Guide for Improving Marine Protected Area Management Effectiveness in Indonesia

Eleanor Carter, Arisetiarso Soemodinoto & Alan White

ISBN 978-602-97788-1-6
9 786029 778816

Second Printing (March 2011)

Guide for Improving Marine Protected Area Management Effectiveness in Indonesia

Eleanor Carter
Arisetiarso Soemodinoto
Alan White

March 2011

USAID FROM THE AMERICAN PEOPLE
Coral Triangle Support Partnership
The Nature Conservancy
Protecting nature. Preserving life.™

Guide for Improving Marine Protected Area Management Effectiveness in Indonesia

Authors:
Eleanor Carter, Senior Advisor, TNC Indonesia Marine Program (TNC-IMP), Bali, Indonesia
Arisetiarso Soemodinoto, PhD, MPAME Specialist, TNC-IMP, Bali, Indonesia
Alan White, PhD, Senior Scientist, TNC Asia-Pacific Program, Honolulu, Hawaii, USA

Suggested Citation:
Carter, E., Soemodinoto, A. & White, A. (2010) *Guide for Improving Marine Protected Area Management Effectiveness in Indonesia*. Bali, Indonesia: The Nature Conservancy Indonesia Marine Program, xi + 49p.

Support for the creation and printing of this publication was provided by the National Oceanic and Atmospheric Administration (NOAA) of the United States (Grant #NA08NOS4630336) and by the National Fish and Wildlife Foundation (NFWF) (Grant #18739). Additional technical assistance was provided through the Coral Triangle Support Partnership supported by the Regional Development Mission Asia (RDMA) Office of Environment, U.S. Agency for International Development (USAID) under the terms of Cooperative Agreement No. 486-A-00-08-42-00. The views presented and opinions expressed herein are those of the authors and do not necessarily reflect the views of TNC, NOAA, NFWF, USAID or the Republic of Indonesia's government entities (i.e. Ministry of Forestry, Ministry of Marine Affairs & Fisheries, and respective district government agencies).

The Nature Conservancy – Indonesia Marine Program (TNC-IMP)
Jalan Pengembak No. 2, Sanur 80228, Bali, Indonesia
Telephone (+62-361) 287 272; Facsimile (+62-361) 270 737

ISBN 978-602-97788-1-6 (English)
ISBN 978-602-97788-0-9 (Bahasa Indonesia)

Layout, graphics & printing: PT Redi Pramatana Internusa, Bali, Indonesia
Photographic Credits: Andreas Muljadi/TNC-IMP (pp. 25, 46 & back cover);
Arisetiarso Soemodinoto/TNC-IMP (p. 9); Marthen Welly/TNC-IMP (front cover, pp. 1, 5, 23 & 29).

Acronyms and Abbreviations

CBD	Convention on Biological Diversity
CE	Conservation Effect
COP	Conference of the Parties
CTC	Coral Triangle Center
CTI	Coral Triangle Initiative
CTSP	Coral Triangle Support Partnership
IMP	Indonesia Marine Program
IUCN	International Union for Conservation of Nature
KKLD	*Kawasan Konservasi Laut Daerah* (District Marine Conservation Area)
LMMA	Locally-Managed Marine Area
MCA	Marine Conservation Area
ME	Management Effectiveness
MMAF	Ministry of Marine Affairs and Fisheries
MoF	Ministry of Forestry
MPA	Marine Protected Area
MPAME(S)	Marine Protected Area Management Effectiveness (System)
NFWF	National Fish and Wildlife Foundation
NGO	Non-Governmental Organization
NOAA	National Oceanic and Atmospheric Administration
NRC	National Research Council
NTZ/A	No-Take Zone/Area
TNC	The Nature Conservancy
UNEP	United Nations Environment Programme
US	United States (of America)
WCMC	UNEP World Conservation Monitoring Centre
WCPA	IUCN World Commission on Protected Areas
WPC	IUCN World Parks Congress
WSSD	World Summit on Sustainable Development

Table of Contents

Appendices

List of Figures

List of Tables

Acknowledgments

The Project entitled "Initiating a Marine Protected Area Management Effectiveness System (MPAMES) in Indonesia" that led to this publication would not have been possible without the assistance and support of key individuals and institutions concerned with the development and management of MPAs in Indonesia.

We would especially like to thank Deputy Director of Wetlands, Marine Conservation and Essential Ecosystems, MoF, Ibu Ir. Cherryta Yunia, M.M., and Deputy Director of Rehabilitation of Conservation Areas, MMAF, Ibu Ir. Ahsanal Kasasiah, M.Agr.Bus., for all their support in the development and production of the Guide. This guide was developed and improved via field tests and workshops participated in by both government and non-governmental partners. Initial planning for this project would not have been possible without the support of Rili Djohani (former Country Director of TNC Indonesia Program) and Abdul Halim (Director of TNC Indonesia Marine Program). Stacey Kilarski (former Marine Technician, TNC Global Marine Initiative) contributed considerably in the early stage versions of the guide.

Thanks are also due to those who have peer reviewed the guide and provided input along the way. These persons include: Lynne Zeitlin Hale, Director, TNC Global Marine Initiative; Rudyanto, CTSP Portfolio Manager, TNC-IMP; Andrew Harvey, former Conservation Manager, PT Putri Naga Komodo; and Sangeeta Mangubhai, PhD, Bird's Head Portfolio Manager, TNC-IMP.

The assistance and support provided by participating government and non-governmental organizations, and marine protected area management agencies visited during the project has been essential. We have tried to include everyone who made a contribution while some persons who assisted indirectly in the project may have been missed. Persons interviewed or those who participated in focus group discussions during field trials at Wakatobi National Park, Berau Marine Conservation Area and Bali Barat National Park or in review workshops are listed below.

Wakatobi National Park Field Trial, Southeast Sulawesi, May 2009
Errys Maart, Head of Operations
La Ode Ahyar TM, Head of Section 1
Untung Suripto, Head of Section 2
Union, Officer, Planning Section
Ayub Poli, Officer, Planning Section
Syahruddin, Park Ranger of Section 1
Putu Suastawa, Park Ranger of Section 1
Ramli, Park Ranger of Section 1
Made Lakompi, Park Ranger of Section 1
La Ode Orba, Park Ranger of Section 1
Sofian, Park Ranger of Section 1
Rolan Budhianto, Park Ranger of Section 1
La Ode Kasma, Park Ranger of Section 1
La Ode Sahari, Park Ranger of Section 2
Muhammad Desna, Park Ranger of Section 3

Workshop on MPAME Protocol, Bali, August 2009
La Ode Ahyar TM, Wakatobi National Park
Muhammad Desna, Wakatobi National Park
Cherryta Yunia, Deputy Director of WMCEE, Dit. CA, DG PHKA, Ministry of Forestry
Irfan Yulianto, MPA Planner, WCS Indonesia Marine Program
Yudi Herdiana, GIS Officer, WCS Indonesia Marine Program
Stuart Campbell, PhD, Director, WCS Indonesia Marine Program
Sudarsono Kimpul, Portfolio Manager, WWF Indonesia Marine Program
Purwanto, Monitoring Coordinator, TNC-WWF Joint Program in Wakatobi
Nina Dwisasanti, Project Leader, TNC-WWF Joint Marine Program in Berau
Audrie J. Siahainenia, Monitoring Coordinator, TNC-WWF Joint Marine Program in Berau
Andrew Harvey, Conservation Manager, PT Putri Naga Komodo
Hery Yusamandra, Monitoring Coordinator, PT Putri Naga Komodo
Anton Wijonarno, Conservation Planner, TNC Savu Sea Marine Park Project
Marthen Welly, Project Leader, TNC Nusa Penida Project
Johannes Subijanto, Lesser Sunda Portfolio Manager, TNC Indonesia Marine Program
Juliana Tomasouw, Program Support Coordinator, TNC Indonesia Marine Program

Berau Marine Conservation Area Field Trial, East Kalimantan, October 2009
Nina Dwisasanti, Project Leader, TNC-WWF Joint Marine Program in Berau
Audrie J. Siahainenia, Monitoring Coordinator, TNC-WWF Joint Marine Program in Berau
Sonny Tasidjawa, Monitoring Officer, TNC-WWF Joint Marine Program in Berau
Abidzar Ghiffari, Outreach Officer, TNC-WWF Joint Marine Program in Berau
Candika Yusuf, Fisheries Officer, TNC-WWF Joint Marine Program in Berau
Dwi Basuki Rahmad S., Outreach Officer, TNC-WWF Joint Marine Program in Berau
Andi Erson, Leader of JAMAN (Berau Fishermen Community Network)
H. Anwar, Head of Office for Marine Affairs & Fisheries, Berau District
Muhammad Zaidi, Head, KSDA Section 1 at Berau
Ali Machfudhi, Officer at KSDA Section 1 at Berau

Bali Barat National Park Field Trial, Bali, February 2010
P. Bambang Darmadja, Head of Bali Barat National Park
Ktut Catur Merbawa, Head of Section 1
Ngurah Agus Krisna, Head of Section 3
Joko Waluyo, Staff
Made Enoch Idris, Forest/Marine Ecosystems Controller Officer
Ipung Pamungkas, Staff
Juni Wahyono, Staff
I Ktut Mertha Yasa, Staff
I Gusti Bagus Ngurah Suranggana, Staff
Sugiarto, Staff
Ganda Diasra Untara, Staff
I Made Mudana, Park Ranger
IPG Arya Kusdyana, Staff
Nana Rukmana, Staff
Ruhama Reza Ramdhan, Forest/Marine Ecosystems Controller Officer

National Workshop on MPAME Guide, Bali, April 2010
Wahju Rudianto, Head of Wakatobi National Park
Veda Santiadji, Project Leader, TNC-WWF Joint Program in Wakatobi
Ali Machfudhi, Staff of KSDA Section 1 Berau, East Kalimantan
Suparno Kasim, Second Assistant to the District Head of Berau, East Kalimantan
H. Anwar, Head of Berau District Marine Affairs & Fisheries Office, East Kalimantan
Abidzar Ghiffari, Outreach Officer, TNC-WWF Joint Marine Program in Berau
Rusli Andar, Outreach Officer, TNC-WWF Joint Marine Program in Berau
P. Bambang Darmadja, Head of West Bali National Park
Ganda Diasra Untara, Staff of West Bali National Park
Hirmen Sofyanto, Project Leader, TNC Savu Sea Marine National Park Development, Kupang
Sonny Partono, Director of Conservation Area, DG PHKA, Ministry of Forestry
Cherryta Yunia, Deputy Director of WMCEE, Dit. CA, DG PHKA, Ministry of Forestry
Irawan Asaad, Staff of WMCEE, Dit. CA, DG PHKA, Ministry of Forestry
Ahsanal Kasasiah, Deputy Director of Rehabilitation of Conservation Areas, Dit. KKJI, Min. Marine Affairs & Fisheries (MMAF)
Suraji, Head of Marine Area Conservation Section, Dit. KKJI, MMAF
Tommy Hermawan, Assistant to Deputy of Marine Affairs & Fisheries, BAPPENAS
Andi Niartiningsih, Dean, Faculty of Marine Science & Fisheries, UNHAS Makassar
Johannes Hutabarat, Dean, Faculty of Fisheries & Marine Science, UNDIP Semarang
Neviaty P. Zamani, Lacturer, Faculty of Fisheries & Marine Science, IPB Bogor
Jotham Ninef, Lecturer, Faculty of Agriculture, UNDANA Kupang
Darmawan, CTI Regional Secretariat, Jakarta
Hery Yusamandra, Monitoring Coordinator, PT Putri Naga Komodo
Laure Katz, Conservation International Indonesia Marine Program, Bali
Crissy Huffard, Conservation International Indonesia Marine Program, Bali
Mark Infield, Asia Pacific Regional Director, Fauna-Flora International, Bali
Gayatri Lilley, Director, The Indonesia Nature Foundation (LINI), Bali
Putu Widyastuti, Programme Manager, LINI, Bali
Irfan Yulianto, MPA Planner, WCS Indonesia Marine Program, Bogor

Creusa (Tetha) Hitipeuw, WWF Indonesia Marine Program, Bali
Abdul Halim, Director, TNC Indonesia Marine Program (TNC-IMP), Bali
Johannes Subijanto, Lesser Sunda Portfolio Manager, TNC-IMP Bali
Sangeeta Mangubhai, Raja Ampat Portfolio Manager, TNC-IMP Bali
Marthen Welly, Project Leader, Nusa Penida MPA Development Program, TNC-IMP Bali
Wira Sanjaya, Outreach Officer, Nusa Penida MPA Development Program, TNC-IMP Bali
Andreas Muljadi, Monitoring Coord., Nusa Penida MPA Development Program, TNC-IMP Bali
M. Imran Amin, Marine Policy Coordinator, TNC-IMP Bali
Juliana Tomasouw, Program Support Coordinator, TNC-IMP Bali
Hesti Widodo, Conservation Education Specialist, TNC-IMP Bali

TNC Indonesia Marine Program, Bali Office
Juliana Tomasouw, Program Support Coordinator
Kadek Ayu Noviantini, Operation Officer
Nyoman Suardana, Conservation Database Officer
Risal Pramana, Logistic Officer
Monica Louise P., Accountant
Hesti Widodo, Conservation Education Specialist
Tri Soekirman, Communication Manager

The completion of this Guide has benefitted from the input of many persons. Any errors or unpopular opinions remain the responsibility of the authors.

Preface

Threats to the coastal and marine environment in Indonesia and other countries in Southeast Asia have never been higher. Such threats stem from a growing coastal population that depends upon coastal resources for food and income, the various impacts of coastal development on coastal ecosystems, the desire and demand for marine products internationally and the associated trade of goods and services, and now the pending impacts of climate change on both ecosystems and human communities. These threats and their impacts emphasize the need for management and conservation of coastal areas, ecosystems and the resources that people depend upon. One of the key strategies being promoted throughout Indonesia and the region to address these problems is the design and implementation of marine protected areas (MPAs) and networks of MPAs.

MPAs were first established in Indonesia in the 1970s with the declaration of several national marine parks. Since that time, numerous MPAs have been established so that presently 153 MPAs exist together covering more than 17 million hectares of legally protected and managed marine habitat, waters and coastal areas. This extensive coverage of MPAs within the Indonesian Archipelago is certainly laudable given the extensive coastal areas and natural resources of the country. However, while the area of legally recognized MPAs in Indonesia is large this does not by itself confer any level of actual protection of conservation unless effective management of these areas is concurrently in place. Thus the question arises as to the status of this large expanse and number of marine areas under legal protection?

