

# Blue Belt Programme Roundtable: Protected Area Management Effectiveness

July 2021

## Blue Belt Programme

Enhancing marine protection across 4 million square kilometres of marine environment in the UK Overseas Territories.



Marine  
Management  
Organisation



Centre for Environment  
Fisheries & Aquaculture  
Science



UK Government



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**The information contained in this report represents the contributions and recommendations of the expert panel and workshop participants and does not necessarily represent the views or recommendations of the Blue Belt Programme.**

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# 1 Summary

Marine protected areas (MPAs) are an important tool for protecting marine biodiversity and safeguarding the benefits people obtain from marine ecosystems. To maximise their effectiveness, it is crucial to identify and understand the strengths and weaknesses of their design and management.

On 16<sup>th</sup> March 2021, international experts, representatives from UK Overseas Territories taking part in the Blue Belt Programme<sup>1</sup> and partner organisations joined a roundtable discussion on Protected Area Management Effectiveness (PAME). Facilitated by the Blue Belt Programme, the roundtable was an opportunity to learn how and why PAME is assessed and provided a platform to discuss the challenges and opportunities for the Blue Belt OTs in evaluating management effectiveness of their marine protected areas (MPAs).

International experts presented experience and learning from Australia, UK and the Seychelles. MPA managers, policy makers and scientists representing Ascension Island, British Indian Ocean Territory, South Georgia and South Sandwich Islands, St Helena, Tristan da Cunha, the Royal Society for the Protection of Birds (RSPB), the Centre for Environment, Fisheries and Aquaculture Science (Cefas), and the Marine Management Organisation (MMO) took part in the discussion and shared their expertise and experience.

While there is no single method for assessing PAME, common principles were shared that can be adapted to local situations and available capacity. A common thread throughout the discussion was to keep PAME assessments simple and relevant. Selecting priority indicators only and presenting results simply and visually can help managers and decision makers understand management actions and allocate resources most effectively.

A take-home message was that it is not just about the results, but the *process* of conducting the assessment brings stakeholders together and promotes mutual understanding. After fruitful discussion and debate, the value of continued sharing and learning between Blue Belt OTs and the wider MPA community was clearly highlighted.

The Blue Belt Programme would like to thank the Blue Belt OTs and partners for contributing their views and experiences to the discussion, and express gratitude to the Expert Panel for sharing their expertise and learning with all involved.

**This report presents the proceedings of the roundtable which took place on 16<sup>th</sup> March 2021. It shares presentations and recommendations by the panel of experts, summarises the discussion between participants and expert panellists, and provides a list of resources.<sup>2</sup>**

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<sup>1</sup> Blue Belt OTs from here on.

<sup>2</sup> The information contained in this report represents the contributions and recommendations of the expert panel and workshop participants and does not necessarily represent the views or recommendations of the Blue Belt Programme.

## 1.1 Key Messages from the Expert Panel

The roundtable was honoured to host Sue Wells, Jon Day and Allen Vosrie Cedras who shared their experiences from global, regional and local approaches to PAME through a series of presentations. During their presentations and subsequent discussion these expert panellists shared these key messages:

- There is no single PAME assessment method – common principles shared can be adapted to local situations and available capacity
- Evaluating management effectiveness is about the process, as well as the results; a PAME assessment can bring stakeholders together and promote mutual understanding
- Since Blue Belt OTs have limited capacity and resources, a PAME assessment must be simple, achievable and relevant, e.g. through prioritising indicators that are relevant to the site's specific objectives and selecting realistic timescales for review
- MPA managers and PAME assessments can be flexible to changing conditions and priorities
- MPA managers can consider developing annual Operational Plans to make MPA Management Plan actions clear and more achievable
- Technology is changing every year; MPA managers can be at the cutting edge of this and trial the technology, supported through partnerships
- Effective MPA monitoring is not cheap – but the benefits will be justified if it is well set up, repeatable and done regularly
- Devoting resources to interpret monitoring outcomes to inform MPA management decisions is crucial
- Thinking more widely than just ecological and threat monitoring and looking at social, resource and management information can be beneficial too; this information may already exist or can be collected easily
- Presenting PAME assessments visually and clearly for decision makers will help them understand the needs of the site and allocate resources appropriately. Keep the presentation simple, but back it up with good evidence
- Share as much as possible, do not reinvent the wheel, and learn from each other

## 2 Introduction

*The roundtable began with an introduction by the Blue Belt Programme's Senior Integrated Marine Manager, Dr Emily Hardman, who provided a brief overview of Protected Area Management Effectiveness (PAME) assessments.*

Protected Area Management Effectiveness (PAME) assessments look at how well protected areas are being managed, i.e. the extent to which management is protecting values<sup>3</sup> and achieving goals and objectives<sup>4</sup>. A PAME assessment is a tool to help MPA managers to improve management of their marine areas.

Evaluating protected area management effectiveness can:

- **Enable and support better, adaptive management**, helping MPA managers improve marine management actions, set new priorities and improve resourcing
- **Highlight successes** and help share knowledge, skills and experiences locally and internationally
- **Support effective resource allocation** and help focus effort on activities that will have the most impact
- **Promote accountability and transparency**, fostering trust between stakeholders and helping secure more funding
- **Build support and promote MPA values**, through sharing information with the community and involving stakeholders

All Blue Belt Overseas Territories now have designated MPAs or marine protection zones, as well as operational or near-operational Management Plans; it is crucial to know whether the management approaches are working as expected.

Tracking changes in species, habitats or peoples' behaviours can take a long time, and routine monitoring does not always tell the whole story. A PAME assessment looks at all of the different aspects needed for effective MPA management, such as the different pressures on the marine environment, the legal status, the resources required and the management processes, so that if management approaches are not working and

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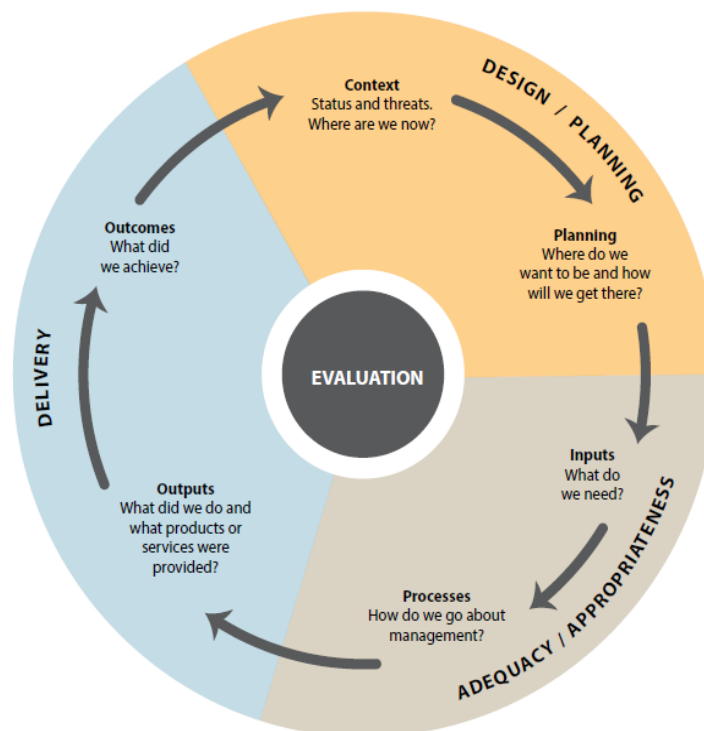
<sup>3</sup> 'Values' refer to the meanings, significance and benefits people assign to something. Values can cover biological, social and cultural perspectives. The *values* that MPAs aim to safeguard can include, for example, *ecosystem values*, i.e. the benefits people derive from a functioning and healthy marine ecosystem, and *heritage values*, i.e. the meaning people derive from the conservation of a historically important seascape.

<sup>4</sup> This definition is based on the [Hockings et al \(2006\) framework](#): Hockings, M., Stolton, S., Leverington, F., Dudley, N. and Courrau, J. (2006). *Evaluating Effectiveness: A framework for assessing management effectiveness of protected areas*. 2nd edition. IUCN, Gland, Switzerland and Cambridge, UK. xiv + 105 pp.

management objectives are not being met, managers understand why and what they need to do to improve effectiveness, while demonstrating which approaches are working well.

The International Union for Conservation of Nature's World Commission on Protected Areas (IUCN-WCPA) has developed a framework for assessing management effectiveness (Fig. 1) which has been widely applied around the world.

This framework comes from business approach to management, using the theory of change and the logic model framework. It is based on the principle that good MPA management should follow a cyclical process, be rooted in a thorough understanding of the individual context related to an MPA, be carefully planned and implemented and include regular monitoring, leading to changes in management as required.



**Figure 1.** Management effectiveness cycle: a framework for assessing management effectiveness of MPAs<sup>4</sup>.

The framework consists of six elements: Context, Planning, Inputs, Processes, Outputs and Outcomes. These six elements within the management cycle should all be assessed if management effectiveness is to be understood and appropriate management responses developed and implemented. For example, assessing only outcomes may indicate the objectives have been achieved but leaves it unclear whether it was due to good management or simply good luck. Conversely, if an outcome is not achieved then unless all six elements are assessed, it is hard to know if it was due to insufficient resources, a problem with the tools and approaches used to manage the issue or an external issue outside of the MPA manager's control.

A PAME assessment is not a one-off activity, but something that becomes a normal part of MPA management that allows managers to respond to changes and track improvements over time. Evaluation which encompasses all the elements of the framework should be carried out on a regular basis.

# **EXPERT PANEL PRESENTATIONS**



## 3 PAME Frameworks and Tools



*Section 3 summarises the presentation given by Sue Wells, a marine and coastal conservation specialist and coordinator of IUCN WCPA MPA Management Effectiveness Task Force. Sue drew on global experiences and case studies to share why and how protected area effectiveness is assessed, introducing some widely used tools.*

### 3.1 Background

#### Why assess management effectiveness of a protected area?

- Determine if objectives are being met and adapt management if they are not
- Identify threats and needs, and improve planning
- Provide information to develop priorities and funding proposals
- Establish accountability for expenditure
- Identify issues within or beyond the control of the manager
- Provide lessons learned for other protected area managers

A global review of effective and equitable management in MPAs ([Gill et al. 2017, Nature](#)) highlighted that the majority of MPAs do not have sufficient budget and few have adequate staff capacity. This analysis had global impacts, raising awareness of the importance of tracking MPA management effectiveness and highlighting the need to increase finance to MPAs.

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**“An assessment is a tool to help managers: like annual service check-ups of domestic appliances and cars, it should be a periodic check to make sure things are working and to trouble-shoot for problems” – Sue Wells**

#### EXAMPLE

**An assessment of South African MPAs** in 2013 highlighted that management plans needed revision, staff were not adequately trained, certain specific skills needed reinforcement, funding was needed, signage and demarcation of boundaries needed further work, and stakeholder engagement needed improvement. South Africa now conducts these assessments regularly, even annually for some parks.

*From: Chadwick. P, Duncan. J and Tunley, K. (2014). State of Management of South Africa's Marine Protected Areas. WWF South Africa Report Series – 2014/Marine/001.*

## 3.2 Frameworks

1. **International commitments** can drive the need for these assessments.

[Aichi Biodiversity Target 11](#) under the Convention on Biological Diversity (CBD) emphasises the need to establish large areas of protected ocean and requires these areas to be effectively and equitably managed. However, indicators and measurements to describe ‘effective management’ were not developed.

There is agreement that PAME assessments are a positive and beneficial process for site managers and stakeholders, especially when done on a regular basis. The CBD post-2020 Biodiversity Framework will improve upon the Aichi framework and include indicators for effective and equitable management. This will result in better global measurements and commitments for countries to achieve the CBD targets.

[IUCN Green List Standard](#) for successful protected areas is in its second iteration (Version 1.1) and is seen as a good synthesis of what success might be for a protected area. The standard consists of four pillars and is a useful tool for selecting priority indicators. Examples of generic indicators include:

### **Good governance**

- Governance structure clearly defined
- Rights-holders and stakeholders involved in decision-making

### **Sound design and planning**

- Large enough and sufficiently connected to other habitats or ecosystems
- Part of a network designed to meet goals of representation, replication, connectivity and resilience

### **Effective (operational) management**

- Current management plan or functional equivalent
- Site managers and stakeholders can demonstrate that management activities and policies are being implemented

### **Successful conservation outcomes**

- Site meets or exceeds the performance thresholds for the conservation of major natural values, ecosystem services, cultural values

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**“There are many indicators out there... but don’t become bogged down by the many ideas. When setting up your own system, think it through carefully and make sure the indicators suit your particular MPA” – Sue Wells**

EXAMPLE

### Mombasa Marine Park, Kenya - Capacity Assessment

Mombasa Marine Park took part in a pilot study by IUCN on assessing management effectiveness in Western Indian Ocean MPAs (Wells, 2004). This shows part of the capacity assessment worksheet, which was compiled by the MPA manager, working with staff at the site, local fishers and tourist operators. Issues were listed and given a qualitative capacity rating. Recommendations and opportunities for further work were developed. The reason for the rating was explained, which is an extremely important step.

