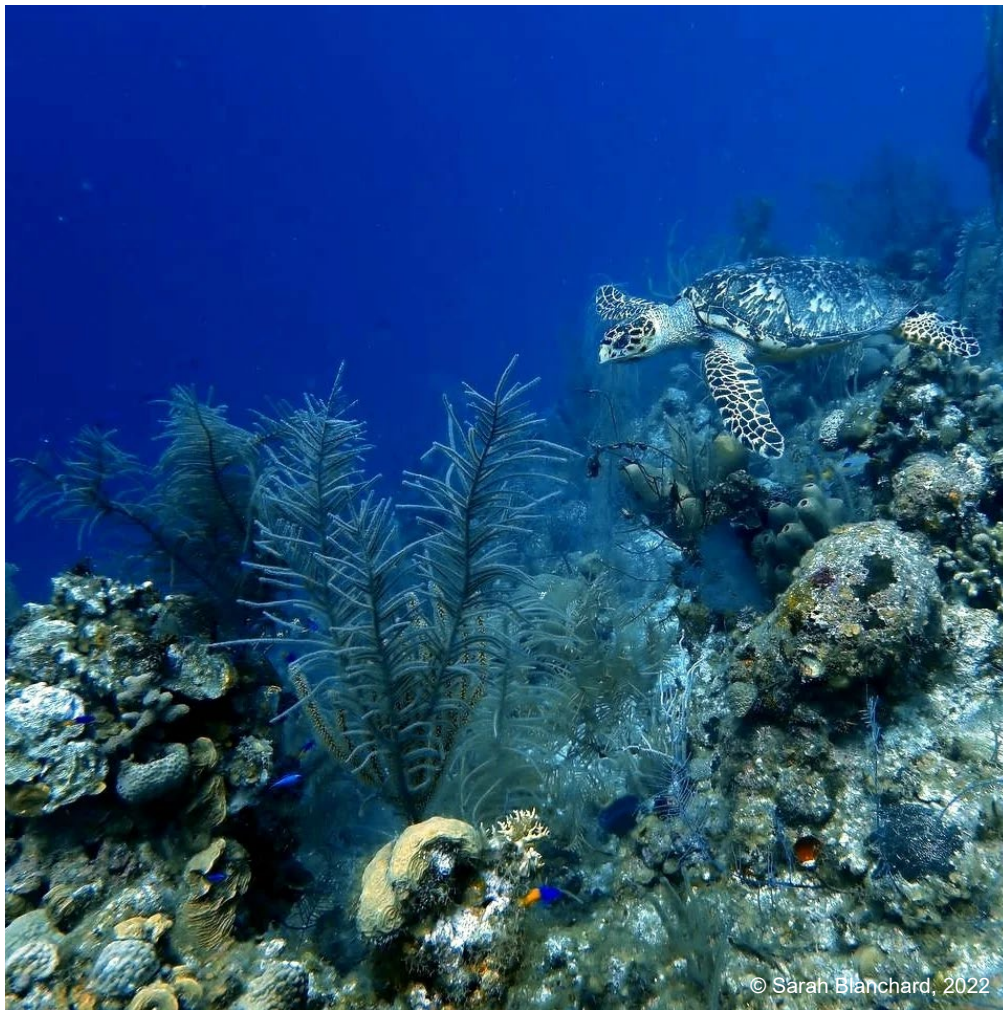


Ocean Country Partnership Programme

Recommendations for Protected Area Management Effectiveness Assessments in Belize's marine environment



April 2023



For further information please contact:

Joint Nature Conservation Committee
2 East Station Road,
Fletton Quays,
Peterborough,
PE2 8YY

[https://jncc.gov.uk/our-work/ocean-country-partnership-programme/
Communications@jncc.gov.uk](https://jncc.gov.uk/our-work/ocean-country-partnership-programme/Communications@jncc.gov.uk)

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Authors:

Christina Wood, Sarah Blanchard, Nicky Harris, Hannah Lawson, Holly Baigent, Louisa Fennelly, Marianne Teoh and David Lucas

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Acronyms

BAS	Belize Audubon Society
BZD	Belize Dollars
BBRRS	Belize Barrier Reef Reserve System
BEDPS	Belize Blue Economy Policy and Strategy
BFiD	Belize Fisheries Department
CaMPAM	Caribbean Marine Protected Area Network and Forum
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CBD	Convention of Biological Diversity
COP	Conference Of Parties
CZMAI	Coastal Zone Management Authority & Institute
EAGL	Expert Assessment Group for the Green List
FD	Forest Department
FoSC	Friends of Swallow Caye
GDS	Growth and Development Strategy
GDP	Gross Domestic Product
GOB	Government of Belize
HCBT	Hol Chan Board of Trustees
IUCN	International Union for Conservation of Nature
JNCC	Joint Nature Conservation Committee
MEE	Management Effectiveness Evaluation
METT	Management Effectiveness Tracking Tool
MMO	Marine Management Organisation
MBECA	Ministry of Blue Economy and Civil Aviation
MPA	Marine Protected Area

MSP	Marine Spatial Plan
NBIO	National Biodiversity Office
NGO	Non-Governmental Organisation
NPAS Act	National Protected Areas System Act
NPAPSP	National Protected Areas Policy and System Plan
NPAS-MEE	National Protected Areas System – Management Effectiveness Evaluation
OCPPI	Ocean Country Partnership Programme
OECM	Other Effective area-based Conservation Measures
PA	Protected Area
PACT	Protected Areas Conservation Trust
PAME	Protected Area Management Effectiveness
PIP	Parks in Peril
RAPPAM	Rapid Assessment and Prioritization of Protected Area Management
SACD	Sarteneja Alliance for Conservation and Development
SDGs	Sustainable Development Goals
SEA	Southern Environmental Association
TASA	Turneffe Atoll Sustainability Association
TIDE	Toledo Institute for Development and Environment
TNC	The Nature Conservancy
UNESCO	United Nations Educational, Scientific and Cultural Organization
WCPA	World Commission on Protected Areas
WDPA	World Database on Protected Areas
WWF	World Wildlife Fund

Summary

The Ocean Country Partnership Programme (OCP) is a UK-led programme delivered under the UK's Blue Planet Fund. OCP has partnered with the Government of Belize (GOB) to provide demand-led technical assistance on marine biodiversity; supporting partner countries to overcome challenges that threaten their marine environments and the livelihoods that depend on them. The programme is working across three main themes: marine biodiversity, marine pollution and sustainable seafood.

At the request of the GOB, between February and July 2022, the marine biodiversity theme of OCP has undertaken a review of Belize's National Protected Area System Management Effectiveness Evaluations (NPAS-MEE) and any site-level Protected Area Management Effectiveness (PAME) assessments conducted within Belize's Protected Areas (PAs) in the marine environment.

PAME assessments, also known as Management Effectiveness Assessments (MEAs), are a tool used by protected area managers and governments globally to evaluate progress towards attaining a PA's goals and objectives. Understanding how well a PA is performing is essential for adaptive management; allowing managers and stakeholders to understand what management intervention works, and where improvements are needed. Additionally, PAME assessments are a key method used to collect the information required to report on national and international environmental commitments and goals.

Belize has been recognised globally as a world leader in the field of environmental conservation, including marine conservation. Over recent years, Belize has banned destructive fishing methods and oil exploration within its waters, restructured debt to provide new funding for marine conservation efforts (the Blue Bond) and has achieved improving the conservation outlook for many of its protected marine habitats and species. Belize has developed its own national assessment (NPAS-MEE) to report on the management effectiveness of its protected area network and meet its national and international reporting requirements. Site-level PAME assessments are completed on each PA in Belize to help PA managers assess needs within individual PAs.