Unfortunately, the answer, based on present knowledge and observation, is that the status of marine habitats and ecosystems inside most MPAs in Indonesia is not significantly better than similar areas outside of MPAs. And many MPAs have almost no management in place. However, to date no hard data exists to truly quantify and categorize the level of management effectiveness of MPAs in Indonesia. This publication has thus been compiled to address the question of 'effectiveness' and provide a replicable process to measure MPA effectiveness systematically throughout Indonesia.

This **Guide for Improving Marine Protected Area Management Effectiveness (MPAME) in Indonesia** presents a simple yet robust tool to assess how an MPA is doing in its management and ultimately how well an MPA meets its conservation goals or objectives. In fact, although MPAs may be set up to achieve different objectives in different areas of the country, this Guide has been developed for flexibility and adaptability and is intended to be used to assess MPAs anywhere in the country, at a range of scales and under a range of different governance mechanisms. In addition to providing an easy means of assessing progress or problems within MPAs, this guide is also designed as a learning tool that supports adaptive management. It provides a simple process for MPA planners, managers and stakeholders to assess what has been accomplished within an MPA and what is missing or needs more attention to make it more effective.

The results of these reviews will be immensely useful for improving management at the local scale as well as providing guidance on what types of assistance are needed. Finally, it is hoped that this Guide can be widely applied to provide a means of enabling comparable analysis and mapping of MPAs across the country as a mechanism to measure progress over time and to contribute significantly to the status and quality of MPAs in Indonesia.

Let us begin!

Foreword

Director of Area Conservation
Directorate General of Forest Protection and Nature Conservation
Ministry of Forestry

Indonesia, as an archipelagic country, is endowed with vast and rich coastal and marine resources. However, these coastal and marine resources are under immediate threat from various anthropogenic activities and natural phenomenon, not to mention the projected impacts from the effects of climate change. Recognizing the critical importance of coastal and marine resources for Indonesia's long-term sustainable development, the Government of Indonesia has committed to set aside 10 million hectares of marine and coastal habitat by 2010 and 20 million hectares by 2020 for marine conservation purposes. These commitments are proving fruitful as the target of 2010 had been passed in 2009 (i.e. 13 million hectares) and now we are gearing up to achieve the 2020 targets by continuing to establish marine protected areas throughout the country.

Nevertheless, the gazettement of marine habitats alone will not achieve conservation and there is a lingering question about the effectiveness of MPA management in Indonesia: "Are our MPAs being managed to achieve their sustainability objectives?" Answering this question is critical for us. First, being able to answer it will enable us to have sufficient and scientifically accountable information that is necessary to demonstrate our commitment to Indonesian people who are the direct beneficiaries of our policy to protect and manage our coastal and marine environment. Second and equally important, Indonesia needs to demonstrate its commitment to the world that as one of the countries situated in the heart of Coral Triangle region, we are able to manage and protect our coral reefs in effective ways that truly contribute to a sustainable Earth and to support food security of communities' livelihoods.

This Guide for Improving Marine Protected Area Management Effectiveness is timely, and we welcome this work to assist and strengthen our efforts in protecting and managing MPAs and their networks in Indonesia.

We are looking forward to this Guide being applied by our MPA planners, managers and stakeholders, including NGOs and environment pressure groups, in a transparent and continuous manner for the improvement of development and management of our MPAs. This Guide will be distributed to, socialized to and adapted by Technical Implementation Unit of MPA management, and will be keenly used and referenced for evaluating effectiveness for managing and protecting our MPAs (i.e. marine conservation areas, marine reserve areas, and coastal and small islands' conservation areas, etc.) for better management.

Jakarta, September 2010

Ir. Sony Partono, M.M.

Foreword

Director of Area Conservation & Fish Species
Directorate General of Marine, Coastal and Small Islands
Ministry of Marine Affairs & Fisheries

First, we express our gratitude to God, Allah SWT, because without His blessing this "Guide for Improving Marine Protected Area Management Effectiveness in Indonesia" would not have materialized. Our appreciation is equally extended to Eleanor Carter, Arisetiarso Soemodinoto and Alan White, with the support of The Nature Conservancy (TNC), for realizing this important Guide.

As an archipelagic country, Indonesia is endowed with vast and rich coastal and marine resources. However, these resources are under immediate threat from various anthropogenic activities and natural phenomenon, not to mention the projected impacts from the effects of climate change. Recognizing the critical importance of coastal and marine resources for Indonesia's long-term sustainable development, the Government of Indonesia has committed to set aside 10 million hectares of marine and coastal habitat by 2010 and 20 million hectares by 2020 for marine conservation purposes. These commitments are proving fruitful as the target of 2010 had been passed with 13 million hectares of marine protected areas now under legal protection.

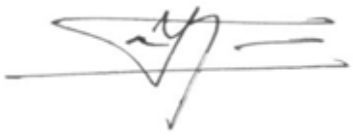
This "Guide for Improving Marine Protected Area Management Effectiveness in Indonesia" is very important because it can be used as a basis for producing a national guideline for measuring MPA management effectiveness. Up to the present, no approach has been specifically developed to measure management effectiveness of aquatic conservation areas in Indonesia, particularly in the marine environment, therefore, we welcome efforts to support and strengthen MPAs and networks of MPAs in Indonesia through this publication.

Although the Guide still requires constructive comments and inputs for its perfection, it nevertheless can be used by decision-makers as one of the methods for measuring MPA management effectiveness. Using this Guide, the subsequential phases of MPA programmatic and management activities can be evaluated, their gaps identified and efforts to ensure MPA sustainability established.

We encourage concerned parties to use and study this Guide thoroughly and give their inputs in order to help the Guide evolve for the future.

Thank you.

Jakarta, September 2010



Ir. Agus Dermawan, M.Si.

1. Introduction

Marine and coastal ecosystems are highly productive and deliver various goods and services that support communities and economies, including food security through fisheries and marine products, protection against coastal erosion, clean water, mitigation against natural disasters, recreational opportunities and other benefits. Healthy marine resources require healthy, intact ecosystems. However, global declines in marine productivity, biodiversity and ecosystems, coupled with increasing human populations and dependence on the services generated from the ocean, prompts great interest and demand to effectively protect and manage these resources. In response to the recognition of the need for conservation efforts, marine protected areas (MPAs) and more recently MPA networks are being established worldwide.

Area-based protection, through MPAs, can help to maintain ecosystem health and productivity, while safe guarding social and economic development. MPAs also help maintain the full range of genetic variation, essential in securing viable populations of key species, sustaining evolutionary processes and ensuring resilience in the face of natural disturbances and human use (IUCN, 1999; NRC, 2001; Agardy & Wolfe, 2002; Agardy & Staub, 2006; Mora *et al.*, 2006; Parks *et al.*, 2006; IUCN-WCPA, 2008).

If designed correctly and when managed effectively, MPAs have an important role to play in the protection of ecosystems and, often, in the enhancement or restoration of coastal and marine fisheries (IUCN-WCPA, 2008). Because of this role, the public, governmental agencies and conservation institutions often have high (and not always warranted) expectations of MPAs to maintain or restore marine biodiversity and ecosystem functionality, in addition to improving socioeconomic conditions as a result of increased fisheries production enhancing revenues and food security (Agardy & Wolfe, 2002; Parks *et al.*, 2006).

A commonly accepted definition of an MPA by IUCN (1999) is:

> "... any area of the intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment."

International commitments for the development and effective management of MPAs started in the 1980s when the 17th International Union for Conservation of Nature (IUCN) General Assembly called upon all nations to "establish a global representative system of marine protected areas (MPAs)"[1]. Delegates at the 4th World Parks Congress (WPC) in 1992 supported this call for "the establishment of a global network of marine protected areas"[2] and this was further strengthened at the 2002 World Summit for Sustainable Development (WSSD) where world leaders committed to the target of "establishing representative networks of MPAs by 2012"[3], adding that they should be based on scientific information and consistent with international law.

---

[1]Recommendation 17.38 – 17th IUCN General Assembly, San Jose, Costa Rica, 1988.
[2]Recommendation 11 – 4th World Parks Congress, Caracas, Venezuela, 1992.
[3]WSSD Action Plan 2002, 54 p.

The WPC in 2003 built upon this target by recommending that the areas being protected within MPAs should be 'greatly increased'[4] suggesting that MPA networks "should be extensive and [should] include strictly protected areas that amount to at least 20-30% of each habitat [type]"[5]. The Convention on Biological Diversity (CBD) seventh Conference of Parties (COP-7) in 2004 also recommended that by 2012 signatory countries should have a comprehensive, effectively managed and ecologically representative national and regional system of MPAs that conserve at least 10% of all marine and coastal ecoregions in the world[6].

Despite these commitments only 0.08% of the world's oceans, and 0.2% of the total marine area under some form of national jurisdiction, is strictly protected where extractive uses are prohibited (Wood, 2007). The existing coverage is therefore far from the goal of 30% strictly protected critical habitat protection. Furthermore, it is recognized by governments, conservation professionals, and MPA managers that current MPA efforts are often ineffective, and thus not achieving actual habitat protection (Kelleher *et al.*, 1995; Pomeroy *et al.*, 2004; Mora *et al.*, 2006). There is a concern (and a perception) that many MPAs around the world are mostly legislative exercises, poorly enforced, and not effectively providing protection; these are often referred to as 'paper parks' (Parks *et al.*, 2006). Therefore there is growing international recognition of the need to evaluate and understand the degree to which MPA management efforts are effective and meeting their goals and objectives and how best to improve their effectiveness (Hockings *et al.*, 2000, 2006; Parks *et al.*, 2006).

In Indonesia, more than 17 million hectares has been declared as some form of marine conservation area (Table 1) and is progressing to the more recent commitment of 20 million hectares of MPAs by 2020.[7] However, the establishment of these MPAs needs to be complemented by 'effective management' and in Indonesia this has likewise been recognized. The Minister of Marine Affairs and Fisheries has stated that the Government of Indonesia "… has committed to support the *effective management* of individual and network[s] of MPA[s] in close collaboration with stakeholders." In addition "… in the years ahead, we will focus our efforts to ensure that the marine protected areas in Indonesia are *managed well and effectively*, to ensure that the people living in coastal areas are able to reap the benefits from the oceans in perpetuity"[8]. And in the recent National Plan of Action under the Coral Triangle Initiative (Action 9), there has been a commitment to "develop and adopt appropriate methods, standards, criteria and indicators for *evaluating the effectiveness of MPA management and governance*", and to *"implement management* effectiveness evaluations for at least 30% of existing MPAs in Indonesia".

Table 1. Protected Coastal and Marine Areas in Indonesia

Functions	IUCN Category	Area (hectare)
Nature Reserve	Ia/Ib	226,290
Marine Nature Reserve		421,907
National Park	II	528,403
Marine National Park		7,455,959
Animal Reserve	IV	249,015
Marine Animal Reserve		275,831
Game Park	V	5,843
Botanical Garden		1,621
Nature Recreation Park		5,008
Marine Nature Recreation Park		755,431
District Marine Conservation Area	VI	7,343,135
Total coastal and marine areas protected (including mangrove)		17,268,445

Source: Ministry of Forestry and Ministry of Marine Affairs & Fisheries (2010), ***Gap Analysis of Protected Areas Ecological Representativeness in Indonesia,*** Jakarta: Ministry of Forestry and Ministry of Affairs & Fisheries (Table 2, p. 22).

[4]Recommendation 4.1 (h) – 4th World Parks Congress, Durban, South Africa, 2003
[5]Recommendation 22.1 (a) – 4th World Parks Congress, Durban, South Africa, 2003.
[6]Goal 1, Target 1.1 – CBD COP-7, Kuala Lumpur, 2004.
[7]Coral Triangle Initiative Summit: Opening and Keynote address by H.E. Dr. Susilo Bambang Yudhoyono, President Republic of Indonesia, Manado, 15 May 2009.
[8]P. 1 & p. 3 respectively, Keynote address at the Declaration of the Savu Sea Marine National Park, VADM (Ret) Freddy Numberi, Minister of Marine Affairs and Fisheries, Republic of Indonesia, Manado, 13 May 2009.

The development of this Guide has been informed by lessons from effectiveness protocols from other countries and adapting appropriate aspects and processes to the Indonesian situation. It draws from the best guidance available on MPA management effectiveness that includes the book: How is your MPA doing? (Pomeroy *et al*., 2004), A Workbook for Assessing Management Effectiveness of MPAs in the Western Indian Ocean (Wells & Mangubhai, 2007), and the Scorecard to Assess to Progress in Achieving Management Effectiveness Goals for MPAs (Staub & Hatziolos, 2004). It draws heavily from a functioning MPA Database and Rating System adopted in the Philippines (White *et al*., 2006). Initial drafts of the Guide have been tested in three Indonesian MPAs: Wakatobi National Park in Southeast Sulawesi, Berau Marine Conservation Area in East Kalimantan and the Bali Barat National Park in west Bali Island. The field tests led to refinements which have been discussed and agreed on in one regional and one national workshops. Now, with the publication of this Guide, it can be applied in many more MPAs in Indonesia.

1.1. What is Management Effectiveness?

MPA management effectiveness is the degree to which management actions are achieving the stated goals and objectives of an MPA (Hockings *et al*., 2000, 2006). At any MPA, various biophysical, socioeconomic and governance factors may directly or indirectly influence the overall management performance, and the degree to which an MPA is being managed may, in turn, affect change on some or all of the related factors (Parks *et al*., 2006). Thus, the process of evaluating management effectiveness incorporates a review of the three factors (biophysical, socioeconomic and governance) influencing the management of the area.

A review of management effectiveness can assist managers to document the performance of management efforts at achieving an MPA's goals and objectives and provide a report on progress to decision-makers and stakeholders (Pomeroy *et al*., 2004). Furthermore, when local stakeholders and community members are involved in the review, public support and trust can be strengthened. When the results of a review of an MPA are later shared with the public, this can raise the visibility and credibility of an MPA team, also leading to increased public support of the MPA. A review of progress against the management goals and objectives of an MPA facilitates improvements in the management of the MPA through learning, applying adaptive strategies, and by the identification of specific challenges that influence whether the goals and objectives of the MPA are being reached. The effective management of MPAs requires an active use of review findings for purposes of adaptive management. Adaptive management calls for a cyclical, iterative process in which managers can evaluate their management assumptions and generate learning and new knowledge from the results of the review process (Hockings *et al*., 2000, 2006; Pomeroy *et al*., 2004; White *et al*., 2006). Such learning can be applied to revise and improve management practices and efforts. Thus, the process of review provides a systematic method to assess management efforts at all stages of project planning and implementation.