Issues	Capacity rating (very good, good, fair, poor, none)	Explanation for choice of rating	Identify opportunities to build capacity	Identify partnerships to meet capacity needs
Legislation	Fair	The uniformed staff, rangers or wardens are conversant with the Wildlife Act which is the principal act regulating wildlife conservation	Training should be done to sensitize all the non-uniformed staff on the interpretation of rules and regulations	<ul style="list-style-type: none"> <li>• KWSTI</li> <li>• KWS, Nairobi</li> <li>• KWSFTS, Manyani</li> </ul>
Planning	Good	MPA managers i.e. the wardens have been trained on planning techniques and often refer to the management plan in decision-making	Training in planning for non managerial staff	<ul style="list-style-type: none"> <li>• KWSTI</li> <li>• KWS, Nairobi</li> </ul>
Resource inventories	Fair	Although there is no documented resource inventory, the MPA staff have a fair knowledge of existing resources  10 rangers have undertaken courses in basic marine ecology	<ul style="list-style-type: none"> <li>• Species identification training for newly recruited staff</li> <li>• Field trips for all the staff to the park and reserve for educational purposes</li> </ul>	<ul style="list-style-type: none"> <li>• KMFRI</li> <li>• CORDIO</li> <li>• CRCP</li> </ul>
Resource management	Good	The MPA staff is adequately skilled to manage the activities and resource uses within the MPA	<ul style="list-style-type: none"> <li>• Most of the skill acquired by the staff has been through experience, and on the</li> </ul>	<ul style="list-style-type: none"> <li>• KWSTI</li> <li>• KWS, Nairobi</li> </ul>

EXAMPLE

### Cousin Island, Seychelles – Management Targets for Bird Populations

An advanced monitoring programme looked at a range of management targets for bird populations and habitats, using a qualitative system to determine whether further action is needed and what this action might be.

Management target	Which objective does this relate to?	How is the status of the management target measured?	What are the results and what do they mean?	Meets preferred status? (Y/N)	Current status reversible? (Y/N)	Actions needed and recommendations	Overall health rank (V.good, good, fair, poor)
Maintain viable warbler population at >300 individuals.	1. To maintain viable populations of endemic land birds and internationally important breeding seabird populations on the island.	Annual assessment of population size.	Population stable and appears at carrying capacity.	Y	Y	Continued monitoring.	VG
Maintain viable Seychelles Magpie robin population at >25 individuals.		Weekly monitoring of population.	Population stable-slowly increasing; appears at carrying capacity.	Y	Y	Continued monitoring.	VG
Maintain viable population of Seychelles fodies at >1000 individuals.		Currently population being assessed, but not regular monitoring.	Population probably stable.	Y	Y	Establish periodic monitoring	VG
Maintain all seabird populations at current levels.		Breeding populations monitored at least once every 5 years.	Populations appear stable, except perhaps a decline in Brown noddy numbers.	Y	Y	Continued monitoring.	VG/G
Protect and enhance integrity of Pisonia dominated plateau forest community.	2. To maintain or establish threatened endemic plant species where appropriate so long as this does not conflict with objective 1.	Monitoring within permanent vegetation plots.	Catastrophic change in forest structure caused by storm in 2002 but rapid recovery.	Y	Y	Ensure permanent plots re-established & monitored. Removal of alien plants.	F
Protect and enhance integrity of hill vegetation community.		Occasional surveys carried out, most recently in 2000. No regular monitoring.	Native vegetation dominant, but insufficient quantitative data to measure change.	Y	Y	Extend vegetation monitoring to hill	G
Protect and enhance the littoral fringe vegetation community.		Not systematically measured.	Native vegetation dominant. No measure of erosion or change.	?	?	Establish monitoring process	Appears G

## Global Database on PAME

There is now a global database on PAME, [GD-PAME](#), which records information on assessments, providing date, site and methodology used.

MPA practitioners are urged to submit information about their assessments, as the database is helping to provide a global overview of the extent to which different assessment tools are being used. Currently the results of assessments are not recorded because of their potential confidential nature.

## 3.3 Tools and Methods

A generic assessment contains the following components:

DESIGN	<b>Vision:</b> Where do we want to be?
	<b>Context:</b> where are we now?
	<b>Planning:</b> how are we going to get there?
MANAGEMENT SYSTEMS AND PROCESSES	<b>Inputs:</b> what do we need?
	<b>Process:</b> how do we go about it?
DELIVERY OF OBJECTIVES	<b>Outputs:</b> what were the results?
	<b>Outcomes:</b> what did we achieve?

There are now over 70 methodologies for evaluating protected area management effectiveness, such as:

- ***How is your MPA doing?*** – developed by IUCN, National Oceanic and Atmospheric Administration and World Wide Fund for Nature – [Guidebook \(2004\)](#)
- ***Enhancing our Heritage*** – World Heritage Sites system developed by UNESCO World Heritage Centre, IUCN-WCPA and the University of Queensland, supported by the United Nations Foundation – [Toolkit \(2008\)](#)
- ***Management Effectiveness Tracking Tool*** (METT) – widely-used generic system for rapid PAME assessments – [METT-4 \(2021\)](#)
- ***Social assessment for protected and conserved areas*** (SAPA), ***Governance assessment for protected and conserved areas*** (GAPA), ***Site-level assessment of governance and equity*** (SAGE) – practical tools developed by the International Institute for Environment and Development – [Summary \(2020\)](#)
- **Regional:** e.g. *MPA MEAT* – Coral Triangle Initiative – [Toolkit \(2011\)](#)
- **National:** e.g. Indonesia, France, Dutch Caribbean, Germany, Australia

Methodologies reviewed here include:

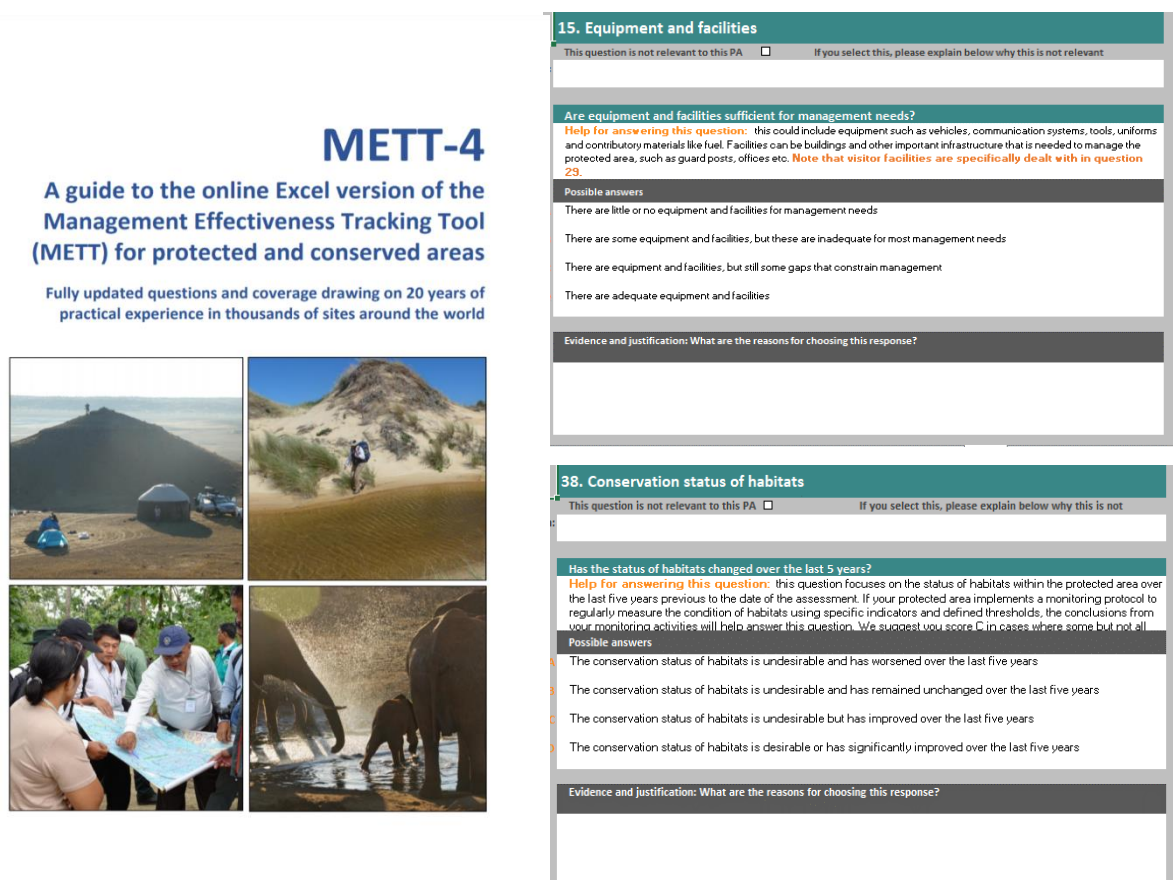
- 1) **METT** (Management Effectiveness Tracking Tool)
- 2) **Mediterranean MPA Score Card**
- 3) **The Compass Tool**

## 1) **METT (Management Effectiveness Tracking Tool)**

METT is an Excel-based system that has been developed by the same team who designed the Hockings et al. framework. It has been regularly revised, based on feedback from users. Protected areas that receive funding through the Global Environment Facility, for example, are obliged to use it, so there have been numerous METT assessments.

The latest version, [METT-4](#), was launched in 2021. The Excel spreadsheet tool is available online and is straightforward to fill out. It includes a dashboard with charts and visual summaries (Fig. 2A-C).

Training webinars [introducing the tool](#) and [exploring its use](#) are available. Read more about Seychelles' experience and learning with METT in Section 5 below.



**Figure 2A.** Screenshots from the METT-4 Guide (left) and Excel spreadsheet with questions (right)

## EXPERT PANEL: PAME Frameworks and Tools, by Sue Wells

METT scores per question		Year of assessment		0		Show Guidance	Review Actions to improve management	Export Assessment Result
No.	Question	Maximum METT score	Your METT score (this column will be filled automatically as the METT is completed)	Your METT score from last assessment (if available)	Your METT score (if available)	Management element		
1	Does the PA have legal status or is it established through "other effective means"?	3	0	0	0	Planning		
2	Is management undertaken to achieve the objectives of the protected area?	3	0	0	0	Planning		
3	Are appropriate regulations/controls in place to manage use and activities in accordance with the management objectives of the protected area?	3	0	0	0	Process		
4	Does land and sea use planning outside of the protected area recognise the protected area and contribute to the achievement of management objectives?	3	0	0	0	Planning		
5	Is the protected area the right size and shape to protect species, habitats, ecological processes and water catchments of key conservation value?	3	0	0	0	Planning		
6	Is the boundary known and demarcated?	3	0	0	0	Process		
7	Is there a management plan or equivalent and is it being implemented?	3	0	0	0	Planning		
7a-c	Additional points: Planning process	3	0	0	0	Planning		
8	Is there a regular work plan and is it being implemented?	3	0	0	0	Planning		
9	Do you have enough information to manage the area?	3	0	0	0	Inputs		
10	Are there enough people to manage the protected area?	3	0	0	0	Inputs		
11	Do the people involved in managing the protected area have the necessary knowledge and skills?	3	0	0	0	Inputs		
12	Is the current budget sufficient?	3	0	0	0	Inputs		
13	Is the budget secure?	3	0	0	0	Inputs		
14	Is the budget managed to ensure effective administration of the protected area?	3	0	0	0	Process		
15	Are equipment and facilities sufficient for management needs?	3	0	0	0	Inputs		
16	Can staff (i.e. those with responsibility for managing the site) enforce protected area legislation and regulation?	3	0	0	0	Process		
17	Are systems (e.g. patrols, permits, intelligence gathering etc) in place to control access/resource use in the protected area?	3	0	0	0	Process		
18	Do protected area staff have safe working conditions and does management prioritise safety?	3	0	0	0	Process		
19	Is there a programme of management-orientated survey and research work?	3	0	0	0	Process		
20	Are management activities regularly monitored, evaluated and adapted?	3	0	0	0	Process		
21	Is active resource management being undertaken?	3	0	0	0	Process		
22	Is the protected area consciously managed to adapt to climate change?	3	0	0	0	Process		
23	Is the protected area being consciously managed to prevent carbon loss and to encourage further carbon capture?	3	0	0	0	Process		
24	Does management consider ecosystem service provision?	3	0	0	0	Process		
25	Is there a planned education programme linked to the management needs?	3	0	0	0	Process		
26	Is there co-operation with neighbouring land/sea State and commercial users?	3	0	0	0	Process		
27	Do commercial tour operators contribute to protected area management?	3	0	0	0	Process		
28	If fees (i.e. entry fees or fines) are applied, do they help protected area management?	3	0	0	0	Process		
29	Are visitor facilities and services adequate?	3	0	0	0	Outputs		
30	Are Indigenous people involved in management decisions?	3	0	0	0	Process		
31	Do local communities living in or near the protected area have input to management decisions?	3	0	0	0	Process		
31a-c	Additional points - Impact on communities	3	0	0	0	Outputs		
32	Is the protected area providing sustained livelihood benefits to local communities and/or Indigenous people, e.g. income, employment, food security?	3	0	0	0	Outputs		
33	Are the threats to the main values of the protected area being effectively addressed?	3	0	0	0	Outputs		
34	Have the requirements for functional connectivity been assessed and implemented?	3	0	0	0	Outputs		
35	Detailed assessment of condition and trend in values	3	0	0	0	Outcomes		
35	What is the condition of the important natural values of the protected area as compared to when it was first designated?	3	0	0	0	Outcomes		
35 a-c	Additional points - Condition of natural values	3	0	0	0	Process		
36	What is the condition of the important cultural values of the protected area as compared to when it was first designated?	3	0	0	0	Outcomes		
36 a-c	Additional points - Condition of cultural values	3	0	0	0	Process		
37	Detailed assessment of key species	3	0	0	0	Outcomes		
37	Has the status of key indicator species changed over the last 5 years?	3	0	0	0	Outcomes		
38	Detailed assessment of habitats	3	0	0	0	Outcomes		
38	Has the status of habitats changed over the last 5 years?	3	0	0	0	Outcomes		
Total score		126	0	0	0			

