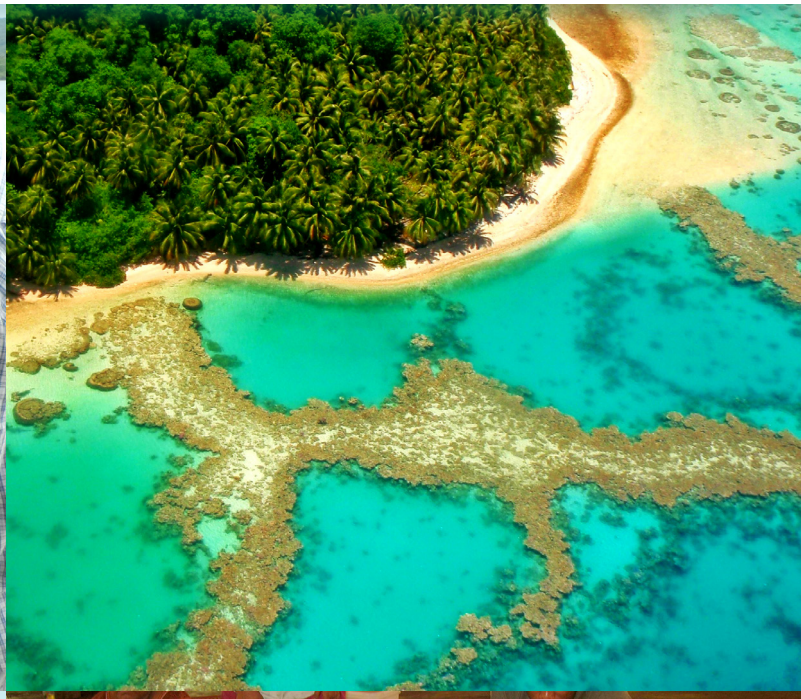
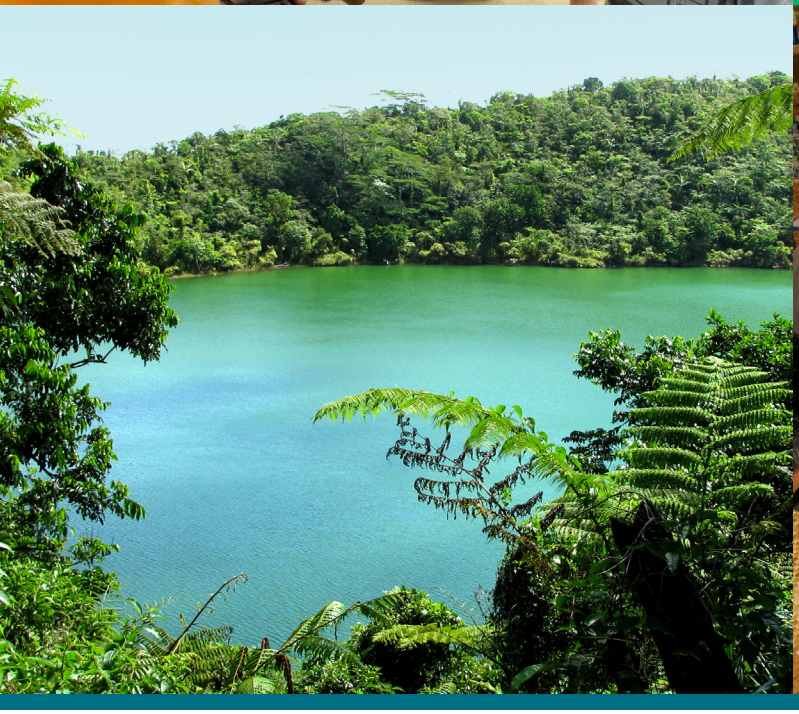
A Comparative Analysis of Protected Area Management Effectiveness (PAME) Evaluation Tools for the Pacific Islands Region





SPREP PROE
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UN environment programme

ACP MEAs 3

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SPREP Library Cataloguing-in-Publication Data

A Comparative Analysis of Protected Area Management Effectiveness (PAME) Evaluation Tools for the Pacific Islands Region, Apia, Samoa : SPREP, 2023.

102 p.; 29 cm.

ISBN: 978-982-04-1181-4 (print)
978-982-04-1183-8 (ecopy)

1. Conservation of natural resources – Oceania.
2. Protected areas – Management – Oceania.
3. Analysis of environmental impact – Environmental assessment – Oceania
I. Pacific Regional Environment Programme (SPREP).
II. Title.

333.720961

Cover photos: V.Jungblut

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SPREP's vision: *The Pacific environment, sustaining our livelihoods and natural heritage in harmony with our cultures.*

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Rock Islands, Palau
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ACKNOWLEDGEMENTS

We are very grateful for the input of many people into this report. Many thanks to all those who assisted with information, review of early drafts, and project management, notably:

Sangeeta Mangubhai (Talanoa Consulting, Fiji), who provided significant input as a consultant in the early stages of the project.

Those who oversaw management of the project: Vainuupo Jungblut, Amanda Wheatley and Juney Ward at SPREP and Tamara Greenstone Alefaio at MCT.

Those who reviewed drafts or sections of the report: Luca Battistella (JRC Point of Contact for the Pacific, BIOPAMA Project), Meghan Gombos, Hugh Govan, Mariagrazia Graziano (BIOPAMA), Marc Hockings (IUCN-WCPA), Helen Klimmek (UNEP-WCMC), Fiona Leverington, Benjamin Lucas (UNEP-WCMC), Elizabeth McLeod (TNC), Sue Stolton (Equilibrium Consultants), Elizabeth Terk (TNC), Paul van Nimwegen (WCS), Sally Bailey (IUCN ORO).

In particular, we would like to thank the following protected area experts and practitioners who participated in the online Zoom stakeholder interviews with the consultants:

Cook Islands: Hayley Weeks, Elizabeth Munro, Jessie Nicholson, Teariki Tearetoa (National Environment Service); Kelvin Passfield and Alana Smith (Te Ipukarea Society).

Federated States of Micronesia: Tamara Greenstone Alefaio (MCT), Vanessa Fread (Dept R&D, Div Mar Res), Tazmin Falan (YAP PAN co-ordinator), Rachael Nash (Yap, R2R project), Bertha Reyuw (MCT), Berna Gorong (TNC, Yap Conservation Planner), Bev Danis Fred (Chuuk, PAN co-ordinator), Rusiate Ratuniata, Amelia Raratabu, Eugene Joseph (Pohnpei, conservation planner), Bond Segal (Kosrae PAN co-ordinator).

Fiji: Ron Vave, Elizabeth Erasito (National Trust for Fiji), Margaret Tabunakawai-Vakalalabure (Fiji Coral Reef Rescue Initiative Manager, WWF Pacific), Rusiate Ratuniata (UNDP); Amelia Raratabu (UNDP).

Palau: Joyce Beouch, PAN conservation planner and Acting Chief Div PAs and Species, Yvonne Ueda (Palau Conservation Society/TNC).

Republic of the Marshall Islands (RMI): Florence Edwards, Martin Romain.

Samoa: Talie Foliga (MNRE), Afele Faiilagi (MNRE), James Atherton (SCS).

Solomon Islands: Agnetha Vave-Karamui (MECDM), Peter Kenilorea (MFMR), Willie Atu (TNC).

Tuvalu: Feagaiga Penivao.

Vanuatu: Donna Kalfatak, Director (DECP), Rolenas Tavue Baereleo, Principal Officer (DECP), Dean Launder, Senior Conservation Officer (DECP).

ACRONYMS

BIOPAMA	Biodiversity and Protected Areas Management Programme
CBD	Convention on Biological Diversity
CI	Conservation International
COA	Conservation Outlook Assessment
CPUE	Catch-per-unit effort
CTI	Coral Triangle Initiative
CTMPAS	Coral Triangle Marine Protected Area System
EoH	Enhancing our Heritage
FLMMA	Fiji LMMA Network
FSM	Federated States of Micronesia
GAPA	Governance Assessment for Protected and Conserved Areas
GBF	Global Biodiversity Framework
GD-PAME	Global Database on Protected Area Management Effectiveness
GEF	Global Environmental Facility
IBA	Important Bird Area
IIED	International Institute for Environment and Development
IMET	Integrated Management Effectiveness Tool
IUCN	International Union for the Conservation of Nature
LMMA	Locally Managed Marine Area
MCT	Micronesia Conservation Trust
MEAMMA	Management Effectiveness Assessment Guide for Marine Managed Areas
MEAT	MPA Management Effectiveness Assessment Tool
METT	Management Effectiveness Tracking Tool
MPA	Marine Protected Area
MPAME	Micronesia Protected Area Management Effectiveness Assessment
NGO	Non-Governmental Organisation
OECMs	Other Effective area-based Conservation Measures
OSPAR	Oslo/Paris Convention for the Protection of the Marine Environment of the North-East Atlantic
PA	Protected Area
PAME	Protected Area Management Effectiveness
PAN	Protected Area Network
PIMPAC	Pacific Island Marine Protected Area Community
PIPA	Phoenix Islands Protected Area
PIPAP	Pacific Islands Protected Area Portal
PNG	Papua New Guinea
R2R	Ridge to Reef (projects)
RAPPAM	Rapid Assessment and Prioritisation of Protected Area Management
RIS	Reference Information System
RMI	Republic of the Marshall Islands
SAGE	Site-level Assessment of Governance and Equity
SAPA	Social Assessment for Protected and Conserved Areas
SPREP	Secretariat of the Pacific Regional Environment Programme
TNC	The Nature Conservancy
UNEP	United Nations Environment Programme
USP	University of the South Pacific
UVC	Underwater Visual Census
WCPA	World Commission on Protected Areas
WDPA	World Database on Protected Areas
WCMC	World Conservation Monitoring Centre
WCS	Wildlife Conservation Society
WHS	World Heritage Sites
WWF	World Wildlife Fund

FOREWORD

Our Pacific islands region is a culturally and ecologically diverse oceanic realm with a combined Exclusive Economic Zone (EEZ) area of more than 30 million square kilometres, greater than the combined land area of Canada, China and the United States. It is underpinned by a deep spiritual connection and an intimate relationship with and reliance on the land and sea, which sustain livelihoods, supports economies and maintains traditional knowledge and practices.

Our region is characterised by high island biodiversity but is under threat by unsustainable exploitation of natural resources, often poorly planned development, invasive species, population growth and pollution, the impacts of which have been exacerbated by the effects of global climate change. The highest extinction rates globally have been on islands.

Our terrestrial and marine protected and conservation areas have been established to safeguard the best of our remaining natural terrestrial, coastal and marine areas, the diversity of species they support and the ecosystem services they provide. They are also important for demonstrating sustainable use, climate change adaptation and for strengthening community resilience. These areas are our key legacy to future generations of Pacific islanders.

The last 11 years has witnessed a notable increase in the establishment and formal designation of marine protected and conserved areas across the Pacific islands region, with nearly 20 per cent of marine protected areas having been designated within national EEZs since 2010. Unfortunately, there has not been an equivalent growth in the conservation and sustainable management of terrestrial areas. Despite the encouraging expansion of marine protection only a few of the protected areas are adequately managed, which reinforces the point that achieving designated protection of a defined area should not end the process of support to sustain effective management.

Mr. Sefanaia Nawadra, Director General, SPREP

Protected Area Management Effectiveness (PAME) Evaluations are tools to assess how well protected areas are being managed – primarily the degree to which management is safeguarding biodiversity values and achieving goals and objectives. Furthermore, they are embedded in country obligations and commitments under the United Nations Convention on Biological Diversity (CBD).

Accomplishing effective management in the region is not an easy task, and while PAME evaluations accurately reveal site or network-level management issues to be addressed, sufficient resourcing and capacity remain key challenges. According to a recent report on the status of protected and conserved areas in Oceania, about 17 per cent of protected sites across the region have undertaken protected area management effectiveness evaluations. This highlights a key gap in our efforts to update the current state of knowledge as to whether these areas are in fact meeting (and continuing to meet) the objectives for which they were established. Answering this significant question in a proactive manner is the core focus and intention of PAME evaluations.

There are several PAME evaluation tools. Some of these tools have been adapted to local contexts and applied in protected and conserved areas of the region. It is encouraging to note that the experiences and lessons generated from using and adapting PAME tools are steadily increasing across the region. The application of this knowledge and experience is key and will inform better planning towards more effective management.

This Comparative Analysis is the first step in documenting and sharing knowledge on the current state of PAME in the Pacific islands region. Given that PAME evaluation tools are rapidly evolving, the findings and recommendations in this analysis are timely for our region. It provides insights into current experiences, lessons learned and best practice in undertaking and adapting PAME evaluations. This is especially significant as a contribution to implementing the Pacific Islands Framework for Nature Conservation and Protected Areas 2021–2025 and the Post-2020 Global Biodiversity Framework.

I acknowledge the financial assistance of the ACP MEA Phase 3 Project, and technical and advisory assistance provided through the EU-OACPS BIOPAMA Programme that made this initiative possible.

I am confident that this initial guidance will inform, inspire and catalyse further action for effective management of our treasured Pacific island landscapes and seascapes.

Mr. Sefanaia Nawadra
Director General, SPREP

Upper Mataniko River, Solomon Islands © Stuart Chape

EXECUTIVE SUMMARY

Protected area management effectiveness (PAME) can be defined as "*the extent to which management is protecting values and achieving goals and objectives*". Since the early 2000s, many tools have been developed to measure PAME in both protected areas (PAs) and other effective area-based conservation measures (OECMs), both terrestrial and marine, and from formally recognised and government-registered PAs, to small community-managed areas and (locally managed marine areas) LMMAs.

This report was commissioned by the Secretariat of the Pacific Regional Environment Programme (SPREP) to raise awareness and understanding of the tools available to evaluate PAME; to provide case studies from the region on PAME assessment; and to help inform decision-making when choosing tools and planning assessments. An extensive literature review was undertaken in early 2022, and complemented by online discussions with PA practitioners, including both government and non-government organisation (NGO) representatives, from nine Pacific countries. The report takes into account ongoing activities to improve PAME in the region, including the Biodiversity and Protected Areas Management (BIOPAMA) programme, Global Environment Facility (GEF)-funded projects such as the Pacific Ridge to Reef programme, and initiatives through international NGOs including The Nature Conservancy (TNC), Wildlife Conservation Society (WCS), World Wildlife Fund (WWF), and Conservation International (CI). Some of the information in the report may become out-dated, as PAME is a fast-moving subject, but it should provide a basis for taking forward assessments in the Pacific region.

The most used PAME assessment tools are based on a framework by the IUCN and World Commission on Protected Areas (WCPA) for assessing management effectiveness. They range from detailed, resource-intensive tools for specific purposes to simpler approaches based on scorecards or questionnaires, with a growing number being developed or adapted for regional or national use.

Most of the tools have been designed for use in all PAs and OECMs: terrestrial or marine; small community-managed areas or large government regulated national parks. They differ in complexity, format, scoring and reporting, in the level of detail they cover and whether they are integrated with a database or information system (such as BIOPAMA's Integrated Management Effectiveness Tool (IMET) and WWF's Elinor). Selection of a tool is thus dictated less by the ecological context or governance of a site, and more by the capacity and resources available and the purpose of the assessment. Before developing, adapting or selecting a tool, it is essential to understand exactly why a PAME assessment is needed, the financial and human resources and organisational capacity available, and the political will to apply the results to support adaptive management.

Most tools have similar indicators or questions, requiring collection of similar data such as: baseline bio-physical information on the design of a site; operational management and work force capacity; financial sustainability; community development and benefits; patrolling and enforcement; stakeholder and government commitment; and progress towards conservation outcomes (i.e. the results of monitoring programmes). Tools that are designed for specific purposes place greater emphasis on particular components (e.g. PA governance and social equity). A detailed comparison of the indicators used across different tools was not possible in the context of this project, but most tools have some alignment with the IUCN Green List Standard. This is currently recognised as the most comprehensive approach to assessing PAME, with its requirement that sites have (1) good governance, (2) sound design and planning, (3) effective management, and (4) successful conservation outcomes.

The report also reviews attempts to develop headline indicators that would provide essential PAME information for a site, given the challenge of balancing the number of questions and indicators needed for a full assessment with the

limited capacity, time and resources that is usually available. Indicators and tools for PAME assessment are being discussed in the development of the post-2020 Global Biodiversity Framework which, under Target 3, will require countries to report on PAME. A system is being sought that would allow results from individual national assessments to be translated into high level indicators for global reporting.

Only about 10 of the available assessment tools have been used in the Pacific (key tools are described in an Annex to the report). The Management Effectiveness Tracking Tool (METT) is the most used as it is required by GEF projects: METT has been used in the development of national tools for Papua New Guinea and Vanuatu. Palau, Federated States of Micronesia and Republic of the Marshall Islands use the Micronesia Protected Area Management Effectiveness Assessment (MPAME) tool, which was developed for the Micronesia Challenge. The Rapid Assessment and Prioritisation of Protected Area Management (RAPPAM) tool was used in early assessments in Papua New Guinea and Samoa. The World Heritage (WH) Conservation Outlook Approach is used every three years at WH sites in Kiribati, Solomon Islands and Palau. Papua New Guinea and the Solomon Islands participate in the Coral Triangle MPA System to improve PAME, and this has led to the development of a tool for MPAs and marine management areas for the Solomon Islands. The LMMA Audit tool has been developed and tested in Fiji and provides an important example of how assessment can be introduced to community-managed sites.

Case studies are provided on the national tools for Papua New Guinea and Vanuatu, on the national PAME assessments undertaken for Palau and Papua New Guinea, and to demonstrate how adaptive management has been introduced in the Republic of the Marshall Islands through the *Reimaanlok* framework.

RECOMMENDATIONS

- Where a tool has been specifically designed for a country or region, it is best to continue to use this, ensuring that revisions are made as conditions change (e.g. as a result of climate change, changing economic situations and if lessons are learned);
- If there is no national tool, consider adapting an existing approach, with particular reference to tools used by neighbouring countries and in the Pacific region – this will help to provide harmonisation, and allow for comparison and sharing of experiences;
- Develop national policy and institutional arrangements for PAME assessments: these will help to ensure that assessments are carried out on a regular basis for all PAs and OECMs;
- Improve reporting of PAME assessments: the work initiated with UNEP-WCMC to improve global reporting should continue, and the roles of the Inform Project, the national environment data portals and PIPAP fully defined.
- Capacity building and training: this is required at national and regional level for all PAME assessment activities including development and/or adaptation of tools, the process for assessment process, using assessment results for adaptive management, and reporting. Training on the IUCN Green List could include a component on general PAME assessment.
- Sharing of experiences and lessons learned: the discussions held during the compilation of this report demonstrate the value of sharing experiences about PAME assessment between countries. Further opportunities should be found for knowledge sharing workshops and discussions, within the region and with countries in other regions.
- Use new technology to facilitate PAME assessment where feasible: this includes using smart phones or tablets to record assessment results, and obtaining data from remote sensing and other global monitoring systems.
- Ensure adequate funding is available: Countries should consider building PAME evaluations into the design of further PA projects, and donors and NGOs providing technical and financial support should similarly make PAME assessment a high priority.

1. INTRODUCTION

To be successful in conserving biodiversity, protected areas (PAs) and other effective area-based conservation measures (OECMs) must be equitably governed, effectively managed and achieve conservation outcomes. In recent years, it has been recognised that assessing progress towards success is essential, primarily to identify areas for improvement and priorities for action, but also to provide information on whether targets and overall goals are being achieved. However, there are varying opinions among stakeholders, managers, rights holders, conservationists, researchers and others on what 'success' might be in practice. This has meant that reaching a global consensus on the terminology and definitions involved, the approaches to take, and the tools needed is slow.

A *universally agreed* definition and simple criteria for determining whether a PA is 'effectively' managed is still lacking. The IUCN Green List Standard is currently recognised as the most comprehensive approach, with its requirement that sites have (1) good governance, (2) sound design and planning, (3) effective management, and (4) successful conservation outcomes (Hockings et al., 2019) (Figure 1).

Protected area management effectiveness (PAME), the measure of how well PAs and OECMs are being managed, can be defined as "*the extent to which management is protecting values and achieving goals and objectives*". Since the early 2000s, many tools to measure PAME have been developed, and almost 27,000 evaluations[1] have been undertaken in numerous countries and reported to the Global Database on PAME (GD-PAME). Many countries do not report on PAME assessments, and few countries have adopted PAME assessment as part of their national protected area policy or made it an integral component of PA implementation.

In the Pacific, the value of and need for PAME assessments have been increasingly recognised in recent years. This report was commissioned by the Secretariat of the Pacific Regional Environment Programme (SPREP) as part of an initiative to:

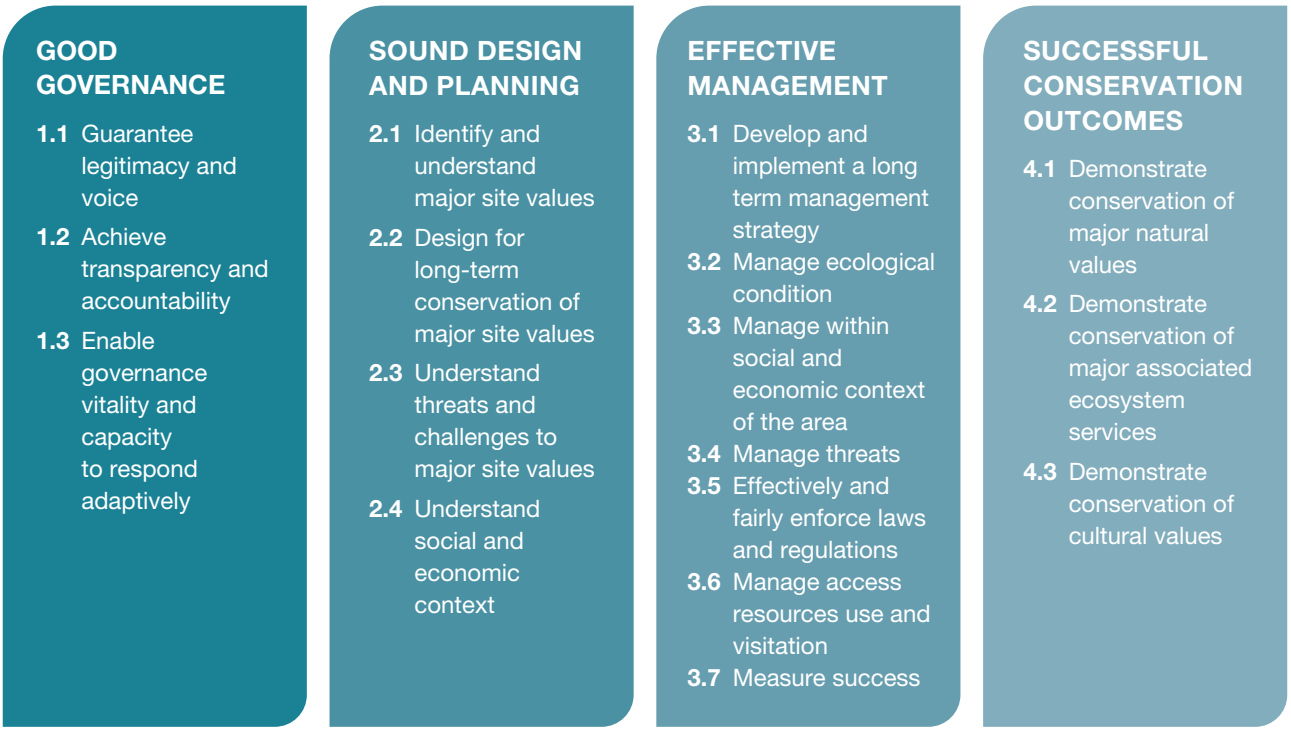

FIGURE 1. The four pillars of the IUCN Green List Standard (IUCN/WCPA 2017)

[1] UNEP-WCMC and IUCN (2022), Protected Planet: The Global Database on Protected Area Management Effectiveness (GD-PAME) [online], August 2022. Cambridge, UK: UNEP-WCMC and IUCN. Available at: www.protectedplanet.net

- Raise regional awareness and understanding of the tools available to evaluate PAME;
- Understand the cost, benefits and limitations of PAME tools when used in different contexts;
- Provide case studies from the region on PAME assessments and the tools that are being used and developed;
- Produce technical guidance and associated communication products to inform decision-making on the choice of tools and planning of PAME assessments;
- Promote PAME assessment and the technical guidance regionally and nationally.

This report refers to all forms of PAs and OECMs, both terrestrial and marine, ranging from formally recognised and government-registered PAs, to small community-managed areas and LMMAs (locally managed marine areas). It should be considered in the context of current activities to improve PAME in the region, notably:

- **The 2017–2023 Biodiversity and Protected Areas Management (BIOPAMA)2 programme which supports 15 Pacific island countries in PAME related activities**: Small to medium sized grants are being made available in each country for PA activities that enhance information inventories, enable PAME assessments, and support management planning and good management practices. Grants are generally conditional on a PAME assessment being undertaken at the application stage. At the 2018 BIOPAMA inception workshop[3] for the Pacific, it was recommended that methodologies for PAME assessment that are appropriate and practical to the Pacific context should be identified.
- **GEF-funded projects that support improvement of PAME**: The Pacific Ridge to Reef GEF programme,[4] in addition to its integrated water management projects, includes PA projects in the Cook Islands, Federated States of Micronesia, Niue, Papua New Guinea, Republic of the Marshall Islands and Tuvalu. GEF projects supporting PAs require PAME assessments at their inception and during the mid-term and final evaluations. Some projects support processes and development of capacity for assessment and adaptive management.
- **NGO initiatives**: international, regional and national NGOs, including TNC, WCS, WWF, and CI, are funding and providing technical support for a range of PAME activities.

PAME assessment is a fast-moving field, with numerous initiatives underway at national, regional and global level. This report is based on an extensive literature review in early 2022, but it should be noted that new peer-reviewed papers relevant to PAME assessments are being published on a regular basis. Furthermore, much of the 'grey' or project-based information and papers are often difficult to obtain and not all key documents were available at the time of writing. The report makes use of information, challenges identified, issues addressed and recommendations that were developed at the BIOPAMA workshop (June 2018), many of which are still pertinent, as well as recommendations and information in the draft report *State of Protected and Conserved areas in Oceania* (van Nimwegen et al., in press), which includes a chapter on PAME. Information from the literature and on-line search was complemented by on-line discussions with PA practitioners, including both government and NGO representatives from nine countries (see Acknowledgements). Specific information in the report is likely to become out-dated rapidly, but we hope that it will provide a basis for taking forward assessments in the Pacific islands region.