2. Steps to Implement an MPA Management Effectiveness Review

The conceptual framework of the MPA management effectiveness improvement guide (Figure 1) provides a visual representation of the five main steps in implementing an effective review process. These steps (discussed in detail in section 3) are:

STEP 1: Identify and gather the review team. There are four processes to this:

- Determine the level of expertise that is needed to conduct the review
- Determine which staff and/or non-staff will conduct the review process
- Determine which wider stakeholders to include in the review process and identify how and when to involve them
- Create the review team and determine the people responsible for each task

The agency responsible for the MPAs' management will be expected take the lead for the review process, especially the preparatory steps outlined in STEPS 2,3 and 4 below. However, the wider review team should be selected to best represent the management agency and associated key stakeholders and this team will be ultimately responsible for, together, completing the scorecard as outlined in STEP 5.

STEP 2: Consolidate, wherever possible, all background information on the MPA. This entails gathering together all existing biophysical, socioeconomic and governance related background information about the MPA (including spatial coordinates, copy of decree, zoning or management plan if relevant, etc.).

This is not only important for the review process, but the efficient capture and storage of background information is an important factor in all aspects of effective on-site management. This will mostly be led by the MPA management agency.

STEP 3: Collate all data (or resultant analysis of data, reports, reviews, etc.) gathered from any and all assessments or monitoring exercises that have been undertaken in the MPA. This may include, for example, the results of biophysical monitoring (such as reef health monitoring), socioeconomic monitoring (such as perception monitoring), and governance monitoring (such as the effects of particular surveillance and enforcement activities to implement relevant MPA regulations)

Effective management has a temporal consideration and it is important for the review team to know whether the work of the MPA management has effectively maintained, or improved conservation targets (such as reef habitat, mangrove forest or marine species) and how these targets have changed over time

STEP 4: Where possible develop and maintain a database to house all MPA data. This is an important factor in effective MPA management long-term and considerably assists in the review process.

> *Keeping information in an orderly, and easily accessible framework makes the review process far more efficient, and easier to replicate over time.*

STEP 5: Now the review team can complete the MPA management effectiveness background information and scorecard through focus group discussions with the identified review team members. The results of this process will determine the MPA management score.

> *This is the final and critical part of the management effectiveness review process and is laid out in a questionnaire style worksheet for the reviewers to complete. The answers to the questions enable the reviewer to calculate a final 'score' for an MPA that provides a rating for management effectiveness.*

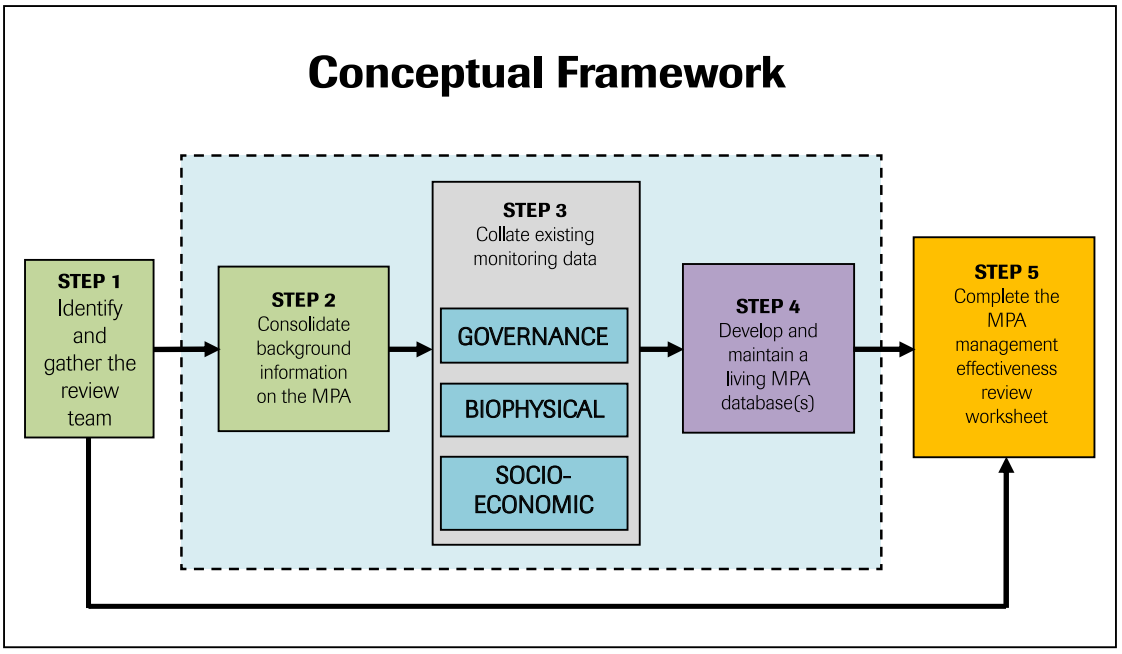


Figure 1. Marine Protected Area Management Effectiveness (MPAME) conceptual framework

Each of these steps is described further in the next section. However, not every MPA management agency will be in a position to achieve all five steps of the process due to a range of possible challenges. These could include (for example) loss of background information, lack of resources to conduct the recommended biophysical and social monitoring processes, or lack of technical personnel to enable effective database design and management. However, these challenges should not dissuade the reviewer from continuing the review process. The challenges of not being able to meet the five steps are in themselves challenges to effective management, and it is in the benefit of the MPA management agency to articulate and understand these in their review process. The scorecard phase of the review (the final STEP 5) will help the reviewer to capture this information even if the previous three steps are not possible to complete.

IMPORTANT NOTE!

One note of caution for all review team members is that during STEP 5 (completion of the scorecard) that results in a 'score' or 'rating' of an MPA, there is a tendency for an MPA management agency to desire achieving what they consider to be a 'High Rating'. In some cases the review team may be tempted to answer questions to try and 'promote a high rating' even though the answers to the questions may not be entirely accurate. This shows a vital misconception that a 'high-rating' is the desired output of this review - which is not the case. A review of management effectiveness is designed to give the MPA management agency and practitioners' vital, tangible information about where the strengths and weakness in their management may be. It is a tool to help the management agency improve their effectiveness. Therefore, **a 'good' review is one that maximally identifies all the challenges to management effectiveness in such a way that the management agency can start to address those challenges accordingly**. This is a critical issue and one that should be considered at all times whilst completing the scorecard. Additionally, in order to try and dissuade users of this guide from being selective with answers to try and promote 'high ratings' the score-card has been developed in such a way that it may be difficult for the reviewer to easily assess what may be 'high' or 'low' rated until the completion of the scorecard process

3. Conducting the MPA Management Effectiveness Review

As described in section 2, there are five key steps to implementing the management effectiveness review. In this section each key step is elaborated.

STEP 1: Identify and gather the review team

This guide has been designed to be used by the management agency of an MPA to undertake a 'self-review' of the MPA management effectiveness. To that end the reviewer will be the management agency itself and key stakeholders connected to the MPA. It is recommended that a team be developed to facilitate the review process and be responsible for planning, implementation and initial analysis (Pomeroy *et al.*, 2004). However, in addition to this it is recommended that an impartial individual leads and facilitates the review process wherever possible. Developing the review team can be achieved through four sequential stages (adapted from Pomeroy *et al.*, 2004):

A. Determine the level of expertise that is needed to conduct the review

The MPA manager and staff, a biologist and a social scientist can do a simple review. A more complex review will require additional people with a diverse set of disciplinary skills, in the fields of marine biology, ecology, oceanography, economics, sociology, law and political science. Choosing the level of expertise appropriate to undertake the review depends upon the availability of expertise in the management agency. In general however the level of expertise present in the review team should adequately reflect the work underway in the MPA. For example, if complex biophysical monitoring is taking place in the MPA it will be important to have somebody in the review team who is able to discuss this work and articulate the findings of the monitoring.

B. Determine which staff or non-staff will conduct the review process

Some MPAs may not have the ideal range of staff with the variety of disciplinary skills desired to conduct the review. Where relevant and if resources are available, external consultants or organizations with necessary expertise may be brought in to assist and support the review process. In this case, determine which parts of the review will be conducted internally versus externally. There are benefits and limitations with both external and internal reviewers. Table 2 summarizes some aspects to consider when deciding who should be involved in the review.

Table 2. Considerations for internal versus external reviewers (Pomeroy *et al.*, 2004)

Internal Reviewers	External Reviewers
• May have bias or complex relationships with a community • Have an understanding of the history, experiences and details of the site • Often live in or near the site • Tend to focus on issues of relevance to the managers (efficiency and effectiveness of work) • May not have all the skills necessary and need technical assistance • Will likely be involved in using or applying the results from this review	• Often provide impartiality, a fresh perspective, and credibility • May have limited local knowledge and the cost of learning is substantial • Usually stay for only short visits to the site • Tend to focus on questions relevant to external groups (stakeholders, funding agencies) • Bring technical expertise and perspectives from other sites • Take away valuable information, knowledge, perspectives and skills

C. Determine which wider stakeholders to include in the review process and identify how and when to involve them

Involving stakeholders in the review process is valuable as they may be interested in, and have insight into, some of the questions that differ from those of the most interest to the management agency or associated consultant experts. Stakeholders can also be helpful in the data collection and analysis parts of the review process. The MPA management agency may have already undertaken a stakeholder mapping process an may have a good idea of who should be involved (for example, community organizers, local adat leaders, local university representatives, local fisher groups, tourism industry representatives, etc.). Stakeholder mapping is an extremely useful process for any MPA management agency to go through and is highly recommended. Where a mapping process has not been undertaken a range of information about conducting such an exercise is available[9]. Alternatively an MPA management agency that has long been established in an area may be familiar with the wider stakeholder groups and may involve them as required.

D. Create the review team and determine the people responsible for each task

It is necessary to decide who will lead the review and the responsibilities of each team member based on their skills and experience. For example, the lead scientist or monitoring coordinator in the review team may be tasked with collating all the biophysical monitoring reports or data as required, whereas the enforcement officers would be expected to bring the results of their surveillance and enforcement observations to the focus group discussions. Experience suggests that the review team should be no more than 10 persons[10], with an understanding that some specialist questions may need to be referred to resource persons or stakeholders outside of the team.

STEP 2: Consolidate background information on the MPA

To assess the effectiveness of an MPA's management, background and overview information on the MPA must be collated and made easily accessible. Details about such background information can be found in the section 1 of the worksheet at the end of this Guide and includes, for example, information on key habitats and species in the MPA, boundary coordinates, sources of financial support, enforcement policies, etc. However, the collation of information extends beyond just background facts and figures about the MPA. Through the scorecard process (in STEP 5) the review team will be asked a series of questions about the MPA's biophysical status/trends, effects on, or impact from, socioeconomic conditions surrounding the MPA, and governance frameworks in which the MPA is situated. The more of this information the review team can collect in advance the better. In the scorecard system there is an optional answer of 'Don't Know' (DK), that should only be used when the review team genuinely doesn't know the answer. It is unfortunately used,

[9]Readers interested to further detail of stakeholders identification and involvement, and participatory process, can consult sources of participatory action research available at: http://web.gc.cuny.edu/che/start.htm, or http://cadres.pepperdine.edu/ccar/index.html; and stakeholder mapping tools at: http://www.stakeholdermap.com/ and http://www.stakeholdermapping.com/

[10]The optimal number of FGD participants is 8-10 persons (see a discussion paper by Escalada & Heong (2009) at http://ricehopper.files.wordpress.com/2009/10/focus-group-discussion.pdf

inevitably sometimes, because the information can't be found or has been lost. In such circumstances where efforts have been made to find the information but is still not available or too difficult to find, a DK answer is appropriate. This way the loss of information is captured by questions in the scorecard process which is useful for the review team to know to help understand what information gaps exist for the MPA.

STEP 3: Collate existing monitoring data

Monitoring data most commonly falls into two categories:

- **Biophysical data** – this includes all data gathered from monitoring related to the biophysical condition of the MPA. This can include biological and ecological data, such as reef health, fish abundance and diversity, mangrove diversity, spawning aggregation data, cetacean migration data, etc.; as well as physical data related to the non-biotic environment, such as topography, currents, rugosity, temperature, salinity, or other aspects.
- **Socio-economic data** – this includes all data related to the people living within, around, or affected by the MPA. This includes all stakeholders and can include data from resource-use surveys, population census data, livelihoods surveys, perception monitoring, welfare data, health surveys, education surveys, or other demographic information.

In addition to these commonly recognized data sets there is a third, less recognized dataset that is vital to capture:

- **Governance data** – this includes all data related to the governance of an MPA[11]. This can include information on the legal status of the MPA (decree, declaration, gazettement, etc.), status of management planning and zoning, framework for the on-site management agency, rights and responsibilities, sustainable financing plan (Bovarnick, 2010), and stakeholder analysis. Also, monitoring of governance data such as patrolling and surveillance (including trend of offences), maintenance of sign boards and boundary buoys, and other activities aimed at increasing local support toward the MPA can also be considered governance data.

In order to complete the scorecard in this guide it is important to collate – as far as possible – all existing monitoring data related to the above three categories. In some cases data may not be available; but this should not deter the reviewer. **It is still possible to complete the scorecard without full background and monitoring information**, and it is still valid to do so as the results will still provide insight and feedback on management effectiveness that the management agency can learn from to address the challenges and gaps identified. In other cases MPA practitioners may have considerable data available, but the data may not have been analyzed in such a way as to provide results and recommendations for management. Again, this is still useful for the management effectiveness review, as this can then be identified by the reviewer as an area to be addressed by the management agency. Analyzing data effectively is a common challenge for MPAs around the world, especially where investment has been made in teaching monitoring techniques, but not teaching analysis techniques. This is something that would be identified, if relevant, through the review, and could then be addressed by the management agency.

STEP 4: Developing and maintaining living MPA database(s)

The background information and data that has been collated (in STEP 2), and the monitoring data that has been consolidated (in STEP 3) should now be stored in a database. This may simply be a collection of Excel worksheets, or compiled reports. However, it is important to ensure that the filing and labeling of all the data files makes the data easily recognizable and retrievable for future users of the database.