Figure 2B. Screenshots from the METT-4 Excel spreadsheet (Summary of Questions and Scores)

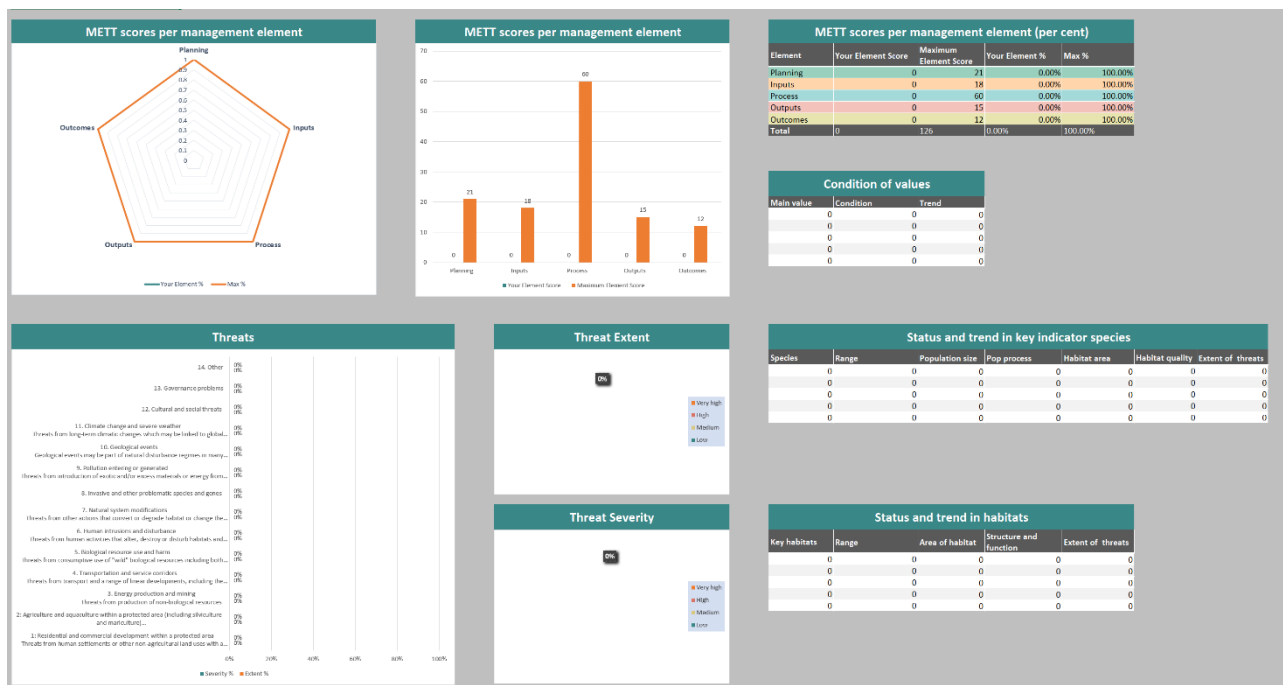


Figure 2C. Screenshots from the METT-4 Excel spreadsheet (Dashboard)



## 2) Mediterranean MPA Score Card

This simple score card system for the [quick evaluation of management in Mediterranean MPAs](#) is used widely across the Mediterranean. It consists of a ranking system with numerical scoring across 18 indicators, covering all components of the Hockings *et al.* (2006) framework (Fig. 3).

Using available information, the assessment is undertaken by MPA managers, staff based at the sites and co-management agencies.

EXISTENCE OF OUTREACH ACTIVITIES	PRIORITY 1	CONTEXT AREA	
Note: mark 1 point for YES and 0 for NO	Your score year 2012	Problems in carrying out the activity	Comments
1. Is there an interpretation and education plan for the MPA?	1	Decreasing budget	Needs EU Funding

SEAWATER QUALITY	PRIORITY 1	CONTEXT AREA	
Note: mark 1 point for YES and 0 for NO	Your score year 2012	Problems in applying the indicator	Suggestions and recommendations
1. All parameters are under the reference levels	1	Data on web sites of ARPAL are not always easily available and not always update	

**Figure 3.** Extracts from Mediterranean MPA score card

The MPA Score Card is divided into priority indicators:

**Priority 1 indicators** (x12) are the most important; MPA managers should try to gather information on these, if not already available.

- |   |   |
|---|---|
| 1. Existence of legislation on MPAs         | 7. Focal habitat conservation status                |
| 2. Existence of functional management body  | 8. Focal species abundance and population structure |
| 3. Existence of updated management plan     | 9. Management of fishing effort                     |
| 4. Financial resources allocated to the MPA | 10. Action on alien invasive species                |
| 5. Patrolling and regulation enforcement    | 11. Existence of outreach activities                |
| 6. Seawater quality                         | 12. Management of visitors (# visitors)             |

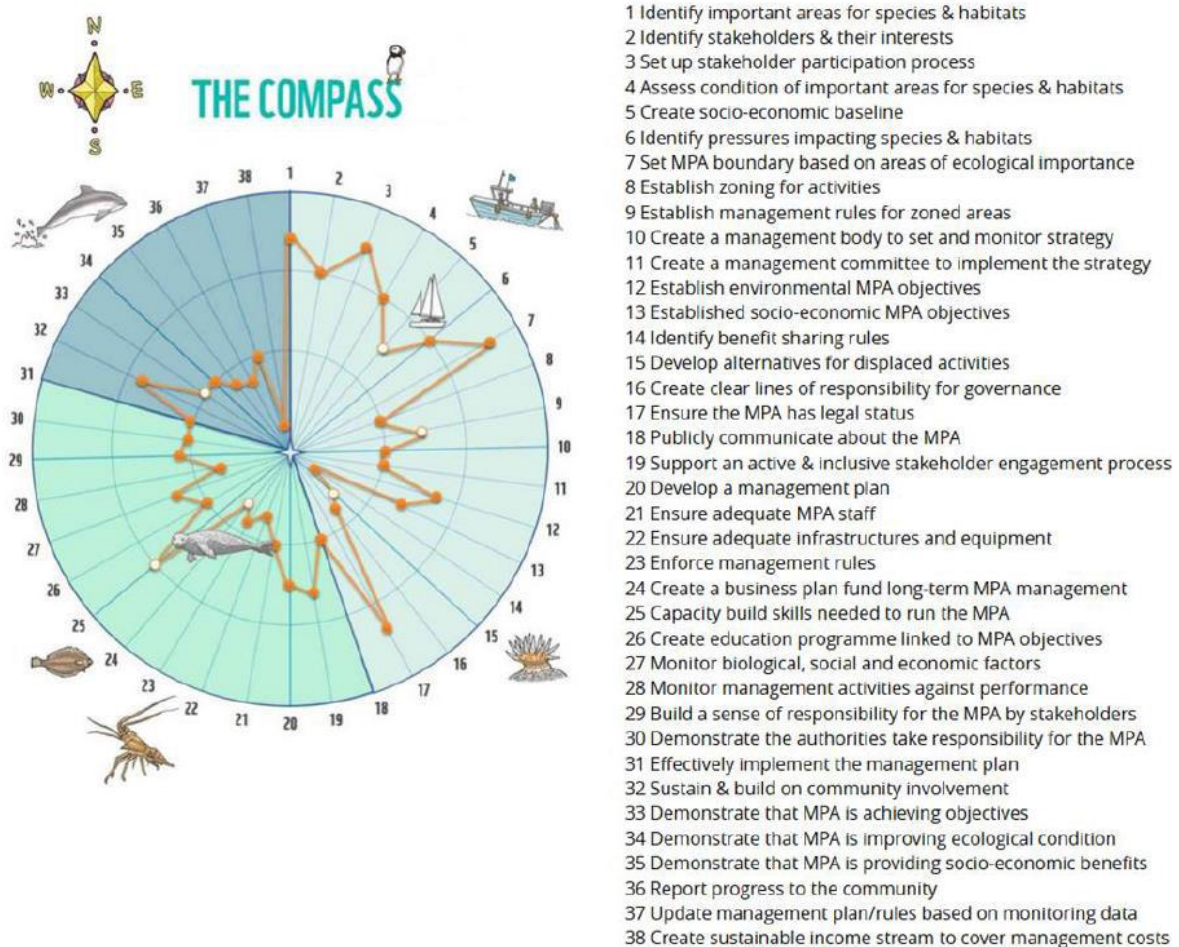
**Priority 2 indicators** (x6) allow for more comprehensive and consistent assessment. MPA managers may provide supporting information to better understand the primary indicators.

- |  |  |
|--|--|
| 1. Networking and training                                   | 4. Climate change awareness and actions                        |
| 2. Coordination with stakeholders & planners                 | 5. Alternative Livelihoods and/or Income-Generating Activities |
| 3. Status of focal physical, cultural and spiritual features | 6. Local perception of the MPA                                 |

### 3) The Compass Tool

The Compass Tool for evaluating MPA management effectiveness was developed by WWF using existing methods and was tested in North Devon MPAs in the UK.

Designed as a relatively quick assessment for MPAs, the tool contains 38 indicators or criteria (Fig. 4). It uses an online survey to collect information and takes into account how long an MPA has been established.



**Figure 4.** 'The Compass' is divided into three phases: the creation phase (light blue), the pioneer phase (light green) and the self-sufficient phase (darker blue). Image extracted from [The Compass Pilot Report for North Devon](#), UK SEAS Project, WWF UK (January 2019). This tool was originally developed by the [French Global Environment Facility \(GEF\)](#).

**“An advantage of doing an assessment is the opportunity to talk to people, to understand what is being done, what the issues are and what can be improved” – Sue Wells**



## 3.4 Selecting an assessment method

### ***When selecting an assessment method:***

- Use or modify existing methodologies, do not try and invent it all from scratch
- Think about what data is available from all sources (e.g. new technology)
- Adapt your chosen method to your situation – e.g.
  - *What level is needed? The emphasis of the assessment will vary across time and resources*
  - *What ranking or scoring system would be best?*
  - *How will you use the outcomes of the assessment?*

### ***A good assessment answers the questions:***

- Is the MPA designed and planned appropriately?
- Is the MPA managed appropriately?
- Is the MPA having a positive impact? – e.g. protecting biodiversity, increasing fish populations, improving livelihoods

*Remember: an assessment is not an exam, a competition, an opportunity for negative criticism or a chance to show off.*

## **KEY PRINCIPLES SHARED BY SUE WELLS:**

- No single method is suitable for all sites – adapt the common principles to the local situation and available capacity
- Be flexible if conditions or priorities change
- Assessments cost some time and money, but this need not be excessive
- Use an assessment to help build capacity of the MPA team, by engaging the team in the process and identifying resource and training needs
- Make it participatory and involve as many stakeholders as possible
- Disseminate results and recommendations in a form that decision makers can understand
- Act on recommendations
- Repeat the assessment after a suitable time period

## 4 Lessons from the Great Barrier Reef Marine Park



Section 4 summarises the presentation given by **Jon Day**, who is a protected area planner, manager and director, undertaking a post-career PhD at James Cook University following a 28-year career with the Great Barrier Reef Marine Park Authority. Jon provided an overview of the Great Barrier Reef (GBR) Marine Park and its management challenges and shared how the GBR Marine Park managers assess management effectiveness.

### 4.1 The GBR Marine Park

The GBR Marine Park is a vast multiple-use area that covers approximately 344,000 km<sup>2</sup> and extends across a latitudinal range of 14° (Fig. 5).

A range of legislation governs the GBR Marine Park; the main legislation is the GBR Marine Park Act (1975). The park is managed by both Commonwealth (Federal) and Queensland (State) governments. Over the decades, management threats and management priorities have changed:

**1970s:** limestone mining and oil drilling

**1980s:** crown of thorns, increasing tourism

**1990s:** fishing (trawling), biodiversity threats

**2000s:** water quality issues, coastal development, fishing (netting)

**Current:** climate change, unsustainable coastal development, water quality, unsustainable fishing.



**Figure 5.** Map of the GBR Region. The green boundary line represents the GBR Marine Park.

Whilst the GBR Marine Park is fortunate to have numerous agencies conducting long-term ecological, social, economic and cultural monitoring programmes, with excellent methodologies, the links to management were not so apparent. **The GBR Outlook Report** was developed to bridge this gap; a team of five people collate information from multiple agencies and present it in the Outlook Report.