[2] BIOPAMA is an initiative of the European Union (EU) and the African, Caribbean and Pacific (ACP) Group of States, implemented through IUCN (IUCN-ORO in the Pacific) and the Joint Research Centre of the European Commission (EC-JRC).

[3] https://biopama.org/node/254

[4] https://www.pacific-r2r.org/

2. BACKGROUND TO PAME ASSESSMENT

The first global proposals relating to PAME assessment arose at the Fourth IUCN World Park Congress in 1992 when IUCN-WCPA proposed the development of a framework to provide a general approach and guidelines for assessments, as well as a system for developing a methodology (Lockwood et al., 2006). Until the mid-2000s, the development of tools and implementation of assessments was primarily undertaken by NGOs (Stolton et al., 2007). Subsequently, PAME was adopted as a performance evaluation tool by funding agencies, such as the GEF, with large PA project portfolios across many countries (Craigie et al., 2015).

The IUCN-WCPA framework for assessing management effectiveness (Hockings et al., 2006) is not a methodology in itself, but provides a common underlying logic and approach, and helps to identify criteria. It is based on the principles that good site management should follow a cyclical process; that there should be a thorough understanding of the individual context of the site; that management actions should be carefully planned and implemented; and that regular monitoring should be undertaken, with the results used to determine the required changes in management. The management cycle can be described in six elements, under three themes (see also Figure 2):

1. DESIGN AND PLANNING ISSUES

i. Context: developing an understanding of the context of the PA, including its values, the threats that it faces and opportunities available, its stakeholders, and the management and political environment;

ii. Planning: establishing vision, goals, objectives and strategies to conserve values and reduce threats;

2. ADEQUACY AND APPROPRIATENESS OF MANAGEMENT SYSTEMS AND PROCESSES

iii. Inputs: allocation of resources of staff, money and equipment to work towards the objectives;

iv. Process: for implementation of management actions according to accepted processes;

3. DELIVERY OF OBJECTIVES INCLUDING CONSERVATION OF VALUES

v. Outputs: goods and services, which should usually be outlined in management plans and work plans; these result in

vi. Outcomes or impacts: that will contribute to achieving defined goals and objectives.

FIGURE 2. The Framework for assessing management effectiveness of protected areas (taken from Hockings et al. (2006)).

All six elements should be assessed if the management effectiveness of a site is to be fully understood, so that appropriate actions can be identified and implemented to address weaknesses. Assessing only outcomes may show the objectives of a PA or OECM have been achieved but may leave it unclear as to whether this was due to good management or simply good luck. For example, if weather conditions in a particular year naturally led to improved condition of a species or ecosystem protected by the site. If an outcome is not achieved, unless all six elements have been assessed, it will be difficult to know if this was due to insufficient resources, a problem with the approaches to management, an external issue outside of the site manager's control, or something else. For example, there are multiple reasons why the health of a coral reef might decline in an MPA: lack of enforcement could cause illegal fishing of key species; inadequate management of visitors or boats could damage corals; increased water temperatures due to global warming could cause coral bleaching.

PAME assessments thus help to:

- demonstrate improvements in management over time;
- identify strengths and weaknesses so that improvements can be made (i.e. ensure the adaptive management approach is used);
- establish accountability and transparency (e.g. to project teams, donors, etc.);
- set priorities and allocate resources efficiently;
- build a supporting constituency (stakeholder participation and understanding);
- encourage good documentation of management activities and implementation of long-term ecological and socio-economic monitoring;
- report nationally, regionally, and globally (e.g. to the Convention on Biological Diversity (CBD)) on progress with targets for PAs and OECMs;
- support sites to achieve acknowledgement for meeting criteria for effectively managed areas (e.g. IUCN Green List, Blue Parks award, see Appendix 4).

3. OVERVIEW OF PAME ASSESSMENT TOOLS

The most used assessment tools are based on the IUCN-WCPA framework for assessing management effectiveness. They range from detailed, resource-intensive tools for specific purposes to simpler approaches based on scorecards or questionnaires, with a growing number being developed or adapted for regional or national use, as described below. Multilateral, bilateral and philanthropic donors who have recognised the value of regular assessments of progress of the sites they support have helped with development of tools, notably the GEF and the German agency GIZ. Reporting on PAME is a requirement for World Bank/UNDP/GEF projects, and some bilateral donor projects, where these involve PA establishment and management.

Over 70 tools are recorded as having been used on GD-PAME, of which only a handful (perhaps less than 10) have been used in the Pacific (see Appendix 2). A summary of those most relevant to the Pacific region (either because they are already in use, or because they have potential use) is provided in Appendix 1. Comparisons and summaries of tools are also available on the GD-PAME,[5] and some information is available on the Pacific Island Protected Area Portal (PIPAP) which has a particular emphasis on monitoring, a key element of PAME assessments. More detailed descriptions are provided in Appendix 4. Tools can be broadly categorised according to those used globally, those adapted for regional and national purposes, and thematic tools developed for particular types of PAs and OECMs.

3.1. PAME assessment tools used globally

The Rapid Assessment and Prioritisation of Protected Area Management (RAPPAM) tool was probably the first PAME assessment tool to be developed and was based on a preliminary version of the IUCN-WCPA framework (Hockings et al., 2000). RAPPAM is one of the simplest tools. It was originally designed for assessing groups of sites, and is often used for single site assessments.

The Management Effectiveness Tracking Tool (METT) (Appendix 4) was developed by the same team of experts and has evolved through several versions, building on its use around the world. The METT is one of the most commonly used tools, particularly in Latin America and the Caribbean,[6] and its structure and questionnaire form the basis of many of the more recently developed tools. The METT has to be used for all GEF projects involving PAs and OECMs, to track both the progress of the project (to show improvements over the 5+ year project duration and the benefits of investment), and of the site itself.

The Integrated Management Effectiveness Tool (IMET) is under development by BIOPAMA for global use. It is mainly being introduced into Africa, as part of BIOPAMA's support to PAs and OECMs in this region. IMET is one of the more detailed assessment tools available and is linked to a database, established locally during the evaluation process. Metadata and the results of assessments, as well as related PA information, can be hosted and shared in regional hubs called Regional Reference Information Systems (RRIS) (Paolini et al., 2016). Initially designed for terrestrial sites, specific marine questions and indicators have been added and tested in Kisite Marine Park in Kenya.[7]

For a site to be accepted onto the IUCN Green List of Protected and Conserved Area, an even more detailed evaluation is required, using the Green List Standard described above. The generic indicators of the Standard are adapted to the local context, with heavy emphasis on documentation and verification of responses. Once complete, the assessment is independently certified (Hockings et al., 2019).

[5] https://www.protectedplanet.net/en/thematic-areas/protected-areas-management-effectiveness-pame?tab=Methodologies

[6] https://biopama.org/event/inaugural-meeting-of-the-biopama-latin-america-and-caribbean-mett-support-network/

[7] https://storymaps.arcgis.com/stories/a0b306e117ef493dac2860d1d7563dea

Sites listed under international conventions, such as Ramsar and the World Heritage Convention, are periodically assessed to ensure they continue to meet the criteria for listing. The assessment tools are based on or reflect the IUCN-WCPA PAME framework and, as in the case of the IUCN Green List, involve external assessors. World Heritage Sites (WHS) use two different assessment tools: Enhancing our Heritage (EoH) and the Conservation Outlook Approach (COA) (Appendix 1). For wetland sites listed under the Ramsar Convention, the METT has been adapted (see R-METT in Appendix 1); although not an official requirement, Ramsar sites are encouraged to use it (Ramsar Regional Center 2021).

A final category is evaluation tools developed for award or incentive programmes. The Blue Parks award programme, designed specifically for marine protected areas (MPAs), is one of the better known. It involves the nomination of MPAs that meet certain design and management criteria, followed by assessment and selection of sites for awards by globally recognised experts (Marine Conservation Institute 2022).

3.2. Tools for regional and national PAME assessment

Regional PAME assessment tools have been developed primarily for MPAs, since regional management bodies often play an important role in site management and have an interest in harmonising activities across the countries involved. Examples include:

- **Micronesia**: the Micronesia Protected Area Management Effectiveness Assessment (MPAME) was developed, initially for MPAs, for the countries taking part in the Micronesia Challenge (see Appendix 4) but is now being used also for terrestrial sites.
- **Coral Triangle**: for the six countries of the Coral Triangle Initiative (which include PNG and Solomon Islands), MPAs are assessed against a set of criteria for inclusion in the Coral Triangle Marine Protected Area System (CTMPAS) (Appendix 4).
- **Caribbean**: the Cartagena Convention requires that MPAs to be listed under the Special Protected Areas and Wildlife (SPAW) protocol are assessed against a set of criteria (Wells et al., 2016);
- **North-east Atlantic**: tools have been developed for MPAs for use in implementation of the OPSAR Convention (OSPAR 2007);
- **European Union**: a tool is under development for Marine Natura sites (Stelljes et al., in press).
- **Mediterranean**: the Barcelona Convention and other regional organisations have supported the development of assessment tools for MPAs (Wells et al., 2016).

There are many examples of tools that have been, or are being, developed specifically for national use, using either the METT or other generic tools. The need for tools adapted to national contexts was recognised through the increasing use of the METT, which led to questions about the meaning and interpretation of the generic indicators (Stolton et al., 2019). This in turn led to recommendations for clearer advice on how the indicators can be used in different contexts. Adaptation of the METT is now formally encouraged, with the recommendation that the basic format should be retained but that advice on interpretation of the indicators for local conditions should be provided, or extra questions added (Stolton et al., 2019). In the Pacific, development of national tools for Papua New Guinea and Vanuatu is well advanced (see below). Other general PAME assessment tools have also been adapted nationally, such as in the Solomon Islands (see Appendix 5). Some examples of other countries and territories are given below (and in Appendix 1), to demonstrate that this is not limited only to those that are well-resourced in terms of capacity and funding.

- Mexico, Bhutan and Turkey: these are among the many countries that are adapting the METT as a national assessment tool: in Bhutan, for example, the national tool is now used on a regular basis every five years.
- Indonesia: has done extensive testing of assessment tools for its MPAs, supported by WWF. The government has a formal system involving two tools: MPAs managed by the Fisheries Department use a tool called EVIKA and those managed by the Environment Department use the METT. In addition to these regular assessments, a formal evaluation process is conducted in fisheries-managed MPAs to review the management plan and zoning system every five years, and the broader long-term plan for the MPA is reviewed every 20 years.
- Kenya has tested a variety of PAME assessment tools in both terrestrial and marine PAs and OECMs, including the METT and IMET.
- Philippines has been using the Philippines Marine Protected Area Management Effectiveness Assessment Tool (MEAT) for MPAs over ten years.
- France, including overseas territories: Marine Protected Area Agency Dashboard for use in marine and coastal PAs has been used in New Caledonia.

3.3. Thematic PAME assessment tools

GOVERNANCE AND EQUITY

Effective governance and equity (i.e. appropriate respect of actors and their rights, decision-making, transparency, accountability, dispute resolution, and how costs and benefits are distributed) are key components of successful PA and OECM management and core principles in the IUCN Green List Standard. Although the tools mentioned in the previous section cover these topics to some extent, specific tools have been developed to assess governance and equity in more detail. Three tools (Site-level Assessment of Governance and Equity (SAGE), Social assessment for protected and conserved areas (SAPA) and Governance assessment for protected and conserved areas (GAPA)) have been developed by the International Institute for Environment and Development (IIED) (Franks et al., 2018; Booker et al., 2019; Franks and Pinto 2021), and are being increasingly used. A new tool with a focus on governance has been developed by WWF, called Elinor (see Appendix 4). Governance of community-managed areas can also be assessed, as demonstrated by an example in a Madagascar LMMA (Long et al., 2017).

COMMUNITY-MANAGED AREAS

Oceania has the highest proportion of community-based PAs in the world, making up almost 40% of sites in the region. Nearly a quarter of all community-based and Indigenous PAs reported on in the WDPA are in the Pacific and Fiji, Republic of the Marshall Islands, Papua New Guinea and Tuvalu have the highest levels of community managed PAs (>60%) (van Nimwegen et al. in press). Locally managed marine areas (LMMAs), defined as “an area of nearshore waters and its associated coastal and marine resources that is largely or wholly managed at a local level by the coastal communities, land-owning groups, partner organisations, and/or collaborative government representatives who reside or are based in the immediate area” are particularly prevalent in the Pacific. Their objectives may include protection of species, biodiversity conservation, improving fisheries, food security, livelihoods and/or cultural practice (Govan et al., 2008, 2009, Jupiter et al., 2017) and in many countries they are considered as OECMs. The LMMA audit tool was developed for use in the Pacific and has been tested in Fiji (see Appendix 5). Other assessment tools for use in LMMAs have been developed in Kenya and the Philippines. IMET and SAGE are being tested in LMMAs in Mozambique with the support of BIOPAMA.

BIODIVERSITY SPECIFIC TOOLS

Birds*:* BirdLife International's 'Pressure – State – Response' framework was developed for monitoring the conservation status of, and threats to, conservation actions at Important Bird Areas (IBAs) (Birdlife International 2008). It is based on the adaptive management model and is used extensively for IBAs around the world. Many IBAs are PAs or OECMs, or overlap with these, but the tool has not been designed for designated sites *per se* and so is not discussed further in this report. However, it is a useful model and worth consulting in the development and design of PAME tools.

Marine environment: The particular characteristics of MPA management, and the conflict that often arises between protection and sustainable use of the marine environment, has led to a number of specific PAME assessment tools for MPAs. The most comprehensive is *How is your MPA doing?* which provides detailed biophysical, socioeconomic and governance indicators for MPAs (Pomeroy et al., 2004). Although useful as it produces robust results (Fox et al., 2014), it has not been used widely beyond its initial trialling as it requires greater technical input than is generally available at most MPAs. The indicators, however, could be used for a variety of monitoring and management activities in an MPA. The Coral Triangle PAME assessment system (see Case Study in Appendix 5) and Blue Parks programme mentioned above are also specifically for MPAs. Other MPA-specific PAME assessment tools are the 2004 *World Bank MPA METT Scorecard* (Staub et al., 2004), Blue Seeds self-assessment score card *Blue Diagnosis*, and the 2006 *IUCN Workbook for MPAs in the Western Indian Ocean* (Wells and Mangubhai 2005). The *Marine Mammals Management Toolkit*[8] includes two self-assessment tools designed for MPA managers to assist with management of sites designed to protect marine mammals.

NETWORKS/SYSTEMS OF PROTECTED AREAS

The IUCN WCPA PAME assessment framework, as well as the IUCN Green List Standard, can be applied to systems of sites, as well as to individual PAs and OECMS – for example, the California network of MPAs, as a single entity, is being assessed for the IUCN Green List (Wells et al., 2016). Several of the tools described above (RAPPAM, MPAME and the Marine Mammals Management Toolkit) were specifically designed to be used for networks or systems of PAs, as well as for individual sites. Undertaking an assessment of a group of sites can be more cost-efficient than individual site assessments, but more detailed guidance will be required for this, once results of trials are available.

Article 8 of the CBD states that each Contracting Party shall, as far as possible and as appropriate, establish a system of PAs or OECMs, given that this has many additional advantages and benefits over the *ad hoc* creation of single sites. The IUCN Green List Standard requires that sites are established as "part of an identified conservation network, designed to meet goals of representation, replication, connectivity and resilience", and where appropriate, multiple-site assessments are encouraged. Criteria for a group of sites to undertake a multiple-site assessment are that they are: connected ecologically; have key shared value, and common, coordinated or harmonised governance and management arrangements; and can demonstrate how the protection and management of all sites within the network contribute to achieving broader conservation values as an ecological network.

[8] https://marine-mammals.info/self-assessment-tool/

4. PAME ASSESSMENT IN THE PACIFIC REGION

PAME assessments have been conducted throughout the Pacific region. An overview of assessments implemented in 14 Pacific countries (i.e. countries covered by SPREP) is provided in Appendix 2 and is summarised in Table 1. Countries with good practical experience of the METT include those that have used the METT for GEF projects, and those that have developed their own tools:

- Papua New Guinea and Vanuatu have developed national tools from the METT;
- Solomon Islands is developing a tool for MPAs based on experience with Coral Triangle methodology;
- Federated States of Micronesia, Republic of the Marshall Islands and Palau use a tool developed as part of the Micronesia Challenge initiative (see Appendix 5); and
- The LMMA Audit tool has been developed and tested in Fiji (case study in Appendix 4).

The METT is the most commonly used tool in the countries considered in this analysis, as a result of its use in GEF projects and for the development of national tools. RAPPAM was used in early assessments in Papua New Guinea and Samoa. MPAME has been used widely in Micronesia. The WH Conservation Outlook approach is used in the Kiribati, Palau and Solomon Islands World Heritage Sites. Some SPREP member countries have Ramsar Sites (e.g. Palau) and the R-METT was trialled in New Zealand in 2015 (Jungblut pers. comm).

Cakaulevu Reef, Fiji © Stuart Chape

TABLE 1. Summary of PAME assessment experience by country

COUNTRY	SUMMARY OF PAME ASSESSMENT EXPERIENCE
Cook Islands	Increasing experience of the METT, through the current GEF R2R project and early SPREP GEF 'integrated island biodiversity' project; no current plans for a national tool but would like to see a regional tool developed, adapted to the Pacific context, that each country could use.
FSM	The METT has been used at a number of PAs in the course of the GEF R2R project, but the preferred tool, used in a large number of sites, is MPAME.
Fiji	The METT has been used in the past. METT4 is currently being used supported by BIOPAMA grant to the National Trust of Fiji (NTF) in the six PAs being managed by the NTF: Waisali Rainforest Reserve, Yadua Taba Crested Iguana Sanctuary, Nakanacagi Bat Sanctuary, Sigatoka Sand Dunes National Park, Garrick Reserve and Sovi Basin Protected Area. The LMMA Audit Tool has been trialled in Fiji LMMAs.
Kiribati	Little PAME assessment experience apart from regular assessments of Phoenix Islands Protected Area (PIPA), using the WH Conservation Outlook.
Nauru	PAs/OECMs are still being developed; some experience of METT through 2012-2017 SPREP GEF 'integrated island biodiversity' project.
Niue	METT used in the GEF R2R project.
Palau	Extensive experience as a result of a national PAME assessment of all formally recognised PAs using an adapted version of MPAME; regular assessments of Southern Rock Lagoon WHS using WH Conservation Outlook.
PNG	Extensive experience, initially with RAPPAM, followed by METT; national tool (PNG-METT2) based on METT developed and ready for use, supported by GEF6 project Sustainable Financing of Protected Areas and a SPREP-funded consultancy. MPAs have reportedly been assessed using the Coral Triangle system in the past. BIOPAMA is providing support for a METT assessment in one Conservation Area, and SAPA may be tested in this country.
RMI	METT is used in the GEF R2R project, but the preferred tool is MPAME which has been used in a number of sites.
Samoa	Little recent PAME assessment experience although RAPPAM was used for some sites in 2008. A 2021-2022 BIOPAMA project is supporting assessment of the national PA network using the METT, and may use RAPPAM to provide an initial overview of management status of at least 20 MPAs.
Solomon Islands	A national tool, Management Effectiveness Assessment Guide for Marine Managed Areas (MEAMMA), is under development for MPAs, which have been assessed in the past using the Coral Triangle system. East Rennell WHS has been evaluated with Conservation Outlook, and Arnarvon Community Marine Park was evaluated through the Blue Parks programme and received an award.
Tonga	Some experience of METT through 2012-2017 SPREP GEF 'integrated island biodiversity' project.
Tuvalu	METT used in GEF R2R Project (2016-2021) with a focus on LMMAs; also METT experience through 2012-2017 SPREP GEF 'integrated island biodiversity' project.
Vanuatu	METT used at several sites; currently being adapted for use as a national tool (Vanuatu-METT).

5. COMPARISON OF PAME ASSESSMENT TOOLS

It is sometimes thought that a PAME assessment tool should be specific to the particular ecosystem or species that is protected, or to the type of PA or OECM (e.g. community-managed, private, large, or small). However, the adaptive management framework that assessments are based on (Figure 2) applies to all situations and most tools have been designed for use in all PAs and OECMs: from mountains and forests to coral reefs and deep oceans; from high islands to atolls; and from small community-managed areas to large government regulated national parks. There are, nevertheless, differences between the tools in terms of their complexity, format, scoring and reporting procedures and the detail they cover. Selection of a tool is thus dictated less by the ecological context or governance of a site, and more by the capacity and resources available and the purpose of the assessment.

In determining the type and level of an assessment (i.e. whether it is a relatively quick assessment based on available data or a more in-depth assessment based on detailed site monitoring), it is essential to have a clear understanding of why it is being undertaken, the financial and human resources and organisational capacity available, as well as the political will to apply the results to support adaptive management. General guidance on selection of tools is available in Hockings et al., (2006, 2015) and although there are more recent tools, these two references provide key advice.

5.1. Components of PAME covered by tool

Most tools cover a similar range of elements of the adaptive management framework (Figure 2) and thus have similar indicators or questions, requiring collection of the same data: e.g. baseline bio-physical information on the design of a site; operational management and work force capacity; financial sustainability; community development and benefits; patrolling and enforcement; stakeholder and government commitment; and progress towards conservation outcomes (through monitoring programmes). The METT has evolved over several versions to cover more PAME indicators. Tools designed for specific purposes emphasise particular components. Monitoring and evaluation of the socio-economic aspects of PAs and their governance have developed recently, and earlier versions of PAME tools did not cover these components in detail. This led to development of SAPA, GAPA and now SAGE and Elinor (see Appendix 4). Efforts are underway to integrate the governance tools with the more general tools such as the METT and IMET. Many tools were designed specifically for MPAs, but, as the concept of PAME assessment has become more widely understood, they are now recognised as being equally suitable for non-marine sites (e.g. MPAME).

Many PAME tools have a number of questions or indicators on similar topics, but these tend to be worded differently or organised into different categories which can make comparisons difficult. Users of assessment tools often comment that they are complicated, too long or have too many ‘questions or indicators’ that appear repetitive. This gives rise to the question “What is the minimum number of indicators needed to undertake a PAME assessment?”

A global analysis of PAME studies of some 12,000 sites, and involving about 10 different tools, found that about 1,000 differently worded indicators had been used. These could be reduced to 33 common headline indicators (Leverington et al., 2010) as shown in Table 2.

TABLE 2. Headline indicators identified in Leverington et al. (2010) and grouped according to the WCPA framework components.

WCPA FRAMEWORK	HEADLINE INDICATOR
Context	Level of significance (of protected features/nominated values of site)
	Extent and severity of threats
	Constraint or support by external political and civil environment
Planning	Legal establishment
	Tenure issues
	Adequacy of legislation and other legal controls
	Marking and security or fencing of park boundaries
	Appropriateness of design
	Management plan
Input	Adequacy of staff numbers
	Adequacy of current funding
	Security/reliability of funding
	Adequacy of infrastructure, equipment and facilities
	Adequacy of relevant and available information for management
Process	Effectiveness of governance and leadership
	Effectiveness of administration including financial management
	Management effectiveness evaluation undertaken
	Adequacy of building and maintenance systems
	Adequacy of staff training
	Staff/other management partners skill level
	Adequacy of human resource policies and procedures
	Adequacy of law enforcement capacity
	Involvement of communities and stakeholders
	Communication programme
	Appropriate programme of community benefit/assistance
	Visitor management (Visitors catered for and impacts managed appropriately)
	Natural resource and cultural protection activities undertaken
	Research and monitoring of natural/cultural management
	Threat monitoring
Outputs	Achievement of set work programme
	Results and outputs produced
Outcomes	Conservation of nominated values—condition
	Effect of park management on local community

In 2021, TNC carried out a survey of several assessment tools, with a group of PAME assessment experts, to seek consensus on a core minimum set of indicators that would provide a robust assessment of the social, economic, climate change, governance, and ecological outcomes of coastal and marine PAs and OECMs (TNC 2021). Seventeen indicators were identified (see Appendix 3). Most of the tools cover the priority indicators to a certain extent. Differences are more to do with how an indicator or question is worded, rather than the issue it covers.

For quick evaluation of Mediterranean MPAs, a reduced list of indicators (18), reflecting the four components of the IUCN WCPA framework, was identified (Tempesta and Otero 2013) as shown in Table 3. Twelve are considered Priority 1 (information should be gathered on them if not already available) and six are considered Priority 2 (information to be gathered for more comprehensive and consistent assessments).

TABLE 3. Indicators used for quick evaluation of Mediterranean MPAs (Tempesta and Otero 2013)

PRIORITY 1 INDICATORS	PRIORITY 2 INDICATORS
Existence of legislation	Networking and training
Existence of a functional management body	Coordination with stakeholders and planners
Existence of an updated management plan	Status of focal physical, cultural and spiritual features
Financial resources allocated to the MPA	Climate change awareness and actions
Patrolling and regulation enforcement	Alternative livelihoods and/or income-generating activities
Seawater quality	Local perception of the MPA
Focal habitat conservation status	
Focal species abundance/population structure	
Management of fishing effort	
Action on alien invasive species	
Existence of outreach activities	
Management of visitors	

It is beyond the scope of this report to do a detailed comparison of the indicators used in all the tools, although this would be valuable. It would be particularly useful to compare more carefully the three sets of headline indicators identified by Tempesta and Otero (2013), Leverington (2017) and TNC (2021), as this might help to address the challenge of balancing the number of questions or indicators needed for a good assessment with the capacity, time and resources available for the assessment. Related work underway is the development of an Improvement Benchmarking and Evaluation Index (IBEX) tool that will allow site managers to track the progress of their sites, measured by any assessment tool, against the four components of the IUCN Green List Standard (Figure 3). In the meantime, the recommendation is to ensure that a tool is adapted to the national situation, with indicators worded in such a way that they are understood by all involved, and with indicators that are irrelevant to the country removed.