[11]Note here the important difference in 'Governance' and 'Government'. 'Government' is a political unit that governs through the control and administration of public policy; whereas 'Governance' rather refers here to whatever management framework is being implemented (i.e. whether it is a National Park, LMMA, KKLD, MCA, etc.) and provides information on whatever management agency is in place (or significant stakeholder in management) from any sector: local community, government, NGO, private sector, industry, etc.

This step is important for two reasons:

(a) It may have taken the review team some time to gather all the information in STEP 2 and STEP 3, and it is possible that through this process the review team may have also discovered that some information is not available as it simply may have been lost over the years. To save repeating this work again when you next want to evaluate the management effectiveness of the MPA, it is advisable to store and label all data and reports accurately for future retrieval and access.

(b) By collating and recording everything appropriately it is easier to recognize gaps in information; and this is all part of the management effectiveness review process.

Ideally the database would be designed to be easily updated and modified as new data is gathered. It is important to establish a systematic method of adding new data and to idetify who will be responsible for updating and maintaining the database. The development and maintenance of a living database can include data for individual MPAs, as well as for networks of MPAs. Again, in situations where the management agency or review team may not be in a position to develop a database the review process is still possible and the team should not be deterred. Indeed, a well managed manual filing system for the various reports and studies conducted in the MPA can be as powerful as an electronic database and is equally, if not more important. A manual filing system can also allow the review team to secure all the information gathered in STEP 2 and 3, and recognize potential gaps in information.

STEP 5: Completing the MPA Management Effectiveness Review Worksheet

The management effectiveness review worksheet consists of two sections: (1) MPA Background Information that will capture essential data and information that does not appear on the list in the MPA Management Scorecard, and (2) the MPA Management Scorecard (both of these are provided in MS-Word file in the Appendices, and in soft-copy MS-Excel attached to this Guide). This worksheet provides a template for completion by the review team. The Scorecard provides a simple scoring system of the type that has been used in other effectiveness review processes (Staub & Hatziolos, 2004; Pomeroy *et al*., 2004; White *et al*., 2006; Germano *et al*., 2007; Wells & Mangubhai, 2007) but has been modified and adopted for the Indonesian context. The questionnaire style scorecard consists of five tables (A to E). Each table consists of 14 questions. To complete the scorecard a check mark must be placed in the appropriate column against each question starting at Table A, Question 1 and working through to Table E, Question14. Answers can be:

Yes (Y),
No (N),
Don't Know (DK), or
Not Applicable (NA)

The sum of all these check marks (Y, N, DK and NA) at the end of the scorecard process add up to a **'Management Level' assessment**. This further discussed in section 3.1, but can be summarized as the following[12]:

Management Level 1 – MPA is initiated
Management Level 2 – MPA is established
Management Level 3 – MPA is enforced
Management Level 4 – MPA is sustained
Management Level 5 – MPA is institutionalized (or fully functional)

[12]These levels roughly correspond to stages of protected area (PA) development recognized in Indonesia: (1) a PA is initiated, (2) a PA is in preliminary management (management is rudimentary/inadequate and with no outputs), (3) a PA is managed with outputs (e.g. with regulations for enforcement), (4) a PA is managed with outcomes (e.g. significant reduction of illegal activities or violations, and starting to gain local supports), and (5) a PA is managed with impacts or with fully functional management (e.g. co-management of PA, full local support, and benefits delivered to stakeholders) (personal communication with Wahju Rudianto, Head of Wakatobi National Park, April 20, 2010).

There are some important notes to consider when answering the scorecard:

A. Answering 'Not Applicable'

The 'Not Applicable' option on the scorecard is particularly important. Inevitably not all the questions posed in the scorecard will be entirely relevant for all MPAs. The criteria and indicators developed in this guide have been carefully selected for their relevance across a range of MPAs in terms of differing governance approaches, scales, sizes and challenges. Even with this in mind however, there remain areas that are likely 'Not Applicable' to all MPAs. For example, if a management decision has been made not to use boundary markers of anchor buoys, but rather to use landmarks to identify boundary areas and ensure there are appropriate areas for boats to drop anchor, then when answering the question Table B, Q#12 – "Have anchor buoys, marker buoys and/or boundary markers been installed?" – the answer will be 'Not Applicable'.

'Not Applicable' (NA) should only be used in circumstances where the particular issue/question being addressed **will never be applicable in the future of the MPA.**

Consider the question, for example – "Has a management plan for the MPA been produced?" (Table B,Q#7)– and imagine the answer is 'No'. The answer 'No' suggests the question IS applicable (the MPA management agency does want to have a management plan in the future) but as yet the management agency does not have a management plan, thus the answer is 'No'. Later in the scorecard process you are asked (Table B, Q#9) – "Has the management plan been endorsed by local communities?" – this is an interesting question. In some ways it may appear this question is 'Not Applicable' (because you do not have a management plan, so how can it be endorsed by local communities?). But in fact the answer is still 'No' – because at some point in the future the management agency does want the plan to be endorsed by local communities, it just hasn't happened yet.

Where a 'Not Applicable' score is entered this NA scoring will not work 'against' the overall score of the MPA but is instead calculated 'out' (in other words, for each presence of an 'NA' answer the number of variables against which a score is calculated/averaged is reduced) to provide fair and comparable criteria between MPAs.

B. Answering 'Don't Know'

The answer 'Don't Know' (DK) can be given any time the review team do not know, and cannot find, the answer to any question. DK answers are important (as discussed further in section 4.2). 'Don't Know' answers will be calculated in the same way as 'No' answers, however this does not detract the worth of the 'Don't Know' answers, as we will see when we discuss the next steps in Section 4.

3.1. Determining the Management Level of an MPA

To determine the management level of an MPA (as mentioned above) calculations are done as follows:[13]

a. The summed scores are first re-calculated as 'proportions' of each table (of the 5 tables in the scorecard) Say, for example, that out of the 14 questions asked in Table B,
   — 11 were answered as 'Yes' (Y)
   — 1 question was answered as 'No' (N),
   — 1 question was answered as 'Don't know' (DK) and
   — 1 question was answered as 'Not Applicable' (NA) (see Table 3)

This would give a 'Yes' result of 11 out of 13 rather than 11 out of the total number of possible questions of 14. This is because 1 of the questions was answered as 'Not Applicable' (NA) making it 14 possible questions, minus the 1 'Not Applicable' = 13 possible questions of relevance. Then, out of these 13 questions 11 of them were answered 'Yes'. Proportionally this means that 11 out of 13 'applicable' questions were answered as 'Yes'. 11 out of 13 as a percentage is 84.6 percent (%) (see Table 3 for description of example).

[13]Please note – in the soft copy excel worksheet accompanying this protocol all of these calculations take place **automatically.** However, should you wish to undertake the evaluation manually these steps provide information for calculating your management level from the scorecard.

Table 3. Example of calculating percentage to determine MPA management level

Total 'Yes' recorded (Y)	Total 'No' recorded (N)	Total 'Don't Know' recorded (DK)	Total 'Not Applicable' recorded (NA)	Total score expected = Total number of questions (14) – number of 'Not Applicable' answers. 14 – 1 = 13	13
11	1	1	1	Proportional 'Yes' results = Total 'Yes' recorded / Total score expected x 100. (11 / 13) x 100	**84.6%**

b. Each of the five tables in the scorecard needs to be calculated similarly, giving an overall score for each table. It is essential that throughout the scorecard process every question be given an answer, whether it be Yes, No, Don't know or Not Applicable. **No question should be left empty without an answer as this will disrupt the validity of the calculations.**

Table 4. Example of overall scorecard results showing proportional calculations for each table (level)

Results/Table	Total 'Yes' Recorded (Y)	Total 'No' Recorded (N)	Total 'Don't Know' Recorded (DK)	Total 'Not Applicable' Recorded (NA)	Proportion al 'Yes' results = Total 'Yes' recorded / Total score expected (- NAs) x 100
TABLE A (Level 1)	11	1	1	1	**84.6%**
TABLE B (Level 2)	8	2	2	2	**66.7%**
TABLE C (Level 3)	7	5	1	0	**50.0%**
TABLE D (Level 4)	5	7	1	1	**38.0%**
TABLE E (Level 5)	2	8	2	0	**14.0%**

c. These proportional results will then be plotted on a chart.

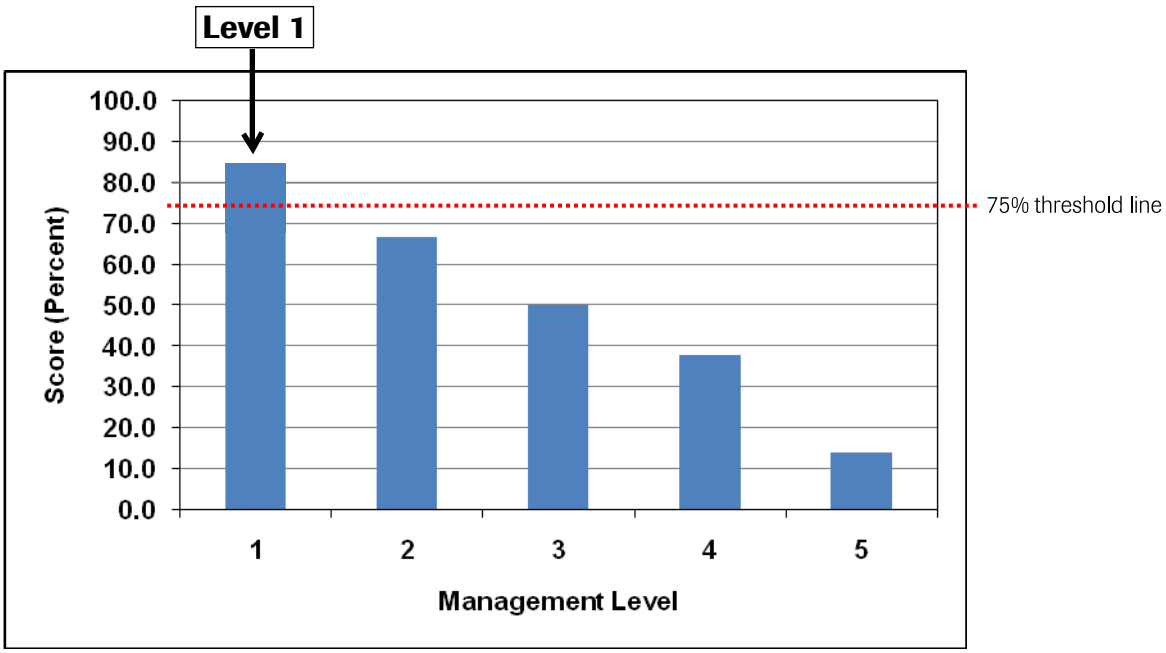


Figure 2. Graphical representation of management level rating

d. The MPA management level is determined by whichever of the proportional scores are equal to, or more than, 75 percent. This threshold level of 75% was selected based on the assumption that if an MPA has achieved this level (or more) then it can be considered to have achieved an appropriate proportion of positive results to reach/be eligible for the associated management level for effectiveness. In our example above it is clear that Level 1 (Table 1) results are the only ones higher than 75%. This means that the management level of the MPA being assessed is Level 1.

Management Level: __1__

This means that your MPA is (tick relevant box below)

Level	MPA is	Result
1	Initiated	√
2	Established	
3	Enforced	
4	Sustained	
5	Institutionalized (Fully Functional)	

Important Notes:

- If the scores obtained are all less than 75 percent, the level of the MPA is defaulted to Management Level 1 (one).
- Even when a score equal to 75% is obtained there are still areas within that 'level' that do not yet meet ideal effectiveness standards (the remaining 25%) and steps to address this further are discussed more in section 4.

3.2. Determining the Conservation Effect rating

In addition to the 'management level' calculated above, the scorecard process also enables the review team to calculate a "Conservation Effect" rating. This is intended to inform the MPA management agency of where it is in terms of measureable conservation impact in their MPA. It focuses only on the activity questions that specifically relate to tangible conservation results of the MPAs work and provides a very useful rating for MPA managers to productively assess their agencies work, prioritization processes and ultimate success.

To calculate this conservation effect rating some of the questions in the scorecard are 'weighted' into one of four criteria sets. These criteria categories are (adapted from Kapos *et al.*, 2009):

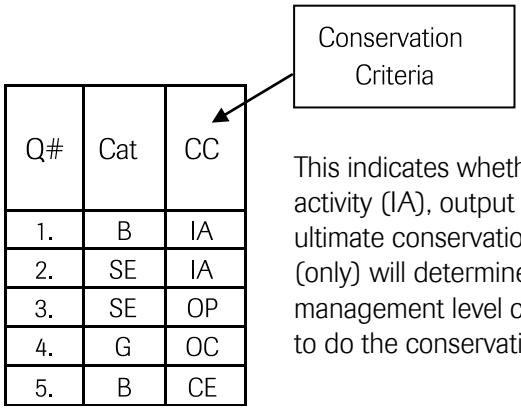
- Implementation Activities (IA)
- Output (OP)
- Outcomes (OC)
- Conservation Effect (CE)

Definitions of these categories are shown in Table 5.

Table 5. Definitions and examples of the four weighted criteria steps

Criteria	Definition	Examples
Implementation Activities (IA)	Implementation Activities (IA) – An activity that assists in the implementation of conservation related actions.	Stakeholder meetings being conducted in the development of an MPA Management Plan.
Output (OP)	The tangible, material product (where relevant) of an implementation activity.	The completed Management Plan document.
Outcome (OC)	The results of that implementation and output.	Part of the management plan stipulates that monthly fisher meetings will be held during which information will be provided about destructive fishing and training provided on non-destructive gears.
Conservation Effects (CE)	The ultimate conservation effects that the above three steps lead to.	Reduced destructive fishing activities in the MPA and improved status of the biophysical environment and/or improved socio-economic conditions.

In each of the five tables of the questionnaire style scorecard there is a left hand column listing the conservation criteria (CC).