Belize is striving to further improve its environmental conservation efforts and has ongoing work to register a number of their protected areas on the IUCN Green List (a global standard of best practice for area-based conservation (IUCN and World Commission on Protected Areas (WCPA), 2017)) and to continue expanding their marine-based PA network further (the National Replenishment Zone Project). This review was initiated following recognition by the GOB that the PAME assessment process within Belize may benefit from being further coordinated and streamlined.

The review uses literature reviews, methodology assessments, and stakeholder consultations to identify the strengths and challenges of the methodologies in use within Belize and provides recommendations to refine and streamline PAME assessments across Belize's PA network in the marine environment.

Key challenges and gaps identified include:

- A disconnect between the NPAS-MEE and site-level PAME assessments. Although the NPAS-MEE should also be utilised at a site level annually, it currently isn't being used at the majority of PAs across the network.
- A lack of a clear feedback loop to show that recommendations from NPAS-MEE, and marine site-level PAME assessments are being fed into the wider PA management cycle and reporting, including PA management plans, financial planning, and condition reporting.

Key recommendations:

- Ensure clear and visual summaries of results and recommendations are created from all national and site-level PAME assessments, including the next NPAS-MEE, in a way that is useful and extractable for both national-level and site level MPA managers and stakeholders.
- Standardise and implement annual, site-level PAME assessments across the marine PA network (both BFiD and NGO co-managed sites). Identifying and removing the barriers to use, for the NPAS-MEE or equivalent at a site level.
- Increase work to ensure that recommendations captured in national and site-level PAME assessments are captured in PA documentation including management plans and implemented, ensuring a positive feedback loop.
- If necessary, adapt both national and site-level PAME assessments to capture additional needs, including national and international reporting requirements and feeding into resource assessments for PAs in the marine environment.

1 Introduction: Purpose of this report

The purpose of this report is to characterise and review Belize's National Protected Area System Management Effectiveness Evaluations (NPAS-MEE) and any site-level Protected Area Management Effectiveness (PAME) assessments which are conducted within Belize's Protected Areas (PAs) in the marine environment. This review will identify the strengths and challenges of these assessments within Belize and will explore options to refine the methods and streamline PAME assessments across Belize's marine PA network.

Using literature reviews, methodology assessments, and stakeholder consultations, the report presents learning through the following broad sections:

- Background Context to Marine Protection in Belize
- Review of PAME Assessments in Belize
- Recommendations for Future PAME Assessments

The intended audience of this report includes, but is not limited to, the Ministry of Blue Economy and Civil Aviation, the Fisheries Department and the National Biodiversity Office, other relevant departments of the Government of Belize, Non-Governmental Organizations, and protected area co-managers.

The report is a deliverable of the Ocean Country Partnership Programme (OCP). The OCP is a UK-led programme funded through the UK's Blue Planet Fund, which will provide demand-led technical assistance in marine science to partner countries, supporting them to overcome challenges that threaten marine environments and the livelihoods that depend on them.

2 Background Context to Marine Protection in Belize

2.1 Belize's Marine Environment

Belize is famous for its spectacular marine environment and abundance of marine flora and fauna. The Caribbean coastline of Belize stretches for 386 km along the eastern edge of the country (Figure 1), sustaining a range of ecologically connected habitats such as mangrove forests, seagrass beds, estuaries, and numerous small islands or cayes (Cooper *et al.*, 2008).

Belize is also known for the Belize Barrier Reef, which runs parallel to the coastline, and is a major part of the Mesoamerican Reef, the largest reef system in the Northern Hemisphere (UNESCO, 2022). The ecological and cultural importance of the Belize Barrier Reef was recognised in 1996 through a serial designation of seven protected areas as a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site. These represent both terrestrial and marine habitats valued globally for their high biodiversity, threatened species, productive ecosystems, unique geological features, and natural beauty (UNESCO, 2022). The BBRRS includes a number of different types of reefs, including barrier reef, lagoon patch reefs, fringing reefs, and offshore atolls, which provide important habitats for hundreds of species (over 200 taxa have been recorded), including a number of threatened species.

Belize's marine environment is a vital resource for the country, sustaining multiple sectors such as local fishing communities and Belize's marine-based tourism industry (Walker, 2020a), as well as providing natural disaster protection to coastal regions. For example, in 2019 seafood production (capture fisheries and aquaculture) contributed an estimated 27.7 million BZD (approximately 1% of Belize's GDP). In the same year, tourism comprised approximately 17% of employment and contributed 29% (approximately 803.3 million BZD) to the country's GDP (Statistical Institute of Belize, 2019).

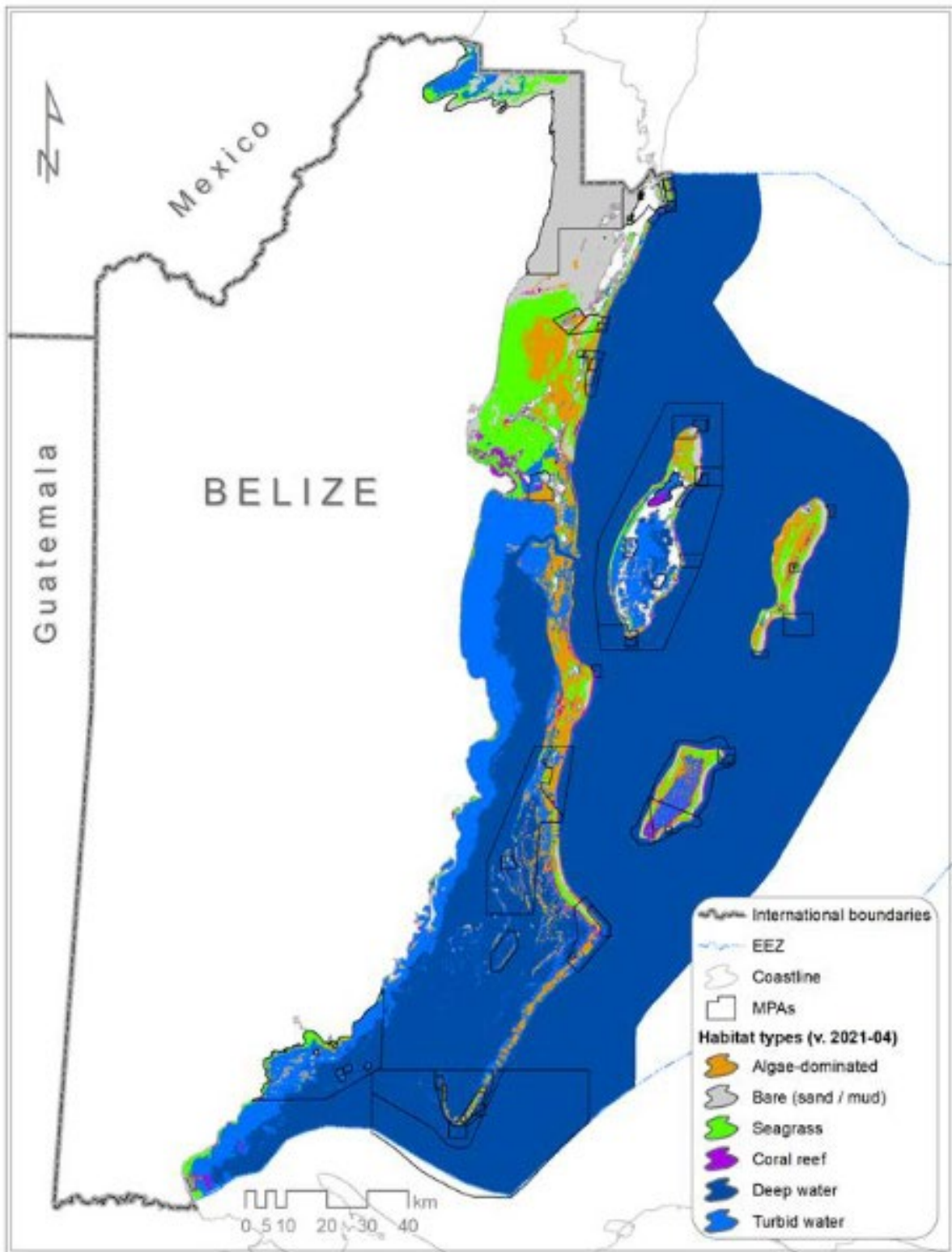


Figure 1. Map of marine habitats and marine PAs in Belize (Coastal Zone Management Authority & Institute, November 2021).