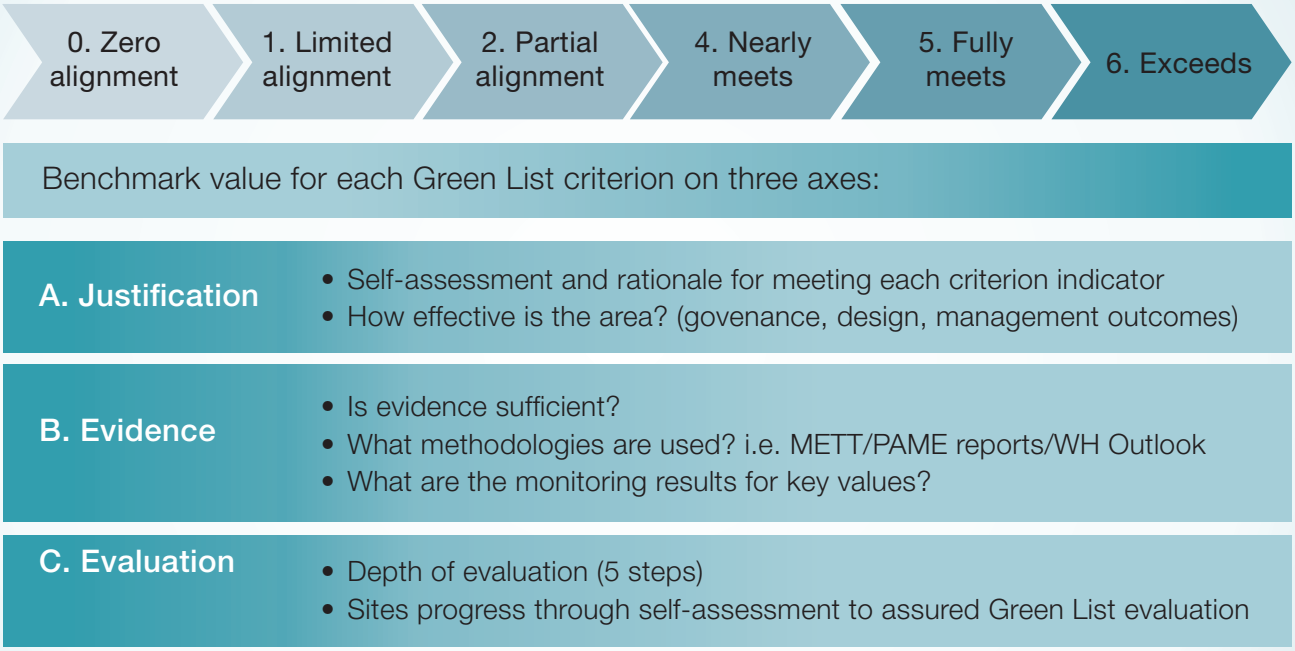

FIGURE 3. Proposal for IBEX tool to enable comparison of PAME Assessment tools and the Green List Standard.

5.2. Comparison of tools with the IUCN Green List Standard

When thinking about the content of a PAME assessment, it is helpful to understand how the different tools relate to the IUCN Green List Standard. The crosswalk of the criteria and indicators of the Green List Standard with the indicators used in seven commonly used tools (METT 4, RAPPAM, SAGE, IMET, Enhancing our Heritage (EoH), World Heritage Conservation Outlook Assessment (COA) and the MEAT (UNEP-WCMC, 2022) provides some guidance. All the tools have a significant alignment with the Standard (Figure 4), which is perhaps not surprising since many of the tools have evolved and been revised as a result of sharing experiences from the use of different tools, and thus learning the pros and cons of each. Furthermore, much of the technical expertise has been provided by the same group of experts.

EoH provides the highest coverage of criteria in Green List Standard Components 1 (Good Governance), 2 (Sound Design and Planning), and 3 (Effective Management), and the greatest coverage of indicators for Component 1. IMET provides the same coverage of criteria of Component 3 as EoH. METT 4 provides the greatest coverage of IUCN Green List indicators for Components 2 and 3. Component 4 (Successful Conservation Outcomes) criteria and indicators had the greatest coverage by IMET. Where differences arise, in many cases these are because tools have been developed with a specific purpose in mind (e.g. SAGE has a focus on governance and equity). Some of the IUCN Green List Standard criteria or indicators are therefore not applicable (UNEP-WCMC 2022).

FIGURE 4. Comparison of PAME assessment tools with the IUCN Green List Standard (taken from UNEP-WCMC 2022). For clarification, the category Exceeds means that a tool assesses an indicator in more detail than that required by the equivalent in the Green List Standard.

5.3. Scoring and ranking

Most tools use a 4-5 point rating scale for each indicator (as first developed for RAPPAM and METT) which may be either qualitative (e.g. Poor – Very Good) or quantitative (e.g. 0-4). Users generally find this approach straightforward. A number of tools (e.g. METT4) automate the totalling of the scores, whereas with others (e.g. RAPPAM) this is done manually.

Tools with a numerical or quantitative scoring system should be used with care. PAME assessments should not be used to assess a PA manager's performance, and a quantitative score can be misinterpreted as reflecting on individuals (many indicators measure issues not generally directly controlled by managers, e.g. legal status, PA design, budget security). In an assessment of South Africa's MPAs, for example, to avoid such pitfalls, a simplified colour-based system was used to highlight where urgent action is required to improve management effectiveness: the colour red denotes priority indicators (0–33% score) where MPA management needs improvement, while orange denotes indicators with basic management (66% management effectiveness score) that require improvement, and green denotes indicators with optimal management (100% score) (Adams et al., 2021).

5.4. Format of assessment tool

Some tools are simple questionnaires, laid out as Word documents (e.g. RAPPAM, MPAME), but more recent versions of the more commonly used tools are in the form of Excel spreadsheets (e.g. METT4), or specifically designed information systems (e.g. IMET, Elinor). This allows for drop-down lists of predetermined answers for questions such as IUCN Protected Area Management Categories, governance type, species and habitats or threats (e.g. METT4 and IMET use the IUCN/CMP threat typology).[9] Drop-down lists can speed up the assessment and help to standardise results across sites.

When selecting a particular PAME tool, careful thought needs to be given to dissemination and storage of assessment results. To help with presentations of the results, some tools (METT4, IMET, Elinor) have an in-built mechanism for both analysis and display (e.g. star diagram, graphs, bar charts, traffic light systems). Several tools, such as IMET and Elinor and some national tools, have been designed as part of a database/information system, which allow direct input of the results and can be used to store associated data and means of verification. The tool being developed by the EU for Marine Natura Sites will have a fully integrated IT system, that will link to national protected area data systems (Stelljes et al., 2021). This approach is of considerable value as it ensures that assessments, with the information they are based on, are archived and available in-country, allowing comparison over time. METT assessments undertaken as requirements for GEF projects are unfortunately often not retained in-country, so that information that would be useful later for comparative purposes is not available.

5.5. Best practices when conducting PAME assessments

The process used for an assessment can have a significant impact on the results and thus the value of the assessment. With the exceptions of certification/award systems (such as the IUCN Green List, and the Blue Parks awards), and the World Heritage evaluation process, most tools are designed as self-assessments. Although they can be undertaken by PA managers or selected groups of individuals, it is generally best if they are carried out through a participatory workshop approach involving all key stakeholders. Experience has shown that assessment results are more reliable if a range of stakeholders are involved, who experience

[9] https://docs.google.com/spreadsheets/d/1rJSNz1LG_KOqoudVFglodx47HZ9LR-M6iVlRYMvn9Wk/edit#gid=310830663

and understand the site from different viewpoints. For example, fishers and users of a site may rank indicators relating to the adequacy of participatory management planning, processes and actions differently from the manager and site staff. It may require discussion to reach consensus on scores. Assessments undertaken by PA staff alone may result in higher scores, although in some countries (e.g. Australia) the management staff have been found to be more critical and award lower scores (Hockings pers. comm).

Self-assessment tools can thus result in biased reporting, particularly if the assessment is linked to project funding: a site may want to show improvements and success, or to emphasise certain gaps and weaknesses, in order to demonstrate the need for further funding. Project-driven assessments, undertaken for donors, similarly may be biased to show improvements over time or to seek further funding. This is not particularly useful for the most important purpose of an assessment – to adapt management actions. Regular assessments embedded in institutional processes, undertaken with a range of stakeholders, are generally perceived as being the more comparable and consistent.

5.6. Time required and capacity and resources needed

Even with the simpler tools, there is often a perception that PAME assessments are lengthy activities, costly and require extensive resources. This view tends to arise when the purpose of an assessment (to identify areas where improvement is needed) has not been fully understood, and it is being treated as a 'tick box' exercise, that might take a couple of hours. Given the great variation in both PAs/OECMs and the tools available, it is not possible to give precise guidance on how long an assessment will take. However, if participatory workshops are used, single assessments generally take 1-3 days regardless of the tool, as indicated in the guidance provided for the METT and RAPPAM and the experience of those who have taken part in assessments. The time it takes to complete an assessment depends on numerous factors including the local context, the extent of preparation (relevant data and information should be assembled in advance of planned workshops), and the pre-training and facilitation needed at the site or network of sites.

5.7. Frequency of assessments

Assessments using all the elements of the framework should be carried out on a regular basis, for example every two to five years, and preferably linked to PA management reporting cycles at the site, national, regional and global levels. However, separate elements of the framework can be assessed at different intervals: for example, indicators for inputs and outputs (e.g. funding, staffing, progress with work plans) could be assessed as part of the preparation of annual reports, work plans and budgets, while context and outcomes (e.g. threats, results of ecological monitoring programmes) could be assessed at less frequent periods (e.g. 3–5 years) and linked with revisions of the management plan. Results of PAME assessment can be very useful for identifying changes needed in management plans. The process to develop the national PNG tool, and the *Reimaanlok* approach used in RMI, show that assessments can be used to stimulate the development of more structured management plans, with simple indicators, based on review of existing management regimes. For Papua New Guinea, it has been recommended that assessments be undertaken every 3-5 years (Leverington et al., 2017), and for South African MPAs, using the nationally adapted METT tool, about every 5 years (Adams et al., 2021).

5.8. Assessment costs

The costs of assessments using different tools are highly country and context specific, and it is not possible to generalise. To assist with estimating the budget, the main costs involved are:

- **Workshops** (assuming that a participatory approach is used as recommended): hiring of venue, travel, refreshments, board and lodging of facilitators, materials and equipment
- **Facilitators and assessors** – training, fees
- **Preparation of materials** – do these exist already?
- **Translation** of assessment questionnaires if required – translator fees
- **Adaptation of indicators/questions** – how suitable is the tool for the initial assessment?

In general, the more complex and intensive the assessment, particularly if it involves external expert assessors, the more costly it will be. However, if an assessment is undertaken as part of activities that are already planned for, such as revision of a management plan, or staff meetings to review annual progress, costs would be minimal. Financial requirements for subsequent assessments will be lower as, once materials have been prepared and key individuals trained, funding will only be needed for travel, workshop costs and updating of the assessment questionnaire. It is also important to remember that an assessment can demonstrate funding gaps for particular aspects of management: PA budgets often lack funding for monitoring and assessment workshops.

Huvalu Forest, Niue © Stuart Chape

6. REPORTING PAME ASSESSMENTS

Although the primary aim of a PAME assessment is to improve management at a site and to provide information to local managers and stakeholders, the results should be reported at national, regional and global level as appropriate. This helps with sharing experiences and lessons learned, and allows assessment of progress towards national, regional and global targets.

The CBD Aichi Target 11 and the CBD's draft post-2020 Global Biodiversity Framework (GBF) Target 3 both stipulate that systems of PAs and OECMs are 'effectively and equitably managed'. Successful conservation outcomes for biodiversity will mean establishing sites that are effectively managed and protected from environmentally damaging activities. Ensuring that PAs and OECMs are effectively managed and deliver conservation outcomes is a global priority for the next decade, and indicators and tools for PAME assessment are being discussed in the development of the post-2020 Global Biodiversity Framework (GBF). A system is being sought that would allow results from individual national assessments of all types to be translated into high level indicators for global reporting. As an example, one suggestion (Singleton et al., 2021) is based on the four-question approach, used for North-east Atlantic MPAs to report to the regional OSPAR convention:

a. Is management of the site documented?

b. Are measures to achieve conservation objectives being implemented?

c. Is monitoring in place to assess if measures are working?

d. Is the site moving towards or has it reached its conservation objectives?

A range of suggestions have been made for such high-level indicators and there is ongoing discussion among the CBD parties to reach agreement.[10]

The GD-PAME is the official repository for reporting on PAME. At present, this records just the date of, and tool used for, an assessment[11] as there is no method available to translate results from the many site-level assessments using different tools, indicators and scoring methods, into a common information system. The various quantitative and qualitative scoring or ranking methods are difficult to harmonise and, as mentioned above, there is no consensus on the basic indicators needed to assess effectiveness.

Many assessments undertaken in the Pacific have not been reported to the GD-PAME. SPREP and the IUCN Oceania Regional Office, with the UN Environment World Conservation Monitoring Centre (UNEP-WCMC) held a virtual training workshop in 2021 to provide information on how to report to GD-PAME. A Roadmap was developed, along with plans for promoting the regular collection and periodic update of management effectiveness data for the region.[12] This involves the UNEP-GEF SPREP Inform Project which has supported the establishment and/or upgrading of national environment data portals, leading to a Pacific Island Country (PIC) network of national and regional databases for monitoring, evaluating, and analysing environmental information. The Palau PAN report (2016) provides a good model for reporting nationally (see case study in Appendix 5).

[10] https://www.cbd.int/doc/c/3190/c3f4/1d9fe2d2dedc8c8b97023750/id-om-2022-01-02-en.pdf

[11] https://www.protectedplanet.net/en/thematic-areas/protected-areas-management-effectiveness-pame?tab=About+%26+Manuals

[12] https://pipap.sprep.org/content/video-virtual-training-workshop-introduction-global-database-protected-area-management-0

The Inform Project is also developing a process for regional reporting (SPREP 2021): ten biodiversity-related indicators have been developed, including one for PAME: "% of formal protected areas (PAs) where PA management effectiveness assessments (PAME) have been completed". There is an associated rating system (Good, Medium, Fair, Poor), and an Indicator Reporting Tool (IRT). and these may provide a means of reporting nationally on PAME assessments.

There are several additional tools that can be used for classifying sites according to certain criteria and that are used in reporting. These classifications complement PAME assessments but are not themselves assessment tools: they include the IUCN protected area management and governance categories and two tools for classifying MPAs according to regulations and length of establishment (Table 3).

TABLE 3. PA and OECM classification tools.

TOOL	DESCRIPTION
IUCN PA Management Categories	Marine and terrestrial – classifies PAs according to the six defined IUCN management categories: https://portals.iucn.org/library/sites/library/files/documents/pag-021.pdf Additional guidance for MPAs: https://www.iucn.org/content/guidelines-applying-iucn-protected-area-management-categories-marine-protected-areas
IUCN PA Governance Categories	Marine and terrestrial – classifies PAs according to the four defined IUCN governance categories. https://www.iucn.org/content/governance-protected-areas-understanding-action
MPA Guide	Designed for MPAs but with potential for wider use. Classifies sites by Stage of Establishment (announced, legally designated, implemented, actively managed) and Level of Protection (full, high, lightly protected, and minimal). At each level of protection, the conservation outcomes that can be expected are described. https://mpa-guide.protectedplanet.net/ (description of the framework) https://mpatlas.org/mpaguide/ (database of classified MPAs)
Regulation-based classification system	Marine only – Classifies MPAs by the types of regulations within a site (Horta e Costa, et al., 2016) http://www.classifympas.org/en/

7. CONCLUSIONS

Given the context of the Pacific, with vast areas of marine space and scattered land masses that vary from large high islands to low atolls, it is clear that no single approach to PAME assessment will be suitable. Several Pacific countries are increasing their experience of PAME assessments particularly through GEF R2R projects, NGO protected area initiatives, and government activities. The interview participants stated that PAME assessments have been useful and beneficial. They were keen to see PAME assessments adopted as part of the institutional process for PA management.

However, there are many challenges, compounded by the COVID pandemic, which has delayed many of the recent initiatives to introduce PAME assessments. These include:

- The complexity and language of questionnaires, including the METT, were noted as barriers. This means that undertaking an assessment for the first time can be daunting and involves a significant learning process. This is in line with the study by Leverington et al. (2017) which noted that PA management agencies with on-ground staff, well developed budgets, equipment and infrastructure are less common in the Pacific than in some other regions, and many of the questions and indicators in PAME assessment tools relate to these aspects of management.

- Lack of capacity: relevant government agencies on small Pacific islands lack capacity to undertake PAME assessments and the essential associated monitoring. This applies even more for the many community-managed sites and LMMAs. There is a particular need for assistance to adapt or implement tools that will work in these situations. Experience with the FLMMA audit tool in Fiji emphasised the amount of support and facilitation needed to introduce even a simple tool into a large number of sites and for assessments to be maintained on a regular basis.

- Lack of management plans, which help to provide a basis for an assessment, and of well-supported long-term monitoring programmes that provide the data needed for assessment of conservation impact and outcomes. Data on inputs is generally easier to obtain.

- Lack of support for storage and analysis of results, and using the results to adapt management and for setting up systems to carry out repeat assessments.

- The large-scale, offshore MPAs and scattered nature of islands in the Pacific present particular challenges. Similar constraints have been identified in several of the UK overseas territories which are also currently reviewing tools to use for PAME assessment. For example, like PIPA in Kiribati and Manuae Marae in the Cook Islands, Tristan da Cunha in the Atlantic Ocean has a vast marine protection zone, with very limited management resources or ability for boats to reach much of the site (Blue Belt programme 2021).

- Problems with data gathering, access to, and ownership of, data: where management and monitoring plans are developed by external consultants without good experience of the day-to-day operational management of a site, these may not necessarily reflect the reality of available capacity or logistical issues. Monitoring is also often carried out by researchers as part of a larger academic project, or by overseas volunteers: in such cases, the data is not always left with the management staff or, if it is, the staff may lack the necessary skills for analysis. Data collected in this way can be patchy and dependent on what scientists want to study. In some cases evaluations are undertaken and reported on in scientific papers without being integrated with national initiatives, and without data being archived in-country.

Some of the conclusions from both the literature review undertaken for this report and the stakeholder interviews, are:

- Seeking a common PAME assessment tool for the region is probably not appropriate, given the work and resources put into developing national tools in several countries, and the benefits being seen from these – common principles shared can be adapted to local situations and available capacity. Through the BIOPAMA programme, consideration was given to the potential for IMET but this was generally thought to be too detailed and resource-intensive for the region.

- Given the limited capacity and resources of most Pacific countries, PAME assessment tools need to be simple, achievable and relevant, e.g. by prioritising indicators that are relevant to the site's specific objectives and selecting realistic timescales for review.

- PAME assessments are as much about the process as the results: a PAME assessment can bring stakeholders together and promote mutual understanding. Best practice for undertaking PAME assessments is described earlier in the report.

- Effective long-term monitoring programmes are fundamental to good assessments. These need to be well planned, repeatable and done regularly, with adequate resources for data analysis and interpretation so that the trends can be used to inform management decisions. Monitoring programmes should go beyond ecological and threat monitoring to address social, resource and management information. Some of this information may already exist or can be collected easily in the course of day-to-day management (e.g. visitor and PA user numbers, staff resources and skills equipment, infrastructure).

- Presenting PAME assessments visually and clearly for decision makers, and provision of the evidence for the results, will help them understand the needs of the site and allocate resources appropriately.

- Share as much as possible, do not reinvent the wheel, and learn from each other.

- Assessment tools that are used with communities in particular need to be designed with wording, language and concepts appropriate to the people involved, and should be carefully explained. In some cultural contexts, it is vital to recognise that it is not necessarily easy or considered appropriate to acknowledge problems or mistakes.

8. RECOMMENDATIONS

Adequate funding will be key to the adoption of PAME assessment across the region. PA and OECMs need dedicated, secure and adequate budgets if they are to achieve their objectives and respond to shortfalls in management effectiveness. Several of the current GEF projects are addressing the need for PAME assessment as a key component, and countries should consider building PAME evaluations into the design of further projects dealing with protected and conserved areas. Donors and NGOs providing technical and financial support should similarly make this a high priority.

Where a tool has been specifically designed for a country (e.g. PNG METT) or region (e.g. MPAME), it is recommended that this tool should continue to be used. However, experience shows that assessment tools need revision as conditions change or as a result of learning lessons as the number of assessments increase. For example, tools need be able to assess changes due to climate change, in terms of threat to, and impact on, a site, and the adaptations and management interventions that will be needed to address this. Rapidly changing economic situations in a country, which impact heavily on PAs as demonstrated by the pandemic, may also mean that assessments need revision, with questions added or indicators revised.

If a country has not yet adopted a tool for national PAME assessment, consider using one of the existing methods and adapting as needed to the local content, as has been done in Papua New Guinea and Vanuatu. The tool must be practical and cost effective to implement, and give a good balance between measuring, reporting and managing. Interviewees from several countries pointed out tools that are expensive and time-consuming to use are less likely to be repeated. Given that some harmonisation between tools will be useful for comparing assessments across the region, it will be worth looking at the tools being adopted by neighbouring countries in case these could be adapted.

Consider the role of technology in undertaking PAME assessments. At least two interviewees suggested that tools, such as the LMMA audit tool or even the METT, could be available on smart phones or tablets, in the way that national censuses are carried out in some of the islands. Questionnaires completed by stakeholders in the field could be sent directly back to the PA office for analysis and even entered directly into a data system, avoiding loss of data or additional resources for data input. In Papua New Guinea, a mobile app has been developed to facilitate data collection (see Appendix 5) which demonstrates the potential for such technology. Countries that have adopted the SMART tool[13] for enforcement and other monitoring activities have found that the data gathered through this technology can be useful for assessments (Stolton et al., 2021). There is also growing potential for using remote sensing and other satellite monitoring systems to monitor both the condition of protected ecosystems (Gohr et al., 2022), and enforcement and compliance; unreported and unregulated (IUU) fishing is increasingly monitored through Global Fishing Watch, as well as drones and other technology such as passive acoustics.

Policy and institutional arrangements for PAME assessment: as experience has shown with the LMMA audit tool in Fiji (Appendix 4), the administrative and financial challenge of supporting periodic assessments, on a regular basis, for numerous sites and helping with the follow-up adaptive management required, is too large for local NGOs. National level political will is required, with PAME assessment adopted as national policy, as is the case in Papua New Guinea. This will help to ensure that the necessary funding is found for development of appropriate institutional arrangements and the mainstreaming of assessments into the site management cycle.

[13] https://smartconservationtools.org/

Reporting nationally, regionally, and globally: this will need further support, with follow-up to the work undertaken by UNEP-WCMC and through the Inform Project. The roles of the national environment data portals (potentially as the primary depositories of national and/or site-based PAME assessments) and PIPAP (as a repository for analysing assessments and sharing assessment experience across the region) need exploring. PAME assessment reports should be archived at national level, to assist regional and global reporting requirements, and the national environment data portals mentioned above could play a significant role in this.

Capacity building and training: Training will be essential at national level for assessment activities including development and/or adaptation of tools, the assessment process, using results for adaptive management, monitoring and reporting. Managers, other MPA practitioners and key stakeholders will benefit from training. The development of the Papua New Guinea national tool illustrates how capacity building, combined with targeted technical support, can be built into the overall process. Regional PAME assessment training workshops are also cost-effective given the similar context of PAs across much of the Pacific. This approach has been useful in the Western Indian Ocean, where a series of regional capacity building and training initiatives have been held, led by various institutions including IUCN's Eastern Africa Regional Office, the Western Indian Ocean Marine Science Association, and BIOPAMA over the last two decades. The IUCN Ocean Regional Office (ORO) is planning training in the region on the IUCN Green List. This will help to increase understanding of the criteria and indicators that are the basis for PAME and how assessments can be undertaken. Given that it will not be possible for all sites to apply as a candidate to the Green List in the near future, it would be advisable to ensure that basic training is provided on using the simpler assessment tools.

Sharing of experiences and lessons learned: Sharing of experiences within a region is being seen as increasingly valuable for all aspects of PA and OECM management, and for PAME assessment this is particularly important, given cultural similarities. For example, BIOPAMA has helped to set up a Latin America/Caribbean METT network[14] in order for METT users and practitioners to share experiences, access technical support, and access capacity development. There is also a Facebook group to facilitate peer-to-peer engagement and information sharing. A similar mechanism would be valuable in the Pacific, and could include states outside the SPREP grouping. This might be considered by the Pacific Islands Round Table for Nature Conservation[15] or the Protected Areas Working Group,[16] with thought given as to how PIPAP could be used as a platform for sharing PAME assessment experiences. The GEF and/or BIOPAMA could perhaps facilitate the sharing of experiences of using the METT. The NGOs involved in PAME assessment activities could hold training and lessons learned events. Links could be made with the UK Blue Belt programme which is supporting the introduction of the PAME assessment approach in MPAs in Pitcairn, other overseas territories, and some other countries such as the Maldives (Blue Belt Programme 2021). Other programmes relevant to the Pacific are the French initiative which involves New Caledonia (Pelletier et al., 2020) and work underway in the US territories.[17] A particular effort should be made to share experiences on assessment for LMMAs and small community-based areas.