This indicates whether the question being asked is related to implementation activity (IA), output (OP), outcome (OC) or whether the question is related to ultimate conservation effect (CE). The answers to the specific CE questions (only) will determine the CE rating for the MPA. In the same way that the management level calculations allow for 'Not Applicable' (NA) answers so to do the conservation effect rating calculations

This Conservation Effect rating is provided for two reasons:

a. In traditional reviewing and reporting frameworks (donor reports, annual reports, etc.) implementation activities are most commonly reported, along with designated outputs. The linkages between these activities and the ultimate 'conservation effect' of these activities are often implicitly 'assumed' (Kapos *et al.*, 2008). This is generally because it is far easier to assess implementation activities, output and outcomes than to assess ultimate conservation effect. However, the effect of these activities, outputs and outcomes on direct conservation impact is not always straight-forward and it is important for any reviewer to critically assess whether the effective implementation of activities is indeed also leading to 'effective conservation'.

b. While many of the scorecard questions are implementation, output and outcome related there are also a number of key 'conservation effect' indicators embedded in the card, and these are recognized and rated to provide this secondary assessment to the review team. The rating of the criteria in this way is also useful for MPA managers as a reference tool to recognize the difference between an activity that – in and of itself – wwill not achieve conservation unless further action is taken (IA, OPs and OCs). For example: the acquisition or building of an enforcement vessel (IA) the enforcement vessel itself (OP) the sailing of the enforcement vessel (OC) are all intermediary steps of the actual conservation effect (CE), such as the reduction in illegal destructive fisher presence in the MPA. The links between all these stages in conservation management are graphically represented in Figure 3.

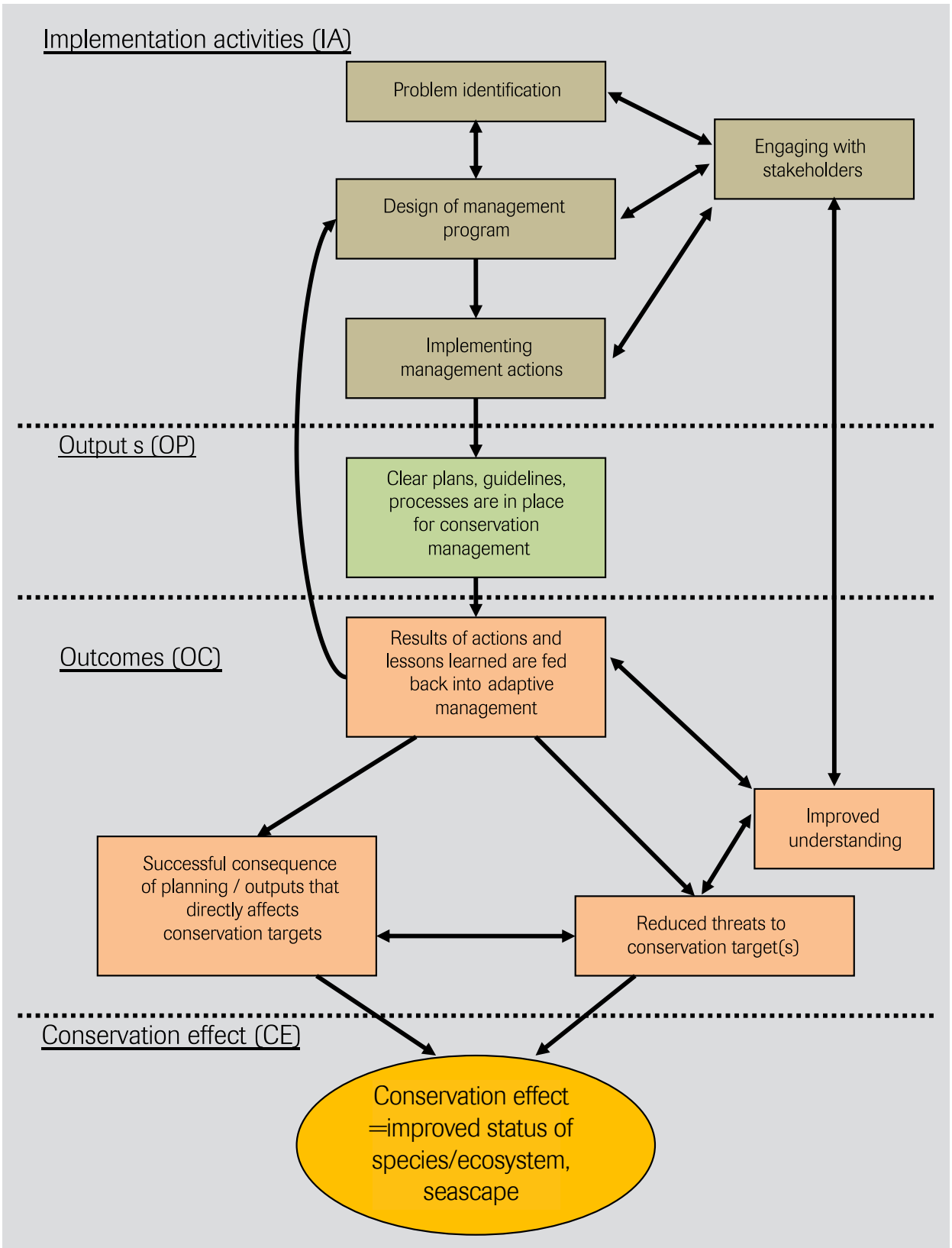


Figure 3. Conceptual model of the linkages between 'implementation' and 'conservation effect' (adapted from Kapos *et al.*, 2009, p. 338)

To calculate the Conservation Effect (CE) rating, the following simple calculation is followed. Again, in the Excel version of the review worksheet accompanying this guide these calculations are achieved automatically.

(N / D) x 100%

Where,
N = the number of CE questions with a 'Yes' response.[14]
D = the number of total CE questions relevant/applicable to the MPA.[15]

There are up to 11 possible CE questions embedded through the scorecard. However, not all of these questions may be applicable to every MPA. For example, if 8 of the CE questions are relevant to your MPA then D = 8. If all 11 of the questions are relevant to your MPA then D = 11. By making sure you answer all questions and tick the 'NA' box wherever questions are not applicable to your MPA then it will be easy to calculate the value of 'D' (i.e. all possible CE questions [11] minus those answered as 'NA'). Once you know the value of D (the number of total CE questions relevant/applicable to your MPA) then it is easy to do the calculation to work out your CE rating.

For example, let's assume that you answered 4 of the CE questions with 'Yes' (N=4) and the number of relevant/applicable CE questions to your MPA is 11 (D=11), then the CE Rating is:

(N / D) x 100%
(4/11) x 100% = 36.4%

Another example, the number applicable CE questions is 9 (D=9) and 7 of the CE questions received 'Yes' responses (N=7), then the CE Rating is:

(N / D) x 100%
(7/9) x 100% = 78%

These proportional results correlate directly with one of the four possible ratings for Conservation Effect:
Rating 1 – Conservation Effects have yet to be measured or observed, or are observed in less than a quarter (<25%) of the recognized potential effect areas.
Rating 2 – Conservation Effects have been measured or observed in more than a quarter (>25%) but less than a half (<50%) of the recognized potential effect areas.
Rating 3 – Conservation Effects have been recognized in more than half (> 50%) but less than three quarters (<75%) of the recognized potential effect areas.
Rating 4 – Conservation Effects have been recognized in more than three quarters (>75%) of the recognized potential effect areas.

"Recognized potential effect areas" means areas recognized as important to that particular MPA and identified through the assessment process.

Therefore in our two examples above the CE rating for the first MPA (36.4%) is Rating 2 – *"Conservation Effects have been measured or observed in more than a quarter (>25%) but less than a half (<50%) of the recognized potential effect areas."* In our second example (78%) the MPA is Rating 4 – *"Conservation Effects have been recognized in more than three quarters (>75%) of the recognized potential effect areas."*

[14]The nominator
[15]The denominator

3.3. The Difference between Management Level & Conservation Effect Rating

To reiterate once again, there is an important difference between the Management Level assessment (described in section 3.1) and the Conservation Effect Rating (described in section 3.2).

The Management Level assessment provides the MPA management agency with a clear understanding of where they are in terms of steps associated with the initiation, establishment, enforcement and institutionalization of management systems within the MPA. However, by themselves many activities or actions will not, alone, confer conservation success, and simply implementing a management activity does not necessarily result in a conservation impact. For example, most MPAs around the world have, as one of their priority tasks in their work plans, the production of an MPA zoning plan. This is essential for many MPAs. Considerable time, effort and resources can be invested in designing and developing these plans with appropriate stakeholder consultation, use of a range of conservation planning tools, GIS and associated software packages, often at considerable cost. Whilst this is important work for the design and establishment of an MPA it must be remembered that even when this zoning plan is complete, its existence – in itself – does not confer conservation effect.

We want to avoid the 'bookshelf scenario' where a document that required much time and effort to produce ends up sitting on a shelf rather than being implemented. If we rely solely on ticking boxes that refer to the completion of plans and processes (such as "Zoning plan produced") to give us a review of the MPAs management effectiveness we will fail to assess the desired and tangible conservation outcomes and effects from those activities. This is why we have included the Conservation Effect rating.

The Conservation Effect Rating is intended to inform the MPA management agency about how far it has come in terms of measureable conservation impact within their MPA. It focuses only on the activity questions that specifically relate to tangible conservation results of the MPA and provides a very useful rating for MPA managers to assess their agencies work, prioritization processes and ultimate success. Therefore it is possible that an MPA which achieves a high Management Level may at the same time receive a low Conservation Effect rating or vice versa. Such results help the management agency to fine-tune their planning process and really target their work effectively to accomplish tangible conservation results.

3.4. Other Features of the Scorecard

You will notice that there are two other components to the scorecard provided in section 2 of the MPA management effectiveness review worksheet:

A. Question Label

Q#	Cat	CC
1.	B	IA
2.	SE	IA
3.	SE	OP
4.	G	OC
5.	B	CE

On the left-hand columns of the score card are three columns with question labels titled Q#, Cat and CC.
These stand for:

- Q# – Question number
- Cat – Category
- CC – Conservation Criteria

Question number is self explanatory

Category: You may remember that in STEP 3 of the review process we talk about gathering information within three category types: Biophysical information, Socioeconomic information and Governance information. This column provides the review team with easy cross-referenced codes for whether the question is mostly related to biophysical (B), socioeconomic (SE) or governance (G) categories. This is to assist the review team in knowing where best to perhaps find the answer to the question.

Conservation Criteria: This provides the review team with insight as to what conservation criteria the question refers to, whether it is a question about Implementation Activities (IA), Outputs (OP), Outcomes (OC) or Conservation Effect (CE). The first three criteria (IA, OP and OC) are listed merely as a learning tool for MPA practitioners, but the final criteria (CE) is used when assessing the Conservation Effect Rating.

B. Indicator and Data Collation

On the right-hand side of the scorecard is a column titled "Indicators and Data Collation" (see Figure 4). This column has three purposes:

i) It helps the review team to document and record where all the relevant information was sourced, is stored and is retrievable in future.

ii) It is a learning tool for MPA practitioners on the organization of indicators and mechanisms for validation (proof) of work being conducted in the MPA.

iii) It provides supporting references to justify the answers provided in the main body of the scorecard (for use by governing bodies if desired/required).

<table>
<tr><th colspan="4">Response</th><th rowspan="2">Indicators & Data Collation</th></tr>
<tr><th>Y</th><th>N</th><th>DK</th><th>NA</th></tr>
<tr><td></td><td></td><td></td><td></td><td>A baseline survey report is available.
Title & Date: [_____]
Location: [_____]
Name the method[s] folowed for biophysical surveying
[_____]</td></tr>
<tr><td></td><td></td><td></td><td></td><td>List what key activities have been undertaken to raise awareness about MPA functions & benefits?
1. [_____]
2. [_____]
3. [_____]</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Minutes of meetings are available.
Location: [_____]</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Document what training has been provided (add more rows if necessary):
<table><tr><th>Name of staff member/ management representative</th><th>Position in Management Body</th><th>Training received (including duration of training)</th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
<tr><td></td><td></td><td></td><td></td><td>Please list these goal(s) and target(s).
[_____]</td></tr>
</table>

Figure 4. An example of 'Indicators and Data Collation' column

This section of the scorecard is optional, and it is still possible to calculate your management level and conservation effect rating without completing this final column.[16] Although this section of the scorecard is optional, it is **highly recommended** that the review body use the opportunity that this section provides to help capture, store and document critical information to support future review processes and enable 'learning by doing' through the review process.

[16]With the exception of Question #4 in Table B where the review team are required to provide information on up to four priority biophysical components that are considered most important to the MPAs' integrity (i.e. reef health, FSAs, turtle nesting activities, etc.). It is important to answer this question as later questions make reference to the priority biophysical areas identified.

3.5. Timeframe to do the review

With regards to the timeframe of how long a review should take, there is no fixed schedule dictated as it is highly dependent upon the background work required, availability of staff, potential recruitment of support experts and other associated factors. In general it is recommended that the preparatory phases of the review (STEPS 2, 3 and 4) could be achieved over a period of about one to two months (alongside existing work duties) while the final step (5) – completion of the review worksheet through focus group discussions may take anywhere from 3 days to 1 week. It is important to note however that the time required for STEPS 2, 3 and 4 will only be as burdensome the first time the review is undertaken. Once the background information and monitoring data is collated (and ideally a system is established to collect and appropriately store all future data generated) the next time it comes to undertaking an review the process will be far quicker, perhaps only requiring STEP 5 (3 to 7 days) input.

4. Next Steps: After the Review

Having completed all the steps described above, and armed with the results of your Management Level assessment and Conservation Effect rating, the next important step is to utilize the results of the review to plan future activities.

4.1. Addressing the 'No' responses

A vital next step in the follow up of the review is to addresss all of the 'No' responses. Remember, these questions were considered 'applicable' to the MPA (otherwise they would have been scored as Not Applicable-NA) but have just not been done yet. List these questions out. Ask yourselves when and how you plan to address these questions. If, for example, 6 out of the 14 questions in Table A have 'No' responses. This means 6 out of the applicable activities necessary for the initial stage of MPA establishment (relevant for the MPA) have not yet been carried out. By focusing on these 'No' responses the management agency can make a plan of what should be done in the next project implementation cycle or fiscal year to address these issues. If, for example, the response to Q#7 of Table A ("Has an education program to raise awareness about MPA functions and benefits started?") is 'No' (meaning it is applicable but it hasn't started yet) the management agency can use this finding to plan for relevant activities to introduce an education program in the next fiscal year. Another example may be a response to Q#12 of Table B ("Have anchor buoys, marker buoys and/or boundary markers been installed?") If the answer is 'No' then the MPA management authority can plan to install a number of anchor buoys, marker buoys and/or boundary markers in relation to the available budget in the next fiscal year or at least document, where relevant, what the constraining factors are that are inhibiting this work, such as (for example) budgetary constraints, lack of human resources (relevant skills, capacity for buoy installation), etc. Such documentation of limitations can assist the management agency when applying for greater funds, support or technical capacity to achieve their goals.