2.2 Key Stakeholders

Key stakeholders associated with Belize's marine-based protected areas (PAs) are defined here as those people, or groups, who have a direct and significant interest in, and influence upon, the expansion, management, and development of the network of PAs in the marine environment in Belize.

Stakeholders typically include national and local government ministries and departments, non-governmental organisations (NGOs), private sector businesses, academics, charities/donors, landowners, and local users of the natural resources. See Table 1 for a list of key stakeholders associated with marine-based PAs in Belize.

2.3 Environmental Threats to Belize's Marine Environment and Environmental Protection

In the late 1990s, Belize experienced an ecological shift leading to a decline in coral cover and an increase in algae (McClanahan and Muthiga, 1998; Oceana, 2020). This was primarily due to outbreaks of coral disease, overfishing, sedimentation, pollution, and a number of extreme hurricanes. More recently climate change, new emerging coral diseases, agricultural runoff, incomplete sewage treatment, influx of sargassum, Illegal, Unreported and Unregulated (IUU) fishing (UNESCO, 2013; Precht *et al.*, 2020), non-native species (lionfish) (Green *et al.*, 2012), and ineffectively regulated tourism development in environmentally sensitive areas, have added to the threats facing Belize's marine ecosystems (Salas and Shal, 2015). Additionally, complex processes and constraints on resourcing and financing of marine conservation and management have created further barriers to successfully tackling the threats above.

To combat these threats, Belize has worked extensively to catalogue its vast array of marine species and understand the links between marine biodiversity and the important ecosystem services it provides, such as sustainable fisheries and ecotourism (Monsanto, 2015). This knowledge, along with an understanding of the intricate links between the environment and sustainable livelihoods, has led to marine conservation being at the forefront of Belize's goals and ambitions and has resulted in Belize becoming a world leader in marine protection.

In 2010, Belize was one of the first countries in the world to ban destructive bottom trawling across their entire territorial seas and has more recently also banned the use of gillnets. Alongside a moratorium on offshore oil drilling in 2017, in 2019 the Belize Barrier Reef Reserve System (BBRRS) system was de-listed from the UNESCO's list of World Heritage Sites in danger (United Nations Belize, 2022).

Table 1(a to c). Key stakeholders associated with the marine environment and PAs. This table does not represent all of the stakeholders in Belize that are associated with PAs but lists some of the important influencers for PA management. For more information on the roles of each government department and NGO co-manager for each marine-based PA please see Table 4.

Table 1a. Government stakeholders.

Ministry	Department	Role/ Remit
Ministry of Blue Economy and Civil Aviation (MBECA)	Fisheries Department (BFiD)	Remit includes management of protected areas in the marine environment (Marine Reserves) and Spawning Aggregation Sites, fisheries management and measures, enforcement, and compliance.
	Coastal Zone Management Authority and Institute (CZMAI)	Remit includes directing, implementing, and monitoring the sustainable use of Belize's coastal zone.
Ministry of Sustainable Development, Climate Change and Disaster Risk Management	National Biodiversity Office (NBIO)	Remit includes coordinating the administration and management of protected areas declared under the NPAS Act, the conservation of biodiversity resources, and to serve as the government agency responsible for coordinating and implementing policies, plans and commitments relating to biodiversity under the Convention of Biological Diversity (CBD). Furthermore, the NBIO aims to strengthen administrative oversight of the NPAS, realign existing expenditures/resources to deliver better results and boost biodiversity and protected areas management efficiency.
	Department of Environment (DoE)	Remit as the environmental regulator, which includes directing, implementing, and monitoring pollution, including marine pollution, and granting of environmental clearance via Environmental Impact Assessment Regulations.
	Forest Department (FD)	Current remit includes management of extractive PAs (Natural Monuments, Wildlife Sanctuaries and National Parks including areas within marine habitats), as well as prosecuting illegal activities within the terrestrial environment, such as mangroves. Non-extractive PA management is coordinated between FD & NBIO.
Ministry of National Defence and Border Security	Coast Guard	Remit includes supporting compliance and enforcement of marine legislation across Belize's waters.

Ministry	Department	Role/ Remit
Ministry of Natural Resources	Department of Lands and Surveys	Remit includes the responsibility of overseeing all aspects of land tenure in Belize to ensure compliance with the standards provided in a number of Acts and Regulations. This includes private land tenure within PAs.
	Mineral Sector (Mining Unit)	Remit includes development of the mineral industry in Belize in accordance with the mining legislation, acceptable international standard, and sound environmental practices. This includes potential mining operations in PAs.

Table 1b. Protected Area co-manager stakeholders.

Name	Protected Areas in the marine environment	Role/ Remit
Belize Audubon Society (BAS)	Blue Hole Natural Monument and Halfmoon Caye Natural Monument	Remit includes assigned regional co-management of specific PAs.
Toledo Institute for Development and Environment (TIDE)	Port Honduras Marine Reserve	Remit includes assigned regional co-management of specific PAs.
Turneffe Atoll Sustainability Association (TASA)	Turneffe Atoll Marine Reserve	Remit includes assigned regional co-management of specific PAs.
Sarteneja Alliance for Conservation and Development (SACD)	Corozal Bay Wildlife Sanctuary	Remit includes assigned regional co-management of specific PAs.
Southern Environmental Association (SEA)	Laughing Bird Caye National Park, Gladden Split and Silk Cayes Marine Reserve	Remit includes assigned regional co-management of specific PAs.
Friends of Swallow Caye	Swallow Caye Wildlife Sanctuary	Remit includes assigned regional co-management of specific PAs.

Table 1c. Non-governmental organisation stakeholders.

Name	Region	Role/ Remit
University of Belize	National. Marine field stations Calabash and Hunting Caye	Supports vital research on Belize's marine ecosystems.
Galen University	National	Supports careers in the environmental sector through their environmental science programme.
Northern Fishery Cooperative Society Limited	Focus on the northern regions	Belize fishing cooperative. Supports members using their artisanal fishing rights both within and outside PAs.
Belize Fishermen Cooperative Association (BFCA)	National	Belize fishing cooperative. Focus on education, legal and technical services to its members.
Local coastal communities	National	Local coastal communities that live within or in close proximity to PAs and use the marine environment in multiple ways.
Wildtracks	National but focus on Corozal region	Contracted by the Government of Belize to support work on sustainable development and use of marine environmental resources. Key author developing the National Protected Area System Management Effectiveness Evaluation (NPAS-MEE).
Tourism industry	National	Promoting and providing services that utilises Belize's marine environment.
Environmental NGOs	National	Support wide range of work in Belize's marine environment.

2.3.1 Legislation and Policy

Belize has an impressive record of legislation and policies relating to marine protection dating back to 1948 and the first iteration of the Fisheries Act (Chapter 210). There are six key pieces of legislation/ policy that have played important roles in ensuring Belize has a comprehensive marine protection strategy (Table 2). Over the years, these have been revised and amended to improve protection, factor in newer pieces of legislation and policy, as well as incorporating Belize's national and international environmental commitments (see Section 2.3.2).

