, and long term outcomes being achieved?
- Are your outcomes written as smart objectives (measurable)?
- Are you monitoring your progress?

Score Card to Assess Progress in Achieving Management Effectiveness Goals for Marine Protected Areas

Purpose of score card !

- Measures broad scale progress
- Provides indicators of change…
- Able to be measured and quantified
- Around 20 items to be scored..

1. Legal status – Does the marine protected area have legal status? ***Note: see fourth option for private reserves***		***Your Score***
The marine protected area is not gazetted	0	
The government has agreed that the marine protected area should be gazetted but the process has not yet begun	1	
The marine protected area is in the process of being gazetted but the process is still incomplete	2	
The marine protected area has been legally gazetted (or in the case of private reserves is owned by a trust or similar)	3	
Additional Point		
a. The MPA has received national and/or international recognition for its importance (*in the comments column, describe the recognition in detail*)	+1	

1. Legal status – Does the marine protected area have legal status?
Note: see fourth option for private reserves

2. Marine protected area regulations – Are unsustainable human activities (e.g. poaching) controlled?

3. Law enforcement – Can staff sufficiently enforce marine protected area rules?

4. Marine protected area boundary demarcation – Are the boundaries known and demarcated?

5. Integration of the MPA in a larger coastal management plan – Is the MPA part of a larger coastal management plan?

6. Resource inventory – Is there enough information to manage the area?

7. Stakeholder awareness and concern – Are stakeholders aware and concerned about marine resource conditions and threats?

8. Marine protected area objectives – Have objectives been agreed?

9. Management plan – Is there a management plan and is it being implemented?

Score Summary

	Your score	Maximum possible score
Final score for **Context (A)**		26
Final score for **Planning (B)**		14
Final score for **Inputs (C)**		14
Final score for **Process (D)**		25
Final score for **Outputs (E)**		33
Final score for **Outcomes (F)**		27
Total (= A+B+C+D+E+F)		

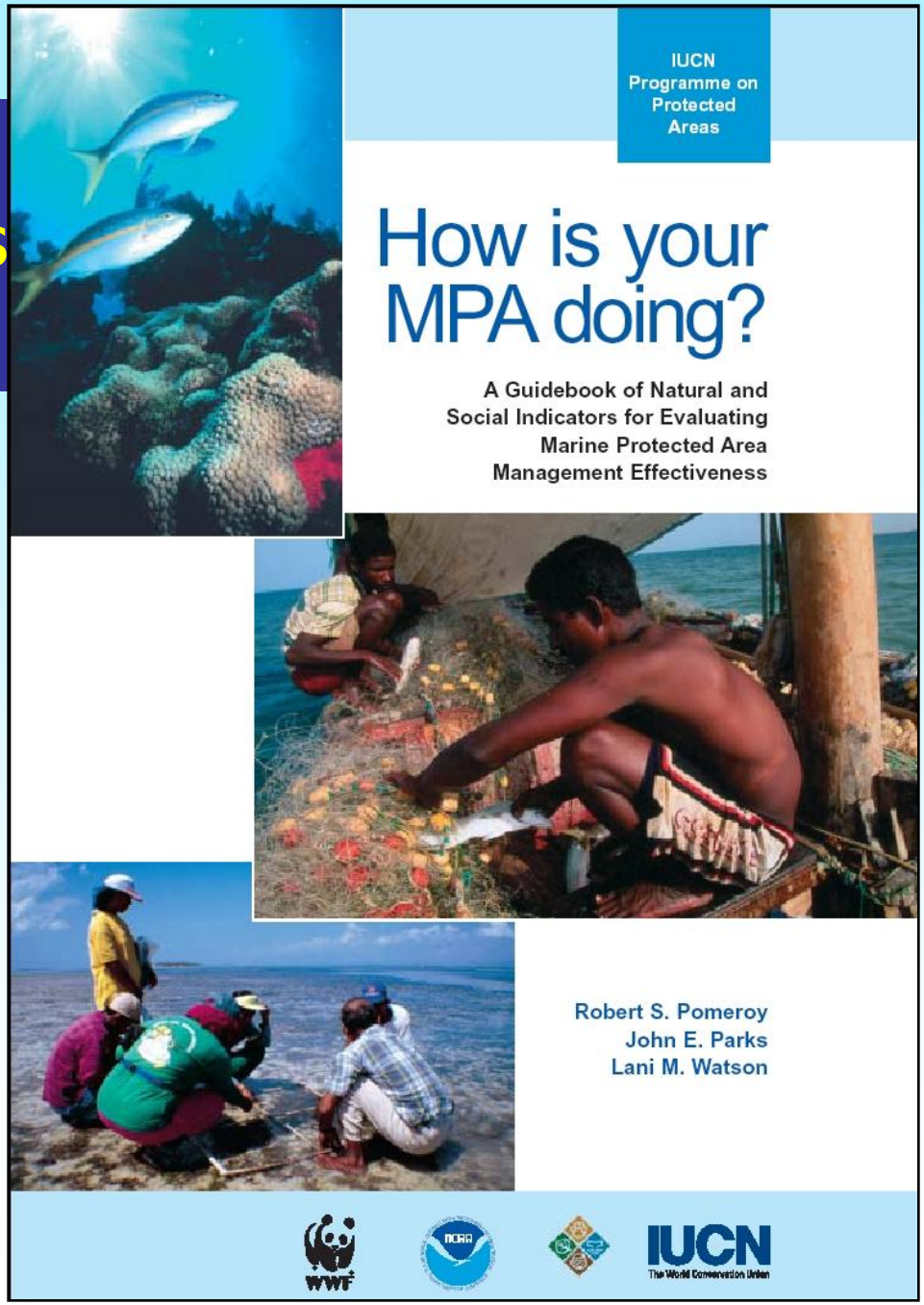
Marine Protected Area Management Effectiveness Initiative