4.2. Addressing the 'Don't Know' responses

Addressing the 'Don't Know' (DK) response is equally as important as addressing the 'No' responses. For example, if the answer to Q#7 of Table C ("Are enforcement activities being undertaken on a regular basis?") is 'Don't Know' this suggests a critical gap in knowledge of the management agency. As a follow up to the review the management agency should try to find the answers to all questions that received a 'Don't Know' response in the review.

4.3. Frequency of MPA Management Effectiveness Reviews

When completed on a regular basis these ratings and management level assessments provide information on the changing status and quality of an MPAs management and associated conservation effects. It also provides feedback on how the MPA compares with other MPAs in the country.

While there is no rule regarding how often we can do the assessment using the review worksheet (one can do it as often as it is deemed necessary). As a rule of thumb it is strongly recommended to do the assessment:

- every two years for an MPA that falls within level 1 (MPA is initiated) and level 2 (MPA is established); and
- every three years for those that fall within level 3 (MPA is enforced), level 4 (MPA is sustained) and level 5 (MPA is institutionalized or fully functional).

The assessment should be done more frequently for MPAs falling in the first two levels of management effectiveness because it suggests the MPA is still in its initial stages of establishment, thus a more frequent assessment will provide more inputs and feedback for strengthening the management actions.

5. Summary

This guide is designed with two major aims to: (1) assist MPA managers to do self-assessment of their MPAs management effectiveness; and (2) help MPA managers to identify gaps necessary to address in order to achieve a higher level of management effectiveness.

By following the five main steps described in this guide: (1) identify and gather the review team, (2) consolidate background information about the MPA, (3) collate existing monitoring data of biophysical, socio-economic and governance aspects, (4) developing and maintaining a living MPA database(s), and (5) complete the MPA Management Effectiveness Review Worksheet; it is expected that the users/reviewers will be able to determine their MPA Management level and Conservation Effect rating. This rating is based on activities that have been and are being carried out, and determines whether the stated goals and objectives are being achieved, and helps identify activities that have not been, or need to be, carried out to make a plan to chart the future improved development of the MPA.

The score and level achieved in every review is not intended to determine the 'exact' status of management effectiveness. Rather, the scores reflect the level of achievement relative to the applicable goals of an MPA which can later be used to chart the development and management of the MPA into the future.

Overall this Guide provides a process to facilitate learning about how to improve and strengthen MPA management so that it is increasingly effective in achieving conservation goals. It should be emphasized that undertaking a 'management effectiveness' review is not about ranking MPAs as 'good' or 'bad', it is about learning and improving the processes of management. An effectively managed MPA will lead to tangible conservation benefits to marine biodiversity and in-turn strengthen ecosystem services that support sustainable development for the benefit of local communities, the nation and ultimately the finite marine resources and ecosystems we all depend on.

References

Agardy, T. & Staub, F. (2006) *Marine Protected Areas and MPA Networks*. New York: American Museum of Natural History, Center for Biodiversity and Conservation, The Network of Conservation Educators & Practitioners.

Agardy, T. & Wolfe, L. (2002) *Institutional Options for Integrated Management of North American Marine Protected Areas Network*: *a CEC Report*. Montreal: Commission for Environmental Cooperation.

Bovarnick, A. (2010) *Financial Sustainability Scorecard for National Systems of Protected Areas*, second edition. New York: UNDP, 24 p. Available from http://www.undp.org/gef/kmanagement/newpublication.htm

Germano, B.P., Cesar, S.A. & Ricci, G. (2007) *Enhancing Management Effectiveness of Marine Protected Areas*: *A Guidebook for Monitoring and Evaluation*. Visca, Baybay, Leyte, Philippines: Leyte State University, Institute of Tropical Ecology, Marine Laboratory.

Hockings, M., Stolton, S. & Dudley, N. (2000) *Evaluating Effectiveness: A Framework for Assessing the Management of Protected Areas*. Gland, Switzerland & Cambridge, UK: IUCN (The World Conservation Union), x +121 p.

Hockings, M., Stolton, S., Leverington, F., Dudley, N. & Courrau, J. (2006) *Evaluating Effectiveness: A Framework for Assessing Management Effectiveness of Protected Areas*, second edition. Gland, Switzerland & Cambridge, UK: IUCN (The World Conservation Union), xiv +105 p.

IUCN (1999) *Guidelines for Marine Protected Areas*. Gland, Switzerland & Cambridge, UK: IUCN (The World Conservation Union), xxiv + 107 p.

IUCN (2005) *Benefits Beyond Boundaries: Proceedings of the 5th* IUCN World Parks Congress. Gland, Switzerland & Cambridge, UK: IUCN (The World Conservation Union), ix + 306 p.

IUCN World Commission on Protected Areas (IUCN-WCPA) (2008) *Establishing Resilient Marine Protected Area Networks – Making It Happen*. Washington, DC: IUCN-WCPA, National Oceanic and Atmospheric Administration, and The Nature Conservancy, 118 p.

Kapos, V., Balmford, A., Aveling, R., Bubb, P., Carey, P., Entwistle, A., Hopkins, J., Mulliken, T., Safford, R., Statterfield, A., Walpole, M. & Manica, A. (2008) Calibrating conservation: new tools for measuring success. *Conservation Letters*, 1: 155–164.

Kapos, V., Balmford, A., Aveling, R., Bubb, P., Carey, P., Entwistle, A., Hopkins, J., Mulliken, T., Safford, R., Stattersfield, A., Walpole, M. & Manica, A. (2009) Outcomes, not implementation, predict conservation success. *Oryx*, 43(3): 336–342.

Kelleher, G., Bleakley, C. & Wells, S. (1995). *Global Representative System of Marine Protected Areas.* Washington, DC: The World Bank, 4 volumes.

Mora, C., Andrefouet, S., Costello, M.J., Kranenburg, C., Rollo, A., Veron, J., Gaston, K.J. & Myers, R.A. (2006) Coral reefs and the global network of Marine Protected Areas. *Science*, 312(5781): 1750-1751.

NRC (National Research Council); Commission on Geosciences, Environment, and Resources; Ocean Studies Board; Committee on the Evaluation, Design, and Monitoring of Marine Reserves and Protected Areas in the United States (2001) *Marine Protected Areas: Tools for Sustaining Ocean Ecosystems*. Washington, DC: National Academy Press, xv + 288 p.

Parks, J.E., Pomeroy, R.S. & Philibotte, J. (2006) Experiences and Lessons Learned from Evaluating the Management Effectiveness of Marine Protected Areas in Southeast Asia and the Pacific Islands. *Invited Paper Presentation from the CBD/IUCN International Workshop for Better Management of Protected Areas, Jeju Island, Korea, October 24-27, 2006.*

Pomeroy, R.S., Parks, J.E. & Watson, L.M. (2004) *How is Your MPA Doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness*. Gland, Switzerland & Cambridge, UK: IUCN (The World Conservation Union), xvi + 216 p.

Staub, F. & Hatziolos, M.E. (2004) *Score Card to Assess Progress in Achieving Management Effectiveness Goals for Marine Protected Areas*. Washington, DC: The World Bank, 30 p.

UNEP-WCMC (2008) *National and Regional Networks of Marine Protected Areas: A Review of Progress*. Cambridge: UNEP-WCMC.

Wells, S. & Mangubhai, S. (2007) A *Workbook for Assessing Management Effectiveness of Marine Protected Areas in the Western Indian Ocean*. Nairobi, Kenya: IUCN Eastern Africa Regional Program, viii + 60 p.

White, A., Porfirio, A. & Meneses, A. (2006). *Creating and Managing Marine Protected Areas in the Philippines.* Cebu City, Philippines: Fisheries Improved Sustainable Harvest Project, Coastal Conservation and Education Foundation, Inc., and University of the Philippines Marine Science Institute, viii + 83 p.

Wood, L. (2007). MPA Global: A database of the world's marine protected areas. Sea Around Us Project. UNEP-WCMC & WWF. www.mpaglobal.org

The MPA Management Effectiveness Review Worksheet

[Soft-copy of MS-Excel workbook file for "The MPA Management Effectiveness Review Worksheet" was developed by I Nyoman Suardana/TNC-IMP]

Date of exercise:

To facilitate easy retrieval in the future, it is recommended to save this electronic file under a name that reflects the date of filling out the Scorecard such as **MPAME [underscore] <MPA name> [underscore] <date of exercise>**. For example: MPAME_Wakatobi_23May09.xls

Section 1: MPA Background Information

A. Description and Status

MPA name:	
MPA size (ha):	
Province:	
District:	

Boundary coordinates (degree-minute-second):

Point	Latitudes (e.g. N 9° 41' 11.4")	Longitudes (e.g. E 123° 30' 25.4")
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Year of legal establishment:

Basis for legal establishment:

[ ] Ministerial decree
[ ] Provincial decree
[ ] District decree
[ ] Others, specify:

Habitat/ecosystem(s) within the MPA:

	Percentage		Percentage
[ ] Mangrove		[ ] Rocky intertidal	
[ ] Estuary/delta		[ ] Sandy bottom	
[ ] Coral reef		[ ] Soft bottom	
[ ] Seagrass bed		[ ] Open water	
[ ] Macro-algal bed		[ ] Deep sea	
[ ] Other			

Type of coral reef:

[ ] Fringing [ ] Barrier [ ] Pinnacle rock/seamount
[ ] Patch [ ] Atoll [ ] Offshore reef/shoal
[ ] Lagoonal

Special features:

[ ] Historical/cultural/sacred site(s), please specify.
[ ] Others, please specify.

Important species (e.g. threatened species):

B. Management Effectiveness Review Team

No	NAME	ORGANIZATION	POSITION/ TITLE	CONNECTION TO MPA	CONTACT DETAILS
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

C. MPA Financial Management

Source(s) of financial support:

[ ] Government budget allocation
[ ] Non-Governmental Organization
[ ] Others, specify: _____

Annual budget of MPA:	USD	
Annual gross income of MPA:	USD	
Annual operational costs:	USD	

What are primary expenses to run the MPA? Please tick.

1. Salary [ ]
2. Program [ ]
3. Training [ ]
4. Other: _____ [ ]
5. Other: _____ [ ]

D. MPA Enforcement

Enforced laws, rules and regulations for managing the MPA:

Apprehensions recorded:

Nature of violation	Date committed	Final outcome (e.g., fined, imprisoned, dismissed)

E. Additional Information

After completing the next section (the scorecard) if you have additional/relevant information regarding your MPA that you feel appropriate to capture in this review please elaborate in the box below. You can use more space by attaching separate sheet(s).

Section 2: MPA Management Scorecard

Q#	Cat	CC	Question – Table A	Response				Indicators & Data Collation
				Y	N	DK	NA	
1.	B	IA	Was the MPA site selected based on biophysical criteria identified through baseline assessment?					A baseline survey report is available. Title & Date: [_____] Location: [_____] Name the method(s) followed for biophysical surveying: [_____]
2.	SE	IA	Was the MPA site selected based on socio-economic criteria identified through baseline assessment?					A baseline survey report is available. Title & Date: [_____] Location: [_____] Name the method(s) followed for socioeconomic surveying: [_____]
3.	G	IA	Were site surveys and/or baseline assessments conducted in a collaborative way with relevant parties/stakeholders?					Documented details of the stakeholders that participated in the surveys/assessment is available. Location: [_____]
4.	SE	IA	Has a baseline survey on MPA-associated livelihoods among local communities been completed?					A livelihoods survey report or similar document is available. Title & Date: [_____] Location: [_____]
5.	G	IA	Has the concept of an MPA been introduced to local communities and government?					If asked, local communities and local government groups would be able to verify a conceptual understanding of an MPA or has an evaluation or assessment been completed.
6.	SE	IA	Has a situation analysis to identify conflicts, if any, with local people or stakeholders been completed?					A report is available. Title & Date: [_____] Location: [_____]
7.	SE	IA	Has an education program to raise awareness about MPA functions and benefits started?					List what key activities have been undertaken to raise awareness about MPA functions & benefits? 1. [_____] 2. [_____] 3. [_____]

<table>
<tr><th rowspan="2">Q#</th><th rowspan="2">Cat</th><th rowspan="2">CC</th><th rowspan="2">Question – Table A</th><th colspan="4">Response</th><th rowspan="2">Indicators & Data Collation</th></tr>
<tr><th>Y</th><th>N</th><th>DK</th><th>NA</th></tr>
<tr><td>8.</td><td>SE</td><td>IA</td><td>Have there been efforts to gain the support of local peoples or stakeholder(s) through, e.g. capacity building, alternative livelihoods, outreach, and are these activities ongoing?*</td><td></td><td></td><td></td><td></td><td>Document here what key activities have been carried out to gain the support of local peoples and stakeholder(s).
1. [_____]
2. [_____]
3. [_____]</td></tr>
<tr><td>9.</td><td>G</td><td>IA</td><td>Have public consultations been conducted?</td><td></td><td></td><td></td><td></td><td>Minutes of meetings are available.
Location: [_____]</td></tr>
<tr><td>10.</td><td>G</td><td>IA</td><td>Has a management body been established?</td><td></td><td></td><td></td><td></td><td>A management body has been established in the form of (tick where relevant)
[ ] National unit (i.e. National Park)
[ ] National unit (i.e. Reserve)
[ ] Provincial unit
[ ] District unit
[ ] Independent community group
[ ] Collaborative management agency between private sector, government and community groups
[ ] Privately managed MPA
[ ] Collaborative community and government group
[ ] Collaborative community, Government and NGO group
[ ] Collaborative NGO and Government
[ ] Collaborative community and NGO
Name of Management Body: [_____]
Year management body was formed: [_____]
Year management body was active: [_____]</td></tr>
<tr><td>11.</td><td>G</td><td>IA</td><td>Has the management body received preliminary training and capacity building to run the MPA?</td><td></td><td></td><td></td><td></td><td>Document what training has been provided (for long list, make it in a separate file):<table><tr><th>Name of staff member / management representative</th><th>Position in Management Body</th><th>Training received (including duration of training)</th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
</table>

Q#	Cat	CC	Question – Table A	Response				Indicators & Data Collation
				Y	N	DK	NA	
12.	B	OP	Have biophysical baseline results been used for setting 'SMART'[17] goal(s) and target(s) for what the MPA hopes to conserve in the biophysical environment? (i.e. xx% of reef habitat maintained; xx# turtle nests / yr; reduction in destructive fishing practices by xx% annually, etc).					Please list these goal(s) and target(s). [_____]
13.	SE	OP	Have results of socio-economic baseline survey(s) been used for setting 'SMART' goal(s) and target(s) for what the MPA hopes to achieve in terms of socio-economic intervention(s)? (i.e. xx% population with alternative livelihoods to destructive fishing by 20xx (yr).					Please list these goal(s) and target(s). [_____]
14.	G	OC	Is the MPA designated/reserved by government through a decree?					State the decree title and date of publication: [_____]

Note:
Y=Yes; N=No; DK=Don't Know; NA=Not Applicable.
Cat=category (B=biophysical; SE=socio-economic; G=governance).
CC=Conservation Criteria (IA = Implementation Activity, OP = Output, OC = Outcome, CE = Conservation Effect)

Total 'Yes' recorded	Total 'No' recorded	Total 'Dont Know' recorded	Total 'Not Applicable' recorded	Total score expected = Total number of questions (14) – number of 'Not Applicable' answers.	
				For example. If there were 3 answers that were 'NA' the total expected score for List A would be 14 – 3 = 11	
				Proportional 'Yes' results = Total 'Yes' recorded / Total score expected x 100. *For example: If the Total 'Yes' recorded were 6, and the total score expected was 11, then the proportional results would be: 6 / 11 x 100 = 54.5%*	

*Notes for reviewer:
Q#8 – "have there been efforts to gain the support of local peoples or stakeholder(s) through, e.g. capacity building, alternative livelihoods, outreach, and are these activities ongoing?" At this level the question is gauging whether efforts have been made to get affirmative support from local communities. At later stages in the scorecard this affirmative support can be measures in a variety of ways, including census statements, perception monitoring and/or studies/polls of public opinion.