Within the Government of Belize (GOB), there are ministries that oversee the ongoing implementation of Belize's marine-related policies and legislation. Following a political administration change in 2020, the Cabinet portfolios of Belize were reorganized, creating the Ministry of Blue Economy and Civil Aviation (MBECA) under which sits the Fisheries Department and Coastal Zone Management Authority & Institute (CZMAI). The role of MBECA is to coordinate the implementation of the Belize Blue Economy Policy and Strategy (BEDPS). The BEDPS mission is *'To increase Gross Domestic Product (GDP) through a thriving Blue Economy Development pathway that is wholistic, harmonized, innovative and socially just, supported by a robust, science-based management regime of our aquatic resources and space to improve the livelihood of all Belizeans'*. Another key ministry is the Ministry of Sustainable Development, Climate Change and Disaster Risk Management, overseeing the National Biodiversity Office, the Department for the Environment, Sustainable Development Unit, National Climate Change Office, the National Meteorological Service, Forest Department, and National Emergency Management Organisation.

Table 2. Belize legislation and/or policy relating to marine protection (law documentation viewable through <https://www.belize.gov.bz/web/lawadmin/index2.html> or shared by Government of Belize).

Title	Year	Detail
The Fisheries Resources Act	2020	<p>Replaced the previous Fisheries Act (Rev. 2000), which was not compatible with the progression of other laws applicable to the management of protected areas.</p> <p>The Act also created the Fisheries Council, an advisory body charged with making recommendations to the Minister on matters relating to the conservation, oversight, and use of fisheries; fisheries policy development; the monitoring and review of management guidelines, measures, and plans for conserving marine ecosystems; the coordination of fisheries policies with other government agencies; and all other matters requiring coordination and cooperation.</p> <p>Under the Fisheries Act (Section 12) any specific area, fishery, stock, or species of fish, can be closed to fishing to prevent further depletion, promote recovery and ecosystems services, or to protect critical habitats. Uses falling under the purview of conservation include sustainable tourism, research, and education.</p>
Fisheries Act (Chapter 210) (now superseded by the Fisheries Resources Act 2020)	1948	Original Fisheries Act
	2000	<p>The Act consisted of 17 sections and covered powers of fisheries officers, fishing licences and permits, offence penalties, banning destructive fishing mechanisms, creating marine reserves.</p> <p>The Act extended to the coastal waters within the fishing limits of Belize. The Minister could, where they consider that extraordinary measures are necessary, by Order published in the Gazette, declare any area within the fishing limits of Belize and as appropriate any adjacent surrounding land, to be a marine reserve to afford special protection to the aquatic flora and fauna of such areas and to protect and preserve the natural breeding grounds and habitats of aquatic life and for other purposes.</p>
Protected Areas Conservation Trust Act (PACT)	1995	<p>Creation of a Board of Directors.</p> <p>Creation of an alternative revenue stream for funding conservation of areas by applying a foreign visitor and concession fees to “PACT” National area alongside establishing grant and aid funds.</p>
	2003	<p>Task force created and chaired by PACT board to oversee development of a comprehensive Belizean National Protected Areas Policy and System Plan (NPAPSP) that is then enabled under the revisions to the 2005 National Protected Areas System Act in 2015 (for more detail see below).</p> <p><i>“The general functions of the Trust shall be to encourage and promote, for the benefit and enjoyment of the present and future generations of the people of Belize, the provision, protection, conservation and enhancement of the natural and cultural resources of Belize”</i></p>

Title	Year	Detail
	2015	<p>Further amendments which occurred with the enactment of the National Protected Areas System Act in 2015:</p> <p><i>‘to provide for a new definition of “protected area” and a new composition of the Board of Directors; to expand the functions of the Trust; to provide for the appointment of a Finance and Audit Committee, Technical Committee on Protected Areas and other Committees by the Board of Directors; to further strengthen the provisions of the Act in order to enhance the operations of the Trust in achieving its mission of promoting the sustainable management of Belize’s protected areas; to make better provisions relating to the exemption from payment of the conservation fee; and to provide for matters connected therewith or incidental thereto.’</i></p>
National Protected Areas System Act (NPAS Act)	2015	<p>The focus of the NPAS Act is on managing the network of protected areas in a holistic, integrated manner, recognizing the fundamental role that protected areas play in protecting biodiversity, maintaining ecosystem services, and providing socio-economic benefits, advancing the national economic development goals of Belize.</p> <p>The NPAS Act was enacted in order that Belize can maintain, through coordinated management, a national system of protected areas that are:</p> <p><i>‘[R]epresentative of internationally agreed categories, effectively managed, ecologically based, consistent with international law, and based on best available scientific information and principles of sustainable development for the economic, social and environmental benefit of present and future generations of Belize’.</i></p> <p>It provides the legal remit to designate protected areas, except Marine Reserves and Archaeological Sites, which are designated under the Fisheries Resources Act (2020) and the National Cultural Heritage Preservation Act (2017), respectively.</p> <p><i>(1) The Minister by Order published in the Gazette may declare an area of land in Belize to be a protected area; except for an area of land in Belize that may be so lawfully declared as a protected area, by any other Minister under another enactment.’</i></p> <p>The NPAS Act highlights the need for greater public participation and collaboration between the government, the private sector, civil society, and those who rely on natural resources for their livelihoods. It provides legal requirements for stakeholder and community consultation and participation in the designation or revoking of protected areas.</p> <p>The NPAS Act also legalizes the Co-management approach and promotes the use of a standardised management planning process.</p>

Title	Year	Detail
Coastal Zone Management Act (CZMA)	1998	<p>Established the Coastal Zone Management Authority with functions including (but not limited to):</p> <p><i>‘Assist in the development and implementation of programmes... that contribute to sustainable development of coastal resources... that foster... regional and international collaboration in the use of marine and other related areas of the environment.’</i></p> <p><i>‘Commission research and monitoring in any coastal area or in relation to any activity which may impact on such areas’</i></p> <p>Established an Advisory Council appointed by the Authority with functions including (but not limited to):</p> <p><i>‘Advise the Institute on technical and other related matters.’</i></p> <p><i>‘Facilitate and encourage the sharing of information among government agencies, non-governmental organizations and educational institutions with regard to coastal zone matters.’</i></p> <p>Establish the Coastal Zone Management Institute with objectives including (but not limited to):</p> <p><i>‘Stimulate and advance the conduct of marine scientific research in Belize.’</i></p> <p><i>‘Promote the utilization and conservation of the marine resources for the economic and social benefit of Belize, and to enhance the national capabilities of Belize in the conduct of marine scientific research.’</i></p> <p><i>‘Promote a public understanding of the appreciation for all aspects of the marine and related environment.’</i></p> <p>It also requires the development of a Coastal Zone Management Plan.</p>
Environmental Protection Act	1992	Establishment of the Department of Environment as a regulatory body for the environment including pollution control.
	2005	<p>Amended to:</p> <p>Provide greater environmental control and management of the petroleum industry.</p> <p>Make improved provisions for the protection of the BBRRS.</p> <p>Establish an environmental management fund.</p> <p>Provide for the out-of-court settlement in appropriate cases.</p> <p>Provide for the issue of violation tickers for pollution offences.</p>

Table 3. Belizean policy and action plans relating to the environment and climate.