- World Wildlife Fund (WWF)

- National Oceanic and Atmospheric Administration (NOAA)

- World Commission on Protected Areas (WCPA-Marine)

- World Conservation Union (IUCN)



Developing the Guide Book

Purpose

To help managers evaluate effectiveness for the purposes of adaptive management

Audiences

- Managers
- Fishermen
- Local residents
- Decision makers
- Nongovernmental organizations
- Educators and researchers

Guidebook Indicators

Biophysical (n=10)

Socioeconomic (n=16)

Governance (n=16)

BIOPHYSICAL INDICATOR 1

Focal species abundance

What is 'focal species abundance'?

Species **abundance** is the number of individuals of a particular species found to occur within and outside the MPA. Species abundance is a commonly used proxy for population size and is thought to reflect the status of a species' population within a specific location; for example, whether or not the population is growing over time. The density of a species is determined by examining the abundance within a defined (unit) area. Species abundance is one of the most widely used biological 'success' measures of management effectiveness.

A **focal species** is an organism of ecological and/or human value whose management through the MPA is of priority interest. There are several different types of focal species th be identified for a particular M With many MPAs, their goals a directly to the need to protect c

Focal species abundance can also be defined as how commonly a particular species is found relative to other species within the same community, i.e. B4.

Why measure it?

The protection, enhancement a of populations of focal species a common reasons for using MI sustained numbers of focal sp through time is widely seen t MPA use. As a result, monitor abundance of populations of fo the most common activities managers. Fortunately, the bas compare the number of individ observed within versus outs relatively uncomplicated and ea

As populations of focal species MPA are protected and allowed may migrate, or 'spill over', i protected areas. This increases

Box B1

TYPES OF 'FOCAL' SPECIES

(adapted from Noss, 1990)

- Endemics – species that are only found to occur naturally in the waters near the MPA.
- Exotics – non-native species that are of concern due to their negative effects on the local ecology. For example, introduced algae that aggressively spreads and
- Targets – species of interest due to t non-extractive use value. For examp commonly harvested for local diet n whales that bring tourists to the area species will be priorities for manage

How to collect the data

Before data collection can begin, the evaluation team will need a list of which focal species in and

Requirements

- A list of the focal species (reviewed and approved by stakeholders).
- Designated sampling sites inside and outside the MPA.
- An adequate number of trained staff and/or volunteers in both survey methods and taxonomic identification.
- A boat (with safety equipment) and engine.
- Survey tools (e.g. tape measure, compass, towline, submersible writing slate).
- SCUBA or snorkelling equipment.
- A handheld global positioning system (GPS).
- Submersible digital camera (to verify species identifications).
- Advanced (if applicable): aerial photography, satellite imagery, and geographic information systems; small airplane or helicopter (for large, wide ranging organisms); tagging and telemetry equipment; and digital video camera and underwater housing.