[17] SMART = Specific, Measureable, Attainable, Results-oriented & Time bound.

<table>
<tr><th rowspan="2">Q#</th><th rowspan="2">Cat</th><th rowspan="2">CC</th><th rowspan="2">Question – Table B</th><th colspan="4">Response</th><th rowspan="2">Indicators & Data Collation</th></tr>
<tr><th>Y</th><th>N</th><th>DK</th><th>NA</th></tr>
<tr><td>1.</td><td>G</td><td>IA</td><td>Were/are local communities involved in MPA planning processes?</td><td></td><td></td><td></td><td></td><td>Minutes of meetings/reports of collaborative planning processes available.</td></tr>
<tr><td>2.</td><td>G</td><td>IA</td><td>Was/is government involved in MPA planning processes?</td><td></td><td></td><td></td><td></td><td>Minutes of meetings/reports of collaborative planning processes available.</td></tr>
<tr><td>3.</td><td>G</td><td>IA</td><td>Have MPA rules and guidelines been posted at strategic locations so that the general public/people in the area of the MPA can easily see/read/reference them?*</td><td></td><td></td><td></td><td></td><td>MPA rules & guidelines are posted in strategic locations, i.e.: (please list)
[_____]</td></tr>
<tr><td>4.</td><td>B</td><td>IA</td><td>Has regular biophysical monitoring started?</td><td></td><td></td><td></td><td></td><td>Monitoring protocol(s) is/are in place. Biophysical components being monitored are (add more rows as needed):
<table>
<tr><th>Biophysical component*</th><th>Period conducted (i.e. monthly, annually, every 2 years, etc.)</th></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
</table>
The top four, or less, priority biophysical components being monitored are:*
1. [_____]
2. [_____]
3. [_____]
4. [_____]</td></tr>
</table>

<table>
<tr><th rowspan="2">Q#</th><th rowspan="2">Cat</th><th rowspan="2">CC</th><th rowspan="2">Question – Table B</th><th colspan="4">Response</th><th rowspan="2">Indicators & Data Collation</th></tr>
<tr><th>Y</th><th>N</th><th>DK</th><th>NA</th></tr>
<tr><td>5.</td><td>SE</td><td>IA</td><td>Has regular socially related monitoring started?</td><td></td><td></td><td></td><td></td><td>Monitoring protocol(s) is/are in place. Socially related components being monitored are (add more rows as needed):
<table><tr><th>Social component*</th><th>Period conducted (i.e. monthly, annually, every 2 years? Etc.)</th></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table></td></tr>
<tr><td>6.</td><td>G</td><td>OP</td><td>Has a budget been allocated and is accessible for MPA management from central or local government or from other sources?</td><td></td><td></td><td></td><td></td><td>Annual total budget for MPA management is (in USD):
[_____]
<table><tr><th>Sources of funding</th><th>Amount</th><th>Duration of funding; from (xx) to (xx)</th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
<tr><td>7.</td><td>G</td><td>OP</td><td>Has a management plan for the MPA been produced?</td><td></td><td></td><td></td><td></td><td>A management plan is available. Timescale of plan is from year [_____] to year [_____].
Title of plan: [_____]
Location: [_____]</td></tr>
<tr><td>8.</td><td>G</td><td>OP</td><td>Has production of MPA management plan been conducted in collaboration with all key stakeholders?</td><td></td><td></td><td></td><td></td><td>Minutes of meetings/reports of collaborative processes available.</td></tr>
<tr><td>9.</td><td>G</td><td>OP</td><td>Has the management plan been endorsed by local communities?*</td><td></td><td></td><td></td><td></td><td>Endorsement from local communities is evident (e.g. correspondence indicating support from relevant village head)</td></tr>
<tr><td>10.</td><td>G</td><td>OP</td><td>Has the management plan been endorsed by local government?*</td><td></td><td></td><td></td><td></td><td>Endorsement from government is evident (e.g. letter/decree endorsing management plan/forward written in the plan, etc.)</td></tr>
</table>

<table>
<tr><th rowspan="2">Q#</th><th rowspan="2">Cat</th><th rowspan="2">CC</th><th rowspan="2">Question – Table B</th><th colspan="4">Response</th><th rowspan="2">Indicators & Data Collation</th></tr>
<tr><th>Y</th><th>N</th><th>DK</th><th>NA</th></tr>
<tr><td>11.</td><td>G</td><td>OP</td><td>Does the MPA have a zoning plan (either as a component of the MPA management plan or produced seperately)?</td><td></td><td></td><td></td><td></td><td>Zoning plan is available.
Title & Date: [_____]
Location: [_____]
Zoning is based on law(s) (please list):
[_____]

Zoning plan includes the following zones:<table><tr><th>Type of zone (i.e. Core, General Use, Traditional Use, etc.)*</th><th>Number of these types of zone within the MPA</th><th>Coverage in hectares of each zone type within MPA</th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>
Which of the above listed zones are fully protected, i.e. “No Take Zones”?
_____
_____

GIS Spatial data is available for all of the zones?
[ ] Yes [ ] No
If ‘Yes’ spatial data is stored (location): [_____]</td></tr>
<tr><td>12.</td><td>G</td><td>OP</td><td>Have anchor buoys, marker buoys and/or boundary markers been installed? (or any of the above)</td><td></td><td></td><td></td><td></td><td>Number installed & Purpose (add more rows if needed):<table><tr><th>Number of buoy</th><th>Purpose</th><th>Location (GPS)</th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table></td></tr>
</table>

Q#	Cat	CC	Question – Table B	Response				Indicators & Data Collation
				Y	N	DK	NA	
13.	G	OP	Has infrastructure been established to support operations, i.e. ranger station, field station, field offices, etc.?					Document all infrastructure developed: 1. [_____] 2. [_____] 3. [_____]
14.	G	OC	Has the MPA been officially declared with a decree?					State the decree title and date of publication: [_____]

Note:
Y=Yes; N=No; DK=Don't Know; NA=Not Applicable
Cat=category (B=biophysical; SE=socio-economic; G=governance)
CC=Conservation Criteria (IA = Implementation Activity, OP = Output, OC = Outcome, CE = Conservation Effect)

Total 'Yes' recorded	Total 'No' recorded	Total 'Don't Know' recorded	Total 'Not Applicable' recorded	Total score expected = Total number of questions (14) – number of 'Not Applicable' answers.	
				Proportional 'Yes' results = Total 'Yes' recorded / Total score expected x 100.	

*Notes for reviewer:
Q#3 – for example: an easy to read board is constructed in easy to reach places; rules & regulations, in forms of book, brochure, etc., are easily accessible by all.
Q#4(i) - possible biophysical aspects to be monitored may include (for example) reef health, fish spawning aggregations (FSAs), focal species abundance, trophic structure, fish diversity/abundance/size, mangrove abundance, water quality, coral bleaching/disease, benthic habitat composition, rugosity, coral recruitment, algae cover, cetacean observations, turtle nesting activities, etc.
Q#4(ii) – The four, or less, priority biophysical aspects being monitored are the three areas that are considered most important to the MPAs' integrity. Here the reviewer is asked to identify these (maximum) four priorities of the management agency (for example: reef health, FSAs, turtle nesting activities and mangrove community structure).
Q#5 – possible social aspects to be monitored may include (for example) community perceptions, resource use patterns, alternative livelihoods, socio-economic trends, social impact assessment, educational attainment trends, etc.
Q#9 & 10 – *endorsed* here means "received support only from local communities/government" but does not necessarily mean *adopted* yet.
Q#11 – if required please give more information in Section 1 sub-section E regarding your MPA zoning.

Q#	Cat	CC	Question – Table C	Response				Indicators & Data Collation
				Y	N	DK	NA	
1.	G	IA	Is the management body actively implementing/following the management plan?					Annual report making reference to overarching management plan goals and targets is available.
2.	G	IA	Have avenues for sustainable financing for the MPA been explored?					Some form of sustainable financing options analysis is available (i.e. options paper, feasibility analysis, etc)
3.	G	IA	Is there a mechanisms for local communities to raise concerns (if relevant) with the management body?					Document the mechanism used: [_____]
4.	B	IA	Have the results of the regular biophysical monitoring (measuring components as described in Table B Q#4) been appropriately analyzed in order to extract observational trends in condition?					Monitoring reports showing appropriate analysis are available.
5.	SE	IA	Have the results of the socially related monitoring (measuring components as described in Table B Q#5) been appropriately analyzed in order to extract observational changes over time?					Monitoring reports showing appropriate analysis are available.
6.	G	IA	Is/are an enforcement group/groups in place to enforce MPA regulations (i.e. patrols)?					Enforcement group/groups are in place. Organizations/agencies/communities involved are (please list): [_____]
7.	G	IA	Are enforcement activities being undertaken on a regular basis?					Enforcement activities are undertaken regularly. Describe enforcement schedule: [_____]
8.	G	IA	Have the local judiciary received the necessary information/training to support them in their role in any prosecution process?*					Report/documentation available outlining training received by judiciary.
9.	G	OP	Are all information boards, boundary markers and anchor buoys in place and maintained?					Maintenance schedule/plan is available [_] Information regarding compliance requirements and enforcement measures for people within and outside the MPA is available [_]
10.	G	OC	Has the zoning plan of the MPA been *endorsed* by the local communities?*					Endorsement from local communities is evident (e.g. correspondence indicating support from relevant Village Head)
11.	G	OC	Has the zoning plan of the MPA been *endorsed* by the local government?*					Endorsement from government is evident (e.g. letter/decree endorsing management plan/forward written in the plan, etc.)
12.	G	OC	Has the management plan of the MPA been *adopted* by the local community?*					Evidence is available to show adoption of MPA management plan by local community. This evidence is in the form of: [_____] (examples are: results of perception monitoring; changes in resource use behavior; etc.)

Q#	Cat	CC	Question – Table C	Response				Indicators & Data Collation
				Y	N	DK	NA	
13.	G	OC	Has the management plan of the MPA been *adopted* by the local government? *					Evidence is available to show adoption of MPA management plan by local government. This evidence is in the form of: [_____] (examples are: agreed changes to fisheries permitting systems; improvement in prosecution of MPA related cases; etc.)
14.	G	OC	Is the MPA being used for research and education?					Research projects include: 1. [_____] 2. [_____] (please add as necessary) Education activities include: 1. [_____] 2. [_____] (please add as necessary)

Note:
Y=Yes; N=No; DK=Don't Know; NA=Not Applicable
Cat=category (B=biophysical; SE=socio-economic; G=governance)
CC=Conservation Criteria (IA = Implementation Activity, OP = Output, OC = Outcome, CE = Conservation Effect)

Total 'Yes' recorded	Total 'No' recorded	Total 'Don't Know' recorded	Total 'Not Applicable' recorded	Total score expected = Total number of questions (14) – number of 'Not Applicable' answers.	
				Proportional 'Yes' results = Total 'Yes' recorded / Total score expected x 100.	