Title	Year produced/ covered	Detail
Horizon 2030: The National Development Framework for Belize	2010 to 2030	<p>The national development framework, which was developed after extensive stakeholder consultation inclusive of all political parties. One of its four main pillars is responsible environmental stewardship. The strategies to achieve this pillar, namely integrating environmental sustainability into development planning and promoting sustainable energy for all, address the areas of concern relating to Belize's emission profile.</p>
National Biodiversity Strategy and Action Plan	2016 to 2020	<p>Arising from international agreements as signatory of the Convention of Biological Diversity, The National Biodiversity Strategy and Action Plan (NBSAP) is based on Belize's commitment to the conservation and sustainable development of national biological diversity. The Action Plan is focused on achieving the national NBSAP vision, based on fifteen guiding principles grouped under four areas – respect, responsibility, environmental context, and commitment.</p> <p>The Strategy framework consists of five NBSAP Goals (relating to Mainstreaming, Reducing Pressures, Protection, Benefits and Implementation), with a series of national targets identified under each Goal.</p>
National Climate Resilience Investment Plan (NCRIP)	2013	<p>The NCRIP identifies both physical and non-physical intervention areas that consider current and future risks posed by existing and future climate variability.</p> <p>The intervention areas identified within the NCRIP will complement the portfolio of investment being implemented under the Public Service Investment Programme (PSIP) to strengthen infrastructure, social protection, economic services and public administration services.</p>
National Climate Change Policy, Strategy and Master Plan (NCCPSMP) (Belize Government, 2021; currently not available online)	2021 to 2025	<p>Revision of original National Climate Change Policy, Strategy and Action Plan (NCCPSAP).</p> <p>Provides policy guidance for the development of an appropriate administrative and legislative framework, in harmony with other sectoral policies, for the pursuance of a low-carbon development path for Belize and sought to encourage the development of the country's Nationally Determined Contribution (NDC) and to communicate it to the UNFCCC.</p> <p><i>It "presents a 5-year program to build capacity of Belize to mitigate GHG emissions and adapt to the challenges of Climate Change in an inclusive manner in line with long-term national development goals."</i></p>

Title	Year produced/ covered	Detail
Updated Nationally Determined Contributions (NDC)	2021	<p>Contains Belize’s updated national contributions under the Paris Climate Change Agreement.</p> <p>The targets and actions reflect relevant policies, strategies and plans in sectors relevant to climate change mitigation and adaptation. They are an extension and application of the focus on climate change in Belize’s key development plans, including the Growth and Sustainable Development Strategy.</p>
NDC Implementation Plan (Belize Government 2022a; currently not available online)	2022	<p>The NDC implementation plan is a results-based framework with specific objectives and related outputs, broken down into achievable steps for each sector. The implementation plan translates the overarching NDC targets into specific objectives, down to specific steps. These are easily communicated to the relevant stakeholders, who have taken ownership over their tasks. The framework provides a centralized system to track progress across the many platforms that will be taking action simultaneously. It also allows for the timely identification of gaps and can inform resource allocation across sectors.</p>
Climate Finance Strategy of Belize	2021 to 2026	<p>This document has been supported and developed under the Climate Action Enhancement Package (CAEP). The CAEP is led by the NDC Partnership along with several other partners. It encompasses several interlinked sub-elements including a Climate Finance Strategy, climate finance options report, studies on mobilising private sector finance etc. to facilitate the implementation of the updated NDC.</p> <p>The strategy is aiming at the overall goal of adequate climate finance being accessed effectively, contributing towards enhanced climate resilience and climate change mitigation actions of Belize.</p>
Growth and Sustainable Development Strategy	2016 to 2019	<p>Encompasses medium-term economic development, poverty reduction and longer-term sustainable development issues.</p>
National Climate Change Gender Action Plan (NCCGAP) (Belize Government 2022b; currently not available online)	2022 to 2027	<p>The NCCGAP covers four areas of focus including:</p> <ol style="list-style-type: none"> 1. Inclusive representation in climate change negotiations and planning. 2. Policy coherence across all of government to support gender equality and social inclusion. 3. Capacity development for existing institutional structures. 4. Continuous improvement of documenting evidence and best practices.

Title	Year produced/ covered	Detail
National Energy Policy Framework	2011	Aims to provide options that Belize can pursue for energy efficiency, sustainability, and resilience over the next 30 years. A revised Energy Policy will be available early 2023.
Sustainable Energy Action Plan	2012-2033	The National Sustainable Energy Strategy 2012–2033 set the 2033 goals of becoming a net electricity and biofuels exporter, increasing GDP energy intensity by 30%, tripling energy recovery from waste streams, and reducing fossil fuel imports by 50%. In addition, it restates Belize’s goal of generating over 50% of electricity from renewable energy. The strategy also establishes the target to increase hydropower from 55 MW to 70 MW by 2033 and to supply 5 MW of electricity from municipal solid waste.
National Solid Waste Management Policy	2015	Is the main public policy instrument regarding the management of solid waste (e.g., municipal, industrial and hazardous types of waste, among others) for Belize. Its overall goal is to ensure that “The system for managing solid wastes in Belize is financially and environmentally sustainable, and contributes to improved quality of life”, while also contributing to the promotion of sustainable development by preventing, re-using, recycling, or recovering waste wherever feasible and beneficial.

2.3.2 Conservation Agreements and Targets

Investing in Belize’s blue economy is a priority for the Government of Belize (GOB) and the bedrock of its tourism industry. Alongside the key legislation and policy that enables Belize to protect its marine environment, Belize has also committed to a number of national and international agreements and targets. The key national targets are discussed below and Table 4 lists the international agreements that Belize is a signatory of.

Implemented by the Ministry of Sustainable Development, Climate Change and Disaster Risk Management, the government’s Horizon 2030 national development framework is underpinned by the Sustainable Development Goals (SDGs). Specifically, [SDG 14 ‘Life Below Water’](#) details a number of targets to ‘Conserve and sustainably use the oceans, seas and marine resources for sustainable development’, including targets on marine pollution, fishing, marine protection, and scientific knowledge (United Nations Belize, 2022). An example of a national initiative that has been implemented is Belize’s Managed Access System, based on customary use and introduced nationally in 2016.

Belize is also a signatory to the Global Ocean Alliance 30by30 initiative, aiming to protect 30% of the global ocean as PAs and Other Effective area-based Conservation Measures (OECMs) by 2030 (Global Ocean Alliance, 2022).

In November 2021, the GOB, in partnership with The Nature Conservancy (TNC), and financed by Credit Suisse, announced the signing of the world’s largest Blue Bond for conservation (Belize Government and The Nature Conservancy, 2021). Through the Blue Bond, the GOB will convert the country’s debt into capital to be used to achieve the country’s commitment of conserving 30% of their marine environment (The Nature Conservancy, 2021a). The bond sets out required conservation commitments with clauses and milestones, such as submitting a minimum of three marine-based PAs to the International Union for Conservation of Nature Green List of Protected and Conserved Areas (IUCN Green List) by 2027. The [IUCN Green List](#) is a global standard of best practice for area-based conservation (IUCN and World Commission on Protected Areas (WCPA), 2017) made up of four components (1 – good governance; 2 – sound design and planning; 3 – effective management; and 4 – successful conservation outcomes), which provide a benchmark for managers and conservationists across the world to adhere to. In addition, the Blue Bond includes a stakeholder driven marine spatial plan (MSP) that has as its target a minimum of 15% High Protection for Biodiversity Zones (IUCN categories Ia, Ib, and II) as detailed in Belize’s ‘30by30’ commitment. All Biodiversity Protection Zones (a type of PA) within the Marine Spatial Plan (MSP) will be submitted to relevant international authorities (such as the World Database on Protected Areas ([WDPA](#))) to help to contribute to Belize’s international agreements.

Additional significant conservation initiatives being implemented in Belize include developing governance frameworks for domestic and high seas fisheries and implementing a regulatory framework for coastal blue carbon projects (The Nature Conservancy, 2021b), and the launch of the Project for Permanence initiative under the World Wildlife Fund.