[14] https://biopama.org/event/inaugural-meeting-of-the-biopama-latin-america-and-caribbean-mett-support-network/

[15] https://pipap.sprep.org/content/pacific-islands-roundtable-nature-conservation-pirt

[16] https://pacific-data.sprep.org/dataset/protected-areas-working-group-pawg-action-plan-2014-2020

[17] https://marineprotectedareas.noaa.gov/aboutmpas/marine-protected-areas-2020.html

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10. APPENDICES

APPENDIX 1
Overview of Methodologies and tools for PAME assessment

TOOLS	DESCRIPTION	WEBSITE OR LINK
GENERAL – GLOBAL		
METT4 – Management Effectiveness Tracking Tool	Widely used; 38 questions; includes tool to analyse results; required by GEF-funded PA projects; has evolved through several versions and is now available as an Excel spreadsheet that can be downloaded. The questions have been adapted to national context in many countries. No associated database/information system.	https://www.protectedplanet.net/en/thematic-areas/protected-areas-management-effectiveness-pame?tab=METT
IMET – Integrated Management Effectiveness Tool	Designed primarily for, and introduced at, BIOPAMA supported sites in Africa and Caribbean; specific marine component under development. Has associated database/information system.	https://rris.biopama.org/pame/tools
RAPPAM – Rapid Assessment and Prioritisation of Protected Area Management	Earliest and simplest of the questionnaire-based tools; 16 questions, with 3 system level questions; rarely used now despite its simplicity. No associated database/information system.	https://wwfeu.awsassets.panda.org/downloads/rappam.pdf
SAGE – Site-level Assessment of Governance and Equity	Developed by IIED (with related tools SAPA and GAPA); focus on governance and equity; 50 questions; to date, mainly tested in Africa.	https://www.iied.org/site-level-assessment-governance-equity-sage
Elinor	Under development by WWF; combines elements of METT and SAGE; 35 questions; to be launched at Africa Protected Areas Congress; integrated database.	https://elinordata.org/
R-METT – Ramsar Site Management Effectiveness Tracking Tool	METT tool adapted for Ramsar Sites; used in Madagascar, India.	http://rrcea.org/now-available-r-mett-guide-for-wetland-managers-and-stakeholders/
Enhancing our Heritage/Conservation Outlook	The two World Heritage Site assessment tools in use.	https://worldheritageoutlook.iucn.org/more/resources/conservation-outlook-assessments-guidelines-their-application-natural-world-heritage
IUCN Green List Standard	Global standard for PA and OECM management; the standard can be used by any PA or OECM for PAME assessment, and is also the basis for the Green List certification programme.	https://iucngreenlist.org/

TOOLS	DESCRIPTION	WEBSITE OR LINK
MARINE – GLOBAL		
LMMA Audit Tool	Has been used in Fiji.	
How is your MPA doing?	Comprehensive, indicator based tool, used at several MPAs in the Caribbean in the past but now used less frequently.	www.iucn.org/content/how-your-mpa-doing-a-guidebook-natural-and-social-indicators-evaluating-marine-protected-areas-management-effectiveness
MPA METT Score card	Developed 2004 by World Bank as marine equivalent to METT; not apparently in use now.	http://www.reefresilience.org/pdf/MPA_tool.pdf
Blue Diagnosis	Self-assessment score-card tool developed by Blue Seeds.	https://blueseeds.org/en/assess-mpa-management-effectiveness/
Blue Parks	Global initiative to incentivise effective MPAs with awards for MPAs that meet science-based criteria for MPA effectiveness. Launched in 2017 by Marine Conservation Institute.	https://marine-conservation.org/blueparks/
Marine Mammal Management Toolkit Self-Assessment Tools (SATs)	Two SATs designed and created for the use of MPA managers, stakeholder and any other relevant parties to assess the extent to which marine mammals are included in their management plans.	https://marine-mammals.info/self-assessment-tool/
REGIONAL TOOLS		
CTMPAS – Coral Triangle MPA System	Designed for MPAs in the 6 countries of the Coral Triangle Initiative.	https://www.coraltriangleinitiative.org/index.php?q=library/action-plan-coral-triangle-marine-protected-area-system-ctmpas-framework-and-action-plan
Western Indian Ocean	Workbook for MPA PAME assessment.	https://www.iucn.org/resources/publication/workbook-assessing-management-effectiveness-marine-protected-areas-western
EU Marine Natura assessment tool	Tool currently under development for marine Natura 2000 sites.	Stelljes et al., 2021 https://www.ecologic.eu/17681
Baltic Sea MPAs: HELCOM tool	MPAs	
NE Atlantic MPAs: OSPAR tool	N.E. Atlantic MPAs – questionnaire used every 2 years for regional assessment (focus on whether management is in place rather than how effective it is).	https://www.ospar.org/documents?v=40944
Mediterranean MPAs: **MPA Scorecard** **Barcelona Convention – SPAM criteria**	18 indicators, numerical scoring MEDPAN.	Tempesta and Otero (2013). https://portals.iucn.org/library/sites/library/files/documents/2013-018.pdf

TOOLS	DESCRIPTION	WEBSITE OR LINK
NATIONAL		
PNG-METT2	Papua New Guinea national tool.	See case study
Vanuatu national tool	Vanuatu – underdevelopment, based on METT.	See case study
Micronesia MPAME	In use in FSM, RMI and Palau.	See case study
Australia national tool	Prepared by the Australian MPA Science and Management Effectiveness Working Group.	*Ref to be added*
Pitcairn	UK Overseas Territories Blue Belt supported PAME initiative to develop a tool.	https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1021894/PAME-report_Final-Jul2021_shared.pdf
Philippines – MEAT	For MPAs; used regularly.	www.coraltriangleinitiative.org/index.php?q=library/toolkit-marine-protected-area-management-effectiveness-assessment-tool-february-2011
Indonesia – EVIKA	MPAs: well-developed process extensively tested. A tool called EVIKA is used for MPAs managed by the Ministry of Fisheries, which has been developed as a result of extensive testing of other methods; other MPAs use the METT.	https://www.coraltrianglecenter.org/2021/02/17/evika-a-refined-evaluation-tool-for-mpas-in-indonesia/ Kementerian Kelautan dan Perikanan (Ed.). (2020). Management of Marine Protected Areas in Indonesia: Status and Challenges (pp. 1–342). Kementerian Kelautan dan Perikanan and Yayasan WWF Indonesia. Jakarta, Indonesia. DOI: 10.6084/m9.figshare.13341476
Maldives national tool	Tool under development (technical and financial support from JNCC-UK).	
Seychelles	Use an adapted version of the METT every 2–3 years.	
South Africa	Nationally adapted tool (SA-METT) used at least every two years (in some sites annually) in all government- governed terrestrial protected areas. National tool (METT-SA Version 3) developed for MPAs (Adams et al., 2021).	Adams, RJ and Kawolski, P. 2021. The SA MPA METT 3: Tracking management effectiveness of marine protected areas in South Africa. WWF South Africa. https://wwfafrica.awsassets.panda.org/downloads/wwf_sa___mett_3_report.pdf IUCN ESARO (2020). The state of protected and conserved areas in Eastern and Southern Africa. State of Protected and Conserved Areas Report Series No. 1. Nairobi, Kenya: IUCN ESARO.
Kenya	National tool in development; METT used until 2018; IMET now being trialled (for MPAs and BMUs).	
Tanzania	National tool in development, based on I-MET.	

TOOLS	DESCRIPTION	WEBSITE OR LINK
Madagascar	Management Effectiveness Assessment for Madagascar's Protected Areas System (SAPM). METT adaptation for Madagascar.	IUCN ESARO (2020). The state of protected and conserved areas in Eastern and Southern Africa. State of Protected and Conserved Areas Report Series No. 1. Nairobi, Kenya: IUCN ESARO.
Mexico i-Efectividad	National online assessment system; can generate data needed for GEF-METT so that PAs can report on GEF-funded projects.	*Ref to be added*
Chile PAME assessment	Patagonian Sea PAME assessment initiative.	https://marpatagonico.org/publica/ampefectividadch/
NOAA tool – USA	Management effectiveness framework under development for national marine sanctuaries.	
Belize tool	National tool being adapted from experience with METT (support from UK).	
Dutch Caribbean	MPAs – PAME assessment tool: Management Success.	MacRae and de Meyer (2020). https://www.dcbd.nl/document/new-approach-monitoring-marine-protected-areas-management-success-dutch-caribbean
France, including oversea territories such as New Caledonia	French MPA Agency dashboard for marine and coastal areas Assessment experience in New Caledonia described in Pelletier et al. (2020).	https://www.cbd.int/doc/meetings/mar/soiws-2015-03/other/soiws-2015-03-mpaap-en.pdf https://www.frontiersin.org/articles/10.3389/fmars.2020.545930/full
Turkey – METT-Turkey	Based on experiences with RAPPAM and METT, a national tool has been developed.	Karadeniz, N. and Yenilmez Arpa, N. 2022. Guidelines for assessing the management effectiveness of protected areas. Ankara, FAO and MAF. https://doi.org/10.4060/cb8349en

APPENDIX 2
Overview of PAME assessment in SPREP countries

WDPA data available from UNEP-WCMC (2022). Protected Area Profiles from the World Database on Protected Areas, August 2022. Available at: www.protectedplanet.net

COUNTRY	WDPA STATISTICS (bold blue) WITH COMMENTS	PREFERRED PAME ASSESSMENT TOOL	EXPERIENCE WITH PAME ASSESSMENTS
Cook Islands	**3 PAs, 0 assessments.** GEF R2R project review of PA system and new classification system suggests that there are 10 PAs, 89 managed areas (incl. *ra'ui* sites) and additional sites yet to be classified (Twyford, 2021). At least 6 assessments (see col.3).	NES would like a simplified regional version of METT for use by individual countries.	METT: completed during GEF R2R project, 1-3 times, at Takitumu Conservation Area, Te Manga Te Kou Cloud Forest (proposed), Manuae Wildlife Sanctuary/Marine Reserve (proposed), Moko'ero Nui Forest Reserve (proposed), Takutea Community Conserved Area, Cook Islands Marine Park (CIMP); METT was not used at any *ra'ui* sites. METT was also used in the 2012-2017 SPREP GEF 'integrated island biodiversity' project.
FSM	**5 PAs, 1 assessment*.** Over 50 sites, including those formally accepted into PA network of each state and additional community-owned and managed areas. Many assessments (see col.3).	MPAME	MPAME: used in all PAs in all 4 islands in 2014 through TNC/MCT Micronesia Challenge initiative. METT: used at several sites for GEF5 R2R project; *WDPA recorded assessment is a GOBI survey for Utwe Biosphere reserve.
Fiji	**146 PAs, 2 assessments** 23 terrestrial sites meet IUCN criteria for PAs (van Nimwegen et al. in press); there are also some 400 LMMAs. Over 9 assessments (see col.3).	No information	METT: 9 assessments undertaken at 6 PAs (van Nimwegen et al., in press), incl Taveuni and Tomaniivi Nature Reserves, in 2010 (GEF? Purpose?); currently assessments underway using METT4 funded by BIOPAMA, at 6 PAs managed by the National Trust of Fiji (Waisali Rainforest Reserve, Yadua Taba Crested Iguana Sanctuary, Nakanacagi Bat Wildlife Sanctuary, Sigatoka Sand Dunes National Park, Garrick Reserve, Sovi Basin Protected Area). LMMA audit tool – used in at least 11 LMMAs (see case study).
Kiribati	**13 PAs; 2 assessments*** At least 3 assessments (see col.3)	No information	Conservation Outlook: Assessments of PIPA WHS – 2014, 2017, 2020 *One assessment is Malden Island Wildlife Sanctuary – Birdlife IBA 2007.
Nauru	**0 PAs; 0 assessments**	No information	METT was used in the 2012-2017 SPREP GEF 'integrated island biodiversity' project.
Niue	**6 PAs; 0 assessments** At least 5 assessments (see col.3)	No information	METT – 5 terrestrial sites assessed through GEF R2R project (van Nimwegen et al. in press).
Palau	**66 PAs; 15 assessments** In 2015, there were 46 discrete terrestrial and marine PAs of which 34 are recognised in the Palau Protected Area Network (PAN Office, 2015); at least 27 assessments (see col. 3).	MPAME-Palau	MPAME: 24 assessments 2014-2015 (see case study); (van Nimwegen et al. in press – state 32 assessments in 31 sites in total). Conservation Outlook: 3 assessments of Rock Islands Southern Lagoon WHS – 2014, 2017, 2020.

COUNTRY	WDPA STATISTICS (bold blue) WITH COMMENTS	PREFERRED PAME ASSESSMENT TOOL	EXPERIENCE WITH PAME ASSESSMENTS
PNG	**57 PAs; 41 assessments** 59 registered sites and many LMMAs; at least 59 assessments (see col.3).	PNG-METT2	RAPPAM: Assessment in 2005-2006 of 51 sites (Chatterton et al., 2006). METT: some assessments undertaken through GEF projects and in the course of development of the PNG-METT e.g. METT assessments of 3 PAs during 2015-2020 GEF R2R project, in the course of which the questions were modified (see case study) (UNDP/GEF, 2020). PNG-METT2: 2016-2017, in 59 sites (Leverington et al., 2017) – *part of R2R project*; Coral Triangle CTMPAS assessment: MPAs in c. 2012 (*unconfirmed information*).
RMI	**16 PAs; 0 assessments** Several assessments undertaken using MPAME and METT (see col.3).	MPAME	MPAME: marine components of c.5 sites assessed in 2011/2012 and in 2014 as part of MPAME trials; METT: pre-project and mid-term assessments for 2017-2022 GEF R2R project.
Samoa	99 PAs; 0 assessments 54 terrestrial PAs and 126 marine reserves but many with no legal status (van Nimwegen et al. in press); over 70% of sites are community managed; Some assessments (see col.3).	No information	RAPPAM: 6 sites assessed in 2008 for a Japanese MSc (Takahiro, I. 2008) METT: in 4 (unconfirmed).
Solomon Islands	**93 PAs; 1 assessment** Many community-managed areas (including LMMAs) in addition to formal sites; total might reach 600 sites (info from interview). Several assessments (see col.3).	MEAMMA	MEAMMA – under development. Conservation Outlook: 3 assessments of East Rennell WHS. METT: 2 sites (van Nimwegen et al. in press). Blue Parks Award: Arnavon Community Marine Park. Coral Triangle assessment method: Early assessments of MPAs (pers. comm Alan White).
Tonga	**50 PAs; 1 assessment*** In addition, there are several marine Special management areas (SMAs).	No information	METT was used in the 2012-2017 SPREP GEF 'integrated island biodiversity' project *IBA assessment – Tofua Island National Park, 2007.
Tuvalu	**9 PAs; 0 assessments** METT used in GEF project (see col.3).	METT found to be useful	METT: GEF R2R Project 2016-2021: Outcome 1.1: Improved management effectiveness of system of existing and expanded conservation areas. LMMAs; METT was also used in the 2012-2017 SPREP GEF 'integrated island biodiversity' project
Vanuatu	**34 PAs; 3 assessments** 11 registered PAs and over 200 CCAs.	Vanuatu-METT	Vanuatu-METT: under development. METT: Erromango Kauri Forest Conservation Area 2010; Lake Letas Conservation Area 2010; Nguna-Pele MPA 2009; used at 7 sites (van Nimwegen et al. in press).

APPENDIX 3

TNC priority PAME indicators compared with other PAME assessment tools (TNC 2021)

To be completed. Y = Yes; P = Partial; N = no

PAME INDICATOR	METT	IMET	RAPPAM	MPAME	LMMA AUDIT	SAGE	ELINOR
GOOD GOVERNANCE							
The site's local governance structures and mechanisms recognise the legitimate rights of Indigenous Peoples and local communities.	Y				Y	Y	Y
Governance mechanism has formal, traditional, or customary legal right to make decisions that affect access to and use of natural resources.						Y	Y
Site's objectives and governance structures are clearly articulated and provide civil society, stakeholders and rights-holders with appropriate opportunities to participate in management planning, processes and actions.						Y	Y
An effective conflict resolution process is in place.						Y	
SOUND DESIGN AND PLANNING							
Management plan or equivalent exists and is being implemented.	Y			Y		N	
Planning and management processes draw on multiple knowledge sources (scientific, experiential, local and traditional knowledge).				Y		N	
The PA or OECM's design balances ecological needs with community/ traditional use and values of the area.						N	
Climate resilience (ecological and social) is integrated into the management objectives and actions.	Y					N	
EFFECTIVE MANAGEMENT							
Boundary is known by all stakeholders and site users.	Y			Y		N	Y
Systems (e.g. patrols, permits, intelligence gathering etc.) are in place to control access/ resource use.				Y	Y	Y	

PAME INDICATOR	METT	IMET	RAPPAM	MPAME	LMMA AUDIT	SAGE	ELINOR
EFFECTIVE MANAGEMENT *(cont.)*							
Those responsible for managing the MA (e.g. staff/ community associations/ management group) can enforce the rules and regulations (i.e. compliance and enforcement mechanism in place).	Y			Y		Y	Y
Staff members have adequate skills to conduct critical management activities.	Y			Y		N	
An adaptive management process is in place (e.g. review and assess effectiveness every 2-5 years, and incorporate new information for decision-making on a regular basis).	Y					N	Y
There is a secure budget	Y			Y		N	
The threats to the main values of the protected area are being effectively addressed.	Y			Y		N	
SUCCESSFUL CONSERVATION OUTCOMES							
The site's conservation objectives are being achieved.				Y		Y	
The site provides sustained livelihood benefits to local communities and/or Indigenous people, e.g. income, employment, payment for ecosystem services.	Y			Y		P	Y

APPENDIX 4

Descriptions of common PAME assessment tools

Cook Islands Cloud Forest © SPREP

1. METT4 Management Effectiveness Tracking Tool

https://www.protectedplanet.net/en/thematic-areas/protected-areas-management-effectiveness-pame?tab=METT

DEVELOPER/FUNDER

WWF/World Bank, with additional support for the development of the METT4 Excel Workbook and revised Manual from IUCN Oceania Regional Office through the BIOPAMA programme (www.biopama.org), WWF International, Conservation Assured | Tiger Standards, Equilibrium Research and IUCN WCPA.

LAST UPDATED

2020

LANGUAGES

English, Spanish, Russian; Portuguese in preparation.

HISTORY

Originally developed by the World Bank/WWF Alliance for Forest Conservation and Sustainable Use in 2002, the METT was one of the first tools developed to reflect the IUCN WCPA PAME Framework. Subsequent versions (METT2, METT3, Advanced METT, METT4) were revised to reflect lessons learned through implementation, particularly in the course of GEF-funded projects.

USER GUIDE

Stolton, S., Dudley, N. and Hockings, M. 2021. METT Handbook: A guide to using the Management Effectiveness Tracking Tool (METT). Second edition guidance for using METT4. WWF, Gland, Switzerland.[18]

PURPOSE/INTENDED USE

Designed primarily to track progress over time at a single site and to identify actions to address any management weaknesses. The tool can be used at a country level, biome or jurisdictional level to assess management strengths and weaknesses across networks of protected or conserved areas. It is a required evaluation tool for PAs with GEF funding. As with all self-assessment tools, there is a level of subjectivity in the interpretation and response to questions as there is no specific requirement for peer review or verification: the results are subject to individual opinions and perspectives. Adaptation of the tool to the contexts of the user is encouraged.

FORMAT

METT4 is an Excel file, with various functions that support the assessment process, and assist with presentation of the results and using them for adaptive management. It consists of three sections:

- datasheets of key information (attributes) on the protected area;
- a detailed threat assessment;
- a 38-point questionnaire. Each question has a separate worksheet which includes the scoring process, a data field for notes and justifications for the answers, and a place to list steps to improve management. The section on next steps provides an immediate set of actions to address perceived weaknesses in management.

[18] https://wdpa.s3.eu-west-1.amazonaws.com/PAME/METT/METT_4_Handbook.pdf

The METT attempts to reduce the opportunity for bias by using multiple-choice questions and standardising the response scores. The scores can then be totalled to give results for the different components of management effectiveness. Following feedback, METT4 has greater emphasis on conservation outcomes than the earlier versions, but most questions still focus on management inputs and processes. The guidance strongly emphasises the need to adapt the questionnaire to the local context by modifying the language of the questions, whilst retaining their meaning and intent.

Questionnaire topics

1. Legal status (including establishment through other effective means)
2. Whether management related to the site objectives
3. Regulations and controls
4. Integration with land and sea use planning outside the site
5. Design in terms of size and shape
6. Boundary
7. Management plan or equivalent – implementation, planning process
8. Work plans
9. Available information for management
10. Human capacity for management
11. Knowledge and skills of those involved with management
12. Adequacy of current budget
13. Security of budget
14. Budget management
15. Equipment and facilities
16. Staff ability for enforcement
17. Patrols, permits, intelligence gathering etc. for enforcement
18. Safe working conditions
19. Management-orientated survey and research work
20. Monitoring, evaluation and adaptation of management activities
21. Active resource management
22. Management for climate change adaptation
23. Management to prevent carbon loss and to encourage carbon capture
24. Management for ecosystem service provision
25. Education programme
26. Co-operation with neighbouring land/sea State and commercial users
27. Contribution of commercial tour operators
28. Use of fees (i.e. entry fees or fines) (if relevant)
29. Adequacy of visitor facilities and services
30. Involvement of indigenous people in management decisions
31. Involvement of local communities in or near the site in management decisions, and impact of the site on communities
32. Site provision of livelihood benefits
33. Whether threats are addressed
34. Have the requirements for functional connectivity been assessed and implemented
35. Condition of natural values of site at time of designation and now
36. Condition of the cultural values of site at time of designation and now
37. Changes in status of key indicator species over the last 5 years
38. Changes in the status of habitats over the last 5 years

SCORING SYSTEM

the four response options range from a score of 0 (poor) to 3 (excellent).

MEANS OF VERIFICATION

The handbook outlines options for verification: these range from discussion groups during the assessment and/or review of completed assessments by external assessors, to more detailed verification through data collection and field observations.

ASSESSMENT PROCESS

The manual explains how to prepare for an assessment, the capacity and documentation requirements, how the spreadsheet should be filled out, and recommendations for who should participate in the workshop. The assessment should ideally be undertaken in a multi-stakeholder workshop, with PA staff and a diverse group of stakeholders. An evidence-based, rather than opinion-based process, is recommended in order to produce a stronger assessment. A first METT4 assessment is likely to take 1-2 days; repeat assessments may be a little quicker. Quantitative data should be used wherever available to support the conclusions (e.g. results of monitoring programmes when answering outcome questions).

DATA STORAGE

There is no centralised database associated with METT assessments. Users are encouraged to report results to the GD-PAME. Assessments undertaken through GEF projects are held by the GEF and sometimes by governments/project partners of the countries involved.

ALIGNMENT WITH GREEN LIST STANDARD

Overall, there is a good overlap between METT4 and the IUCN Green List Standard. The closest alignment is with good governance (GL Component 1), sound design and planning (GL Component 2) and aspects of effective management (GL Component 3). In relation to the GL criteria, 10 of the 17 had full coverage by METT4, six have medium coverage (mainly related to performance thresholds and conservation outcomes) and one had low coverage (transparency of decision-making processes). In terms of the 50 Green List Standard indicators, 23 are fully covered by METT4, 12 have medium coverage, three have low coverage and six are not covered (UNEP-WCMC 2022). METT4 exceeds coverage of six IUCN Green List Standard indicators, partly due to detailed assessments on the current condition of values, species, habitats and threats. Indicators of Successful Conservation Outcomes scored lowest as METT4 (UNEP-WCMC 2022).

EXTENT OF USE

The most widely used tool: by 2021 the METT had been used in 127 countries and over 5,000 PAs, marine and terrestrial (Stolton et al., 2021). Although designed for all types of PAs and OECMs, the METT4 tends to be easier to use at sites with on-ground staff, well developed budgets, equipment and infrastructure, rather than at community-managed sites. Many tools have been developed using the same approach and concept as the METT, such as the Ramsar Site Management Effectiveness Tracking Tool (R-METT) and MPA METT (World Bank 2004), and numerous national tools (see Appendix 1).

TRAINING AND SUPPORT

Facebook support group: https://www.facebook.com/groups/1578283049031666

Protected Planet webpage: https://www.protectedplanet.net/en/thematic-areas/protected-areas-management-effectiveness-pame?tab=METT

2. RAPPAM
Rapid Assessment and Prioritisation of Protected Area Management

https://wwfeu.awsassets.panda.org/downloads/rappam.pdf

https://www.protectedplanet.net/system/comfy/cms/files/files/000/000/056/original/RAPPAM.pdf

DEVELOPER/FUNDER
WWF

LAST UPDATED
2003

LANGUAGES
English

HISTORY
Developed 1999-2002, using the first version of the IUCN WCPA management effectiveness framework (Hockings et al., 2000). Designed for publicly managed forest PAs but has since been used for many types of PAs.

USER GUIDE
The questionnaire comes as part of a report (Ervin 2003) containing guidance to explain key terms and concepts and information on how to do an assessment.

PURPOSE/INTENDED USE
Provides policy makers and PA authorities with a relatively quick and easy method to identify major trends and issues that need to be addressed for improving management effectiveness in any given system or group of PAs. It was not initially designed for assessing individual sites, and it does not result in detailed site-level adaptive management guidance, but is aimed at helping policy makers to prioritise PAs and allocate resources across a PA system to improve management at the system-level. It allows broad-level comparisons among many PAs and helps policy makers analyse major threats and get a broad overview of the most pressing management issues. RAPPAM is most effective when used for sites with similar broad objectives – it helps to identify specific sites within a network which may require further assessment. The Rapid Assessment Questionnaire (RAQ) can be used as a framework to develop site-specific monitoring tools.

FORMAT

The Rapid Assessment Questionnaire (RAQ) has 16 questions, with sub-questions, and three additional system-level questions. It is recommended that workshop participants establish a common definition and interpretation for each question, as well as thresholds for determining a 'yes', 'mostly yes', 'mostly no', or 'no' response. The language is oriented to terrestrial PAs/forest biomes, but could be adapted quite easily.

Questionnaire

Covers the following topics:

1. BACKGROUND INFORMATION including PA objectives and key management activities (8 sub-questions)
2. PRESSURES AND THREATS (all existing and potential threats to be assessed)

CONTEXT (10 SUB-QUESTIONS FOR EACH TOPIC)

3. Biological importance
4. Socio-economic importance
5. Vulnerability

PLANNING (5 SUB-QUESTIONS FOR EACH TOPIC)

6. Objectives
7. Legal security
8. Site design

INPUTS (5 SUB-QUESTIONS FOR EACH TOPIC)

9. Staffing
10. Communication and Information
11. Infrastructure
12. Finances

PROCESSES (5 SUB-QUESTIONS FOR EACH TOPIC)

13. Management Planning
14. Management Decision-making
15. Research, Monitoring and Evaluation
16. Outputs (10 sub-questions)

SCORING SYSTEM

Each criterion is scored from 0 to 5 (0 = no, 1 = mostly no, 3 = mostly yes, 5 = yes). The sum of all the scores provides the result of the assessment.

MEANS OF VERIFICATION

Not specified but each question has guidance notes, with clarifications, justifications, examples, definitions, and/or possible indicators. It is recommended that, if existing data is used to strengthen results, consideration must be given to data quality (i.e. sources of data, timeliness, accuracy and whether the data is accepted by the site managers, administrators and stakeholder groups).

ASSESSMENT PROCESS

Assessment should be conducted in a workshop setting with stakeholders, with the manager of each PA present, as well as relevant government representatives where possible. RAPPAM workshops usually take three days, excluding time needed to collate relevant information and data. There are five steps:

1. Determine the scope of the assessment

2. Assess existing information for each protected area

3. Undertake the questionnaire

4. Analyse the findings

5. Identify next steps and recommendations

DATA STORAGE

No associated database or information system.