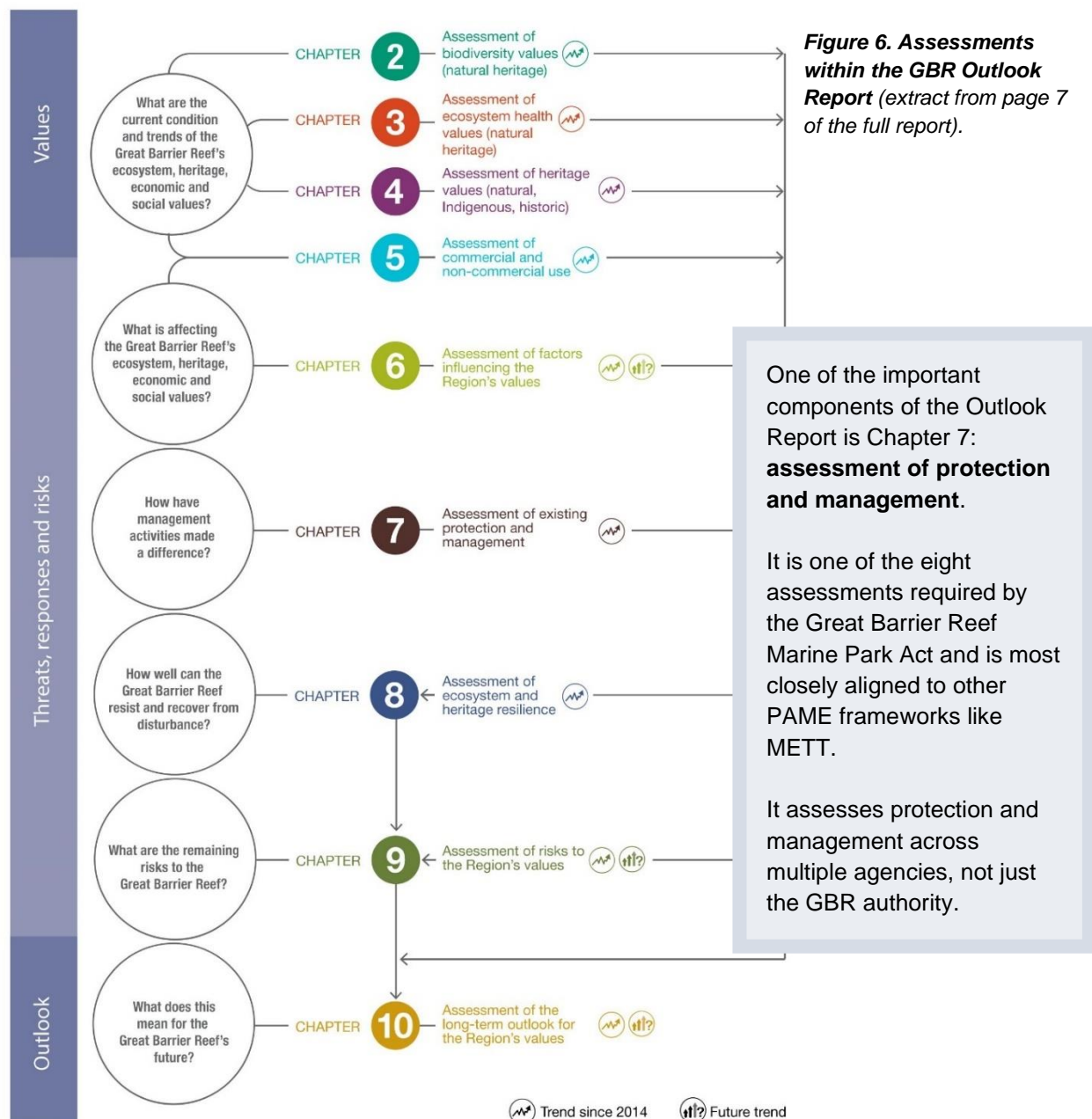
**“Management priorities change; even if you have a good management plan in effect, you have to continually reassess and adapt your management” – Jon Day**

## 4.2 GBR Outlook Report

The GBR Outlook Report was developed as a *regular and reliable means of assessing GBR health and management in an accountable and transparent way* and is required by law every five years.

The first Outlook Report was completed in 2009 and then in 2014. Both reported ‘a poor outlook for GBR’. The same framework was repeated in 2019, this time reporting a ‘very poor outlook for GBR’ due to multiple (cumulative) impacts. The reports provided clear evidence of changing and multiple pressures (e.g. climate change, coral bleaching) and highlighted the role of the whole of society in tackling the negative impacts.

The Outlook Report consists of **eight assessments** of values, uses, threats, risks, protection and management, and a final chapter that looks at what this means for the GBR’s future (Fig. 6).



The report is aimed at decision makers and so is highly visual and does not contain detailed scientific information.

The full 2019 report, an interactive report and the report in brief can be accessed at this link: <https://www.gbrmpa.gov.au/our-work/outlook-report-2019>

## 4.2.1 Table of Threats

This table of threats is a useful part of the Outlook Report that could be particularly relevant for the Blue Belt OTs (Fig. 7). It:

- Looks at which threats affect the entire GBR region (darker rows) and which are at local and regional scale (lighter rows)
- Visualises levels of risk through colour scales
- Highlights time frame for the threats, e.g. which are happening right now
- Helps understand cumulative impacts, which can be hard to assess

Documenting trends in impacts and threats can help highlight which are the most serious and require focus.

For more, read [Day \(2019\) 'The Great Barrier Reef is in trouble. There are a whopping 45 reasons why', The Conversation](#)

**Figure 7.** Table of Threats within the GBR Outlook Report (extract from page 250 of the full report).

Threat	Risk		Timing	Influencing factor			
	Ecosystem	Heritage values		Climate change	Coastal development	Land-based run-off	Direct use
Altered weather patterns	■	■	▲	●			
Sea-temperature increase	■	■	▲	●			
Ocean acidification	■	■	▲	●			
Sea-level rise	■	■	10+	●			
Modifying coastal habitats	■	■	▲		●		
Nutrient run-off	■	■	▲			●	
Sediment run-off	■	■	▲			●	
Outbreak of crown-of-thorns starfish	■	■	▲			●	●
Illegal fishing and poaching	■	■	▲				●
Incidental catch of species of conservation concern	■	■	▲				●
Altered ocean currents	■	■	▲	●			
Barriers to flow	■	■	▲		●		
Marine debris	■	■	▲			●	●
Discarded catch	■	■	▲				●
Extraction of particle feeders	■	■	▲				●
Extraction of predators	■	■	▲				●
Fragmentation of cultural knowledge	■	■	▲				●
Foundational capacity gaps	■	■	▲				●
Incompatible uses	■	■	▲				●
Artificial light	■	■	▲		●		●
Damage to reef structure	■	■	▲				●
Extraction from spawning aggregations	■	■	▲				●
Illegal activities – other	■	■	▲				●
Pesticide run-off	■	■	▲			●	
Outbreak of disease	■	■	▲	Cumulative effect of many factors			
Outbreak of other species	■	■	▲	Cumulative effect of many factors			
Terrestrial discharge	■	■	▲			●	
Acid sulfate soils	■	■	▲		●	●	
Disposal of dredge material	■	■	▲		●		●
Dredging	■	■	▲		●		●
Noise pollution	■	■	▲		●		●
Exotic species	■	■	▲		●	●	●
Behaviour impacting heritage values	■	■	▲				●
Damage to seafloor	■	■	▲				●
Extraction of herbivores	■	■	▲				●
Grounding – large vessel	■	■	▲				●
Grounding – small vessel	■	■	▲				●
Spill – large chemical	■	■	▲		●		●
Spill – large oil	■	■	▲		●		●
Vessel strike	■	■	▲				●
Vessel waste discharge	■	■	▲				●
Wildlife disturbance	■	■	▲				●
Atmospheric pollution	■	■	▲		●		●
Genetic modification	■	■	5+				●
Spill – small	■	■	▲				●

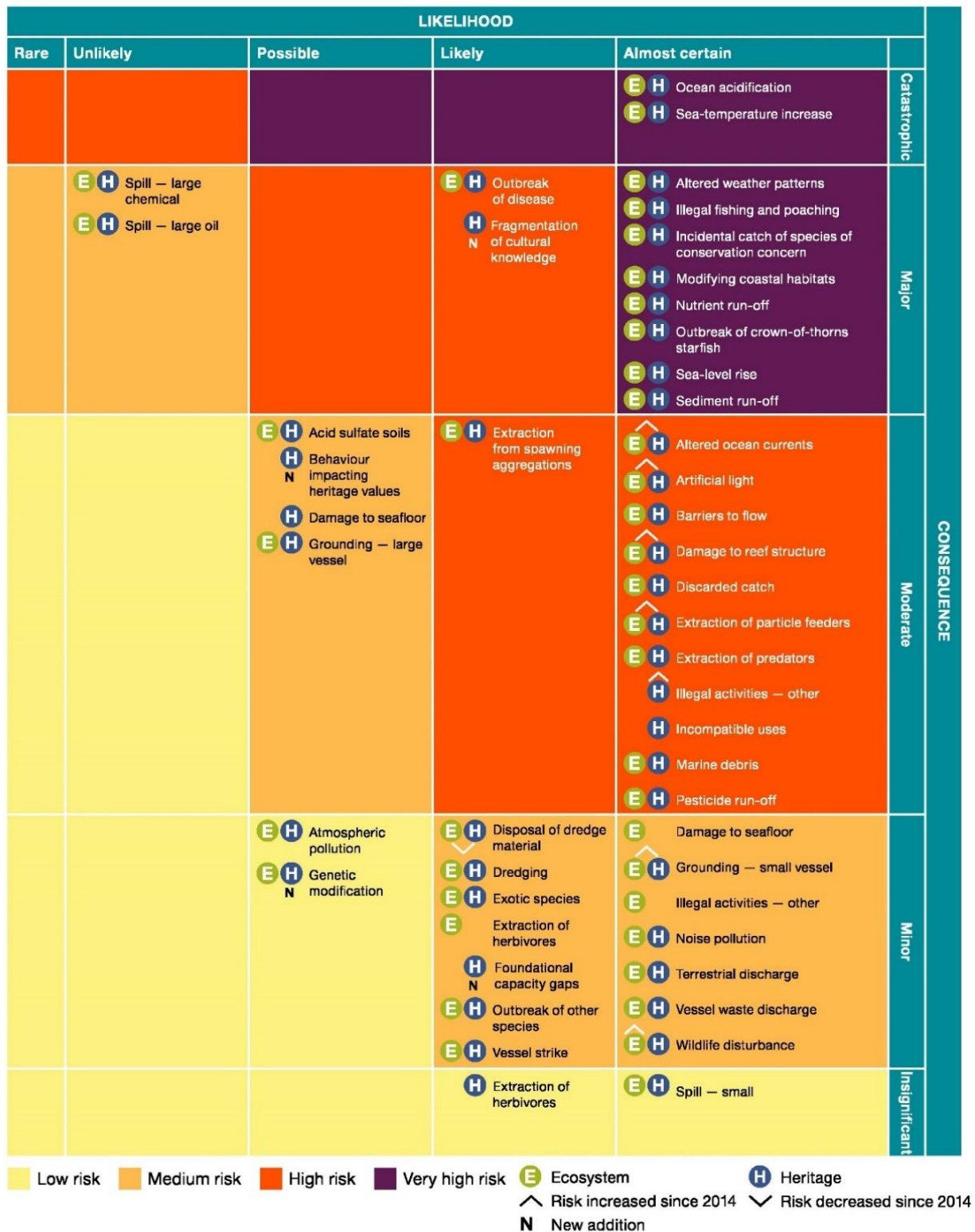
  

Threat	Risk		Timing	
Region-wide	Low risk	High risk	Now	
Local or regional	Medium risk	Very high risk	5+	More than 5 years



## 4.2.2 Risk Matrix

The risk matrix (Fig. 8) looks at risks and threats to the GBR's ecosystem and heritage values and helps managers and decision makers to prioritise actions.



**Figure 8.** Risk matrix of identified threats to the GBR's ecosystem and heritage values (extract from GBR Outlook Report page 248).

### 4.2.3 Condition and Trend Gradings

Figure 9 shows how conditions and trends in biodiversity values are presented in the Outlook report. It is also worth looking at the GBR Strategic Assessment, which like the Outlook Report includes condition and trend gradings. The Strategic Assessment distinguishes conditions and trends across different areas (e.g. inshore and offshore, northern and southern, islands, reefs, seagrass) and includes social trends (e.g. understanding and appreciation, enjoyment, access, personal connection and health benefits).

The GBR Marine Park Authority determines high priority monitoring needs and works with a wide range of stakeholders to undertake this monitoring. These include external government agencies (e.g. Australian Institute of Marine Science, fisheries departments), universities, field staff (e.g. rangers), consultants, tourist operators (e.g. cruise ships), community groups, and citizens (through apps, e.g. Eye on the Reef). No-cost monitoring is also very useful; recreational vessel registration for example can show use patterns over time.