Table 4: International Convention / multilateral agreements to which Belize is a signatory.

Convention	Year Belize joined	Detail
Convention on International Trade in Endangered Species (CITES)	1981	An international agreement between governments with an aim to ensure that international trade in specimens of wild animals and plants does not threaten the survival of species. Species covered under CITES include (but not limited to) multiple corals, Queen conch, seahorses, sharks and rays, turtles, manatees, and cetaceans.
United Nations Convention on the Law of the Seas (UNCLOS)	1983	A comprehensive regime of law and order in the world's oceans and seas that establishes rules governing all uses of the oceans and their resources. The Convention also provides the framework for further development of specific areas of the law of the sea.

Convention	Year Belize joined	Detail
UN Convention on Biological Diversity (CBD)	1993	The CBD is the international legal instrument for " <i>the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources</i> ". The CBD covers biodiversity at all levels: ecosystems, species and genetic resources. It covers all possible domains that are directly or indirectly related to biodiversity and its role in development, ranging from science, politics and education to agriculture, business, culture etc.
United Nations Framework Convention on Climate Change (UNFCCC)	1994	The objective of the Convention is to stabilize greenhouse gas concentrations "at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system." It states that "such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner." Industrialized nations agreed under the Convention to support climate change activities in developing countries by providing financial support for action on climate change.
United Nations Convention on the Transboundary Movement of Hazardous waste and their disposal (Basel Convention)	1997	The Convention aims to protect human health and the environment against the adverse effects resulting from the generation, transboundary movements and management of hazardous wastes and other wastes. The Basel Convention regulates the transboundary movements of hazardous wastes and other wastes and obliges its Parties to ensure that such wastes are managed and disposed of in an environmentally sound manner. The Convention covers toxic, poisonous, explosive, corrosive, flammable, ecotoxic and infectious wastes.
Vienna Convention on Civil Liability for Nuclear Damage	1997	The Vienna Convention on Civil Liability aims at harmonizing the national law of the Contracting Parties by establishing some minimum standards to provide financial protection against damage resulting from certain peaceful uses of nuclear energy. The Convention is designed to ensure that all Contracting Parties have laws and regulations in place conforming to the legal regime for civil liability for nuclear damage provided for in the Convention.
Montreal Protocol	1998	A global agreement to protect the stratospheric ozone layer by phasing out the production and consumption of ozone-depleting substances (ODS).
The United Nations Convention on Wetlands (RAMSAR Convention)	1998	The Ramsar Convention on Wetlands provides the framework for the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.

Convention	Year Belize joined	Detail
UN Convention to Combat Desertification (UNCCD)	1998	The UNCCD is the only legally binding framework set up to address desertification and the effects of drought. It unites governments, scientists, policymakers, the private sector and communities around a shared vision to restore and manage the world's land.
Cartagena Convention	1983	The Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (WCR) (Cartagena Convention) is a regional legal agreement for the protection of the Caribbean Sea.
Protocol Concerning Oil Spill (Oil Spill Protocol to the Cartagena Convention)	1983	The objectives of the Protocol are to: <ul style="list-style-type: none"> • Strengthen national and regional preparedness and response capacity of the nations and territories of the region • Facilitate co-operation and mutual assistance in cases of emergency to prevent and control major oil spill incidents
Kyoto Protocol	2003	The Kyoto Protocol operationalizes the UNFCCC by committing industrialized countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets.
Cartagena Protocol on Biosafety to the Convention on Biological Diversity	2004	An international agreement which aims to ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health.
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	2005	The objectives of the Rotterdam Convention are: <ul style="list-style-type: none"> • To promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm • To contribute to the environmentally sound use of those hazardous chemicals, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.
Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean Region (SPAW Protocol to the Cartagena Convention)	2008	A regional agreement for the protection and sustainable use of coastal and marine biodiversity in the Wider Caribbean Region. It aims to: <ul style="list-style-type: none"> • Improve management of protected areas • Conserve threatened and endangered species. • Assist with other regional and global biodiversity agreements and commitments

Convention	Year Belize joined	Detail
Protocol Concerning Pollution from Land Based Sources and Activities in the Wider Caribbean Region (LBS Protocol to the Cartagena Convention)	2008	<p>The LBS Protocol includes regional effluent limitations for domestic wastewater (sewage) and requires the development of plans to address agricultural non-point sources of pollution. Specific schedules for implementation are also included in the Protocol. The LBS Protocol allows countries to develop and adopt future annexes to address other priority sources of land-based pollution.</p>
Stockholm Convention on Persistent Organic Pollutants	2010	<p>A global treaty that aims to protect human health and the environment from the effects of persistent organic pollutants (POPs). It currently regulates 29 POPs, requiring parties to adopt a range of control measures to reduce and, where feasible, eliminate the release of POPs. For intentionally produced POPs, parties must prohibit or restrict their production and use, subject to certain exemptions such as the continued use of DDT. The Stockholm Convention also requires parties to restrict trade in such substances. For unintentionally produced POPs, the Stockholm Convention requires countries to develop national action plans to address releases and to apply “Best Available Techniques” to control them.</p>
Paris Agreement	2016	<p>A legally binding international treaty requiring commitments from all countries to reduce their emissions and work together to adapt to the impacts of climate change and calling on countries to strengthen their commitments over time. The Agreement provides a pathway for developed nations to assist developing nations in their climate mitigation and adaptation efforts while creating a framework for the transparent monitoring and reporting of countries’ climate goals.</p>
Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean	2020	<p>This Regional Agreement aims to guarantee the full and effective implementation in Latin America and the Caribbean of the rights of access to environmental information, public participation in the environmental decision-making process and access to justice in environmental matters, and the creation and strengthening of capacities and cooperation, contributing to the protection of the right of every person of present and future generations to live in a healthy environment and to sustainable development.</p>

2.3.3 Protected Areas within the Marine Environment

Protected areas (PAs), including marine PAs, are described as ‘clearly defined geographical spaces, recognised, dedicated, and managed, through legal or other effective means, to achieve long-term conservation of nature with associated ecosystem services and cultural values’ (Day *et al.*, 2012). PAs are designated for a number of reasons such as sustainable management of economic resources, biodiversity conservation and species protection, and are often managed according to pre-defined management objectives (IUCN, 2022). PAs can be categorized into a variety of types. The [IUCN’s protected area management categories](#) are one of the most commonly used and are recognised as a global standard. However, many countries also have their own PA categories based on the national legislation used to designate them.

In Belize, there are four types of PAs within the marine environment (Table 5). In total, Belize currently has nine marine reserves, two wildlife sanctuaries, two natural monuments, and one national park (Table 6 and Figure 2). Each of these are declared under different pieces of legislation meaning that their management objectives vary (Table 5). In terms of site management, the marine-based PAs in Belize are either managed solely by a government department or jointly via a co-management arrangement between the GOB, through the Belize Fisheries Department (BFiD) or the Forest Department (FD) / National Biodiversity Office (NBO) coordination, with an NGO. Despite this variation, all of Belize’s PAs are managed with the core objective to protect Belize’s vital marine ecosystems.

Table 5. PA designation types in the marine environment in Belize (Wildtracks and SEA, 2010).