ALIGNMENT WITH GREEN LIST STANDARD

RAPPAM has limited overlap with the Green List Standard (UNEP-WCMC 2022), as it gives priority to identifying management strengths and weaknesses and has little focus on Successful Conservation Outcomes and Good Governance. Two of the 17 criteria are fully covered, three have medium coverage, eight have low coverage and four are not covered. Of the 50 indicators, three are exceeded in coverage, nine have full coverage, eight have medium coverage, 17 have low coverage and 13 are not covered.

SAGE/SAPA/GAPA

RAPPAM has been used in at least 40 countries and over 1000 PAs globally. In the Pacific it has been used in PNG (the PNG-METT uses the RAPPAM checklist for benefits) and possibly Samoa.

TRAINING AND SUPPORT

None, other than the guidance that comes with the tool.

3. **IMET** Integrated Management Effectiveness Tool

https://rris.biopama.org/pame/tools

DEVELOPER/FUNDER Biodiversity and Protected Areas Management (BIOPAMA) programme; this is run by the Joint Research Centre of the European Commission (JRC) and IUCN, and is aimed at supporting PA development in the ACP countries.

LAST UPDATED
IMET 2.7 released Feb 2022

LANGUAGES
English, French, Spanish; possibly Portuguese.

HISTORY
IMET is based on the IUCN-WCPA PAME framework, and draws on the forms and questions used in many other tools (e.g. METT, WHS Enhancing our Heritage, RAPPAM). First developed in 2014 for Central and West Africa. Several versions have been released since then, following trials in different countries.

USER GUIDE
Paolini, C., Rakotobe, D. and Jomha Djossi, D. (2016). Coach Observatory Mission Information Toolkit (COMIT): A toolkit to support coaching missions to improve protected area management and develop the information system of the Biodiversity and Protected Areas Management (BIOPAMA) Programme. Gland, Switzerland: IUCN. 128pp. [19] This explains each assessment question and gives guidance on carrying out assessments. A revised version (COMIT 2) is to be published by IUCN in French and English.

PURPOSE/INTENDED USE
IMET is described as a decision-support tool to help PA managers take analysis-based management decisions. It was designed initially for African-Caribbean-Pacific (ACP) countries for BIOPAMA programme supported PAs and OECMs. So far it has been used most frequently in terrestrial sites but marine questions are being added (e.g. covering fisheries) and these have been tested in Kisite Marine Park in Kenya.

FORMAT
The IMET Form has 3 parts:

1. Intervention context: General information about the site and its context:

CTX.1. General information about the protected area

CTX.2. Surface area, limits and shape index, level of control

CTX.3. Human, financial and material resources

CTX.4. Species (flagship, threatened, endemic); habitats; trends and resource management

CTX.5. Pressures and threats

CTX.6. Climate change

CTX.7 Ecosystem services and dependence of local communities on these.

[19] https://rris.biopama.org/node/18643

2. **Assessment form**: structured in 6 parts reflecting the IUCN-WCPA framework, with questions for each component.

   - **Context**: C1 Values and significance, C1.1 Governance, C1.2 Classifications, C1.3 Key species, C1.4 Habitats, C1.5 Climate change, C1.6 Ecosystem services, C2 Constraint or support by external political and civil environment, C3 Threats, C4 Determining conservation objectives and indicators that match the protected area management context, with questions;
   - **Planning**: P1 Adequacy of PA legislation and administration, P2 Design and configuration; P3 Boundary demarcation; P4 Management planning; P5 Work plan; P6 Objectives;
   - **Inputs**: I1 Baseline information; I2 Staff, I3 Financial resources, I4 Funding, I5 Infrastructure, equipment and facilities;
   - **Process**: PR1 Staff training and capacity, PR2 Human resource policies, PR3 Human resource management systems and procedures, PR4 Administration and internal leadership, PR5 Administration, accounting and financial management; PR6 Infrastructure, equipment and facilities maintenance; PR7 Management of the values; PR8 Protection systems for the values; PR9 Control; PR10 Enforcement; PR11 Involvement of the communities, right holders and stakeholders; PR12 Adequacy of community benefits/assistance; PR13 Relations with stakeholders; PR14 Visitor management; PR15 Visitors and impacts; PR16 Monitoring of the values; PR17 Research and biomonitoring; PR18 Management of climate change effects; PR19 Ecosystem services;
   - **Outputs:** R1 Achievement of the work programme; R2 Results produced;
   - **Outcomes:** E/I1 Conservation objectives achieved; E/I2 State of conservation of nominated values; E/I3 Trend in the state of conservation of nominated values; E/I4 Impact on local communities; E/I5 Impact on climate change mitigation and adaptation; E/I6 Impact on ecosystem services;

3. **Visualisation tool:** permits the creation of graphic outputs showing the relative contribution of each indicator to the management effectiveness of the site. An IMET Analysis Report can be automatically generated in PDF form that is editable and can be used for PAME reporting.

SCORING

Each question in Part 2 is scored quantitatively, using a 4-point scale ((0 = Inadequate – 3 = fully adequate): 0 and 1 reflect negative situations and 2 and 3 are positive (zero being neutral). For some questions (threats and conservation and status of key elements), there is a 5-point (-2 to +2) or 7-point (-3 to +3) scale. The neutral mid-point of the scale facilitates visualisation of the results.

MEANS OF VERIFICATION

IMET does not require a formal verification process but in each section an assessment is made of the reliability of the information provided.

ASSESSMENT PROCESS

An IMET assessment usually consists of a 3-4 day workshop, with participation by the PA team and key stakeholders, facilitated by IMET coach(es). It is possible to do specific modules of the questionnaire. Most IMET assessments have been undertaken with the BIOPAMA team.

ALIGNMENT WITH GREEN LIST STANDARD

IMET Version 2.5 was compared with the Standard and good overlap was found overall (UNEP-WCMC,2022). The closest alignment was with sound design and planning (Component 2) and effective management (Component 3). Component 1 (Good Governance) has the least alignment in terms of both criteria and indicators. In relation to the 17 criteria, 10 have full coverage, five have medium coverage and two have low coverage. Half of the 50 indicators are fully covered by IMET, 12 have medium coverage, seven have low coverage and six are not covered. It is not known if the improvements in IMET 2.7 would alter these conclusions.

EXTENT OF USE

Primarily used in Central and West African countries; now being introduced more widely.

DATA STORAGE

The tool is linked to BIOPAMA's regional information systems (called Regional Observatories[20] or Regional Reference Information Systems (RRIS)) which may be hosted by other organisations. These support data collection, analysis, monitoring and reporting, allow data sharing and comparison of assessments, and help to develop the capacities of staff and organisations to manage the information. Data sent to a Regional Observatory is subject to the Creative Commons licence[21] which means that it belongs to whoever produced it. Once data are entered, the Observatory has the right to reproduce, distribute and communicate it to the public for non-commercial use, but must give the name of the original author or provider. If the Observatory modifies, transforms or adapts the data, it does not have the right to distribute it unless there is an identical contract for this purpose.

Five Regional Observatories were established in BIOPAMA phase 1 (2011–2017) in Central and West Africa, and the Caribbean (University of the West Indies.[22] Other regional Observatories are being established in Phase 2.

TRAINING AND SUPPORT

The software can be downloaded, free of charge and works offline. However, this requires over 600MB of free space on a computer. Training in IMET is a key part of the BIOPAMA programme, and coaches are appointed when a country decides to undertake IMET assessments.

[20] https://rris.biopama.org/

[21] http://creativecommons.org/licenses/by-nc-sa/4.0/deed.fr

[22] https://caribbeanprotectedareasgateway.com/

4. **MPAME** Micronesia Protected Area Management Effectiveness Assessment

Not available online

DEVELOPER/FUNDER The Nature Conservancy (TNC) Micronesia Program, supported by the Micronesia Conservation Trust (MCT). Funded by the GEF SGP Country Program, Palau UNESCO, MCT, TNC at various stages.

LAST UPDATED
Initially developed 2014; revised in 2018.

LANGUAGES
English (guidance recommends translating the questions in the local language before use).

HISTORY
Prepared for use in jurisdictions participating in the Micronesia Challenge (Commonwealth of the Northern Mariana Islands, Territory of Guam, Federated States of Micronesia, Republic of Palau, and Republic of the Marshall Islands). The tool was developed from an MPA management effectiveness scorecard (MPAMES) prepared by Carter et al., (2010) for Indonesia, and uses the IUCN framework for PAME assessment (Hockings et al., 2008).

USER GUIDE
Isechal, A.L. and Victor, S. 2018. Micronesia Protected Area Management Effectiveness: An evaluation tool. A guide to administering the MPAME tool. Prepared for the Micronesia Conservation Trust.

PURPOSE/INTENDED USE
Initially aimed at evaluating the management of marine spatial areas, the revised 2018 tool can also be used for terrestrial sites. It can be used for single sites or a group of sites, particularly if these are managed by a single management body (e.g. network of sites in a state, region, municipality or country; subset of protected areas grouped under a single IUCN category; protected areas that have similar management objectives). As noted in the user guide, using the MPAME tool for a group of sites requires answering the questions for each site and so there may be a point at which the number of sites will be unmanageable. Following the national assessment in Palau, a number of recommendations were made for improving this tool (PAN Office 2016 – Appendix). (see case study in Appendix 5).

FORMAT
Excel-based questionnaire covering 11 management categories (Table 1), with a separate worksheet for each category. There are 62 questions. The questions can be re-written to suit a site before the assessment, and it is recommended that the questions are translated into the local language to improve understanding and interpretation. Translated questions should be put into a new Excel sheet and the answers transferred to the MPAME worksheet (changing the MPAME worksheet directly interferes with the tool's scoring mechanism).

TABLE 1. Management categories and associated questions in MPAME

MANAGEMENT CATEGORY	NO OF QUESTIONS	TOPICS ADDRESSED IN QUESTIONS
Biophysical	2	Has an assessment been undertaken and is monitoring in place?
Socio-economic	4	Has an assessment been undertaken and is monitoring in place? Livelihood opportunities explored and implemented?
Planning	14	Boundaries (1 question), management planning (11 questions), management structure (2 questions).
Traditional knowledge	2	Has traditional knowledge been used?
Stakeholder engagement	9	Consultations; community involvement; information boards, boundary markers and anchor buoys.
Legal framework	6	All aspects of legislation
Staffing	4	Adequacy of capacity and training
Enforcement	5	Extent and adequacy
Infrastructure and equipment	2	Adequacy
Finance	6	Existence of budget, adequacy of funding, long-term financing plans.
Conservation effects	8	Condition of biophysical features (5 questions); are goals/targets being achieved? Are threats being abated Are ecosystem services being protected (*equivalent to conservation outcomes)?*

SCORING SYSTEM

Either yes/no or multiple choice. The category scores and management level of the site are automatically generated by the tool as follows:

- **Progress by management topic**: The tool calculates the score for each management category by averaging the scores for all questions in that category and assigning a rating: <65% = Poor; 65-75% = Adequate; 76-85% = Fair; 86-95% = Good; > 95% = Effective. The specific questions that contributed to either a low or a high management category score can be identified, and this information used to develop future actions and priorities, requirements for further resources, etc.
- **Progress at site level overall – i.e. management level (see Figure 1)**: Each question is linked to one of five management levels that together represent a chronological continuum, from new protected area to a fully institutionalised and functional site. Management level is determined by averaging the scores for the questions in each of the levels. The overall management level of a site is the highest level at which a site got a satisfactory score: arbitrarily set at 75%. The management level of a site helps to gauge the general progress of the site as a whole and can be used for comparing iterative evaluations over time of an individual site as well as management levels of sites within a network.

MEANS OF VERIFICATION

No specific requirement.

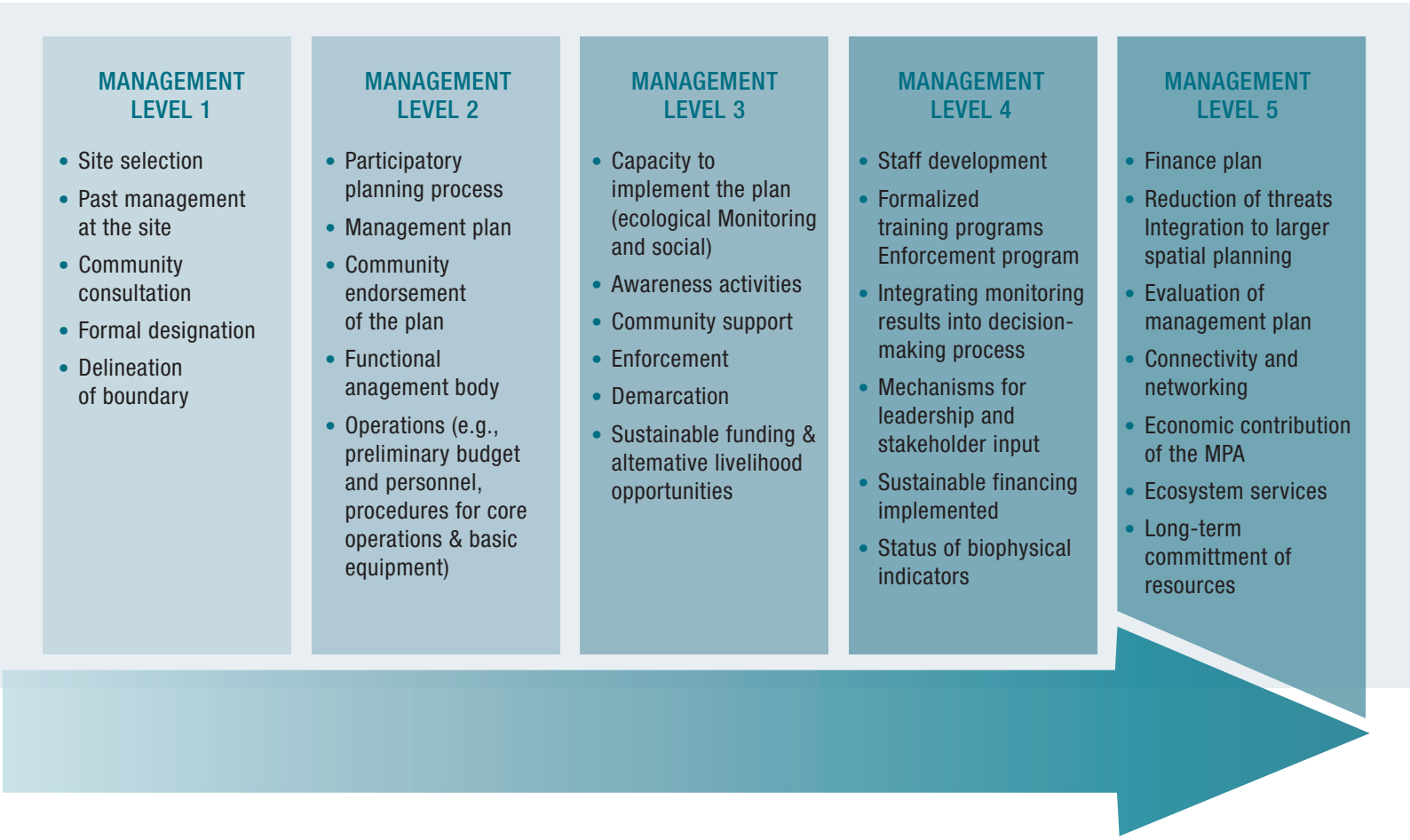

FIGURE 1. Protected Area management levels used in MPAME (from Isechal and Victor 2018)

ASSESSMENT PROCESS

MPAME assessments are best undertaken through participatory workshops, involving site managers, staff, and stakeholders (usually groups of 5-10). Participants discuss the questions and their interpretations, agree on the answers/scores, review the results, and recommend priorities and possible next steps. It is important to have individuals in the assessment team who have specific expertise relevant to past and ongoing activities at the site. The workshop should be led by 2-3 facilitators: one to fill out the spreadsheet and others to facilitate the discussion and help to ensure a common interpretation of the questions and that there is group agreement about the answers.

DATA STORAGE

There is no centralised database associated with MPAME assessments, but there is an expectation that the results will be stored and analysed by the Protected Area Network (PAN) office in each jurisdiction.

ALIGNMENT WITH GREEN LIST STANDARD

Not available.

EXTENT OF USE

Following an initial trial in FSM (Isechal et al., 2012), the main trial assessments were conducted at 22 MPAs in seven Micronesia Challenge jurisdictions (Guam, RMI (2 sites), Pohnpei (2 sites), Chuuk, Kosrae, Yap (2 sites) and Palau (4 sites)) in 2012 and 2013 (Isechal et al., 2014). Sites were selected in consultation with local partner NGOs and agencies and ultimately depended on the communities' willingness to participate and were aimed at getting good representation of the varying levels of management as well as to capture some of the unique characteristics of MPAs in FSM (Isechal et al., 2012). MCT funded and undertook training on the revised version of the tool in the four states of the FSM and then funded the use of the tool in three MPAs in FSM, RMI and Palau.

By 2019, 38 evaluations had been undertaken (Gombos, pers. comm).[23]

- **FSM**: Used at 15 sites (van Nimwegen et al. in press). 11 MPAs for initial trial 2011/2012; also included in main trial; most sites on Kosrae used MPAME in 2018.
- **Palau**: Used at 31 sites (van Nimwegen et al. in press) as part of the national assessment (PAN Office 2016). (see Appendix 5 case study).
- **RMI**: Used at 5 sites during trials (van Nimwegen et al. in press).

TRAINING AND SUPPORT

Information is available in the guidebook.

[23] https://docs.google.com/spreadsheets/d/13rcBiCLxpdBVLjXIlptdtyNtis4GOkwJps0_NwkIKRA/edit?usp=sharing

5. **FIJI LMMA** Network Site Audit Tool

DEVELOPER/FUNDER

Developed by the Fiji LMMA Network (FLMMA)

LAST UPDATED

2011

LANGUAGES

English

HISTORY

The FLMMA started in 1997, from a single site in Ucunivanua (Verata), and had grown to over 150 sites and 17 partner organisations by 2011, covering 12 of the 14 provinces in Fiji. To determine if its work was having an impact, the *Learning Framework* approach that was being implemented by five LMMA country networks in 2004 was used. This covers around 84 factors and focuses on Socioeconomic (including Threat Reduction Assessment) surveys and Biological (Underwater Visual Census (UVC)) monitoring. Following several workshop reviews, communities asked for a smaller group of indicators amongst other recommendations, so that the process was more focused on their information needs. The recommendations were discussed at the FLMMA[24] Strategic planning meeting in 2009, and it was proposed that the system described here should be adopted (Govan et al., 2011, FLMMA 2014).

USER GUIDE

FLMMA 2014. Level 2 community monitoring manual guide. Version **1.2.** FLMMA, Suva.
See also: FLMMA, 2011. FLMMA Operations Guide – The Way We Work Together. Guidelines for members of the FLMMA Network. (H. Govan and S. Meo – compilers) http://bit.ly/FLMMAOpsGuide

PURPOSE/INTENDED USE

The aim if the tool is to help measure the impact of LMMAs, with community involvement (FLMMA 2014); it is designed to provide a quick assessment of the status of a site and to identify areas for improvement at site, district and province governance levels.

FORMAT

The tool has three levels, each of which requires different levels of expertise and resources. Level 1 is the easiest and less resource intensive and primarily provides an indication of whether a site is being managed or not. To understand the specific reasons why management was not active or not working requires a Level 2 and/or a Level 3 assessment. The indicators in the three levels are taken from the larger regional *Learning Framework* (Govan et al., 2011).

LEVEL 1 Basic Community Monitoring (checklist based on anecdotal evidence): Designed as an annual audit to be carried out at all sites by village resource management committees through a group discussion. The results were to be stored in an Excel database managed by the FLMMA Secretariat. There are 22 questions with mainly yes/no answers.

Q1-3 **Tabu**: existence, opening, changes.

Q4. **Restocking/replanting of**: mangroves, kai, coral, giant clams, other marine life.

[24] The FLMMA is a network of communities, NGOs, government agencies, and researchers committed to support and empower communities to manage their resources, while creating spaces for reflection and learning between practitioners. The FLMMA Secretariat includes a community representative from each of the four divisions (central, northern western and eastern) in Fiji that is responsible for coordinating the FLMMA members, communicating the work and lessons learned on LMMAs, and advocating for policy change.

Q5–6 ***Yaubula* committee**: in place, frequency of meeting (none, annually, bi-annually, quarterly, monthly).

Q7 **Governance and management:** transparency to other community members, meetings document and communicated to community.

Q8–10 **Management plan**: existence, reviewed in last year, monitoring undertaken in the last year (UVC, Catch-per-Unit Effort (CPUE), Socio-economic).

Q11–13 **Compliance and enforcement**: LMMA causes increased conflict; poaching by villagers/outsiders, co-operation with enforcement agencies.

Q14-15 **Partnerships**: LMMA known to provincial authority and community; whether the FLMMA co-ordinator is known.

Q16 **Frequency of communication** to the site.

Q17–22 **Results**: changes in the last year in: abundance and size of fish and invertebrates, fishing trip duration, income, sources of marine food, community response; sightings of rare, uncommon, endemic species.

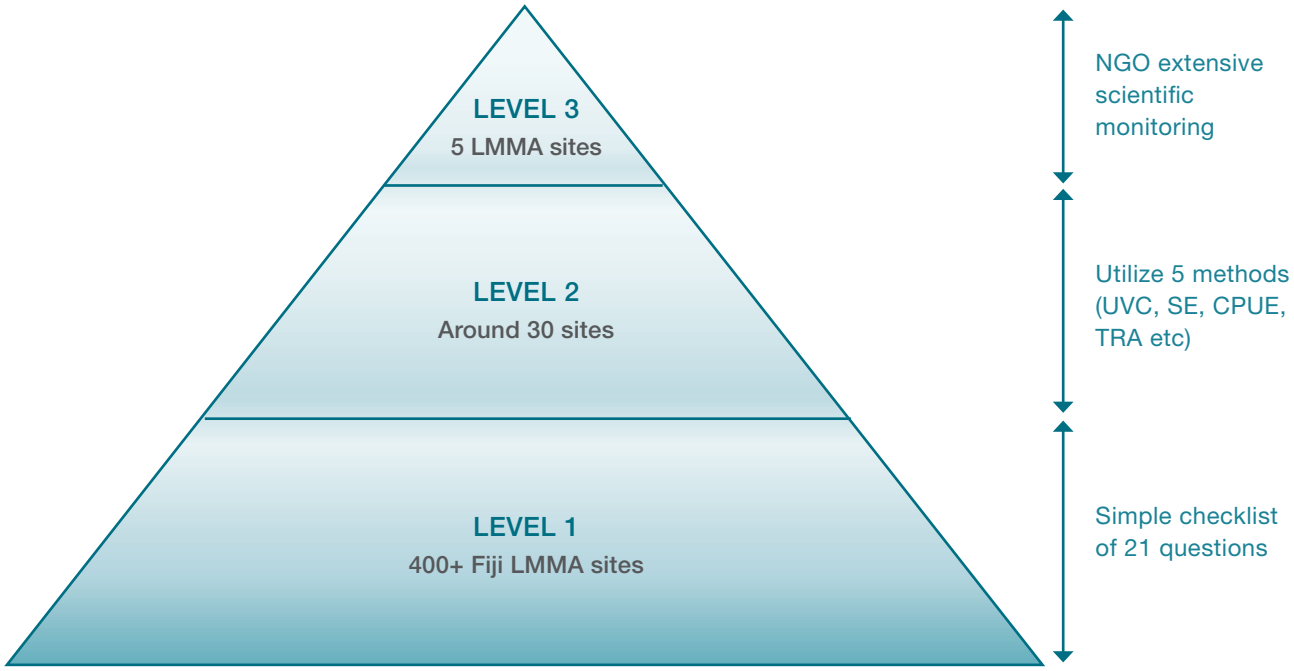

FIGURE 1. The three levels of the LMMA audit tool

LEVEL 2 COMMUNITY MONITORING SUPPORTED BY PARTNERS: This is a socioeconomic survey designed to be undertaken annually in 3 sites in each province, using key informants or multiple households engaged in fisheries (FLMMA 2014). Questions focus on collecting quantitative data on demographics, household income and resource use patterns (including food security), community health, beliefs and values, and resource governance. Additional monitoring data used in the survey include catch per unit effort, threat reduction assessments, compliance and enforcement and an optional UVC component. The manual is for this level (FLMMA 2014).

LEVEL 3 SCIENTIFIC MONITORING BY PARTNERS: This involves FLMMA members (e.g. University of the South Pacific, Wildlife Conservation Society) who might want to do more intensive monitoring and/or specific scientific studies that might help shed light on the effectiveness of LMMAs and the enabling conditions that might determine their success.

ASSESSMENT PROCESS

LEVEL 1. These assessments are designed to be carried out by village resource management committees or trained community representatives, with oversight by FLMMA organisational partners. The intention was for all sites to do this level in order to establish a baseline, and then to repeat it annually to detect social and economic changes resulting from implementation of the LMMA. It is not known how many were done, but Level 1 audits were done once for those LMMAs supported by the University of the South Pacific (USP) (177 villages from the provinces of Ra, Rewa, Tailevu and Ra on the island of Viti Levu, and Cakaudrove Province on Vanua Levu) in 2012.

LEVELS 2 AND 3: These were to be done by partners with the capacity and resources, in partnership with the local communities they were supporting, as follows.

- **Level 2 sites**: called *learning sites,* selected from sites that had done Level 1 audit; the assessment was designed to show how effective an LMMA is, and the enabling conditions required for success.
- **Level 3 sites**: selected from those that had done both Level 1 and 2 audits.
- Partners wishing to do Level 2 or 3 were encouraged to consider training community representatives to participate in data collection. Data from these assessments were intended to be used to cross-check whether Level 1 indicators were reflecting the situation on the ground.

DATA STORAGE

No associated database or information system.

ALIGNMENT WITH GREEN LIST STANDARD

No comparison has been made.

EXTENT OF USE

Prior to 2012, annual site audits were presented at the FLMMA annual general meeting by community representatives from each province, with the support of partner organisations, but the information is not available. The results of the 2012 Level 1 assessments were analysed by USP's Institute of Applied Science, and the resulting draft internal report highlighted three areas for improvement:

- Data collection: many of the questions were left blank with no notes as to why they were not filled out.
- The low number of site assessments from Tailevu (3 villages), Rewa (12 villages) and Ra (14 villages), made provincial summaries challenging to interpret and extrapolate.
- Provision of evidence (in the Level 1 forms) by the communities to explain their answers. For example, if a community stated they had an environment (*Yaubula*) committee, a list of the members or minutes of meetings could be provided to demonstrate the committee was active.