*Notes for reviewer:
Q#8 – this training may have been provided by the management agency but equally may have been provided by government and/or other partners.
Q#10 & 11 – *endorsed* here means "received support only from local communities/government" but does not necessarily mean *adopted* yet.
Q#12 & 13 – *adopted* here means "local communities/governments use management plan in their decision-making process and consider it in daily activities"

Q#	Cat	CC	Question – Table D	Response				Indicators & Data Collation
				Y	N	DK	NA	
1.	G	OP	Does the MPA have a sustainable financing plan?					Sustainable financing plan is available. Sustainable financing for the MPA will be secured by [_____]
2.	G	OC	Has the zoning plan of the MPA been *adopted* by the local community? *					Evidence is available to show adoption of MPA zoning plan by local community. This evidence is in the form of: [_____] (examples are: results of perception monitoring; changes in resource use behavior; etc.)
3.	G	OC	Has the zoning plan of the MPA been *adopted* by the local government? *					Evidence is available to show adoption of MPA zoning plan by local community. This evidence is in the form of: [_____] (examples are: results of perception monitoring; changes in resource use behavior; etc.)
4.	G	OC	Is the designated enforcement system fully operational/functioning?					The most common breaches of compliance are: *(list in order: 1 = most common cause to 5 = least common cause)* [ ] Fishers using legal gears, in legal areas, but without the correct permits [ ] Fishers with legal but destructive fishing gears that are not permitted in the MPA [ ] Outside fishers exploiting traditional use areas (zones within the MPA) [ ] Fishers active inside the No-Take-Zone/Area (NTZ/A) [ ] Fishers using nationally recognized illegal gears (i.e. dynamite, cyanide, etc.)
5.	G	OC	Are No-Take Zones/Areas (NTZ/As) included in the patrolling?					Reports of patrolling activity are available
6.	G	OC	Does monitoring show that local stakeholders are aware that extractive practices are prohibited in NTZ/As?					Monitoring Report is available showing percentage of local stakeholders aware that extractive practices are prohibited in the NTZ/A, Percetage is [_____]%
7.	SE	OC	Does monitoring show that local communities are now less dependent on extracting resources within the MPA than prior to the MPAs establishment?					Livelihood analysis is available
8.	B	OC	Have the results of biophysical monitoring analysis developed recommendations for improving management/governance/ planning and associated interventions?					Document examples where the results of monitoring have been used for adaptive management: [_____]

Q#	Cat	CC	Question – Table D	Response				Indicators & Data Collation
				Y	N	DK	NA	
9.	SE	OC	Have the results of socially related monitoring analysis developed recommendations for improving management/governance/ planning and associated interventions?					Document examples where the results of monitoring have been used for adaptive management: [_____]
10.	G	CE	Have the incidence of illegal and destructive fishing practices reduced within the MPA since its establishment?					Surveying shows illegal and destructive practices are reduced from [____] levels in (year) [_____] to [_____] levels in (year) [_____]
Since the MPAs establishment, are the priority biophysical components stable and or improved in condition?								
11.	B	CE	Biophysical priority 1: [_____] – condition is stable and or improved.					Monitoring report(s) available. Title & Date: [_____] Location: [_____]
12.	B	CE	Biophysical priority 2: [_____] – condition is stable and or improved.					Monitoring report(s) available. Title & Date: [_____] Location: [_____]
13.	B	CE	Biophysical priority 3: [_____] – condition is stable and or improved.					Monitoring report(s) available. Title & Date: [_____] Location: [_____]
14.	B	CE	Biophysical priority 4: [_____] – condition is stable and or improved.					Monitoring report(s) available. Title & Date: [_____] Location: [_____]

Note:
Y=Yes; N=No; DK=Don't Know; NA=Not Applicable
Cat=category (B=biophysical; SE=socio-economic; G=governance)
CC=Conservation Criteria (IA = Implementation Activity, OP = Output, OC = Outcome, CE = Conservation Effect)

Total 'Yes' recorded	Total 'No' recorded	Total 'Don't Know' recorded	Total 'Not Applicable' recorded	Total score expected = Total number of questions (14) – number of 'Not Applicable' answers.	
				Proportional 'Yes' results = Total 'Yes' recorded / Total score expected x 100.	

Notes for reviewer:
Q#2 & 3 – *adopted* here means "local communities/governments use the zoning plan in their decision-making process and consider it in daily activities"
Q#11, 12, 13 & 14 – these four priorities are as identified in the question 4 in Table B as critical biophysical components to ensure the MPAs' integrity.

Conservation Effect calculation

Total CE questions in Table D	Total 'Yes' recorded	Total 'No' recorded	Total 'Don't Know' recorded	Total 'Not Applicable' recorded
5				

<table>
<tr><th rowspan="2">Q#</th><th rowspan="2">Cat</th><th rowspan="2">CC</th><th rowspan="2">Question – Table E</th><th colspan="4">Response</th><th rowspan="2">Indicators & Data Collation</th></tr>
<tr><th>Y</th><th>N</th><th>DK</th><th>NA</th></tr>
<tr><td>1.</td><td>G</td><td>IA</td><td>Has the MPA management plan been regularly reviewed and where relevant updated and refined for adaptive management?</td><td></td><td></td><td></td><td></td><td>Review is available. Where relevant sequential management plan is available and/or addendum to plan to show refinement over time.</td></tr>
<tr><td>2.</td><td>G</td><td>IA</td><td>Have expansion strategies or programs to support connectivity with neighboring MPAs and/or networking in the region been initiated?</td><td></td><td></td><td></td><td></td><td>Networking plan proposal available</td></tr>
<tr><td>3.</td><td>G</td><td>OP</td><td>Are >80% of all staff in the management body fully trained to meet their required proficiencies and tasks?</td><td></td><td></td><td></td><td></td><td>Staff appraisals and post-training progress report/ monitoring/review results are available</td></tr>
<tr><td>4.</td><td>G</td><td>OC</td><td>Is the MPA zoning plan fully integrated with the various local government agency spatial planning processes?</td><td></td><td></td><td></td><td></td><td>Report or official decree is available</td></tr>
<tr><td>5.</td><td>SE</td><td>OC</td><td>Has the economic contribution of the MPA been determined in relation to local economic development?</td><td></td><td></td><td></td><td></td><td>Report or livelihoods analysis is available</td></tr>
<tr><td>6.</td><td>G</td><td>OC</td><td>Has the local government committed resources and personnel to ensuring a sustainable future for the MPA?</td><td></td><td></td><td></td><td></td><td>Report or official decree is available</td></tr>
<tr><td>7.</td><td>B</td><td>OC</td><td>Has analysis been undertaken to determine the extent and impact of ecosystem services the MPA is effectively conserving/enabling?</td><td></td><td></td><td></td><td></td><td>Ecosystem services analysis available.</td></tr>
<tr><td>8.</td><td>G</td><td>OC</td><td>Is a sustainable financing plan being implemented that covers more than 80% of the annual operational costs?</td><td></td><td></td><td></td><td></td><td>Financial report available</td></tr>
<tr><td>9.</td><td>B</td><td>CE</td><td>Are the goal(s) and target(s) identified in the management plan achieving >80% of the planned results according to monitoring or survey results?</td><td></td><td></td><td></td><td></td><td><table><tr><th>Goals/targets from the management plan</th><th>Achievements to date</th></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table></td></tr>
<tr><td>10.</td><td>G</td><td>CE</td><td>Have the identified threats to the MPA been abated/significantly (>80%) reduced?</td><td></td><td></td><td></td><td></td><td><table><tr><th>Threat to MPA</th><th>Abatement achieved</th></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table></td></tr>
</table>

Q#	Cat	CC	Question – Table E	Response				Indicators & Data Collation
				Y	N	DK	NA	
11.	G	CE	Are illegal and destructive activities reduced/halted within the MPA?					Report is available showing results of monitoring and evidence of reduction/halting of illegal and destructive practices
12.	G	CE	Are all extractive activities effectively stopped within the MPAs no-take zone/area?					Resource use report is in place showing effective halting of extractive practices in NTZ/A.
13.	G	CE	Is the judiciary able and efficient in dealing with the prosecution process regarding MPA enfractions?					Testimonial evidence available showing efficient and able prosecution responses.
14.	SE	CE	Are education and outreach programs planned and ongoing with sustainable support within the MPA?					Clear plan for long-term education and outreach available.

Note:
Y=Yes; N=No; DK=Don't Know; NA=Not Applicable;
Cat=category (B=biophysical; SE=socio-economic; G=governance);
CC=Conservation Criteria (IA = Implementation Activity, OP = Output, OC = Outcome, CE = Conservation Effect)

Total 'Yes' recorded	Total 'No' recorded	Total 'Don't Know' recorded	Total 'Not Applicable' recorded	Total score expected = Total number of questions (14) – number of 'Not Applicable' answers.	
				Proportional 'Yes' results = Total 'Yes' recorded / Total score expected x 100.	

Conservation Effect calculation

Total CE questions in Table E	Total 'Yes' recorded	Total 'No' recorded	Total 'Don't Know' recorded	Total 'Not Applicable' recorded
6				

MPA Management Effectiveness Review: Scorecard Final Results

[Soft-copy of MS-Excel workbook file for this "MPA Management Effectiveness Review: Scorecard Finals Results" was developed by I Nyoman Suardana/TNC-IMP]

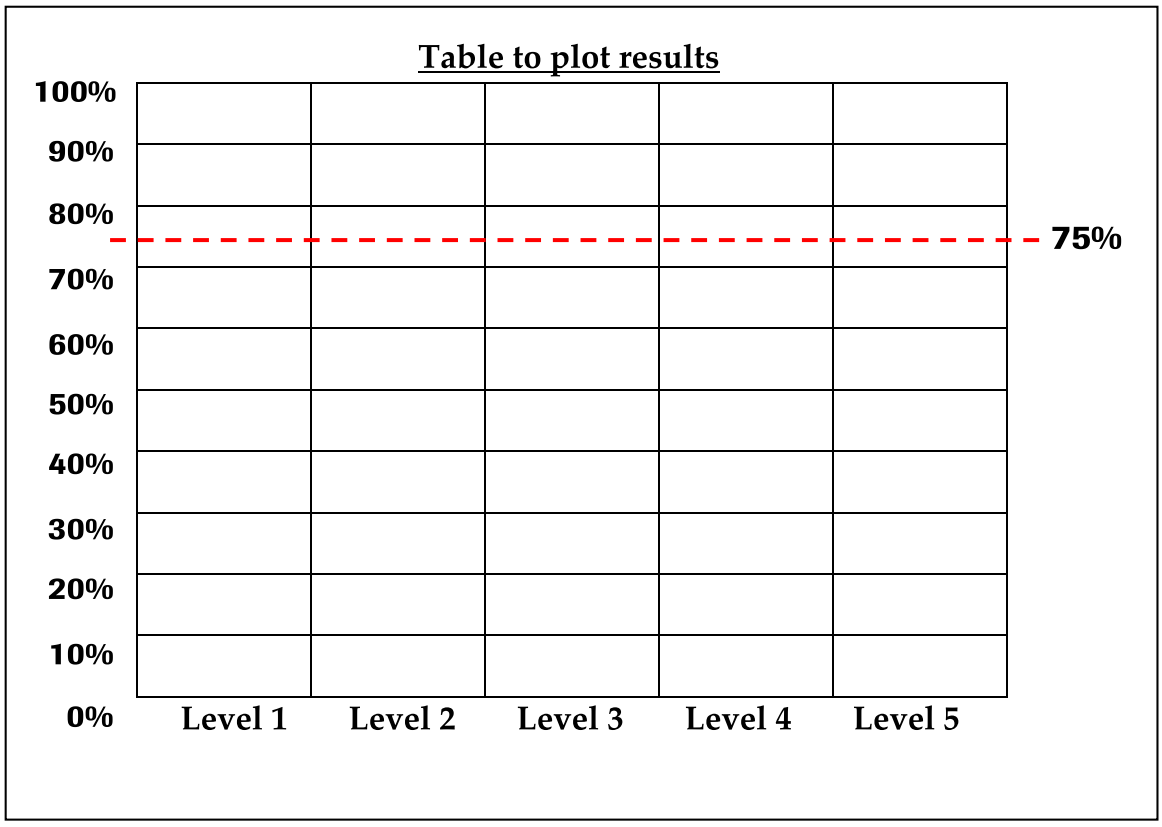
MPA MANAGEMENT SCORECARD FINAL RESULTS

Calculating the "Management Level"

Please copy your final scores into the below table (note: the electronic worksheet version will do this automatically)

Results / Table	Total 'Yes' recorded	Total 'No' recorded	Total 'Dont Know' recorded	Total 'Not Applicable' recorded	Proportional 'Yes' results = Total 'Yes' recorded / Total score expected (- NAs) x 100.
TABLE A (Level 1)					
TABLE B (Level 2)					
TABLE C (Level 3)					
TABLE D (Level 4)					
TABLE E (Level 5)					

Now, by hand, plot the 'Proportional Yes Results' on to the below graph (in the electronic worksheet, the plots will appear automatically).



Calculating the "Conservation Effect"

Please copy your final results from Tables D and E into the below table.

TABLE	Total CE questions in Table	Total 'Yes' recorded	Total 'No' recorded	Total 'Dont Know' recorded	Total 'Not Applicable' recorded
D	5				
E	6				
Total	**11**				

Total Number of Expected Results

Number of possible CE questions (11) minus number of 'Not Applicable' answers

11 - ___ = ___

CE rating calculation

Number of Total 'Yes' answer ÷ Total Number of 'Expected Results' (above) x 100

(___ ÷ ___) x 100 = ___%

RESULTS

Based on the above calculations your MPA Management Level is:

Management Level: _____

This means that your MPA is (tick relevant box below)

Level	MPA is	Result
1	Initiated	
2	Established	
3	Enforced	
4	Sustainable	
5	Institutionalized (Fully Functional)	

Based on the above calculations your MPA Conservation Effect meets which rating? (please tick as relevant in the below box):

Rating	Description	Result
1	Conservation Effects have yet to be measured or observed, or are observed in less than a quarter (<25%) of the recognized potential effect areas.	
2	Conservation Effects have been measured or observed in more than a quarter (>25%) but less than a half (<50%) of the recognized potential effect areas.	
3	Conservation Effects have been recognized in more than half (>50%) but less than three quarters (<75%) of the recognized potential effect areas.	
4	Conservation Effects have been recognized in more than three quarters (>75%) of the recognized potential effect areas.	

This means that your MPA CE rating is:

Conservation Effect Rating: _____

******** CONGRATULATIONS ********
ON COMPLETING THE MPA MANAGEMENT EFFECTIVENESS REVIEW

Some final notes:

- As discussed in the guide, now is the time to go back and review all the 'No' and 'Don't Know' questions from the scorecard.
- Remember there is no 'correct' answer to the MPA management effectiveness review. It is intended to give you – the review team – insight into what aspects of the MPA management are working well, what areas may need more input, what areas are rel evant for your MPA and what needs working on in the coming months/years.
- These results have also given you a starting point to compare to when you repeat the review in two to three years. Please share your results with others through the MPAME website: http://mpames.coraltrianglecenter.org/

This Guide for Improving Marine Protected Area Management Effectiveness (MPAME) in Indonesia presents a simple yet robust tool to assess how an MPA is doing in its management and ultimately how well an MPA meets its conservation goals or objectives. It has been developed for flexibility and adaptability and is intended to be used to assess MPAs anywhere in the country, at a range of scales and under a range of different governance mechanisms. In addition to providing an easy means of assessing progress or problems within MPAs, this guide is also designed as a learning tool that supports adaptive management. It provides a simple process for MPA planners, managers and stakeholders to assess what has been accomplished within an MPA and what is missing or needs more attention to make it more effective.

The Nature Conservancy
Protecting nature. Preserving life.™

The Nature Conservancy – Indonesia Marine Program
Jalan Pengembak No. 2, Sanur 80228, Bali, Indonesia
Telephone (+62-361) 287 272, Facsimile (+62-361) 270 737