Designation	Legal Foundation	IUCN Category	Purpose	Activities Permitted
Marine Reserve	Fisheries Act, 1948	IV	To assist in the management, maintenance, and sustainable yield of fisheries resources.	Sustainable extraction, research, education, tourism
National Park	National Protected Areas System Act, 2015	II	To protect and preserve natural and scenic values of national significance for the benefit and enjoyment of the general public.	Research, education, tourism
Natural Monument	National Protected Areas System Act, 2015	III	To protect and preserve natural features of national significance.	Research, education, tourism
Wildlife Sanctuary (categories WS1 & WS2)	National Protected Areas System Act, 2015	IV (WS2) II (WS1)	To protect particular species or habitats.	Research, education, tourism

Table 6. PAs within Belize’s marine environment in Belize. Size taken from BIOPAMA and rounded to the nearest 1 km². Some areas overlap, therefore the total area protected through the MPA network may be less than the individual sites added up. This overlap is being addressed through the Blue Bond conservation agreements (milestone 1) (information from MBECA, 2022) (Walker, 2020a; Marine Conservation Institute, 2022; additional information provided by BFiD). For definitions of acronyms, please see the acronym list.

Protected Area	Designation Type	Designation Year	Size (km ²)	Managed By
Halfmoon Caye	Natural Monument	1982	39	FD (NBIO); BAS
Hol Chan	Marine Reserve	1987	414	BFiD; HCBT
Laughing Bird Caye	National Park	1991	41	FD (NBIO); SEA
Glover's Reef	Marine Reserve	1993	327	BFiD
Bacalar Chico	Marine Reserve	1996	63	BFiD
Bacalar Chico	National Park	1996	6.9	FD (NBIO)
Sapodilla Cayes	Marine Reserve	1996	156	BFiD
South Water Caye	Marine Reserve	1996	477	BFiD
Blue Hole	Natural Monument	1996	4	FD (NBIO); BAS
Caye Caulker	Marine Reserve	1998	39	BFiD;
Corozal Bay	Wildlife Sanctuary	1998	720	FD (NBIO); SACD
Gladden Spit and Silk Cayes	Marine Reserve	2000	105	BFiD; SEA
Port Honduras	Marine Reserve	2000	404	BFiD; TIDE
Swallow Caye	Wildlife Sanctuary	2002	36	FD (NBIO); FoSC
Turneffe Atoll	Marine Reserve	2012	1,316 *	BFiD; TASA

* The total size of Turneffe Atoll marine reserve is undergoing re-assessment to ensure complete area is taken into account.

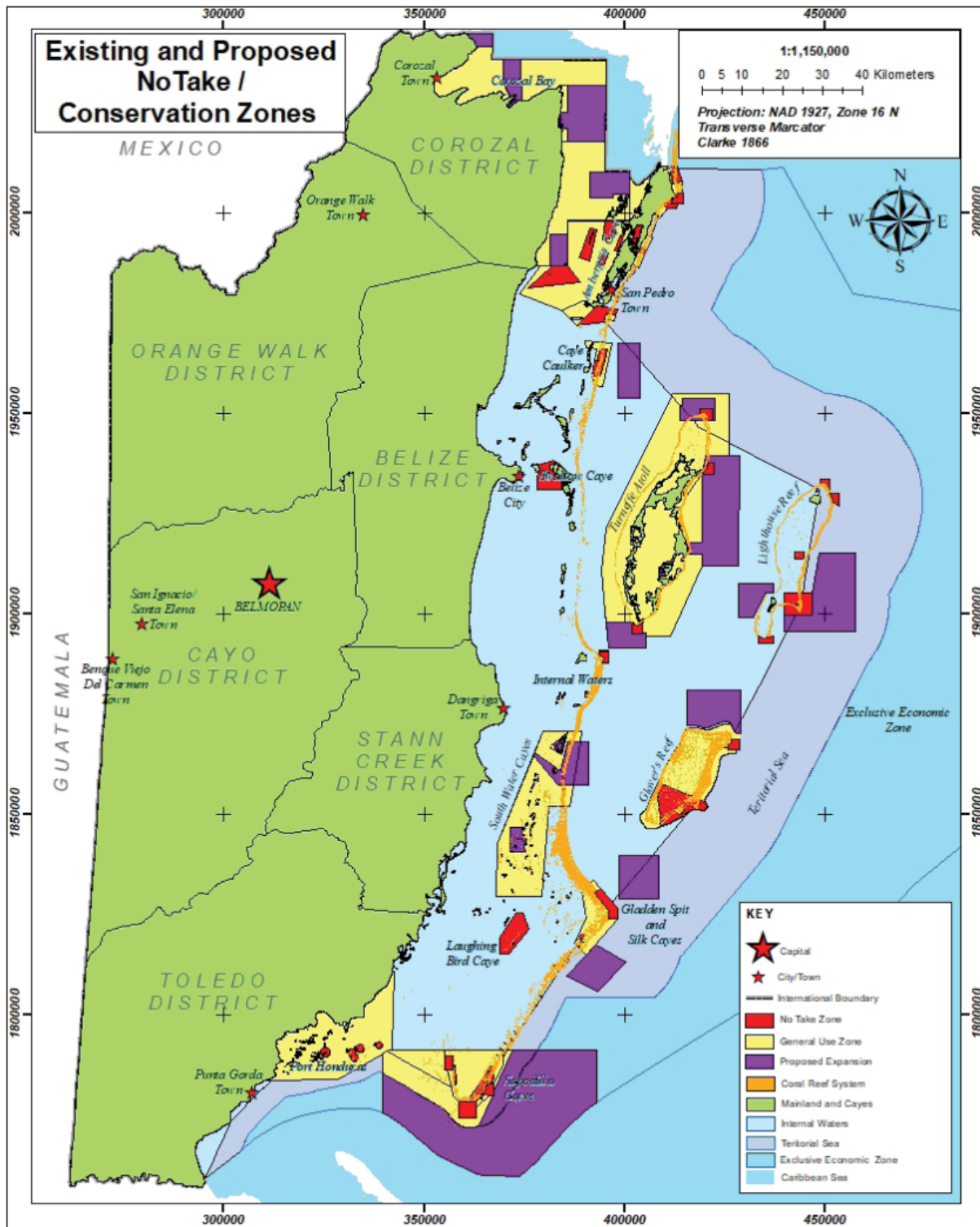


Figure 2. Belize's PA network within the marine environment. This map shows Belize's PA network including the PA expansion areas that are currently being designated. The overlap of protected areas with Nassau Grouper and Species Protection sites, Spawning Aggregation Reserves and coral reefs can also be seen (The Commonwealth Blue Charter, 2020).

The different types of PAs in Belize are managed differently due to the supporting legislation and objectives of the designation (Table 5 and Table 6). Marine Reserves have a zoned approach (Table 7), each consisting of multiple defined zones (generally Preservation / Replenishment, Conservation, General Use and, in one case, Special Management Zones). Protection zones are non-extractive, whilst Conservation Zones allow sport and recreational fishing, as well as other recreational uses. The General Use Zones are open to licensed commercial fishers using traditional fishing methods, based on customary use area under the Managed Access program.

The Managed Access program is unique, being a multispecies system of fishing rights that covers the entire territorial waters of Belize, something that no other country in the world has achieved to date (Oceana, 2020). It is a rights-based programme that regulates coastal fishing access in waters both within and outside Marine Reserves that are categorized as General Use Zones (Figure 3). A licensing system limits the number of fishers to 3,000 “traditional fishermen” and establishes catch limits for commercial species including Lobster, Conch, some fin fish and more recently sea cucumber (Holothurians). Program effectiveness is measured via collection and analysis of catch data from licensed fishers in the short-term, and the biological response and economic outcomes in the long-term.

Table 7. Zones found within Marine Reserves in Belize (Wildtracks, 2019).

Zone	Typical Use
General Use	Artisanal / commercial fishing is permitted. Bottom trawling and gill net use banned across Belize’s territorial waters. Artisanal / commercial does not allow fishing with the use of SCUBA or spear guns.
Conservation	Only non-extractive activities are permitted, including sport fishing and SCUBA.
Seasonal Closure	Seasonal closure for fisheries to protect spawning sites.
Preservation / Replenishment	No extraction.