A subset of learning sites in several countries with LMMAs (including Fiji) have done Level 2 (Govan et al., 2011).

TRAINING/SUPPORT

None, other than the FLMMA (2014) guidance.

6. SAGE, SAPA, GAPA

Site-level Assessment of Governance and Equity (SAGE)
Social assessment for protected and conserved areas (SAPA)
Governance assessment for protected and conserved areas (GAPA)

SAGE is increasingly replacing SAPA and GAPA. Although both these tools still have their uses, this description focuses on SAGE.
https://www.iied.org/site-level-assessment-governance-equity-sage

DEVELOPER/FUNDER International Institute for Environmental Development (IIED), in collaboration with a number of conservation agencies, NGOs and research organisations.

LAST UPDATED

Following pilot assessments in late 2019, the facilitators from each of the trial sites and other key collaborators met in January 2020, to reflect on their experiences and refine the SAGE methodology. This was subsequently tested in other sites and launched in 2022.

LANGUAGES

English (also other languages).

HISTORY

IIED initially developed separate methodologies for assessing governance (GAPA) and social impact (SAPA) from which SAGE was developed:

- SAPA assesses the positive and negative impacts of a site on the wellbeing of communities living within and around it. It uses a combination of i) community meetings ii) a short household survey and iii) stakeholder workshops (Franks et al., 2018).
- GAPA assesses the quality of governance at a site and is framed around 11 good governance principles, nine of which are also equity principles. It uses a combination of i) key informant interviews and focus group discussions; ii) stakeholder workshops and iii) an optional site-level scorecard to provide a quantitative assessment of governance issues (Booker and Franks 2019).

USER GUIDE

Guidance on which of the three tools to use is provided here: https://www.iied.org/assessing-social-impacts-governance-equity-conservation-sapa-gapa-or-sage

PURPOSE/INTENDED USE

SAGE is designed for the assessment of governance and equity of a PA or OECM. The main objectives of SAGE assessments are t:o

1. enable site-level actors to improve the governance and equity of their conservation and related work in order to improve both social and conservation outcomes; and
2. generate information for actors at higher levels for management oversight, for improving governance of a system of PAs, and for reporting. SAGE is also used for applying social safeguards and for quality standards for the IUCN Green List. Work is underway to develop a basic version of SAGE that can be used with other tools such as METT and IMET.

FORMAT

SAGE uses the IUCN framework of ten equitable governance principles:

EQUITY: RECOGNITION	1. Recognition and respect for the rights of all relevant actors.
	2. Recognition and respect of all relevant actors and their knowledge.
EQUITY: PROCEDURE	3. Full and effective participation of all relevant actors in decision making.
	4. Transparency, information sharing and accountability for actions and inactions.
	5. Access to justice, including effective dispute resolution processes.
	6. Effective and fair law enforcement.
EQUITY: DISTRIBUTION	7. Effective measures to mitigate negative impacts on community members.
	8. Benefits equitably shared among relevant actors.
OTHER	9. Achievement of conservation and other objectives.
	10. Effective coordination and collaboration between actors, sectors and levels.

Each principle is divided into five themes. The tool is in the form of a multiple-choice questionnaire, containing five questions for each theme (a total of 50 questions). Like the METT, it captures qualitative information. Topics covered include specific governance challenges identified by different stakeholders, reasons for differences in perspective, and suggested actions to address the challenges. There are optional modules for planning actions to improve governance and equity and monitoring of progress.

Scoring system: Each question has four possible responses, which are allocated scores of 0-3. A score of 3 represents very good/best practice, while 1 indicates some major shortcomings.

Means of verification: The first question (X.1) focuses on key information that is necessary for even the most basic level of governance quality, and the response involves a document review and can be conducted by the lead facilitator alone. The other four questions for each theme must be assessed with key informant interviews as these are more subjective, and the evidence that shapes actors' opinions on the question are seldom documented.

ASSESSMENT PROCESS

Assessments are conducted by the stakeholders and rights holders of the area being assessed and follows three phases: Preparation, Assessment, and Taking Action. The assessment is a stakeholder workshop in two parts:

1. Different stakeholder groups complete the SAGE questionnaire in their own groups.
2. The groups come together to share their findings and their ideas for actions to improve governance and equity.

The full process takes 1-3 days, depending on how many of the ten principles are covered, and the time needed for interpretation. It is recommended that a one-day stakeholder workshop is held at the end of the assessment, allowing different actor groups to share their assessment scores, discuss the reasons for any significant differences and identify ideas for actions that could narrow the differences and contribute to building trust.

DATA STORAGE

There is no centralised database associated with SAGE assessments.

ALIGNMENT WITH GREEN LIST STANDARD

SAGE is well-aligned for assessing Good Governance (Component 1) but less relevant for Sound Design and Planning, Effective Management, and Successful Conservation Outcomes (UNEP-WCMC 2022). Of the 17 Standard criteria, one is exceeded in coverage (**1.1.** Guarantee Legitimacy and Voice); one criterion has full coverage, two have medium coverage, five have low coverage, and eight were not covered. SAGE exceeds coverage for 7 out of 50 of the indicators (mainly in criterion Guarantee Legitimacy and Voice (1.1); five have full coverage and seven have medium coverage. Thirty one indicators are not covered at all: these assess elements of management effectiveness, project design and planning, and biodiversity outcomes, which are beyond the scope of SAGE.

In terms of the criteria for Good Governance:

Criterion 1.1. SAGE provides full coverage, such as a clearly defined, documented, and equitable governance arrangement; actors and society are fairly represented. The IUCN Green List Standard assesses whether 'management efforts support equity'; however, equity in management is determined by equity in governance and is mostly about procedures and distribution of costs and benefits, which are explicitly covered by SAGE (equity scores for procedure and distribution can be generated) and not by the Green List Standard.

Criterion 1.2. SAGE covers all the key elements, including transparency and communication of governance arrangements, the decision-making process and the existence of suitable dispute resolution processes.

Criterion 1.3. SAGE covers key elements, such as the use of an adaptative framework and IPLCs' knowledge, but does not assess whether management plans recognise the ecological context and projections.

In relation to Green List indicators for the Good Governance component: SAGE provides greater detail for five indicators, full cover for three indicators, medium cover for three indicators and no cover for three indicators.

EXTENT OF USE

Piloted in late 2019 in nine countries: Cambodia, Vietnam, Philippines, Chad, Cameroon, Tanzania, Zambia, Greece and the UK. Since then, SAGE has been used in a growing number of countries, including Colombia, Kenya (Kisite Marine Park), Cameroon, Zambia, Mozambique (in two LMMAs), Cambodia and Indonesia, with assessments covering marine and terrestrial sites that are owned and managed by state agencies, local communities and Indigenous Peoples. IIED is aiming for uptake by 2030 comparable to that of PAME evaluations (e.g. 10.000 sites), and it is likely to be used as part of the Green List process. Has been tested in UK MPAs (Schere et al., 2021).

TRAINING AND SUPPORT

In partnership with IUCN and GIZ, IIED has developed virtual interactive training for SAGE facilitators so that in-person training is not necessary. The SAGE Support Package[25] consists of:

- Introductory training about SAGE
- Facilitation skills training, and
- 1:1 guidance throughout the process, including how to tailor SAGE to the needs and context of a specific site, and analysis and report writing.

[25] https://www.iied.org/sage-support-package-online

7. ELINOR

https://elinordata.org/

DEVELOPER/FUNDER
WWF

LAST UPDATED
Elinor 2022.1 (first version) was released in July 2022.

HISTORY
Initially developed to track indicators commonly recognised as being important for management and governance of coastal managed and conserved areas, particularly those managed by community-based organisations. Has now been adapted to cover all types of managed area.

LANGUAGES
English, with Swahili, French, Spanish later in summer 2022.

USER GUIDE
Yes – extensive explanation of the tool is on the website.

PURPOSE/INTENDED USE
The Elinor tool is designed primarily for conservationists and NGOs, rather than governments, although it can be used by anyone working on a management area. It can be used for groups of conserved areas, and for formal PAs and OECMs as well as management areas. It is likely to be used more for small community-managed areas which might be within a larger PA. Elinor is considered to provide a 'lighter touch' than the METT and SAGE, making it easier to track trends over time.

FORMAT
It was designed to mirror the METT as closely as possible, so data collected using the METT can be entered into the Elinor tool and database, and the remaining questions in Elinor (which focus on governance, equity, and climate change) can be answered via more informal consultation or based on expert knowledge.
A METT/Elinor crosswalk is to be developed.

The tool has two parts: **(a)** background information, and **(b)** 35 questions organised under nine attributes:

1. Clearly defined rights and decision making (6 questions)

2. Inclusive and equitable management (4 questions);

3. Transparency and accountability (3 questions);

4. Monitoring and enforcement (5 questions);

5. Capacity for adaptive management (3 questions);

6. Clear and congruent regulations (4 questions);

7. Resource boundaries (2 questions);

8. Perceived outcomes (2 questions);

9. Operational capacity (6 questions).

SCORING
All answers are scored 0–4, and are accompanied by a qualitative statement.

MEANS OF VERIFICATION

Not specified.

ASSESSMENT PROCESS

The expectation is that assessments would be undertaken annually or bi-annually, since it aims to track sites through time. An assessment can be completed:

1. Using a field-based focus group to gather the perceptions of key stakeholders involved in the management and governance of a particular area. This is the preferred assessment method, as it allows diverse voices to contribute. A field protocol is being developed to guide ethical data collection, and will be translated into several languages.
2. As a desk-based assessment. This is quicker and requires few resources. It allows for some data to be generated on a managed area, which can help users identify any critical knowledge gaps that would require further research and investment and so is potentially useful for donors. Tips and guidance on how to do a desk-based assessment are being prepared.

DATA STORAGE

The assessment tool is accompanied by a data system that can be used to gather, store, share, and visualise management and governance data in a single system, and to share information between sites and countries. When fully developed it will bring spatial components for visualising trends and regional coverage of assessments and a key focus is the associated data collection system.

ElinorData.org uses Amazon Web Services to store the data. The database and web platform will provide simple visuals at site, regional, and international level to show trends over time, aggregated by the nine attributes. Depending on the data privacy settings chosen by users, data from across regions will be available for public use. The system will also allow relevant documents like management plans and geospatial files to be appended. The 'owner' of an assessment has the right to use the data in the database in accordance with an agreement made with those who took part in the assessment. A planned Ethics statement in the protocol will determine if an 'owner' can share the results of the assessment publicly or with any other specific user.

ALIGNMENT WITH GREEN LIST STANDARD

Not yet analysed.

EXTENT OF USE

Has been trialled in Kenya at Kuruwitu Co-Management Area (a community MPA managed by a Beach Management Unit), and at one MPA in Indonesia.

TRAINING AND SUPPORT

Currently limited to the website.

8. World Heritage Site (WHS) assessment tools: Enhancing our Heritage and Conservation Outlook Assessment

There are two mechanisms for assessing WHSs, each of which is described below.

1. ENHANCING OUR HERITAGE (EOH) TOOLKIT

https://whc.unesco.org/en/series/23/

https://whc.unesco.org/en/eoh/

DEVELOPER/FUNDER

UNESCO and IUCN, with funding from the United Nations Foundation.

LAST UPDATED

First released in 2008, updated version 2.0 due to be released late 2022 (substantially re-designed to cover cultural issues).

LANGUAGES

English

USER GUIDE

Hockings, M., R. James, S. Stolton, N. Dudley, V. Mathur, J. Makombo, J. Courrau, J. Parrish (2008). Enhancing our Heritage Toolkit. Assessing management effectiveness of natural World Heritage sites. Paris: UNESCO. 108 pp.

HISTORY

The seven-year UNESCP/IUCN project *Enhancing Our Heritage – Monitoring and Managing for Success in World Natural Heritage Sites* started in 2001 and involved nine WHSs in Africa, South Asia and Latin America. The aim of the project was to demonstrate how using the IUCN-WCPA framework (Hockings et al., 2000) can enhance effective management of WHSs. Using the results of the project, recommendations were provided to the World Heritage Committee on a consistent approach to assessment, monitoring and reporting that could be applied to WHSs on an on-going basis.

PURPOSE/INTENDED USE

This self-assessment tool was designed to assess the management of individual natural WHAs. Although there is potential for using it at other sites; it is not designed for assessing PA systems. Since 2014, WHSs have been assessed using the Conservation Outlook Approach (see below), but EoH still has considerable value. It is being revised: version 2.0 is aimed for use in both natural and cultural sites.

FORMAT

EoH consists of 12 separate tools, designed to assess each of the critical elements of the WHS management system. Each tool has one or more worksheets, which are included with step-by-step guidance. An introductory section provides background, discusses the purpose of the tool, and gives guidance on the type of information that might be required to complete them. The final tool summarises the results of the assessment and helps to prioritise management actions in response to the assessment's findings. The tools can be used to complement assessments undertaken with other tools. Tools can be applied collectively or individually to focus on specific topics.

The Advanced METT is almost fully included in one of the worksheets, saving time for PAs that want to switch from the Advanced METT or the original METT to EoH.

The tools are as follows:

1. Identifying Site Values and Management Objectives
2. Identifying Threats
3. Relationships with Stakeholders
4. Review of National Context
5. Assessment of Management Planning
6. Design Assessment
7. Assessment of Management Needs and Inputs
8. Assessment of Management Processes
9. Assessment of Management Plan Implementation
10. Work/Site Output Indicators
11. Assessing the Outcomes of Management
12. Review of Management Effectiveness Assessment Results.

SCORING SYSTEM

no numerical scoring system as the main aim of the assessment is to support in-depth discussions about the management system in place.

MEANS OF VERIFICATION

none, but assessments should be based as much as possible on existing information sources.

ASSESSMENT PROCESS

All those involved in the management of a site should take part, including key stakeholder groups. Excluding the time needed to compile the information needed, an initial assessment takes 3-4 days; subsequent assessments 2-3 days. Some of the tools in EoH should be used annually, others every 3-5 years.

ALIGNMENT WITH GREEN LIST STANDARD

A crosswalk of the revised version 2.0 EoH with the Green List Standard found that EoH has good overlap with all the IUCN Green List Standard components, but there are some gaps in the coverage of some indicators in all components (UNEP-WCMC 2022). Fourteen out of the 17 Green List Standard criteria had full or exceptional coverage, one criterion had medium coverage, one had low coverage and one criterion had no coverage. Of the 50 Green List Standard indicators, 10 were exceeded in coverage by EoH, 23 had full coverage, five had medium coverage and 12 had no coverage.

EXTENT OF USE

Has been used at many natural WHSs.

DATA STORAGE

No associated database.

TRAINING AND SUPPORT

The manual is a good source of case studies and examples of assessments undertaken at WHSs.

2. WORLD HERITAGE CONSERVATION OUTLOOK ASSESSMENT (COA)

https://worldheritageoutlook.iucn.org/more/methodology-and-consultation

DEVELOPER Technical Advisory Group.

LAST UPDATED

First piloted in 2011, finalised 2014. Every three years the COA methodology is reviewed in the light of feedback from WHS assessments and consultations; version 3.0 published in 2019.

LANGUAGES

English, French, Spanish

USER GUIDE

IUCN (2020). The IUCN World Heritage Outlook: Conservation Outlook Assessments – Guidelines for their application to natural World Heritage Sites. Version **3.1.** https://worldheritageoutlook.iucn.org/more/resources/conservation-outlook-assessments-guidelines-their-application-natural-world-heritage

HISTORY

The development of the COA draws on the IUCN -WCPA framework, the results of pilot assessments undertaken in a range of selected sites, and lessons learned that are described in several publications or compiled during various WHS activities. They include the Great Barrier Reef Outlook report (2009), the EoH Toolkit, the Managing Natural World Heritage Manual, and the World Heritage Periodic Reporting questionnaire. The 2020 Version 3.0 of the Guidelines builds on the feedback received during the first and second round of Conservation Outlook Assessments in 2014 and 2017, the results of a review by the Methodology Review Group, and the outcomes from the 2018 Methodology Review Workshop.

PURPOSE/INTENDED USE

To assess, on a three-yearly basis, the state of natural and mixed WHS and their longer-term ability to conserve their values.

FORMAT

The COA is structured around eight steps, each of which has a standardised assessment worksheet. There is focus on three key elements:

1. State and trends of values;
2. Threats affecting those values;
3. The effectiveness of protection and management. Assessments also identify site benefits (ecosystem services), and active conservation projects in sites.

SCORING SYSTEM

there is a 5-category qualitative rating system for each aspect being assessed: good, good with some concerns, significant concern and data deficient. The resulting report summarises the current state and trend of a site's values, the threats to those values, and the effectiveness of protection and management. WHSs are assigned to one of five categories as a result of an assessment:

1. **Good**: The site's values are in good condition and are likely to be maintained for the foreseeable future, provided that current conservation measures are maintained.
2. **Good with Some Concerns:** While some concerns exist, with minor additional conservation measures the site's values are likely to be essentially maintained over the long term.
3. **Significant Concern**: The site's values are threatened and/or are showing signs of deterioration. Significant additional conservation measures are needed to maintain and/or restore values over the medium to long term.

4. **Critical**: The site's values are severely threatened and/or deteriorating. Immediate large-scale additional conservation measures are needed to maintain and/or restore the site's values over the short to medium-term or the values may be lost.
5. **Data Deficient**: Available evidence is insufficient to draw a conclusion

MEANS OF VERIFICATION

All content and ratings within the assessment must reference key literature/information sources so that future assessments can review the previous information base.

ASSESSMENT PROCESS

Assessments are undertaken in a more formalised manner than others, and are carried out in close consultation and collaboration with IUCN's Global Protected Areas Programme, regional offices and Commissions. Assessments are desk-based and expert led, conducted by independent experts and based on referenced evidence. They are usually completed using an online assessment module that allows Site Assessors to easily update the results of previous assessments. A few assessments may need to be completed offline using the Worksheets v. 3.0 Word document. Information is sourced from IUCN's knowledge bank on WHSs, publicly available World Heritage Committee reports, published management effectiveness evaluations, scientific research, and information provided by a wide range of knowledge-holders, including site managers, national authorities, and IUCN's network of 11,000 experts, particularly WCPA and the Species Survival Commission (SSC). An assessment undergoes an extensive peer review process, with multiple internal and external reviews before a decision is made by the IUCN World Heritage Panel.

ALIGNMENT WITH GREEN LIST STANDARD

The IUCN World Heritage Outlook COA has the greatest similarity to the Green List Standard components addressing Effective Management, and most aspects of Sound Design and Planning (UNEP-WCMC 2022). The COA has least alignment with Successful Conservation Outcomes (Component 4. and there are also a number of elements of good governance that are not covered. Out of the 17 Green List Standard criteria, five are fully covered, five have medium coverage, four have low coverage and three are not covered. Out of the 50 Green List Standard indicators, two are exceeded in coverage by the COA, there is full coverage for nine, medium coverage for 22, low coverage for three and 14 indicators are not covered.

EXTENT OF USE

Worldwide. Individual assessments are compiled into IUCN's World Heritage Outlook. The most recent, the 2020 IUCN World Heritage Outlook, found that just two-thirds of the sites have a positive conservation outlook. More sites have deteriorated than have improved since 2017 and threats to their values continue to escalate, with climate change now the biggest of them all. In the Pacific, the COA has been used at Rock Islands Southern Lagoon WHS in Palau, East Rennell WHS in Solomon Islands, and Phoenix Islands Protected Area (PIPA) in Kiribati.

DATA STORAGE

Database and information system hosted by UNESCO. With the exception of information supplied in published documents, feedback received from knowledge-holders and shared with Site Assessors is confidential and non-attributable and needs to be referenced as a 'Confidential IUCN consultation'.

TRAINING AND SUPPORT

COA worksheets are available online on the IUCN World Heritage Outlook website. The Assessment Coordinator based within the IUCN Secretariat provides ongoing support to Site Assessors, contacts and consults knowledge-holders prior to assessments, requesting feedback on values, threats, and protection and management, reviews draft assessments to ensure that they conform to the Guidelines, and provides other support as necessary.

9. **R-METT** Ramsar Site Management Effectiveness Tracking Tool

http://rrcea.org/now-available-r-mett-guide-for-wetland-managers-and-stakeholders/?ckattempt=1

DEVELOPER/FUNDER

Ramsar Convention on Wetlands of International Importance.

LAST UPDATED

2021

HISTORY

The tool was developed with the support of Thailand through a Working Group in 2014, using the METT. It was endorsed in 2015 at the 12th Meeting of the Conference of the Parties of the Ramsar Convention,[26] by the Ramsar contracting parties through Resolution XII.15 *Evaluation of the management and conservation effectiveness of Ramsar Sites*. Training was subsequently undertaken, combined with trials, at workshops in (1) 2016, organised by the Ramsar Regional Center-East Asia and East Asian -Australasian Flyway Partnership,[27] and (2) 2018, organised by IUCN Lao Peoples Democratic Republic (PDR).[28]

LANGUAGES

English, with Swahili, French, Spanish (available late 2022).

USER GUIDE

Prepared by the Sabah Environmental Trust: Ramsar Regional Center – East Asia (2021). Ramsar Site Management Effectiveness Tracking Tool (R-METT) – A Guide for Managers and Stakeholders. Suncheon City, Republic of Korea: Ramsar Regional Center-East Asia. Available at www.rrcea.org.

PURPOSE/INTENDED USE

R-METT was developed as a voluntary self-assessment tool for evaluating the management effectiveness of Ramsar Sites and other wetlands. It is designed as a rapid assessment, easily understood by non-specialists, and used to assess a single site or a group of wetland sites.

FORMAT

R-METT is designed as a scorecard questionnaire and covers all six elements of the IUCN/WCPA Framework (context, planning, inputs, process, outputs, and outcomes), with an emphasis on context, planning, inputs and processes. The tool consists of five sections with data sheets (DS):

DS1: Details about the assessment and basic information about the site (name, size, location, etc.).

DS2: National and international designations.

DS3: Generic list of threats with a ranking of their impact on the site (Residential and commercial development, Agriculture and aquaculture, Energy production and mining, Transportation and service corridors, Biological resource use and harm, Human intrusions and disturbance, Natural system modifications, Invasive and other problematic species and genes, Pollution entering or generated within protected area, Geological events, Climate change and severe weather, specific cultural and social threats).

DS4: Core sheet from the METT: 35 questions to assess the effectiveness of management; Questions that are not relevant to the site should be omitted, and the reason provided in the comment section.

DS5: Trends in Ramsar Ecological Character.

[26] https://www.ramsar.org/sites/default/files/documents/library/cop12_doc20_pame_e.pdf

[27] https://www.eaaflyway.net/wp-content/uploads/2016/11/8th-Regional-Level-Training-Workshop-Report.pdf

[28] https://www.iucn.org/news/lao-pdr/201806/workshop-uses-ramsar-management-effectiveness-tracking-tool-r-mett-assess-site-lao-pdr

SCORING

There is a numeric scoring system, with scores of 0-3 points, and a bonus added if all questions are answered 'yes'. The final score is the percentage represented by the total score from the potential maximum score.

MEANS OF VERIFICATION

Not specified.

ASSESSMENT PROCESS

The R-METT assessment is best done through a workshop process that allows for discussion and consensus building among participants based on their collective experience, supported by data and evidence where available. Apart from Ramsar Site staff, all stakeholders relevant to the site should be invited to participate, including representatives from government agencies, researchers, subject experts, NGOs, and local and indigenous communities. In addition to completing the assessment, a workshop provides an opportunity to enhance stakeholder participation in the management process, and to inform them about the issues and challenges faced by the Ramsar Site. R-METT assessment workshops usually take between 1–2 days, and should ideally be conducted in a plenary setting, break-out sessions may be incorporated if there are too many participants for a plenary session to be effective. Having a skilled facilitator(s), with prior experience in facilitating R-METT or similar assessments, and/or a background in Ramsar Site management, is crucial to the success of the workshop.

The results of the workshop, including the scores and notes/comments, should be condensed into a brief 15–20 page report and should be submitted to the Ramsar National Focal Point; if the Ramsar Site is also a PA, the report should also be submitted to GD-PAME. The recommended frequency of assessment is at least once every two years. Ideally, R-METT assessments should be a standard operating procedure within the overall Ramsar Site management planning process.

DATA STORAGE

No specific arrangements.

ALIGNMENT WITH GREEN LIST STANDARD

Not yet analysed.

EXTENT OF USE

By 2016, 57% of Asian Parties had evaluated the management effectiveness of all or some of their Ramsar Sites.[29] It will have been used in many more sites now, but has not been used extensively in the Pacific.

TRAINING AND SUPPORT

No information.

NOTE

A 15-question assessment framework has recently been published as an alternative, that focuses more specifically on the Convention's objectives: Munguía SM, Heinen JT. (2021) Assessing Protected Area Management Effectiveness: the need for a wetland-specific evaluation tool. Environmental Management 68(6):773-784. doi: 10.1007/s00267-021-01527-1. Epub 2021 Aug 28. PMID: 34453591.

[29] https://www.eaaflyway.net/wp-content/uploads/2016/11/8th-Regional-Level-Training-Workshop-Report.pdf

10. **IUCN Green List** Standard and Programme

IUCN WCPA (2017). IUCN Green List of Protected and Conserved Areas: Standard, version1.1 Gland, Switzerland.[30]

DEVELOPER
IUCN

LAST UPDATED
The initial standard (Version 0.1) was developed in 2012. Following the pilot phase and lessons learned from the pilot sites, the Standard and certification process have been progressively revised. Version 1.1 was released in 2017.

Funder:

LANGUAGES
English, French, Spanish.

History/Modelled on: Following initial discussions in 2003, a pilot programme was started 2008 involving eight countries and the listing of 25 sites in 2014. Since then, the Green List Standard has been revised by the Standards Committee, in conformance with the ISEAL Standard-Setting Codes of Good Practice, and with an online public consultation process. The current version is scheduled for review in 2024, and subsequently following every quadrennial programme of IUCN.

USER GUIDE
The Green List User Manual[31] guides the operation of all participants in the Green List process and specifies the governance structures and the various committees. It also has procedures for grievances from any parties.

PURPOSE/INTENDED USE
The Standard is designed for all marine and terrestrial PAs and OECMs, and is universal, but can be adapted to national contexts, including situation with limited resources. Site managers, planners, educators and scientists can use it for PAME assessments outside the Green List certification process, to help with development and/or revision of management plans, and for assessments for other purposes. For example, Mexico is planning to use the Green List Standard as a guide for all protected areas.