Relates to goals and objectives

GOAL 1
1A 1C 1D 1E 1F

GOAL 2
2C 2G

GOAL 3
3A 3D

GOAL 4
4D

GOAL 5
5A 5B 5D 5E

Difficulty Rating 3 (1–5)

How the biophysical indicators relate to the common goals and objectives

		B1 Focal species abundance	B2 Focal species population structure	B3 Habitat distribution and complexity	B4 Composition and structure of the community	B5 Recruitment success within the community	B6 Food web integrity	B7 Type, level and return on fishing effort	B8 Water quality	B9 Area showing signs of recovery	B10 Area under no or reduced human impact
Goal 1	**Marine resources sustained or protected**										
1A	*Populations of target species for extractive or non-extractive use restored to or maintained at desired reference points*	●	●				●	●			
1B	*Losses to biodiversity and ecosystem functioning and structure prevented*			●	●	●			●		
1C	*Populations of target species for extractive or non-extractive use protected from harvest at sites and/or life history stages where they become vulnerable*	●	●		●		●	●		●	●
1D	*Over-exploitation of living and/or non-living marine resources minimized, prevented or prohibited entirely*	●	●		●		●	●			●
1E	*Catch yields improved or sustained in fishing areas adjacent to the MPA*	●				●		●		●	●
1F	*Replenishment rate of fishery stocks increased or sustained within the MPA*	●	●					●		●	
Goal 2	**Biological diversity protected**										
2A	*Resident ecosystems, communities, habitats, species, and gene pools adequately represented and protected*				●	●		●		●	●
2B	*Ecosystem functions maintained*						●		●	●	
2C	*Rare, localized or endemic species protected*	●	●		●						
2D	*Areas protected that are essential for life history phases of species*		●	●				●	●		●
2E	*Unnatural threats and human impacts eliminated or minimized inside and/or outside the MPA*				●				●		●
2F	*Risk from unmanageable disturbances adequately spread across the MPA*										
2G	*Alien and invasive species and genotypes removed or prevented from becoming established*	●			●						
Goal 3	**Individual species protected**										
3A	*Focal species abundance increased or maintained*	●	●	●			●	●		●	
3B	*Habitat and ecosystem functions required for focal species' survival restored or maintained*			●	●		●	●	●	●	
3C	*Unnatural threats and human impacts eliminated or minimized inside and/or outside the MPA*							●	●		●
3D	*Alien and invasive species and genotypes removed from area or prevented from becoming established*	●	●		●						
Goal 4	**Habitat protected**										
4A	*Habitat quality and/or quantity restored or maintained*			●	●	●			●	●	
4B	*Ecological processes essential to habitat existence protected*			●	●	●			●	●	
4C	*Unnatural threats and human impacts eliminated or minimized inside and/or outside the MPA*			●	●	●			●		●
4D	*Alien and invasive species and genotypes removed or prevented from becoming established*	●		●	●				●		
Goal 5	**Degraded areas restored**										
5A	*Populations of native species restored to desired reference points*	●					●	●		●	
5B	*Ecosystem functions restored*	●	●		●				●	●	
5C	*Habitat quality and/or quantity restored or rehabilitated*		●	●	●				●	●	
5D	*Unnatural threats and human impacts eliminated or minimized inside and/or outside the MPA*	●			●				●	●	●
5E	*Alien and invasive species and genotypes removed or prevented from becoming established*	●		●	●					●	

Selecting Indicators

- Identify relevant goals and objectives in the handbook
- List all possible indicators
- Review and prioritize the indicators identified

Next Steps

- Have a look at the tools for your use…?
- What more do you need to do to complete an effective management plan?
- Do you know where to go to find additional information?