Understanding the table			
Very good: All major habitats are essentially structurally and functionally intact and able to support all dependent species.	Good: There is some habitat loss, degradation or alteration in some small areas, leading to minimal degradation but no persistent, substantial effects on populations of dependent species.	Poor: Habitat loss, degradation or alteration has occurred in a number of areas leading to persistent substantial effects on populations of some dependent species.	Very poor: There is widespread habitat loss, degradation or alteration leading to persistent, substantial effects on many populations of dependent species.
Area (See Chapter 2, Figure 2.3)	Trend		Confidence in condition and trend
N.I. Northern inshore	↑ Improving		● Adequate high-quality evidence and high level of consensus
N.O. Northern offshore	↔ Stable		◐ Limited evidence or limited consensus
S.I. Southern inshore	↓ Deteriorating		○ Very limited evidence, assessment based on anecdotal information
S.O. Southern offshore	— No clear trend		

**Figure 9.** Current condition and trend of biodiversity values - GBR habitats (extract from GBR Outlook Report)

**Islands:** There are about 1050 islands within the World Heritage Area, including continental islands, coral cays and mangrove islands. There is limited monitoring of the condition of most islands. Most are likely to be in good condition, but there is increasing pressure from recreational use, coastal development and climate change.  
References: 10,11,12,13,14,15

**Beaches and coastlines:** Beaches and coastlines are important habitats for migratory shorebirds, seabirds and marine turtles. In the remote north, they remain relatively undisturbed, except for marine debris. Structures near urban centres and ports have extensively modified some coastline habitats and affected coastal processes. Artificial barriers to freshwater flow have disrupted sediment supply to beaches, and increased fine sediments have resulted in mangrove forests replacing beaches.  
References: 16,17,18,19

**Mangrove forests:** The Region includes an estimated 2070 square kilometres of mangrove habitat. Mangrove forests are a dynamic habitat, with some localised declines and some expansions. The overall condition of mangrove forests is relatively stable and abundance is being maintained.  
References: 17,20,21,22,23,24,20,25

Area	Condition and trend				Confidence	
	Very good	Good	Poor	Very poor	Condition	Trend
N.I.	↔	↔			●	●
N.O.	↔	↔			●	●
S.I.	↔	↓			●	●
S.O.	↔	↔			●	●
N.I.	↔				●	●
S.I.	↔	↓			●	●
N.I.	↔				●	●
S.I.	↔	↔			●	●

## 4.2.4 Assessing effectiveness of existing measures

This section of the GBR Outlook Report assesses all aspects of management, not just that undertaken by GBRMPA. It is an independent assessment by internationally recognised experts, and includes input from Queensland and Australian Government agencies.

The detailed assessment (see Fig. 10 below) covers just 14 management topics, against the six management elements described in Figure 1.

	Effectiveness of existing measures						Management topic	Summary
	Context	Planning	Inputs	Processes	Outputs	Outcomes		
Increasing complexity	↔	↘	↓	↘	↓	↘	Climate change	Management focus has significantly declined for climate change, particularly for outputs and outcomes.
	↔	↑	↑	↑	↑	↗	Coastal development	Planning systems to effectively address coastal development have continued to evolve and improve.
	↔	↔	↑	↔	↗	↔	Land-based run-off	Knowledge of water quality continues to be well understood, although outcomes continue to be poor due to significant time lags.
	↑	↑	↔	↗	↑	↑	Ports	Ports within the Region are well managed. Coordinated and holistic planning for future port developments are undertaken through legislation and policy processes.
	↔	↑	↑	↔	↔	↔	Fishing	The Sustainable Fisheries Strategy has improved planning and inputs of fishing.
	↔	↔	↔	↔	↔	↗	Heritage values	Outcomes for the Region's heritage values have improved over the last five years.
	↔	↔	↗	↔	↔	↔	Commercial marine tourism	A comprehensive suite of management tools contributes to the sustainable management of tourism activities.
	↔	↘	↔	↔	↓	↔	Recreation (not including fishing)	Recreation is generally managed effectively. Outputs have declined as emphasis has shifted to emerging risks.
	↓	↔	↔	↔	↑	↔	Traditional use of marine resources	Sound agreements and cooperative management are in place to address traditional use of marine resources.
	↓	↔	↔	↔	↔	↓	Biodiversity values	Back-to-back bleaching events in 2016 and 2017 have dramatically changed the situation in relation to outcomes for biodiversity in the Region.
	↗	↗	↑	↑	↔	↔	Community benefits of the environment	Community benefits are better defined and there has been a significant management focus in this area since 2014.
	↑	↑	↑	↑	↗	↔	Shipping	Shipping is well regulated and managed.
	↔	↑	↑	↑	↔	↔	Research activities	Planning, inputs and processes have all improved, largely as a result of enhanced systems and processes relating to management of research permits.
	↔	↔	↑	↔	↔	↔	Defence activities	Defence activities continue to be managed effectively with close cooperation between agencies.

**Figure 10.** GBR Outlook Report's assessment of effectiveness looked at 14 existing management measures against the six management elements

## ESSENTIAL ELEMENTS SHARED BY JON DAY

- Make sure targets are useful. Effectiveness must be evaluated with respect to stated objectives using measurable targets. Use S.M.A.R.T targets which are **S**pecific, **M**easurable, **A**ttainable, **R**elevant, and **T**ime-Bound. They provide direction and help with planning and achieving desired targets
- It is not practical, or necessary, to monitor or measure indicators for every aspect of every objective
- Measuring management effectiveness should not be 'tacked on' at the end of a management programme
- Start with a modest monitoring programme – there is no point setting up an ambitious programme if it turns out to be unsustainable
- Useful monitoring can be done in multiple ways – think about who else may be (or could be) collecting data in your MPA

### Recommendations from Jon Day for presenting and visualising assessments:

- Use a traffic light coding system. For example, the GBR prefers a four-point scale so people cannot simply select a middle value
- Show the area visually, showing the differences, where needed, across different areas and habitats. The GBR Online Report Card is a good example (Fig. 11)
- Show the trend over time, using arrows to show improvement, decline or no change
- Show how confident you are in the trends you have identified
- Keep text and summaries short, adding references, rather than the detail

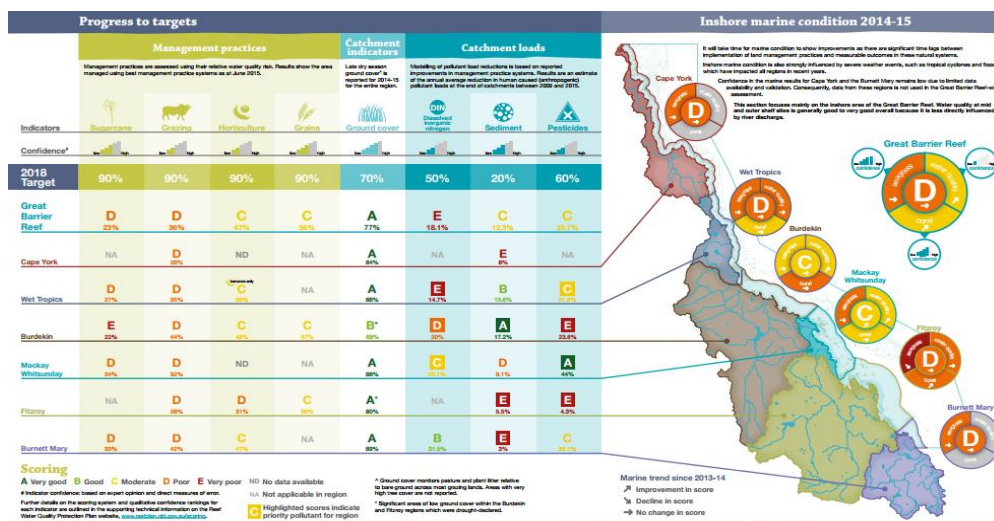


Figure 11. Example of the GBR Online Report Card.



## 4.3 Lessons Learned from the GBR Marine Park

### Trends over time

- The priorities for management actions on specific threats are likely to change over time (e.g. climate change) so be adaptive in the way you do your monitoring and management planning
- Showing key trends over time is more important than a few very detailed measurements. This will show whether management actions are working, or whether changes are due to other external factors. Information assessed in a consistent way over time is really powerful, helping to show decision makers why further action and funding might be required
- Be wary of 'shifting baselines' - what you are monitoring today might not be a good indication of what has happened. You need to put it into context

### Multiple pressure and threats

- Most MPAs are impacted by many pressures or threats. Managers cannot address them all, so it is important to understand which are direct, indirect and consequential threats, and cumulative impacts<sup>5</sup>
- Given the many pressures, prioritise management actions which are most important and can tackle more than one pressure (*especially given limited resources*)
- Displaying these threats as a risk matrix is worth considering for all Blue Belt OTs. A risk matrix is an excellent way to prioritise, and publicly depict, the threats you are managing. It can help you prioritise management actions and can also show how pressures are increasing over time

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<sup>5</sup> *Types of impacts:*

- **Direct impacts:** where the loss or modification of values is a direct result of an action within the protected area (e.g., dredging and disturbing wildlife).
- **Indirect impacts** can be either: (1) from actions outside the area causing 'downstream' effects (e.g. modifying supporting coastal habitats, urban and industrial discharge) or (2) as a result of another direct impact (e.g. oil spill resulting from a ship grounding).
- **Consequential impacts:** where the impact arises from an action made possible by an initial direct impact (e.g. anchor damage from ships now able to visit the area after dredging).
- **Cumulative impacts** — the successive and combined effects of impacts on the environment, taking into account direct, indirect and consequential impacts and the incremental and compounding effects of these impacts over time.

### **Monitoring the right things**

- It is important to monitor the 'right' things – this is even more important than monitoring the things right
- Do not assume monitoring results from one part [area] of your MPA can be applied to all parts [areas]
- Effective monitoring is not cheap (time or resources) – but the benefits will be justified if it is well set up, repeatable and done regularly

### **Sharing and communicating results**

- Any evaluation system/indicators are unlikely to be 'perfect' when first developed
- Where/how you undertake and present your monitoring results is important. Consider 'traffic light' colour coding; showing trends and how much confidence you have in the evidence helps gain support for management
- Think about who the audience is for your reporting – evaluations should be open, transparent and accessible to the community
- Managers cannot wait for all the answers or 'perfect' science before taking management action – use best available knowledge, but be prepared to adapt

The GBR monitoring and PAME assessment approach uses information from a number of agencies that have been monitoring for a long time and uses a team of five people to collate and present the information in the Outlook Report.

It may be the “Rolls Royce” of PAME assessments and not feasible for other sites, but it does include some good ideas and simple approaches that are worth reviewing.

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**“It’s important to monitor the ‘right’ things – this is even more important than monitoring the things right. You can’t do everything, so do what gives you the best bang for your buck” – Jon Day**

## 5 METT: Seychelles Experience



*Section 5 summarises the presentation given by Allen Vosrie Cedras, a Marine Protected Area Specialist from Seychelles. Allen shared how and why his team used the Management Effectiveness Tracking Tool (METT) to understand management effectiveness in Seychelles MPAs.*

### 5.1 Introduction to METT

METT is one of the most widely used and globally applicable systems developed to track and assess protected area management effectiveness. It is used to report progress towards the Convention on Biological Diversity (CBD) and can be used for both terrestrial and Marine Protected Areas.

#### **METT assists with:**

- improving the overall management effectiveness of protected areas
- tracking protected area targets
- developing good management strategies
- developing SMART objectives for protected areas
- improving financial planning for protected areas
- developing better training plans and prioritising capacity building and training needs
- improving planning for education, visitors, management, and ensuring appropriate tools and equipment for the protected area
- identifying long-term impacts (climate, management, biodiversity trends)
- keeping focus on set outcomes

A METT evaluation consists of two main sections:

1. **A datasheet** that collects key information on the MPA (characteristics, threats, objectives etc.)
2. **An assessment form** (or scorecard) designed around a questionnaire, where scores/ratings between 0 (poor) and 3 (excellent) are given to each question. These scores can be combined to give a total score for the MPA

The scores provide measurements across 38 indicators which are set within six elements, also known as components:

Element	Explanation
1. Context	<b><i>Where are we now?</i></b> Assessment of importance, threats and policy environment
2. Planning	<b><i>Where do we want to be?</i></b> Assessment of protected area design and planning
3. Inputs	<b><i>What do we need?</i></b> Assessment of resources needed to carry out management
4. Process	<b><i>How do we go about it?</i></b> Assessment of the way in which management is conducted
5. Outputs	<b><i>What were the results?</i></b> Assessment of the implementation of management programmes and actions; delivery of products / services
6. Outcomes	<b><i>What did we achieve?</i></b> Assessment of the outcomes and the extent to which they achieved objectives

## 5.2 Using METT in Seychelles' MPAs

In the Seychelles, METT has helped harmonise work and planning between management staff and MPA field staff. There are 14 MPAs in the Seychelles and the government works with all MPA managers to ensure they are managed effectively.

### How?

At first, few people knew how to use METT or why it was beneficial. The Seychelles Marine Parks Authority trained the entire team, including managers, officers and rangers. Training everyone was important and helped prevent breakdowns in communication. In the Seychelles context, METT has also helped with prioritising capacity building needs and justifying training opportunities.