The Green List programme is a certification process designed to encourage sites to deliver successful conservation outcomes through good governance, sound design and effective and equitable management. IUCN Green List certification of a site provides prestige, funding leverage and ecotourism opportunities, and demonstrates a government's commitment to conservation.

FORMAT
The Standard has four components: Good Governance, Sound Design and Planning, and Effective Management, which work together to lead to Successful Conservation Outcomes. The four components together have 17 criteria, with a total of 50 generic indicators. There is no scoring system – rather sites must meet or show substantial progress in relation to each criterion, using the indicators.

Component 1: Good Governance: site demonstrates equitable and effective governance.

- **Criterion 1.1** Site guarantees legitimacy and voice (6 indicators)

[30] https://iucn.my.salesforce.com/sfc/p/#24000000e5iR/a/1o0000005kM6/tFf7d8BgjDRxUKyujmm7DdgrfPz77RzGkQizYNb_dmA

[31] https://www.iucn.org/theme/protected-areas/ourwork/iucn-green-list-protected-and-conserved-areas/user-manual

- **Criterion 1.2** Site achieves transparency and accountability (4 indicators)
- **Criterion 1.3** Site enables governance vitality and has capacity to respond adaptively (4 indicators).

Component 2: Sound Design and Planning: site has clear, long-term conservation goals and objectives, based on a sound understanding of their natural, cultural and social-economic context

- **Criterion 2.1** Major site values are identified and understood (4 indicators)
- **Criterion 2.2** Site is designed for long-term conservation of major site values (3 indicators)
- **Criterion 2.3** Threats and challenges to major site values are understood (2 indicators)
- **Criterion 2.4** Social and economic context of the site is understood (2 indicators).

Component 3: Effective Management: site is effectively managed

- **Criterion 3.1** Long-term management strategy developed and implemented, based on adaptive management approach (6 indicators)
- **Criterion 3.2** Ecological condition of biodiversity in the site is managed (2 indicators)
- **Criterion 3.3** Site is managed within its social and economic context: Rights-holders and stakeholders are recognised and engaged effectively; and the social and economic benefits of the site are recognised and maintained (2 indicators)
- **Criterion 3.4** Threats are managed (1 indicator)
- **Criterion 3.5** Laws and regulations are effectively and fairly enforced (3 indicators)
- **Criterion 3.6** Access, resource use and visitation are managed (4 indicators)
- **Criterion 3.7** A monitoring and evaluation programme is in place to measure success in terms of achieving the site's objectives (2 indicators).

Component 4: Successful Conservation Outcomes: site demonstrates successful long-term conservation of major natural values and associated cultural and ecosystem service values, and achievement of social and economic goals and objectives.

- **Criterion 4.1** Site demonstrates conservation of major natural values (2 indicators)
- **Criterion 4.2** Site demonstrates conservation of ecosystem services (2 indicators)
- **Criterion 4.3** Site demonstrates conservation of cultural values (1 indicator)

Many sites monitor the condition of their major values, but very few have set thresholds for the condition of these values that would represent successful outcomes for their conservation. Work is underway to develop a process for sites to determine thresholds for assessing Component 4.

Green List can be used for multi-sites (e.g. MPA networks) – *to add guidance.*

ASSESSMENT PROCESS

Several committees/teams oversee and manage the Green List Standard and the process of certification:

- **Green List Committee**: custodians of the Standard; review and approve GL sites.
- **Management Committee**: oversees the GL programme and its development.
- **Standards Committee**: oversees integrity of the Standard and approves adapted indicators (includes 11 people from 9 countries with diverse experience covering both the physical and social sciences and management of PAs).
- **Expert Assessment Groups for the Green List (EAGLs)**: established for each jurisdiction, selected by the relevant Regional Vice-Chair of the WCPA from applicants who respond to an open call for the position. The EAGLs work with the nominated sites throughout the listing process.
- **Operations Team:** manages implementation of the programme, supports the EAGLs.

Evaluation of a site for the Green List involves three phases:

1. **Application**: voluntary commitment to the IUCN Green List Programme. This is done through an online registration process. Sites provide initial evidence for five indicators within the first three components of the Standard. An EAGL representative in the site's jurisdiction checks that the evidence has been provided, and Candidate status is then granted.

2. **Candidate**: The EAGL adapts the generic indicators and means of verification to the context of the jurisdiction. Any suggested adaptations are referred to the Standards Committee for ratification to ensure that a common global standard of performance is maintained. The site collects evidence against the full set of indicators for all components, and addresses any identified shortcomings. This phase may take months or even years depending on the issues identified. A stakeholder consultation and a site visit by an EAGL representative are required. Consultations may include hosting the information on a website, presentations to relevant committees of stakeholder representatives or meetings with relevant groups or individuals. A dossier is prepared by the candidate site, addressing all criteria, and is uploaded, with supporting documentation, onto the web-based portal. It is evaluated by the full EAGL for the jurisdiction, and the process is verified by an independent Reviewer (trained and provided by ASI). The final decision is made by the IUCN Green List Committee.

3. **Green List:** Once a site is awarded IUCN Green List status, it receives a certificate and the right to use the IUCN Green List logo; it will be recognised and promoted by IUCN as a global exemplar in conservation achievement. A mid-term rapid review of performance is carried out for all Green List sites. Additionally, throughout the period, the IUCN Green List Programme factors and filters stakeholder views and public opinion into the site's ongoing performance.

DATA STORAGE

Information on Green Listed sites is held by the countries themselves and also by the Green List programme. IUCN's online portal COMPASS (Community of Protected Areas Sustainability Standard) allows site managers to upload information for use by the EAGLs. Information about the sites is publicly available on www.iucngreenlist.org.

ALIGNMENT WITH GREEN LIST STANDARD

Fundamental to awarding of Green List status.

EXTENT OF USE

Global. The IUCN Green List programme now has 30 jurisdictions in over 60 countries. Over 600 sites are involved, either as listed sites (61 sites, of which 8 are WHS),[32] candidate sites or at other stages in the process.

TRAINING AND SUPPORT

[32] https://www.iucn.org/resources/conservation-tool/iucn-green-list-protected-and-conserved-areas

11. **Blue Parks** Award Programme

https://marine-conservation.org/blueparks/

DEVELOPER/FUNDER

Marine Conservation Institute (MCI), USA.

LAST UPDATED

Criteria revised 2021.

LANGUAGES

English

HISTORY

Developed from the extensive scientific literature available on MPA and their management and conservation outcomes, with a number of marine conservation scientists from around the world. Initially called GLORES (Global Ocean Refuge System), the programme was renamed Blue Parks in 2019. The implementation component (Part 1.2 see below) overlaps with the criteria used in the METT (Stolton et al., 2007), the World Bank MPA Score Card (Staub and Hatziolos 2004) and the indicators in the IUCN Green List Standard.

USER GUIDE

Blue Park Criteria: 2021. Seattle, WA, 34pp.[33]

PURPOSE/INTENDED USE

In common with the IUCN Green List, Blue Parks awards provide prestige, funding leverage and ecotourism opportunities, and demonstrate a government's commitment to marine conservation. Blue Park status also provides a benchmark that both private and governmental funders can use to measure the impacts of their investments. There are three levels of Award: Platinum, Gold and Silver.

FORMAT

A Blue Park evaluation consists of three parts.

PART 1. Eligibility Criteria – *an MPA must meet these in order to go forward to Part 2.*

1.1 Biodiversity Value

The MPA must meet at least one of the following criteria:

- includes area of high species richness or endemism within the context of the biogeographic region.
- Includes demonstrated historic or predicted ecological (e.g. climate) refugia or populations with known or predicted tolerance or adaptive potential.
- Includes rare, unique or representative ecosystems.
- Includes area important for threatened species (including those identified by the IUCN Red List or national legislation), keystone species or foundational species – these may be migration pathways or breeding, nursery, feeding or assembly areas.

MPAs that are designated as any of the following are considered to have satisfied at least one of the biodiversity value criteria, and are thus directly eligible for the programme: Ramsar Site, Important Bird Area, Hope Spot, Specially Protected Area and Wildlife (SPAW) in the Wider Caribbean Region and, in Europe, Natura 2000 Special Protection Area (SPA) or Special Area of Conservation (SAC).

[33] https://marine-conservation.org/wp-content/uploads/2020/12/Blue-Park-Award-Criteria-2021-web-1.pdf

1.2 Implementation

The MPA must meet all six of the following criteria:

1.2.1 Designated by a legitimate and functional government representing the interests of civil society. Where indigenous people are present or involved, implementation must meet the 2006 IUCN Standard on Indigenous People.

1.2.2 Designated to enhance the biodiversity value of the site.

1.2.3 Designation is permanent or is effective for at least 25 years.

1.2.4 Has a management plan that has been updated within the last 15 years.

1.2.5 Implements strategies to achieve high compliance that are appropriate to its ecological context, size and threats. These strategies must include clear communication to users and local communities about the regulations and MPA zone boundaries as well as enforcement strategies appropriate for the MPA's size, location, and poaching threats. Additional strategies may include incentivising compliance or leveraging social influence through community engagement. Managers must report high compliance in the MPA, which should be confirmed by available evidence.

1.2.6 Has a budget and staff.

A site listed on the IUCN Green List is considered to have met all the above criteria.

PART 2. Award Status Criteria

These determine the level of Blue Park Award, if one is awarded and have two components: (1) how low the Regulations score is and (2) how high the Design, Management and Compliance score is.

2.1. *Regulations*

Each zone of the MPA is scored according to the Regulation-Based Classification System for MPAs (Horta e Costa et al., 2016) (see Table 3 in main report), which assesses fishing gear types allowed and their impact, extent of bottom exploitation and aquaculture allowed, and permitted anchoring and boating activities. A decision tree is used to determine the score for each zone of the MPA. Scores are weighted according to the area covered by the zone and summed to generate a score for the MPA as a whole. Lower scores represent stronger levels of protection. An MPA that includes a large (>100 km^2) no-take zone (Zone regulation score 1–3) surrounded by a buffer zone with a score 3-5 may be considered for a Platinum Award. The Regulation-Based Classification System sometimes conflates activities with very different impacts (e.g. salmon farming and oyster farming, SCUBA spearfishing and snorkel spearfishing) and does not address some damaging non-extractive recreational activities (e.g. snorkelling causing high-impact coral reef trampling): the Science Council may take this into account in deciding a nominee's award status.

2.2. *Design, Management and Compliance*

Nominees must have at least 5 of the following 6 attributes to be considered for a Platinum Award, 4 to be considered for a Gold Award and 3 to be considered for a Silver Award.

2.2.1. Size: The MPA is larger than 100 sq km or explicitly designed as part of a network of MPAs to support population connectivity.

2.2.2. Ecological isolation: Ecological or other protected area buffers surround habitats targeted for conservation within the MPA (e.g. soft sediment or deep water surrounding coral reefs).

2.2.3. Age: The MPA is ≥ 10 years old.

2.2.4. Effective management planning: The management plan identifies: Measurable conservation targets; Threats; Planned activities to mitigate threats and achieve conservation targets; Monitoring plans to measure progress towards conservation targets.

2.2.5. Community engagement: The local community is engaged in management of the MPA.

2.2.6. Resources and Capacity: There are adequate resources and capacity (e.g. budget, staff, training and leveraged partnerships) to implement the management plan and compliance strategies.

PART 3. System Priorities

This is an assessment of each nominee's contribution to the conservation value of the global Blue Park network, and is a geographic analysis that is undertaken by MCI programme staff. As the Blue Park network grows, gap analyses will be undertaken to prioritise locations for new Blue Parks and thus sites for nomination. The analysis is based on:

3.1 Ecosystem Representation: Higher rating is given to sites that protect ecosystems that have less than 30% protection in existing Blue Parks, or that are rare in the biogeographic region.

3.2 Ecological Spatial Connectivity: Higher rating is given to sites that improve ecological spatial connectivity among existing Blue Parks. The analysis focuses on population connectivity and migration, using dispersal and migration estimates for key taxa and distances between Blue Parks with relevant habitats.

ASSESSMENT PROCESS

MPAs are nominated through an online platform[34] that requires the information and documentation needed for the evaluation. MCI staff then prepare an evaluation report for the nominee based on the criteria, contacting the MPA managers and partners to invite contributions and corrections. The evaluation report includes recommendations to improve the effectiveness and conservation outcomes of the MPA. It is made available for public consultation on the Blue Parks web page for 30 days, during which time, those with experience of the site are asked to submit comments and additional documentation or evidence. Following the consultation, the evaluation report and responses are forwarded to those members of MCI's Science Council (a group of marine conservation science experts from around the world) with expertise in the nominee's region and ecosystems, who determine the nominee's award status. Many of the criteria included in the Blue Park evaluation require a qualitative assessment of an MPA's attributes, which is undertaken by the Science Council members, according to the guidance given in the section entitled Additional Considerations. All Blue Parks are subject to a review audit every five years. An earlier audit may be triggered if significant changes are brought to the attention of MCI staff.

DATA STORAGE

Information about sites with Blue Park awards is stored on MCI's system, some of which is public.

ALIGNMENT WITH GREEN LIST STANDARD

Has not been formally and independently assessed. However, a Green Listed site is considered to have met all the implementation criteria.

EXTENT OF USE

Global. Currently, 24 MPAs have a Blue Park award, which include two MPAs in the Pacific: Arnavon Community Marine Park (Solomon Islands), and Papahānaumokuākea Marine National Monument (USA).

TRAINING AND SUPPORT

The programme is run by MCI staff, so training is not relevant to this programme.

[34] https://marine-conservation.org/blueparks/nominate/

APPENDIX 5
Case Studies

Funafuti Conservation Area, Tuvalu © V. Junglblut

1. **PALAU** – National PAME assessment using the Micronesia Protected Area Management Effectiveness Assessment (MPAME) tool

INTRODUCTION

Fifteen of the 16 states of Palau have terrestrial and marine protected or conservation areas recognised within the Palau Protected Area Network (PAN), totalling about 34 sites, and covering almost 80% of the EEZ. The majority (excluding the Palau National Marine Sanctuary which is managed by national government) are managed by local/state governments, with funding and technical assistance from national government. There are also many other sites, not recognised as part of the PAN, that are managed through traditional systems.

Two tools have been used for PAME assessment:

- The IUCN World Heritage Conservation Outlook Assessment, used to evaluate the Rock Islands Southern Lagoon WHS, Koror, in 2014, 2017 and 2020;[35] and
- The MPAME tool was adapted and used for a national assessment.

This second tool is the focus of this case study (based on a similar case study in van Nimwegen et al. (in press), which demonstrates how an existing tool can be adapted for national use and also how a nation-wide assessment of the PA system can be undertaken. The national assessment also identified recommendations for improvement of the MPAME tool in general.

NATIONAL PAME ASSESSMENT USING MPAME

In 2012, a few sites on Palau were assessed as part of the MPAME pilot project (Isechal et al., 2012). The MPAME tool (see description in Appendix 4) was then adapted to suit the Palau context. An additional management category (Ecosystem Services) was added to the original 11, and 21 of the 63 questions in the MPAME tool were either revised or replaced with a different question (van Nimwegen et al., in press).

Twenty six[36] of the PAN sites (71%) were assessed in 2014-2015. All the sites had been in the PAN for at least a year and had a management plan (PAN Office 2016). Assessments were carried out in the field by 10-15 people, including community representative groups and site management staff from respective states with expertise about the site. Facilitation was provided by a team of staff from the PAN Office and local partners. The assessments were applied at single site or single network at state levels. Data were available from the Palau International Coral Reef Centre which undertakes site monitoring every three years; it has developed protocols for both marine and terrestrial ecosystems and socio-economic indicators. In addition, where available, data were collected in other ways to support the assessment.

The 12 management categories were organised into three groups for reporting purposes: 1) Natural Features; 2) Infrastructure and Logistics; and 3) Community Effects. The results of each site assessment were aggregated at the jurisdiction and region level order to explore trends.

The assessments found that every site was performing well in at least one of the 12 management categories. Many of the sites showed 'Good' or 'Effective' implementation in Traditional knowledge, Planning, Stakeholder engagement and Staffing. All sites reported a decrease in illegal or destructive activities. In all except one of the sites, conservation targets (species populations and ecosystem condition)

[35] https://worldheritageoutlook.iucn.org/explore-sites/wdpaid/555547992#:~:text=2020%20Conservation%20Outlook&text=Overall%2C%20the%20conservation%20outlook%20for,the%20Rock%20Islands%20Southern%20Lagoon

[36] Excluding Rock Islands Southern Lagoon WHS, Ngeremeduu Bay (in Aimeliik, Ngatpang, and Ngeremlengui) Biosphere Reserve, and Kayangel's Ngeriungs and Sonsorol's Fana Islands Important Bird Areas (IBAs).

were reported as stable or improving (PAN Office 2016). A state's cumulative PAN budget appeared to positively influence the biophysical PAME scores: those with higher cumulative allocations from the PAN Fund in the period 2011-2015 had higher PAME scores in categories assessing natural resources. States with more staff also had higher biophysical PAME scores.

However, 50% of sites performed on average 'Poor' in the management categories: Biophysical, Socio-economic, Legal, Infrastructure and equipment, Finance, Enforcement and Conservation effects (PAN Office 2016). The following issues were identified:

1. Socioeconomic, particularly, and biophysical monitoring: states need assistance in setting up monitoring programmes, and using data to inform communities and adapt management.
2. Nearly all sites need assistance with setting up a Legal Framework to address the prosecution process.
3. Illegal extraction in no-take sites continues in most States.
4. Most States had low Finance scores. In particular, States need assistance in developing and implementing Sustainable Financing Plans.
5. Many sites need assistance with defining conservation targets.
6. Most sites need help with analysis to determine the extent and impact of ecosystem services that the PA is conserving/enabling.
7. Borders and rules/regulations are not well marked or communicated.
8. Several sites have gaps in their education and outreach programmes.
9. Ngaraard and Ngiwal had multiple 'Poor' scores and were in need of immediate assistance.

Two culturally sacred sites in Kayangel (Chermall and Ngerusebek) were included, but were only partially reported on. It was found that the tool is not really suitable for such sites as the criteria do not cover cultural values.

CONCLUSION AND RECOMMENDATIONS

The assessments were considered valuable by both PA communities and the PAN staff, and it was recommended that assessments should be continued until 100% of PAN Sites have been assessed, and then repeated every 2-3 years. This will require training of site managers and technical partners to understand the scorecard, building of capacity for facilitation of assessment activities, and the institutionalisation of the PAME assessment approach. Criteria for assessing PAN Sites that protect cultural resources are needed (PAN 2016), as well as more specific guidance on assessing individual sites vs networks of sites. An additional question to consider is whether sites with rotating closures should be ranked differently from those with permanent closures.

Areas for improving the process and tool include (van Nimwegen, in press; PAN Office 2016 – Appendix):

SCORING SYSTEM

Specific technical assistance should be sought to better define 'Effective,' and other ratings, rather than having these defined by straight percentages. The number of questions in a category is variable which affects the overall rating for the category. In a category with only two questions (e.g. biophysical), one low score would result in a rating of 50% (defined as 'Poor'). In a category with many questions (e.g. stakeholder engagement), even if one question results in a low score, the rating could be as high as 95% (defined as Effective) if other questions score highly. Unless the details are looked at, this could lead to bias in interpretation of the results in the different management categories.

ASSESSING CONSERVATION EFFECT

The MPAME tool allows for identification of five biophysical priorities (targets) in the conservation effect management category, but there may be sites with more or fewer priorities. It is not clear from the guidance how this section of the tool should be used and whether the actual number of biophysical priorities should be assessed. Comparison between sites should be undertaken with great care, as the ratings for this management category may vary according to the number of biophysical categories at a site. In addition, biophysical priorities/targets that are in stable condition are scored 1 out of 2, regardless of the initial or optimum condition. This means that a site with a stable species population or ecosystem might be rated as 50%, or Poor, even if this stable condition is healthy and optimal (PAN Office 2016 – Appendix).

DESIGN OF SITE

Sites are given a low score if biophysical data were not used during site selection. This means that some sites will be unable to achieve an Effective rating (e.g. if 1 out of 3 questions receives a low score, the site will be rated 'Poor', even if the low score is a result of a past action). Ideally, the tool should be adapted to help sites find ways to address this (e.g. adjust boundaries if necessary). However, the Palau PAN recommended the removal of this question from the tool.

DATA INTEGRITY

Building data and spreadsheet integrity. A process for reviewing the data and completed spreadsheets should be put in place before analysis. This is important as if scores are omitted by mistake, the automatic calculations that are carried out within the tool will be carried through and affect the result. An independent review of the data used should also be undertaken.

2. PAPUA NEW GUINEA
Development of a national PAME assessment tool (PNG-METT2)

INTRODUCTION

PNG has 59 formal PAs totaling 2.15 million ha (4.7%), with several significant areas awaiting gazettal.[37] There are also numerous managed sites, especially in the marine environment, that are not yet recognised in the formal PA registry. These are owned and managed by customary landowners and do not have government employees. Over 90% of PNG's land and 90% of near-shore marine areas are customarily owned and or used – many are '*tapu' (restricted)* with traditional control systems and no fixed boundaries (van Nimwegen et al., in press).

PNG probably has greatest experience of PAME evaluations of all Pacific countries, a national assessment having been undertaken in 2004 using RAPPAM (tool described in Appendix 4). Unlike most countries, the Government of PNG's 2014 Policy on Protected Areas commits to regular PAME evaluation every three years, and to taking remedial action to improve effectiveness over time: "*Management effectiveness of Protected Areas will be regularly evaluated on a national basis, and improvements will be put into place based on assessment results. Where Protected Area effectiveness or wildlife populations and health are shown to be declining or at risk, causes will be investigated and corrective measures rapidly implemented*".

The development of PNG-METT2 has been extensively documented and it is described in some detail in this case study, as it is likely to be useful for others planning to develop a country-specific tool. The information for the case study is taken largely from a series of publications by Leverington et al.[38] which are summarised in van Nimwegen et al. (in press), and here have been updated.[39]

DEVELOPMENT OF A NATIONAL TOOL – PNG-METT2

In 2015, the Conservation and Environment Protection Authority (CEPA), with the support of the GEF, UNDP and SPREP, undertook an evaluation of its 58 PAs and seven other conserved areas, involving 59 PA communities. It was decided that the METT approach would be more suitable than RAPPAM, since by then this tool was widely used globally and is required by the GEF which is a key donor in PNG. Elements of GAPA (see Appendix 4) were used for the governance component.

The integrity of the original 30 questions of the Advanced METT was retained so that results from assessments using the PNG-METT could be included in international databases and tracked over time. It is interesting to note that the development of METT4 included some of the adaptations made for the PNG-METT. The following amendments were made in developing the PNG-METT, largely to reflect the paucity of basic information about most PNG PAs:

[37] https://pngbiodiversity.org/about/

[38] Leverington F., Peterson A. and Peterson G. (2016) PNG-METT: The Protected Area Management Effectiveness Tracking Tool for Papua New Guinea. Port Moresby, PNG: SPREP, UNDP and CEPA. Appendix 2 of Leverington et al. (2017)
Leverington, F, Peterson, A. and Peterson G. (2017), Methodology for assessment of protected area management effectiveness in Papua New Guinea's Protected Areas, SPREP, Apia, Samoa. https://www.sprep.org/attachments/Publications/BEM/png-protected-areas-assessment.pdf
Leverington, F., Peterson, A. and Peterson, G. with Warren Jano, James Sabi and Amanda Wheatley (2017) Assessment of management effectiveness for Papua New Guinea's protected areas 2017. Final Report. SPREP, Apia, Samoa. https://pngbiodiversity.org/wp-content/uploads/2022/06/5.-PNG-METT_Low_res.pdf
Leverington F, Peterson A, Peterson G & Ewai M. 2021. The PNG-METT-2. The Management Effectiveness Tracking Tool for Papua New Guinea. Contributions provided by the PNG METT Working Group and staff from the Conservation and Environment Protection Authority, PNG.

[39] https://pngnrmhub.4rtificial2.com/case-study/reshaping-natural-resourcemanagement-in-papua-new-guinea/#background-history-of-png%E2%80%99s-protected-areas

- Addition of a section for participants to nominate the primary values of their PA, following discussion in the workshop – words or pictures could be used. This was similar to a modification made in the R-METT for Ramsar sites (see description Appendix 4). Participants were encouraged to contribute their own ideas and discuss values important to them, rather than working from a standard checklist.
- Addition of a benefits checklist based on that used in RAPPAM (see Appendix 4), to help the participants consider all possible benefits provided by the PA.
- Addition of a section on outcomes, asking about the *condition* and *trend* of the key site values that participants identified at the beginning of the workshop: *condition* is rated as poor to very good, using criteria developed by TNC and the Conservation Measures Partnership; *trend* is described as improving, stable, or deteriorating. Information sources and explanations must be recorded for all the ratings provided.
- The threat classification used in the METT was retained but the language was revised to make it clearer.
- In some cases, an option was provided for respondents to choose between the traditional METT question (for the few government-owned PAs) and a new modified version (for community areas). The facilitator would help the workshop participants decide which of the question alternatives was most appropriate.
- Recording participants' views about how the management of their PAs could be improved (e.g. in relation to the values, threats and various management effectiveness themes).

Many of the international METT questions are worded for people familiar with PA issues and some have some level of confusion or ambiguity, particularly for those unfamiliar with management jargon. Rather than relying on facilitators to clarify questions, notes were inserted into the questionnaire, to improve its reliability and consistency when the questions are applied at different times and by different people. The summary sheet was also revised, including some additional information.

The final PNG-METT is in the form of Word tables, formatted so that entries can be easily copied into Excel. Each site is given a unique identifying number, that appears on every data sheet. The tool has five parts:

1. Details about the site and the individuals filling out the form;
2. Values (e.g. plants, animals, habitats, farming and hunting gardens or forests, clean water, *Tambu* (restricted) places) and benefits (16 suggestions with four options for ranking – very important, important, not important, don't know);
3. Checklist of threats – 12 categories (e.g. housing and commercial development, energy, production and mining, invasive species); rating system: high, medium, low, N/A;
4. 30 questions about management – scoring system: 0 (no management or poor management) to 3 (excellent management); columns for explanation of score and for actions needed
5. Current condition of site (scale for each value: very good, good, fair, poor, don't know) and trends (is it getting better or worse) – scale: improving, stable, deteriorating. There is a column to explain each rating, and a box for identifying the ways forward.