Travelling to the parks to conduct the assessment helped people see the connections and see what was happening. In the Seychelles context (where travel is relatively simple) one day in the field was enough for each park, and multiple parks were assessed over a two-week period.

### Who?

Around three people per park conducted the assessment in the Seychelles. This included a supervisor from the management organisation and the field staff responsible for each

park, such as a park officer and rangers. It was noted that for future assessments, more people could be involved; three staff may be quite a significant number in the context of some OTs, many of which are resource poor.

If park officers are doing the METT assessment themselves, it was recommended that having a senior officer present would ensure the assessment is being conducted in the right way.

Stakeholders involved in the Seychelles METT process primarily included the tourism sector (e.g. tour operators, government entities), and also the meteorological office, for example.

### **How often?**

METT began eight years ago in the Seychelles, and an assessment is conducted every two years to give time to achieve objectives, although the assessment can be done every three years depending on specific contexts.

METT can be used to create a baseline. When it comes to negotiating the budget, capacity, tools and equipment required for the MPA, a baseline provides evidence of what is needed and helps defend the needs of the MPA.

### **Reporting?**

The Seychelles METT scorecard was reviewed and communicated by the government team and clear reporting mechanisms were recommended. Other recommendations included:

- Adapting the information into a presentation for park managers
- Creating memos for decision makers
- Hosting meetings to discuss results provides a platform for self-assessment that helps managers understand the work and next steps

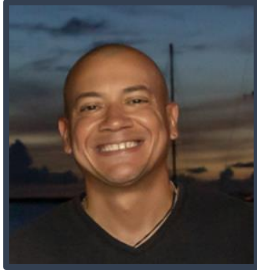
METT data can be helpful for assessing wider trends in management and impacts, such as climate change. A high-level cross-MPA analysis can assess information collected across all parks, for example.

METT is also useful for reporting to CBD. The Seychelles initially reported METT to CBD as part of their Global Environment Facility project requirements; now METT reports are used internally for local contexts and if needed the data can be easily accessed and reported to CBD.

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**“In Seychelles, METT has helped harmonise work and planning between management staff and MPA field staff” – Allen Vosrie Cedras**

## 6 Adapting the PAME Framework for the Dutch Caribbean



*Section 6 summarises the presentation provided by Tadzio Bervoets, the director of the Dutch Caribbean Nature Alliance. Tadzio shared how MPA management success in the Dutch Caribbean is being evaluated. Internet issues meant that Tadzio was not able to present during the online roundtable; his presentation is summarised here.*

With lush rainforests, deserts, wetlands, dunes, salinas, mangrove forests, seagrass beds, coral reefs, and over 200 endemic species, the Dutch Caribbean islands are a biodiversity hotspot (Fig. 12).

Today, every island has one or more protected area.

The first park was developed in 1969, the Washington Slagbaai Park on Bonaire. Now, there are six MPAs in the Dutch Caribbean as well as RAMSAR sites in Bonaire, Aruba, Curacao and Saint Martin.



**Figure 12.** Islands of the Dutch Caribbean

The Dutch Caribbean has protected areas, outstanding conservation organisations and a wealth of experience, but the parks have few resources, are under-staffed and under-funded. For example, on Saint Eustatius, parks had to close their doors in October 2003 when there was simply no money left.

The Dutch Caribbean Nature Alliance (DCNA) was formed to safeguard the biodiversity and promote the sustainable management of the natural resources of the islands of the Dutch Caribbean, by supporting and assisting the protected area management organisations and nature conservation activities in the Dutch Caribbean.

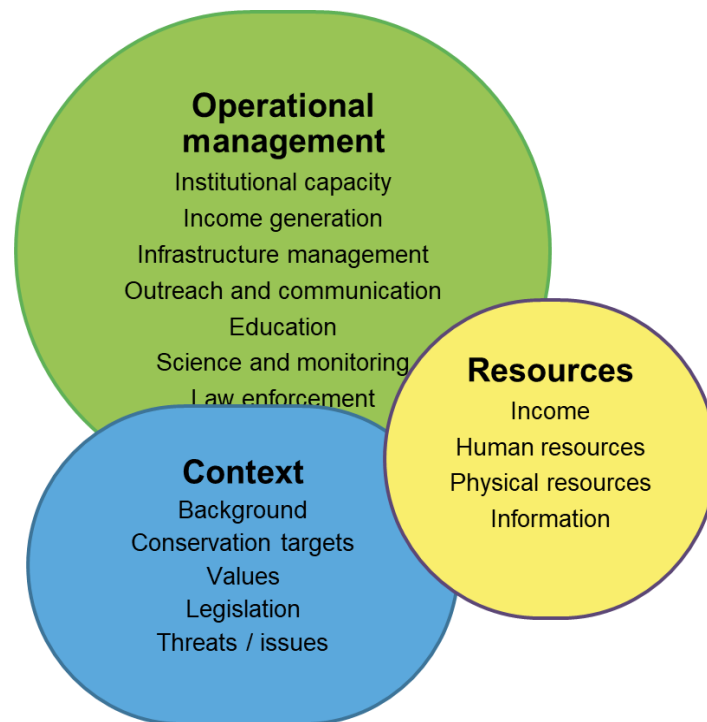
### 6.1 Capturing Management Success

In 2019 – 2020, MPA management effectiveness in the Dutch Caribbean was assessed through a ‘Management Success’ Approach (Fig. 13).

This was a bottom-up, objective and independent approach that supported protected area managers and informed the DCNA.

### The 'Management Success' Process:

1. Organised field trip; visited every island
2. Collected data through meetings with 32 staff members
3. Analysed information, scanned social media, conducted follow-up
4. Delivered draft *Technical Reports* and *Management Success Data Reports* for each protected area
5. Created one-page summaries / flyers



*Figure 13. 'Management Success' Criteria*

## 6.2 Impacts and Next Steps

The 'Management Success' approach led to a book chapter being published and an IUCN WCPA webinar with 300+ international participants ([Humphreys & Clark \(2019\) Marine Protected Areas: Science, Policy and Management](#)).

METT was later used; in 2020 DCNA was asked to complete METT analyses for parks with information collected during the 'Management Success' process described above.

A "[Closing the Loop" PAME webinar in July 2020](#) and personal connections allowed piloting of METT 4, a new version of METT released in 2020. As described in Section 5, the METT approach is based on ranking (numbers/scores) with explanations and recommendations for improvement. In the Dutch Caribbean, MPA managers are completing the remaining data reports for METT and will soon undergo a review process.

# **ROUNDTABLE DISCUSSION**

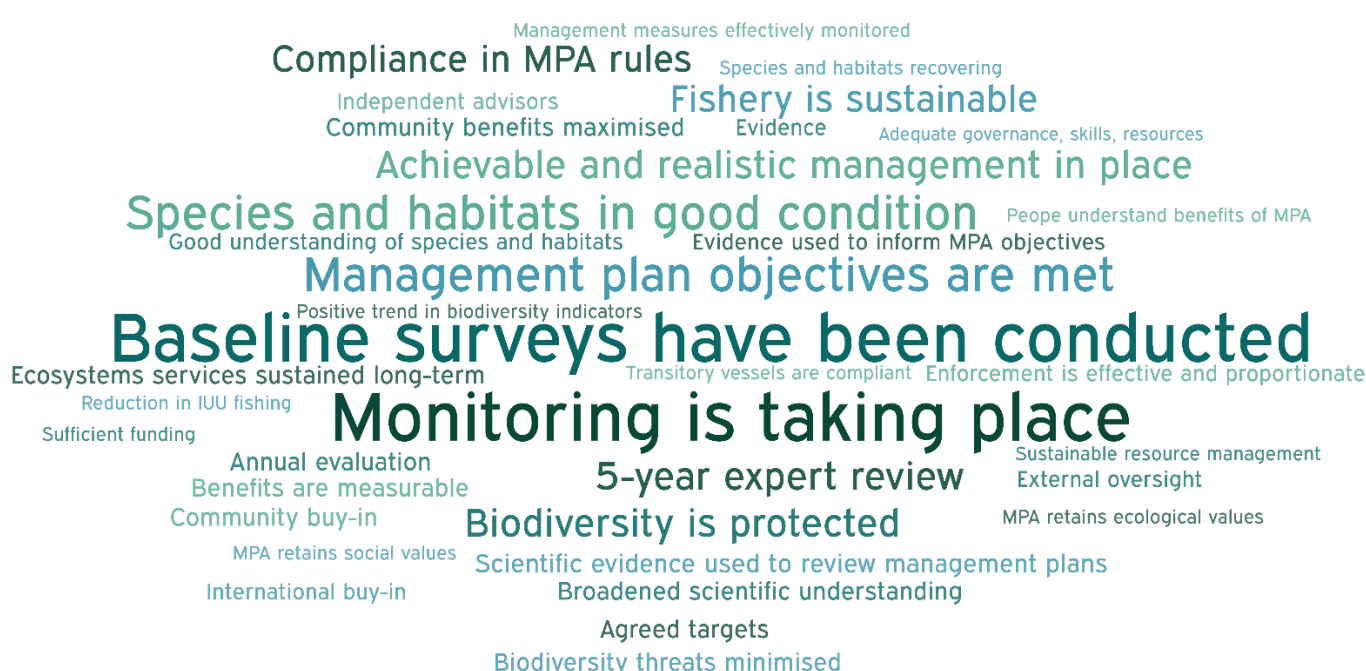
***Contributions by Participants  
and Expert Panel***



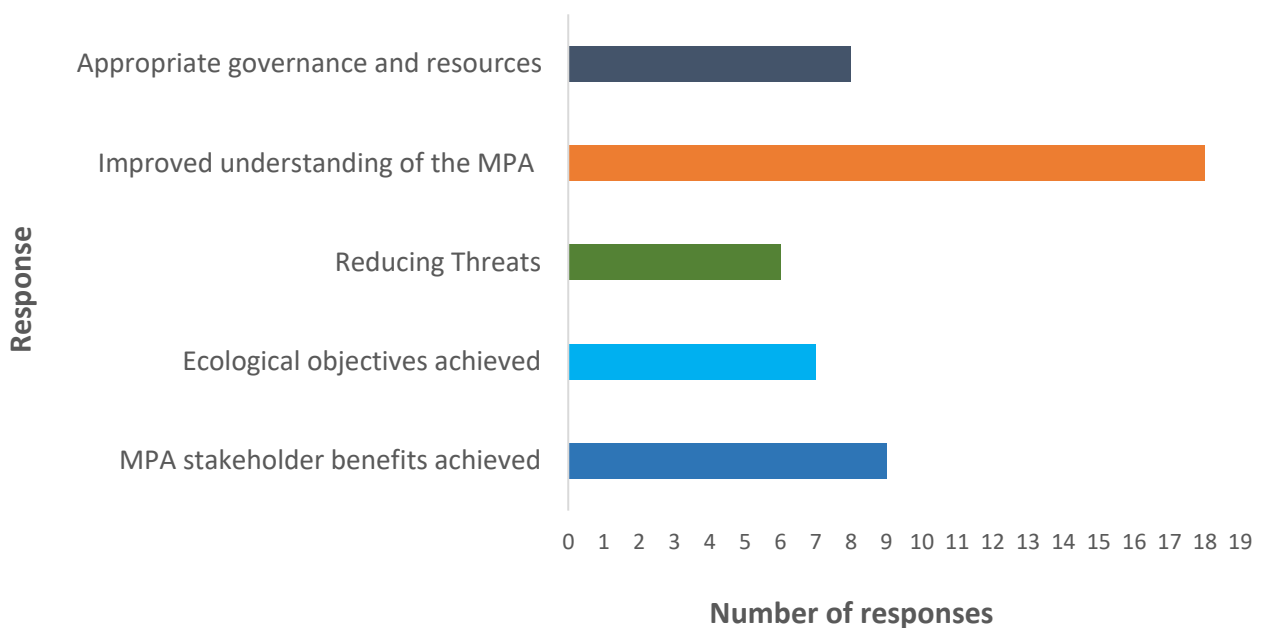
## 7 Roundtable Discussion

At the start of the workshop participants were invited to share their answer to the question:  
***How will you know if your MPA/MPZ is successful?***

The most popular responses related to *processes* such as surveys and monitoring, and *outcomes* such as species and habitats being in good condition (Fig. 14). Less commonly mentioned were *inputs* such as appropriate governance and resources, *outputs* such as threat reduction, and *outcomes* related to stakeholder benefits or species (Fig. 15).



**Figure 14** Visualised responses from participants to the question: "How will you know if your MPA/MPZ is successful?"  
The relative size of the text represents the popularity of that response (created using [www.wordart.com](http://www.wordart.com)).



**Figure 15** Responses from participants to the question: “How will you know if your MPA/MPZ is successful?” Participant responses were grouped into five categories relevant to protected area management effectiveness. When filtered to just see responses from Blue Belt OT representatives (i.e. not including UK partner agencies in the count) a similar pattern was seen, with the majority of responses focused on an ‘improved understanding of the MPA’.

In the discussion that followed, participants voiced the challenges Blue Belt OTs might face with PAME assessments. Recommendations and ideas were shared by participants and the panel, with these major discussion themes emerging:

1. Capacity and resources
2. Targeted science and management
3. Technology
4. Social data
5. Dealing with externalities
6. Trusting the process
7. Stakeholder engagement
8. Managing criticism

The following sections expand on these themes and summarise the contributions, questions, discussion and recommendations from roundtable participants and expert panellists.<sup>6</sup>

<sup>6</sup> The information contained in this report represents the contributions and recommendations of the expert panel and workshop participants and does not necessarily represent the views or recommendations of the Blue Belt Programme

## 7.1 Capacity and Resources

A major barrier shared by some Blue Belt OTs was limited capacity and resources for MPA monitoring and PAME assessments.

Representatives from two Blue Belt OTs shared that low levels of staffing limit ability to take on additional monitoring. For example, the MPA management team in St Helena is small (three people) with few resources and monitoring capabilities. Most of their time is devoted to upholding statutory responsibilities, leaving little time for additional data collection. Similarly, staffing capacity is the biggest issue for the British Indian Ocean Territory (BIOT), with few staff on the ground and one boat for the whole Exclusive Economic Zone (EEZ).

Participants noted that a lack of good baselines and the challenge of continued monitoring could also pose a barrier. For example, a representative from Tristan da Cunha shared that they have a large EEZ and very limited [management] resources; boats cannot reach much of the area to gather baseline data and so the team are very reliant on external help. It was noted that the remote and weather-dependent context of many Blue Belt OTs makes logistics and planning extremely difficult.

One of the expert panellists recommended that MPA managers prioritise monitoring and make it scalable, urging that managers do not try to do it all at once. The panellist added that managers should pick the monitoring activities that are going to give the most benefit for the time and money.

The panellists noted that for large and remote MPAs, the expanded use of new technologies and remote sensing will go a long way towards informing management (see section 7.3 for more on technology).

One participant suggested that developing more structured and operational plans that set out manageable actions can be helpful, since these allow people to see what outputs and outcomes they can expect.

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**“I am watching the waves roll in and no boats can come in and out of the harbour; sometimes with the best will in the world we [managers] still can’t do anything” – OT representative, on the challenges of monitoring**

## 7.2 Targeted Science and Management

One of the panellists commented that monitoring is essential, as is interpreting and analysing the information in a way that is useful for management. One of the participants from St Helena noted that despite a ten-year time series of dive transects, until recent assistance from the Blue Belt Programme they had no way of interpreting and analysing that information. The panellists noted that the challenge of interpreting and analysing monitoring data is an issue faced by many MPA managers around the world, especially where management and monitoring plans are developed by external consultants without experience of the day-to-day operational management of the MPA. Often, management plans do not take into account what is actually possible on-the-ground; sites end up with information but without the resources to analyse it.

A participant from St Helena added that the St Helena MPA management plan provides a great overview but says little on how the management process is structured and how effectiveness is monitored. They explained that more structured and operational plans are being developed in St Helena, which will help implementation and the PAME assessment process.

As another example, the participant from BIOT highlighted that BIOT has an excellent science programme that has been running for decades, however it can be patchy and dependent on what scientists want to study, leading to a disconnect between scientists and management decision making.

One of the panellists noted that if not already, management plans need to be made achievable, either through revising them or creating additional plans. One of the participants from Tristan da Cunha explained that creating an operational plan from the management plan has helped draw out required resources, clarify action owners and sense check what can be done in a 12- to 24-month timescale.

A panellist suggested that if capacity to analyse information is low, sharing experiences and resources between MPA managers to analyse and interpret data can help.

The panellists highlighted that it is important that scientists have a good understanding of management priorities and take responsibility for making their information more accessible to management decision making. A participant from BIOT noted that a recent improvement is that scientists are writing yearly reviews of the science they have done, with a focused report on how it feeds into management planning.

A further message from the panellists was around the need for management to be integrated. For example, instead of a single management plan, the GBR Marine Park has an integrated management system comprising a range of plans by various agencies, which are all integrated to assist in achieving the overall objective to protect the GBR

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**“Monitoring is important, but devoting resources to interpret the information into management decisions is crucial” – Jon Day, on the importance of translating scientific evidence into management advice**

## 7.3 Technology

The participants and panellists discussed that the Blue Belt OTs have large, remote EEZs and limited resources to access these large areas of ocean.

A Blue Belt representative noted that technology such as satellite monitoring has come a long way in helping monitor compliance and enforcement and gather evidence to tackle illegal, unreported and unregulated (IUU) fishing. Numerous remote sensing systems are now used for satellite surveillance of IUU fishing<sup>7</sup>, and use of these remote sensing tools is now being expanded to identify threats linked to marine biosecurity and shipping. It was added that additional technology such as drones and passive acoustics are also being trialled to gather evidence to tackle IUU fishing. The Blue Belt representative also noted that in terms of compliance and enforcement, focus is gradually moving from traditional methods of enforcement, prosecutions and fines, to promoting compliance; for example, working directly with flag States and Regional Fisheries Management Organisation to tackle non-compliance with MPAs. Technology can give managers confidence in their understanding of activities occurring within an MPA, enable risk profiles to be developed looking at where and when activities might take place, and inform actions and responses on the ground. The Blue Belt representative also shared that their experience gained from using technology in these large-scale areas is that there is not a silver bullet; you have to bring together different tools and use them in the most effective ways for each OT.

One of the participants flagged that although remote technologies are positive, they still felt that without an asset [boat] on the water there is not a lot that can be done to take forward proper investigations and prosecution, highlighting the complementarity of remote technology and assets on the water.

A panellist highlighted that technology is rapidly changing and improving, and cited one example of how inshore monitoring has moved on from manta tows and visual assessments, to now using video combined with artificial intelligence. The panellist encouraged MPA managers to continue to work with academic institutions and scientific colleagues to explore and make use of new technologies.

The panellists noted that building up intelligence over time can help managers understand patterns and behaviours of operators, making enforcement and monitoring more effective.

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<sup>7</sup> Sensors and systems that can be used to track vessel activity include: AIS (automatic identification system), VMS (vessel monitoring systems), SAR (synthetic-aperture radar), VIIRS (Visible Infrared Imaging Radiometer Suite), as well as optical satellite imagery.

Even if you cannot go out on a boat to enforce, it is still important and useful to collect the information.

The discussion highlighted that all Blue Belt OTs are working in partnerships with universities, institutions, and NGOs, such as RSPB. For example, the governments of Ascension Island, South Georgia & the South Sandwich Islands (SGSSI), and Tristan da Cunha are working with Global Fishing Watch to monitor vessel and fishing activity. Ascension Island government plans to work with stakeholders using a citizen science approach to collect eDNA water samples from yachts, fishing boats, supply vessels and ships.

Experience shared from the government of SGSSI who can draw on decades of ecological information from local and regional research programmes, was to look regularly at new technology, but be cautious too. There is a risk that long-term monitoring systems are replaced with autonomous systems that may not be appropriate for the job; new technology may need to be used in parallel with established monitoring systems for a while before any transition.

The discussion highlighted that making information available internally and externally has been important. The government of SGSSI noted that they have developed a [web-based portal for GIS data](#), with different levels of accessibility, to allow people to explore data sets. This project has helped identify key areas for research that can inform management and serves as guidance for external researchers.

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**“There isn’t a silver bullet; you have to bring together different tools and use them in the most effective ways”** – *roundtable participant, on the use of new technology*

## 7.4 Social Data

Taking into account their concerns on the capacity and resources for additional monitoring and data collection, participants discussed the need to think beyond just ecological monitoring and to also use information they have in hand, could collect relatively easily or is collected by other government departments and organisations.

One of the panellists noted that simple information that is already collected on a day-to-day basis is important for understanding management effectiveness. This can include information on staff, levels of training, resources, equipment, infrastructure, MPA users e.g. number of tourists, tour operators, fishers or licensing information. These aspects of MPA management are very important and gathering the information can be done relatively quickly.

Other panellists added that long-term monitoring of (and learning from) community perceptions of an MPA is also important and useful for MPA managers. This social information is relatively cheap to collect and provides important indicators for PAME assessments. It helps managers see where more effort and communication are needed and whether local communities can see the benefits of an MPA. Notably, social and perception indicators are increasingly included in monitoring frameworks e.g. the IUCN Green List Standard. For example, if people do not understand a regulation then this provides evidence of the need to invest further in education and awareness actions

The panellists stressed not to reinvent the wheel and instead build on the systems already developed and modify them for specific area. For example, it was noted that the GBR's Social and Economic Long-Term Monitoring Program ([SELTMP](#)) is a comprehensive system that started ten years ago and could be used as a reference. They highlighted some other social, governance and equity assessment methods including [SAGE](#), [GAPA](#), [SAPA](#). Many of these methods are based on Hockings et al, framework (Fig. 1) and contain useful indicator examples and frameworks to draw from.

The participant from Ascension Island explained that the Ascension Island Government has been working with Cardiff University to trial a questionnaire on community perceptions, ahead of rolling it out fully online. Ascension Island Government has shared the questionnaire for other Blue Belt OTs to use and adapt.

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**“Don’t reinvent the wheel; build on the systems already developed and modify them for your area” – Jon Day & Sue Wells**

## 7.5 Dealing with Externalities

An issue raised by a participant during the discussion was how managers might deal with the impacts of climate change when considering MPA management effectiveness. Deterioration may still occur, even if MPA management is considered successful.

Another participant brought up the timeframe for review, and the issue of shifting baselines<sup>8</sup>. The participant noted that MPAs are a long-term management tool and recovery of fish stocks, bottom-trawled habitats and whale populations (for example) can take decades; one review carried out five years after MPA establishment may not pick up these changes.

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<sup>8</sup> In this context, a **shifting baseline** is where each successive generation assumes that the diminished biological state is the norm ([The Nature Conservancy 2007](#)). This recognises that changes in the condition of the marine environment may be the result of centuries of human use, whereas the majority of scientific monitoring only spans a few decades. For example, what we consider to be a healthy environment now, past generations would consider to be degraded.



The participant added that over time, knowledge can be lost about the state of the natural world: for example, an MPA manager might document improvements in biodiversity values over a five-year period, however the measurement might show a different trend when compared to a baseline from 25 years prior.

A panellist noted that climate change is the number one threat for the GBR Marine Park and while the Outlook Report has not fixed the problem, it has helped build discussion and direct more resources to climate change issues.

The panellist added that mitigating climate change is beyond the scope of individual MPA managers and suggested setting aside no-entry 'preservation areas' without human activities, taking away other pressures to boost resilience. This gives these areas a chance to cope.

Recognising the timescales for ecological change, the panellists noted that repeating PAME evaluations on a regular basis over time can help managers begin to document and pick up on these longer-term changes.

## 7.6 Trusting the Process

The discussion highlighted that some MPA managers may be fearful of doing a PAME assessment because, by emphasising what is going wrong, this may result in external parties judging the site. A question was asked as to whether the GBR Outlook Report's pessimistic findings caused a political fallout or other difficulties, considering the significant money that has been spent.

The panellists stressed that PAME assessments are about understanding how your management is working, and enabling action, rather than judgement. For example, it was explained that even though the GBR Marine Park assessment has shown a "poor outlook" for the GBR, the assessments help GBR managers know what is going on and provide evidence of marine ecosystem management. The monetary value and ecosystem service value of the GBR makes it clear that the area needs to be managed; the Outlook Report shows that management is having an impact, but more needs to be done. The Outlook Report provided the evidence that policy makers needed to make decisions.

A suggestion from the panellists was to keep the report simple, but back it up with good science. Be upfront and communicate it in a form that decision makers can use; they will see the trend and see the need for management resources.

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**"A PAME assessment is not about judgement, but about enabling managers to spot trends, allocate resources better, and deal with externalities" – Jon Day**



A common thread that arose from the discussion between participants and panellists was the importance of the *process* of the doing the assessment. One of the participants noted that on the island of Rodrigues, for example, the assessment was conducted through a stakeholder workshop, with fishers, tour operators, government stakeholders, and NGOs. The first assessment did not score well, but spending a day discussing issues, constraints, different perspectives and ideas with MPA users and managers was extremely useful. Plans were made on how to improve things, immediate actions were decided, and it showed government that more resources were needed.

The value of using generic tools across multiple sites (e.g. for cross-comparison of sites) was also discussed. One of the panellists highlighted that the French Government, as an example, has taken onboard the Green List principles for MPAs of all kinds and sizes, adapting the tool so it works for their objectives.

Some participants and panellists noted that comparisons between Blue Belt OT sites might be less useful, but stressed that a sense of sharing would be very beneficial, i.e. sharing what works and under what situation. With their unique context and geographies, sharing learning from Blue Belt OTs' PAME assessments with international managers and practitioners could have a significant impact for managing high seas and offshore MPAs.

The participant from the RSPB noted, for example, that the organisation has over 200 reserves around the UK and extensive monitoring and reporting programmes. They have done a lot of thinking on this topic and will be able to support with developing a straightforward and usable system with Tristan da Cunha.

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**“It’s not just about the results, it’s about the process” – Blue Belt Programme representative, on conducting PAME assessments**

## 7.7 Stakeholder Engagement

Some of the participants flagged that when managers bring stakeholders together to discuss MPA management and monitoring plans, balancing different priorities and perceptions can be a challenge. Understanding what works well in workshops would be helpful for managers, such as ideas on how to tactfully manage the loud minority and provide a platform for the silent majority.