The methodology was trialled and adjusted in the field before being finalised. The draft PNG-METT2 tool was shared with staff of CEPA, UNDP, and some civil society representatives at a workshop. A number of training events have been held. The final tool is available,[40] and a facilitators manual (Leverington et al., 2021) and training materials will eventually be available online.[41] A refresher training course was held in November 2021.

[40] https://pngbiodiversity.org/wp-content/uploads/2022/06/5.-PNG-METT_Low_res.pdf

[41] https://pngbiodiversity.org/management-and-monitoring/

THE NATIONAL ASSESSMENT PROCESS

For the national assessment, the PNG-METT questionnaire was completed in a one-day workshop for each site. Essential preparation for the workshops included organisation of equipment and handouts, securing a suitable venue, providing notification and support for participants, and planning the programme of workshop activities. Most of the people providing information were customary landowners and members of the management committees, where these existed. Workshops were generally held in centres near a cluster of protected areas and if there were enough facilitators and recorders, two and sometimes three workshops could be held concurrently in adjacent spaces. This was efficient and allowed participants to mingle and learn from each other.

The community participants' recommendations were recorded – these complemented the more general recommendations from the evaluators. All recorded data were returned to the participants for checking. Participants were encouraged to circulate the data sheets and summaries among their communities to enhance data reliability. In some communities, extensive consultation was arranged to discuss responses with a wider group of people: this ensured involvement of women and district officials, increased the reliability and validity of the responses and minimised bias.

At the end of each workshop, the facilitator and recorder discussed and synthesised the overall key strengths and challenges facing management of a site, and this information was used to produce a summary profile for each site. Data were checked and entered into spreadsheets as soon as possible after each workshop. The overall report includes analysis and synthesis of all the completed questionnaires. As well as graphs and tables summarising the findings, the report highlights many quotes and recommendations from participants.

CONCLUSION AND RECOMMENDATIONS

The results of the national assessment were presented at the PNG Protected Areas Forum in 2021.[42]

These showed that there was limited effective management and that the existence and purpose of PAs was not well always understood. However, importantly, the workshops strengthened the relationships between customary landowners, the government and other parties, and showed that many of the sites are in relatively good condition, although in more than half of those assessed, their condition is declining. The results of METT assessments undertaken at some sites in 2016 and 2021 are available online,[43] including some at LMMAs. The PNG-METT2 studies of 2016-2017 led to the development of management plans for all PAs, several policy changes, and the development of a mobile data collection app to help update baseline information.[44]

Lessons learned from the national PAME assessment (Leverington et al., 2017) included:

- A comprehensive literature review may be necessary to gather all relevant information about the sites to be assessed.
- Community participants must be supported financially at least with travel costs; assessments must be held in locations that people can reach in a reasonable time
- Speakers of both English and Tok Pisin must be available in the workshops, and the language of the questionnaire should be simple enough for people with limited literacy.

[42] https://pngbiodiversity.org/wp-content/uploads/2022/06/2021_PA-Forum_Summary_compressed.pdf

[43] https://pngbiodiversity.org/management-and-monitoring/

[44] https://pngnrmhub.4rtificial2.com/case-study/reshaping-natural-resourcemanagement-in-papua-new-guinea/#background-history-of-png%E2%80%99s-protected-areas

- It is useful to take reading glasses to the workshops, as many people otherwise could not read the questionnaires.
- The facilitators and recorders should be trained in advance, and have a very good understanding of the questions and the logic behind them. Training materials must be developed for the facilitators and recorders; training is best undertaken on actual sites so that trainees better understand the issues in delivering the questionnaire and in recording the information.
- Facilitators must be prepared for the workshop and have read all relevant information related to the site being assessed.
- Accurate and detailed maps of the protected area are essential to facilitate discussion at the workshop. Take-home copies of maps and other materials such as gazettal notices and species lists are greatly appreciated by participants.
- Comments and qualitative information need to be recorded so that assessments can lead to meaningful change.
- Workshops must be conducted in a culturally appropriate manner: people must be given sufficient time to feel comfortable with the facilitators and each other, and should have appropriate invitation or encouragement to speak.

3. VANUATU – Development of the Vanuatu-METT Tool

INTRODUCTION

Most PAs in Vanuatu are owned and managed by the customary landowners and do not have government employees. There are over 200 informal terrestrial Community Conservation Areas (CCAs) (considered IUCN Category VI) and many marine areas, most of which are managed by customary owners, using customary rules. Eleven CCAs have been formally registered through the Department of Environmental Conservation and Protection. The WDPA lists 34 PAs/OECMs, but this information is currently being updated.

The METT has been used at a number of sites (seven, according to van Nimwegen et al., in press), in the context of past GEF projects. Most recently it has been used in the Integrated Sustainable Land and Coastal Management (Ridge to Reef) GEF5 project which is supporting an expansion of terrestrial CCAs and (coastal) marine protected areas in five locations: Aneityum, Tanna, South, Pentecost and Gaua.

DEVELOPMENT OF THE VANUATU-METT TOOL

The Advanced Management Effectiveness Tracking Tool (Advanced METT) is being adapted for use in Vanuatu through the GEF6 project *Expanding Conservation Areas Reach and Effectiveness in Vanuatu (ECARE)*, in partnership with IUCN. The project will provide resources for continued work on PAME, including capacity building and development of sustainable financing mechanisms. This project is aiming to improve PA management effectiveness and has a target of a 50% increase in METT scores for selected PAs.

Three outputs of the project are related to the new tool:[45]

1. Design of appropriate management effectiveness tools for protected areas. Proposed activities will include: review of previous management effectiveness assessment processes and synthesis of good practice from pilot sites; review of available tools for compatibility with user skills and circumstances; design and trial of revised management tools with refinement and design for national use.
2. On-the-job training programme designed and implemented for management effectiveness tools.
3. Management effectiveness assessments conducted for three representative protected area categories.

A three-day workshop was held in Port-Vila, Vanuatu in October 2019, funded and supported by BIOPAMA/ IUCN.[46] This was aimed at introducing PAME assessment best practices, tools, global targets and data collection, and developing guidance/ adaptations for producing the Vanuatu-METT tool. Participants were also trained in the use of the METT. Adaptations discussed at the workshop were transferred to an Excel spread sheet. The draft tool was then tested at a number of CCAs. It was considered that some METT questions were not relevant and questions were misunderstood which led to important data not being collected. The feedback was provided to BIOPAMA. A second workshop (online) was held in December 2021.

[45] GEF/IUCN 2019. Expanding Conservation Areas Reach and Effectiveness (ECARE) in Vanuatu. Project Document

[46] Hockings, M., van Nimwegen, P. and Singh, A. (2019). Management Effectiveness Tracking Tool (METT). Workshop report on a training course for protected area staff, Port-Vila, Vanuatu.

CONCLUSIONS

Use of the tool in the trials gave very positive results and it was welcomed by the CCAs in which it was tested and also by the government agencies: it helped them understand where improvements are needed, is thought to be useful for improving management plans, and the component of the tool that provides an analysis of results was considered helpful. There is potential for linking this with the sites being supported in the new GEF projects. A manual is being developed and it is planned that the tool should be available by the end of 2023 (there have been delays due to the pandemic).

The plan is for extension rangers to lead the assessments at the sites, and then forward the results to the protected area office. One potential issue is the lack of a server in the Department of Environment Conservation and Protection, although there is a database. A mechanism will need to be developed for storing the data centrally.

4. Coral Triangle MPA System (CTMPAS) PAME assessment at the regional level

INTRODUCTION

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) is a multi-lateral partnership, set up to address the various threats to the coastal and marine environment of the region covered by six countries: Solomon Islands and Papua New Guinea in the Pacific, and Indonesia, Malaysia, the Philippines, and Timor-Leste in South-East Asia. Strategic Goal 3 of the CTI's Regional Plan of Action is "to establish a region-wide comprehensive, ecologically representative and well-managed Coral Triangle Marine Protected Area System (CTMPAS)". The CTI-CFF MPA Working Group oversees the activities that are undertaken to achieve this goal.

This case study demonstrates how a regional programme can support and incentivise improved PAME in MPAs in a number of countries.

THE CORAL TRIANGLE MARINE PROTECTED AREA SYSTEM (CTMPAS)

In order to be included as part of the CTMPAS, an MPA must meet a specific set of criteria. A system with four categories was adopted to allow for the CTMPAS's guiding principle of inclusivity: all MPAs listed in the Coral Triangle Atlas and associated database[47] will be included in the CTMPAS.[48] MPAs that primarily achieve local-scale objectives are Category 1. Those that contribute more towards regional-scale objectives are Category 2. Category 3 MPAs are those of regional importance that should be prioritised for assistance to help them achieve their goals, and Category 4 are those of exceptional regional importance that are already effectively managed. The categories are not strictly hierarchical and are defined more precisely as follows (White et al., 2014).[49]

1. **Recognised CTMPAS Sites**: MPAs that meet minimum data requirements required by the Coral Triangle Atlas (i.e. legal status and name, geo-referenced coordinates, knowledge of main habitats protected) and that are listed in the database. All Philippine, Malaysian and Indonesian MPAs are Category 1 sites as well as most MPAs/MMAs in Solomon Islands, Papua New Guinea and Timor Leste.

2. **Effectively Managed Regional Sites**: Sites in this category are determined nationally by the relevant CTI National Advisory Committee, using national MPA rating systems and PAME assessment tools and the agreed regional criteria for Category 2 (see Table 1 below). The six countries of the CTI are at different stages of developing their national PAME assessment tools which are needed for identifying Category 2 sites. The Philippines and Indonesia are well advanced; the Philippines has developed MEAT,[50] and Indonesia has EVIKA.[51] PNG's PAME assessment tool (PNG-METT2) (see previous Case Study) can be used for MPAs as well as terrestrial sites and the Solomon Islands is developing a national tool (see next Case Study).

[47] www.ctatlas.reefbase.org

[48] Coral Triangle Initiative on Corals, Fisheries and Food Security (CTI-CFF) 2013. Monitoring and Evaluation System Operations Manual. U.S. Coral Triangle Initiative Support Program and CTI-CFF Monitoring and Evaluation Working Group. https://www.coraltriangleinitiative.org/sites/default/files/resources/ME%20%20Operations%20Manual_29April_2014_FINAL_0.pdf

[49] White AT, Aliño PM, Cros A, Fatan NA, Green AL, Teoh SJ, Laroya L, Peterson N, Tan S, Tighe S, Venegas-LiR, Walton A. and Wen W. (2014) Marine Protected Areas in the Coral Triangle: Progress, Issues, and Options, Coastal Management, 42(2), 87-106, DOI: 10.1080/08920753.2014.878177

[50] https://www.coraltriangleinitiative.org/index.php?q=library/toolkit-marine-protected-area-management-effectiveness-assessment-tool-february-2011

[51] https://www.coraltrianglecenter.org/2021/02/17/evika-a-refined-evaluation-tool-for-mpas-in-indonesia/

3. **Priority Development Sites**: These are either MPAs of regional ecological, governance or socioeconomic importance that are not yet effectively managed and thus need additional assistance to achieve their full potential, or new MPAs recommended by the regional gap analysis (Beger *et al*., 2013)[52] because they make a specific contribution to the regional system as a whole. National nominations for this category are reviewed and approved by the regional CTMPAS Advisory Committee.

4. **Flagship Sites**: These are sites that have attained exceptional regional importance in terms of ecology, socioeconomics and governance, and that meet the highest-level criteria for management effectiveness based on the rating system used by the nominating/endorsing country. Sites can be nominated for Category 4 by national government and are then reviewed and approved by the regional CTMPAS Advisory Committee.

TABLE 1. Criteria for Category 2 MPAs

Sites should form a network: exceptions might include large no-take or fully zoned MPAs. A network can be constituted through ecological, governance or social-learning attributes or a combination thereof as defined in the CTMPAS Framework.
Sites should target an identified regional priority area, habitat or species: these may include key biodiversity areas; world heritage sites; biosphere reserves, global priorities, priority seascapes; critical or threatened habitats; threatened, charismatic or migratory species; national priority / heritage or other identified priorities.
Sites should achieve a threshold level of management effectiveness: pending the development of a regional management effectiveness rating system, sites under national jurisdiction should be rated and classified as 'effective' under a national rating system or equivalent, e.g. NCC assessment, and transboundary sites should be assessed as 'effective' by a committee with representatives from all relevant countries. MPAs in a network should achieve a threshold standard for effectiveness whereby the majority are effectively managed which will generally equate to level 3 in existing management effectiveness systems.
Sites must have a formal or legal basis for establishment.
Established and functioning management body (with records of regular meetings, or similar.
A management and / or zoning plan must be approved and implemented, that includes clearly stated objectives, standard operating procedures for monitoring and enforcement, and sustainable financing strategy/budget.
Resource and socioeconomic baseline assessment completed.
Biophysical and socioeconomic monitoring (designed to address objectives) conducted regularly and results analysed.
Information, Education, Communication, awareness programmes.
Effective enforcement with violators apprehended and penalised.
Community involvement and participation in management: Community members participate in resource assessments, on enforcement team and management body.
Multi-stakeholder involvement in management, e.g. Presence multi-stakeholder management body, Collaborative programmes, various levels of stakeholder engagement, Stakeholder consultative body.
Increased livelihood opportunities: alternative livelihoods programme linked to MPA, income from MPA tourism.
Research and development: Science applied to inform management. Adaptive management cycle followed.
Sites should adhere to at least two of the following ecological design criteria: representation, replication, resilience, connectivity, critical areas protected (spawning aggregations, nesting and nursery areas etc.).

CONCLUSIONS

Activities are now underway to share experiences of CTMPAS with the Green List certification programme. In

[52] Beger, M., J. McGowan, S. F. Heron, E. A. Treml, A. Green, A. T. White, N. H. Wolff, et al. 2013. Identifying conservation priority gaps in the Coral Triangle Marine Protected Area System. Coral Triangle Support Partnership of USAID, The Nature Conservancy and The University of Queensland, Brisbane, Australia. 38 p.

2016, the Category 2 criteria were compared to the earlier version of the Green List Standard[53] and relatively good alignment was found (Table 2). An update of this analysis is required.

TABLE 2. Comparison between the criteria for the Green List Standard and the CTMPAS (Category 2)

GREEN LIST STANDARD	CTMPAS	EQUIVALENCE
1.1. Highlighting core conservation values	Sites must describe and protect marine ecological services within accepted cultural norms.	yes
1.2. Designed to protect core values for the long term	Sites must contain no-take core areas and be part of an ecological network within or external to the MPA.	yes
1.3. Understanding the threats and challenges to core values	Threats should be described in the management plan and addressed.	yes
1.4. Understanding the social and economic impacts of protection	Social and economic consideration must be given to local communities.	partial
1.5. Equitable establishment	Established under national and/or local legislation and managed in compliance with existing laws and agreements.	yes
2.1. Legal, equitable and effective governance	Governance structures must be in accordance with local and/or national government protocols with local stakeholder involvement.	yes
2.2. Participation in Planning	Participation in planning among all relevant stakeholders is emphasised.	yes
2.3. Transparency and accountability	Open decision making is emphasised but mechanisms for scrutiny not fully clarified.	partial
2.4. Complaints, disputes or grievances	Conflict resolution is part of the management process but not fully documented or tracked.	partial
3.1. Long-term management plan or equivalent	Long-term management plan mandatory.	yes
3.2. Management of natural resources	Protected area must show some evidence of trends in natural resource and social status.	Yes
3.3. Management of social aspects	Participation in planning, so that all interests are considered, is emphasised.	partial
3.4. Management of threats	Threats must be addressed within the objectives set out for management and be part of the management plan which is monitored through a management effectiveness system.	Yes
3.5. Management for visitors and other approved activities within the PA	Not explicit although the management plan should cover this.	

[53] Wells, S., Addison, P., Bueno, P., Constantini, M. et al. (2016) Using the IUCN Green List of Protected Areas to Promote Conservation Impact Through Marine Protected Areas. Aquatic Conservation: Marine and Freshwater Ecosystems 26 (Suppl.2): 24-44.

GREEN LIST STANDARD	CTMPAS	EQUIVALENCE
3.6. Objective measures of success	Each site has locally appropriate indicators that feed into the regional indicators (e.g. area of habitat, area in no-take, etc.) in the framework.	Yes
3.7. Monitoring and evaluation	Each site should show evidence of monitoring and evaluation; and the regional system is tracked through a monitoring and evaluation system.	Yes
3.8. Resources	The need for financial and human resources is emphasised but is not a requirement.	Partial
4.1. Conservation performance thresholds are achieved	The need to determine and track indicators at each site, is emphasised but not required.	
4.2. Social performance thresholds are achieved	The need to determine and track indicators at each site, is emphasised but not required.	
4.3. Exceptional responses to conservation challenges	Some management plans take full account of the external environment in planning and activities, but this is not a requirement.	

5. SOLOMON ISLANDS
PAME assessment of marine and coastal MMAs and MPAs

INTRODUCTION

In the Solomon Islands, PAs and OECMs can be established through both fisheries and forestry legislation and included in the Register of Protected Areas. The Protected Areas Act 2010 provides for declaration of a range of categories of PAs and conservation areas, and the Fisheries Management Act 2015 provides for the declaration of Marine Managed Areas (MMAs) and Marine Protected Areas (MPAs). There are over 90 PAs and OECMs, with a range of designations: National Parks, Forest Conservation Areas, MPAs, MMAs, one WHS (East Rennell), Arnavon Community Marine Park (which has received a Blue Park award), and many other small, community based managed areas. Most sites, whether marine or terrestrial, are informally protected and require management plans (van Nimwegen, in press). Most of the MMAs and MPAs correspond to Locally Managed Marine Areas (LMMAs), found in all nine provinces and managed by small, coastal communities. As one of the six Coral Triangle countries (see previous case study) the Solomon Islands participates in the CTMPAS. The Solomon Islands Locally Managed Marine Area (SILMMA) Network was established in 2003 and is a group of projects and practitioners including NGOs, government and communities who are working to support LMMA implementation main resource for the Solomon Islands. It provides advice to the CTI-CFF National Coordinating Committee (NCC) on the nomination of sites to the CTMPAS (Solomon Islands 2019 national report to CBD).

The GEF6-funded project *Ensuring resilient ecosystems and representative protected areas in the Solomon Islands* (EREPA), which started in 2022, implemented by IUCN ORO with the Solomon Islands Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM) and SPREP, is also supporting PAME assessment in four provinces, with a focus on terrestrial sites: Guadalcanal, Malaita, Rennell-Bellona and Temotu provinces. Other experiences of PAME assessment in the Solomon Islands include the process through which the Arnavon Community Marine Park, designated a Conservation Area in 1995 and created a Marine Park in 2017, was awarded the Blue Park Gold award in 2019;[54] and the assessments of East Rennell World Heritage Site.

This case study gives a brief overview of a new national PAME assessment tool – Management Effectiveness Assessment for Marine Managed Areas (MEAMMA) – which is being developed for the Solomon Islands.

NATIONAL TOOL FOR MMA AND MPA ASSESSMENT

The Solomon Islands national tool, MEAMMA, is based on the MPA Management Effectiveness Assessment Tool (MEAT), which was introduced at a 2012 workshop in Honiara. It is being translated into the local language, enhanced to include local indicators. MEAT is based on the methodologies developed by Pomeroy et al. (2004) and for the World Bank/GEF METT, and is now used as the national tool in the Philippines. It consists of a Community Perception Survey and a 48-indicator questionnaire, split into four levels.

The Solomon Islands national tool is being developed with the support of USAID's Coral Triangle Support Partnership in collaboration with The Nature Conservancy, the Solomon Islands Locally Managed Marine Area Network, the Coral Triangle Center, and the Solomon Islands Ministry of Environment, Climate Change and Disaster Management.[55] The tool will be accompanied by a guide which is currently being prepared.[56]

[54] https://marine-conservation.org/blueparks/awardees/arnavon/

[55] https://www.coraltriangleinitiative.org/index.php?q=news/solomon-islands-implements-new-tool-improve-marine-protected-area-management

[56] https://coraltriangleinitiative.org/library/2020-cti-cff-annual-report

Part 1: Community Survey Form: with eight questions, this will be used for individual interviews with community members of the MMA or MPA and surrounding communities that might be affected by MMA or MPA activities.

Part 2: MMA or MPA Background Information – this has five sections (A-E) in which to provide general information about the site (e.g. boundaries, key features, financing, enforcement) and the assessment being undertaken (e.g. date, names of assessment team).

Part 3: Assessment Scorecard: this has four sections which reflects, and allows categorisation of, the management level of an MPA/MMA: Initiated (13 questions), Established (16 questions), Effectively Managed (12 questions), Sustainable and Self-Reliant (14 questions).

The Solomon Islands MEAMMA is still being developed and so cannot yet be compared with the Green List Standard. However, a crosswalk of the MEAT with the Standard was undertaken by UNEP-WCMC (2022). This found that three of the 17 Green List Standard criteria are fully covered, six have medium coverage, two have low coverage and six are not covered by MEAT. The greatest alignments were for Good Governance and Effective Management. Twelve of the 50 Green List Standard indicators are fully covered by MEAT, four indicators have medium coverage, nine have low coverage and 25 are not covered by MEAT, including any of the indicators in Component 4 (Successful Conservation of Outcomes). When completing MEAMMA, it would be valuable to look at this analysis and to undertake a crosswalk with the Green List Standard.

6. **RMI** – Reimaanlok: putting adaptive management into practice

INTRODUCTION

The Republic of the Marshall Islands (RMI) consists of 29 coral atolls and five low-lying islands spread over 2.1 million km^2 of the Central Pacific. The Protected Areas Network Act recognises two types of conservation areas: Type I, managed for non-commercial/subsistence only use; and Type II, Special Reserves, or no-take or highly restricted areas with a high level of protection (but they can very occasionally be used for low levels of subsistence or 'special occasion' activities). There are 16 formally recognised PA/conservation areas.

A national framework for the planning and establishment of community-based conservation areas was developed and adopted in 2008 as the National Conservation Area Plan, or *Reimaanlok*[57] (Reimannlok Planning Team 2008; Baker et al., 2011),[58] with the aim of conserving at least 30% of the nearshore marine resources and 20% of the terrestrial resources by 2020. Funding came from the Pacific Islands Regional Oceanscape Program (PROP), World Bank's International Development Association (IDA), and the GEF. The GEF-funded R2R project is helping to implement *Reimaanlok*, with an initial focus on five islands/atolls (Aur, Ebon, Likiep, Mejit and Wotho).

This case study is included as the *Reimaanlok* framework is specifically based around evaluation and adaptive management and thus demonstrates how PAME assessments could be incorporated into long-term conservation area management.

THE REIMAANLOK FRAMEWORK

The process of developing community-based management plans involves eight steps, which are overseen by the Reimaanlok facilitation consortium known as the Coastal Management Advisory Council (CMAC). Steps 1–6 cover the initial stages of setting up a community-managed area and developing a management plan. Step 7, which is the focus of this case study, covers monitoring and evaluation/assessment and adaptive management.

Step 1: Initiation: triggered by an atoll community's leadership.

Step 2: Project scoping and set-up, including budgeting.

Step 3: Building commitment: site visits by *Reimaanlok* facilitators to build awareness of the need for resource planning. A community wishing to establish a conservation area then sets up a Local Resource Committee to lead the discussions and process to development the management plans.

Step 4: Collecting and Managing Information: natural and social resource data are gathered and fed into the Conservation GIS database being developed by CMAC.

Step 5: Developing the management plan.

Step 6: Sign–off and legislation.

Step 7: Monitoring, evaluation, and adaptive Management.

Step 8: Maintaining commitment.

[57] Reimaanlok' is a Marshallese term that means 'look towards the future'

[58] Baker, N., Beger, M., Mcclennen, C., Albon, I., Edwards, F. (2011). Reimaanlok: A National Framework for Conservation Area Planning in the Marshall Islands. Journal of Marine Biology. Doi. 10.1155/2011/273034. Reimaanlok National Planning Team. 2008. Reimaanlok: National Conservation Area Plan for the Marshall Islands 2007-2012. Published by: N. Baker: Melbourne. https://rmi-data.sprep.org/system/files/reimaanlok_national_conservation_area_plan_for%20RMI.pdf

Depending on the particular needs and unique circumstances of atoll municipalities, CMAC follows the eight steps in a linear or iterative process. This helps foster a sense of trust and shared purpose within the community and between the *Reimaanlok* facilitators, so that the process itself is an empowering experience for atoll communities and a vehicle for national cohesion and shared purpose among members of CMAC. The process may take several months or even years, to complete. The plan is eventually signed off by the Mayor and traditional leaders and endorsed for implementation (van Nimwegen et al., in press). To support the overall process, 35 Appendices[59] were developed covering a range of topics and explaining in more detail the specific activities involved in each of the steps. Several of these describe how to set up monitoring programmes for different issues, undertake rapid assessments, etc. There is also a facilitators' guide to the process.

Step 7 is based on the principle that management plans should be reviewed and evaluated in a participatory manner every 3-5 years to see if the management objectives are being achieved. If they are not, adjustments should be made to the plan or to implementation. In the early stages of implementation, the National Project Team should visit the atoll every six months to review and monitor implementation, and ensure that the community has adequate support. This will reinforce the importance of the plan's implementation to the community. In addition, the National Project Team should focus on ensuring buy-in from traditional leaders in encouraging people to adhere to the plan.

National agencies should remain involved on an ongoing basis to support the community in adapting their plan and to ensure that actions are achieving the desired results. Adapting the plan is critically important particularly given the changing conditions and context due to climate change. The agencies should lead the community in establishing a monitoring programme, including building community capacity in monitoring techniques. Once indicators have been identified for socio-economic and biodiversity factors, monitoring is then conducted at regular intervals and analysed to determine trends and the impact of management. This information is made available for review and outreach to the LRC, the community members, and the national agencies.

CONCLUSION

The *Reimaanlok* Framework is being increasingly mainstreamed within national government legislation, governance, and financing systems within the RMI Protected Area Network (PAN). Atolls are in different stages of the process. By 2021, management plans had been developed, with the support of the Republic of the Marshall Islands Marine Resource Authority (MIMRA), for 16 coastal communities, over 20 coastal fish resource sites having gone through the *Reimaanlok* framework approach.[60] Further work is underway supported by the R2R project.

[59] http://seagrant.soest.hawaii.edu/publications

[60] https://www.worldbank.org/en/news/feature/2021/11/17/-reimaanlok-the-future-of-community-led-ocean-conservation-in-marshall-islands

ISBN 978-982-04-1181-4