The panellists noted that stakeholder involvement in a PAME assessment and a sense of local community ownership of the MPA is vital [for effective MPA management]. They highlighted that while monitoring delivery of outputs like reports and training is easy, MPA managers should also look at demonstrating the longer-term outcomes and benefits from having the MPA in place, i.e. benefits to communities and government.

The panellists stressed that when facilitated well, the process of bringing stakeholders together builds understanding of different perspectives; even if they do not agree they will at least start to understand why people have those opinions. For example, one panellist noted that in the early days of the GBR Marine Park, misunderstandings led to controversies, but a pivotal workshop developing the 25-year strategic plan with stakeholders built common ground and long-term partnerships.

The participants also discussed that when conflicts exist, mutual understanding can take time and thus it is important to manage expectations of decision makers and stakeholders.

The discussion between participants highlighted that these challenges are common across MPAs around the world and knowing how to take the fire out of a discussion and informing and working well with stakeholders is an important skill. A Blue Belt Programme representative suggested that training courses on meeting and workshop facilitation could be a useful part of the Blue Belt Programme, focusing on facilitating effective dialogue and managing conflict and engagement.

The panellists provided some suggestions to help the full range of views be heard:

- Conduct facilitated workshops, making sure they are well-designed, targeted and structured, with good representation from different sectors and geographies
- If someone is dominating the conversation during a meeting, allow time for them to show that their views are important, but take them to one side to talk and listen further, over a coffee for example. Let them know that what they said is important, and that you would like to spend some time talking to them about it. This lets them be heard, acknowledged and appreciated, but avoids upsetting the wider group
- Conduct surveys with individuals and groups
- Conduct telephone polling with stakeholders (e.g. GBR used a professional polling company to find out what people thought about the reef)
- Develop communications material that clarifies the facts and distinguishes the myths (e.g. GBR)

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**“People who shout the loudest often get heard, and trying to maintain diplomacy is tough” – a participant, on some of the challenges faced when bringing stakeholders together**

## 7.8 Managing Criticism

The participants noted that managers of sustainable-use MPAs can be faced with criticism that only no-take MPAs are effective, despite reviews indicating that MPA management objectives are being met. It can be challenging to communicate about success in the face of public perceptions of fishing within MPAs.

A panellist noted that IUCN categories, which classify protected areas according to their management objectives, can be a useful reference. These categories range from strict nature reserves where human activities are strictly controlled and limited to protected areas with sustainable use of natural resources, including sustainable fishing.

It was highlighted by a panellist that despite common misconceptions that the GBR MPA is no-take, the reality is that it is a multiple-use and zoned MPA; only about one third of the entire GBR is no-take and the remaining two-thirds allow multiple uses such as sustainable fishing. Some fisheries within the GBR MPA are more sustainable than others and they are moving towards addressing less sustainable aspects.

The panellists stressed that the point of a PAME assessment is not judging the designation (e.g. whether the site is no-take or for sustainable use) but looking at how the site is managed and what the objectives and outcomes are for that site.

The panellists noted that involving stakeholders in management planning and effectiveness assessments in the early stages. It was discussed that it is harder to get buy-in from stakeholders if they are only involved in the later stages of planning and assessments. A participant shared learning from SGSSI MPA that for newer MPAs (compared to the SGSSI MPA, which was established earlier than other Blue Belt OT MPAs), partnering with stakeholders such as NGOs at an early stage could help.

## 8 Final thoughts from Blue Belt OTs

*At the end of the roundtable, Blue Belt OT representatives shared their thoughts on the discussion and PAME assessments.*

The participant from **Ascension Island** noted that Ascension Island Government has started the journey, writing PAME assessments into management and monitoring plans. They found it interesting to hear these new ideas and there is now a desire to go back and check existing frameworks, to see if anything important was lost along the way. The GBR example represents a terrifying amount of work; Ascension plans to have their first annual review soon and hopes to pitch it in a way that is manageable but meaningful. It was highlighted that managers cannot judge MPAs on an annual cycle, and managers must be clear to help people understand that it can take 20 to 40 years to see a difference.

**South Georgia and South Sandwich Islands (SGSSI)** staff found the presentations and discussion useful as they move towards their next five-year review, and it has informed thinking about other stakeholders who can be engaged and other methods they can use. They noted that the Government of SGSSI is doing a lot of these assessments but are not great at displaying them. GBR's graphs and colourful pictures are a good way to make it accessible, and so displaying data in an accessible way is a key takeaway point. They also noted that SGSSI is lucky to be in a data-rich position, and that it is important to focus efforts where threats are greatest, and where you have capacity to manage.

Participants from **St Helena** explained that the discussion had reinforced that they are on the right road and it has given them a boost for continuing this process. They noted that they are keen to keep the advice and support provided here in sight, since the process can be overwhelming, especially in a small community like St Helena. They thought that the conversation on PAME was quite timely and has filled a gap in some of their thinking, driving good debate and thinking on where a PAME assessment could be used. The GBR Marine Park risk matrix (Fig. 6), for example, was useful, even if they would adapt and modify some things based on local context.

Participants from **Tristan da Cunha** shared that PAME assessments such as METT will be a useful tool, even at Tristan's early stage in MPA development. They noted that PAME assessments could be included within the process, rather than at the end, for working out where they want to be in the future. The engaging and colourful visualisations were appreciated; they found the session informative and instructive and appreciated learning from other Blue Belt OTs that have been through the process. The participants noted that international stakeholders who are passionate about these remote islands could provide valuable input into what happens in these MPAs and their effectiveness.

The participant from the **British Indian Ocean Territory (BIOT) Administration** agreed with the comments made by participants from Tristan da Cunha, adding that there are a lot of other stakeholders invested in BIOT, such as previous military personnel, with whom they could engage. They noted that the discussion during the roundtable had reinforced how an effectiveness tracking tool will be useful for the years to come; and that it should be put into plans going forward. The sharing of information and presentations was appreciated and moving forward with these lessons learned from the expert panel was deemed a good approach.

A Blue Belt Programme representative and facilitator concluded the roundtable by thanking all participants and panellists for their contributions and inviting participants to get in touch if there are further questions.

## 9 Resources and links

*Prior to the workshop, the Blue Belt Programme shared this list of useful resources and links associated with PAME assessments.*

### **Background on PAME assessments**

[Protected Planet](#): Introduction to the Global Database on Protected Area Management Effectiveness; User Manual; Overview of PAME evaluation methodologies:

[UNEP WCMC: Successful protected areas are a matter of quality, not just quantity](#)

[Coad, L., Leverington, F., Knights, K., Geldmann, J., Eassom, A., Kapos, V., Kingston, N., de Lima, M., Zamora, C., Cuadros, I. and Nolte, C. \(2015\)](#). Measuring impact of protected area management interventions: current and future use of the Global Database of Protected Area Management Effectiveness. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **370**.

[Day, J., Hockings, M. and Jones, G. \(2002\)](#). Measuring effectiveness in marine protected areas — principles and practice. In: World Congress on Aquatic Protected Areas: what works best and how do we know. pp. 1-16.

[Geldmann, J., Deguignet, M., Balmford, A., Burgess, N.D., Dudley, N., Hockings, M., Kingston, N., Klimmek, H., Lewis, A.H., Rahbek, C., Stolton, S., Voncent, C., Wells, S., Woodley, S. and Watson, J. E. M. \(2021\)](#). Essential indicators for measuring site-based conservation effectiveness in the post-2020 global biodiversity framework. *Conserv. Letters*.

[Gill, D.A., Mascia, M.B., Ahmadi, G.N., Glew, L., Lester, S.E., Barnes, M., Craigie, I., Darling, E.S., Free, C.M., Geldmann, J. and Holst, S. \(2017\)](#). Capacity shortfalls hinder the performance of marine protected areas globally. *Nature*, **543**: 665-669.

[Hockings, M., Stolton, S., Leverington, F., Dudley, N. and Courrau, J. \(2006\)](#). Evaluating Effectiveness: A framework for assessing management effectiveness of protected areas. 2nd edition. IUCN, Gland, Switzerland and Cambridge, UK. xiv + 105 pp.

[Hockings, M., Leverington, F. and Cook, C. \(2015\)](#). Protected area management effectiveness. In: G. L. Worboys, M. Lockwood, A. Kothari, S. Feary and I. Pulsford (eds) Protected Area Governance and Management. ANU Press, Canberra, Australia. pp. 889–928.

[Leverington, F., Costa, K.L., Pavese, H., Lisle, A. and Hockings, M. \(2010\)](#). A global analysis of protected area management effectiveness. *Environmental management*, **46**: 685-698.

[Leverington, F., Costa, K. L., Courrau, J., Pavese, H. Nolte, C., Marr, M., Coad, L., Burgess, N., Bonhard, B. and Hockings, M. \(2010\)](#). Management effectiveness evaluation in protected areas – a global study. Second edition 2010. The University of Queensland, Brisbane, Australia. viii + 87 pp.

## **PAME assessment methods**

[Leverington, F., Hockings, M., Pavese, H., Costa, K. L. and Courrau, J. \(2008\).](#)

Management effectiveness evaluation in protected areas – A global study. Supplementary report No. 1: Overview of approaches and methodologies. The University of Queensland, Gatton, TNC, WWF, IUCN-WCPA, Australia. 188 pp.

**Management Effectiveness Tracking Tool (METT):** [Stolton, S., Dudley, N., Belokurov, A., Deguignet, M., Burgess, N.D., Hockings, M., Leverington, F., MacKinnon, K. and Young, L. \(2019\).](#) Lessons learned from 18 years of implementing the management effectiveness tracking tool (METT): A perspective from the METT developers and implementers. *Parks*, **25**: 79-92; Guidance to METT-4 is available on [Protected Planet](#).

**WWF-World Bank MPA Score Card:** [Staub, F. and Hatzios, M. E. \(2004\).](#) Score Card to Assess progress in Achieving Management Effectiveness Goals for Marine Protected Areas. World Bank. 30 pp.

**Rapid Assessment and Prioritization of protected Area Management (RAPPAM):** [Ervin, J. \(2003\).](#) WWF: Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) Methodology. WWF, Gland, Switzerland. 49 pp.

**How Is Your MPA Doing?** [Pomeroy, R. S., Parks, J. E. and Watson, L. M. \(2004\).](#) How is your MPA doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness. IUCN, Gland, Switzerland and Cambridge, UK. xvi + 216 pp.

**Western Indian Ocean Workbook:** [Wells, S. and Mangubhai, S. \(2005\).](#) A Workbook for Assessing Management Effectiveness of Marine Protected Areas in the Western Indian Ocean. IUCN Eastern African Regional Programme, Nairobi, Kenya. viii + 62 pp.

**Integrated Management Effectiveness Tool:** [Paolini, C., Rakotobe, D. and Djossi, D. J. \(2016\).](#) 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. 128 pp

**IUCN Green List:** [Hockings, M., Hardcastle, J., Woodley, S., Sandwith, T., Wildson, J., Bammert, M., Valenzuela, S., Chataigner, B., Lefebvre, T. and Leverington, F. \(2019\).](#) The IUCN green list of protected and conserved areas: Setting the standard for effective area-based conservation. *Parks*, **25**: 57-66; [Wells, S., Addison, P.F., Bueno, P.A., Costantini, M., Fontaine, A., Germain, L., Lefebvre, T., Morgan, L., Staub, F., Wang, B. and White, A. \(2016\).](#) Using the IUCN green list of protected and conserved areas to promote conservation impact through marine protected areas. *Aquatic Conservation: Marine and Freshwater Ecosystems*, **26**: 24-44.

**Great Barrier Reef Outlook Report:** [Dobbs, K., Day, J., Skeat, H., Baldwin, J., Molloy, F., McCook, L., Johnson, M., Elliot, B., Skeat, A., Vohland, K. and Wachenfeld, D. \(2011\).](#) Developing a long-term outlook for the Great Barrier Reef, Australia: a framework for adaptive management reporting underpinning an ecosystem-based management approach. *Marine Policy*, **35**: 233-240; [Great Barrier Reef Marine Park Authority \(2019\).](#) Great Barrier Reef Outlook Report 2019, GBRMPA, Townsville, Australia. 354 pp.

**Evaluation of management in Mediterranean MPAs:** [Tempesta M. and Otero M. \(2013\).](#) Guide for quick evaluation of management in Mediterranean MPAs. WWF Italy, IUCN. 68 pp.

### **Training Resources and Webinars**

Blue Belt Programme Training: Module 5.5 – Marine Protected Area Management Effectiveness. Available on the [MMO Learning Management System](#) (sign-in required)

Strengthening Protected Area Management Effectiveness - a four-part webinar series, part of the IUCN WCPA Vital Sites: The Journey to Marseille series of online events. The sessions covered (with links to recordings):

- Exploration of the different approaches and tools used in PAME around the world: <https://vimeo.com/440937322>
- Closing the loop – ensuring management effectiveness assessments lead to better conservation outcomes: <https://vimeo.com/441945318>
- The IUCN Green List – a standard for conservation of protected and conserved areas: <https://vimeo.com/443057895>
- Understanding management effectiveness at regional and global scales: <https://vimeo.com/444358405>