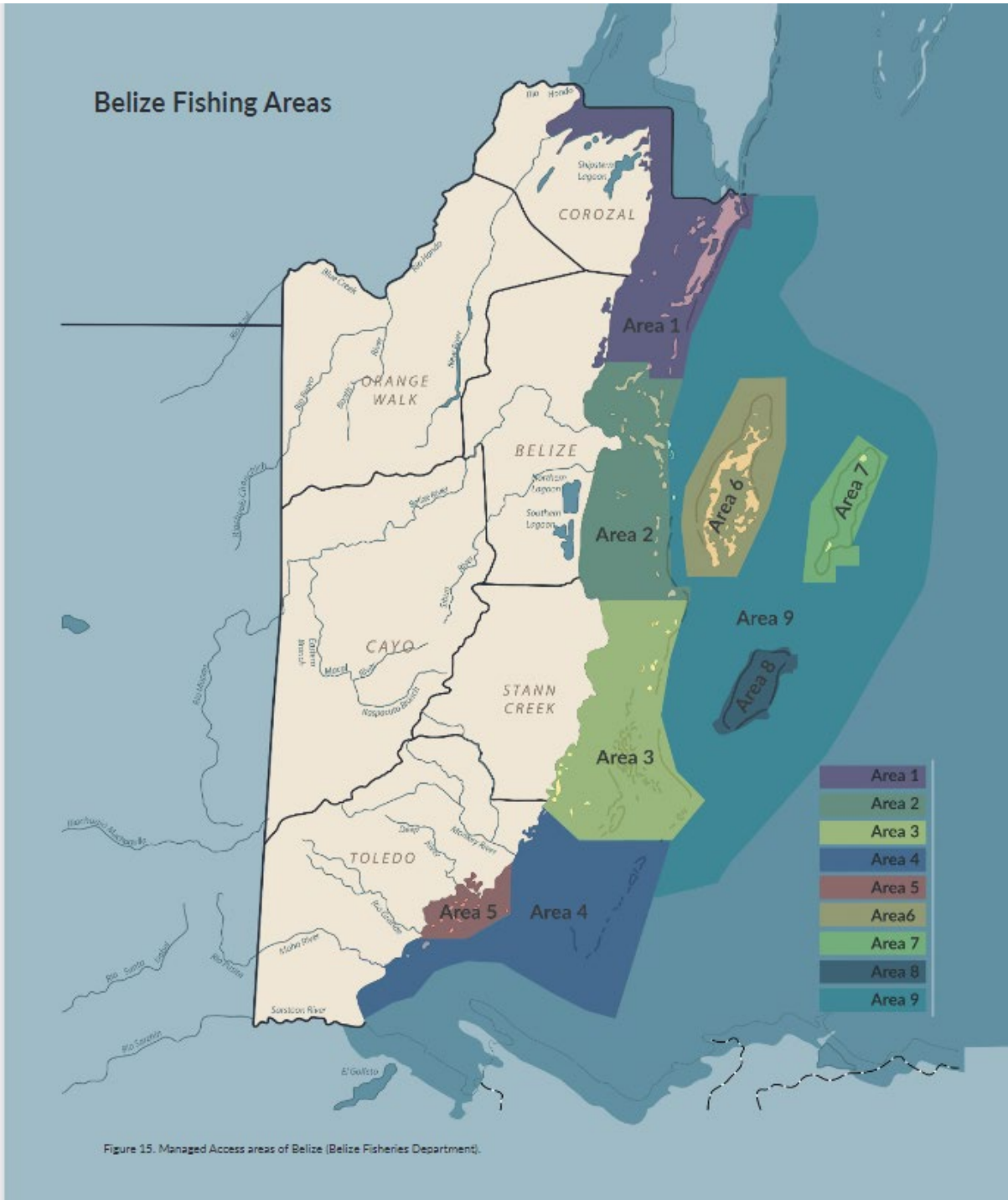


Figure 3. Managed Access areas in Belize. Map of the fishery zones implemented in 2016 under the managed access fisheries scheme. Commercial fishers are given access to two zones, selected by their own choice. (Oceana, 2020)

2.3.4 Spawning Aggregation Sites

In addition to Belize’s network of PAs in the marine environment, there are 13 spawning aggregation (SPAG) sites which are designated to help protect the spawning sites of important commercial fish species, including Nassau Grouper (Table 8). The Government of Belize, through the Belize Fisheries Department, implements these sites as fisheries management measures, with all SPAG sites being listed on the World Database of Protected Areas (WDPA) database. Many of the spawning aggregation sites are within existing Marine Reserves and undergo regular assessments and monitoring in line with the NPAS Act. However, SPAG sites falling outside of PA’s are not currently assessed.

It is likely that these sites are delivering a wider conservation benefit to Belize’s marine environment regardless of whether they are sited within a wider PA or not, and could in the future be recognised as part of the PA network (where they are currently not included), requiring monitoring and assessments in-line with other reserves.

Table 8. List of fisheries management sites in Belize. Areas rounded to nearest 1 km². (Information provided by Belize Fisheries Department (BFiD), Turneffe Atoll Sustainability Association (TASA) and Belize Audubon Society (BAS)).

Fisheries Management Sites	Designation Type	Designation Year	Size (km ²)	Managed By
Caye Bokel	Spawning Aggregation Reserve	2003	6	BFiD; TASA
Dog Flea Caye	Spawning Aggregation Reserve	2003	6	BFiD; TASA
Emily or Caye Glory	Spawning Aggregation Reserve	2003	6	BFiD
Gladden Spit	Spawning Aggregation Reserve	2003	5	BFiD
Nicholas Caye	Spawning Aggregation Reserve	2003	7	BFiD
Northern Glover’s Reef	Spawning Aggregation Reserve	2003	7	BFiD
Rise and Fall Bank	Spawning Aggregation Reserve	2003	17	BFiD
Rocky Point	Spawning Aggregation Reserve	2003	6	BFiD
Sandbore	Spawning Aggregation Reserve	2003	5	BFiD; BAS
Seal Caye	Spawning Aggregation Reserve	2003	6	BFiD
South Point	Spawning Aggregation Reserve	2003	6	BFiD
Maugre Caye	Nassau Grouper and Species Protection	2009	8	BFiD; TASA
Northern Two Cayes	Nassau Grouper and Species Protection	2009	4	BFiD; BAS

2.3.5 Other Effective area-based Conservation Measures

Other Effective area-based Conservation Measures (OECMs) are forms of spatial management that are not classified as protected areas, but which can contribute to the coherence and connectivity of existing protected area networks (CBD/COP, 2018; Alves-Pinto *et al.*, 2021).

An OECM is formally characterised as “A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values.” (IUCN-WCPA Task Force on OECMs, 2019).

Currently, although the Government of Belize recognises the potential benefits of OECMs, it has not yet considered whether there are areas that could qualify within Belize’s marine environment, and the process that would need to be undertaken for areas to be recognised as OECMs.

2.3.6 Belize’s Future Plans for Marine Conservation

Belize is at the forefront of environmental conservation, recognising that the natural environment is the basis for all economic activity and, as such, must be valued and protected. This is highlighted in the [Horizon 2030 Framework](#), which was developed as a vision of the future for Belize by 2030. In pushing towards this vision, Belize is continuing to advance its marine conservation through the development and implementation of a number of key action plans, including on biodiversity, fisheries and coastal zone management. Alongside working to improve and adapt the use of PAME assessments for reporting and management.

Recent work includes increasing Belize’s PA network through the National Replenishment Zone project and aligning the NPAS-MEE with the IUCN Green List requirements, as Belize pushes to Green List a number of its PAs. Belize also has a wide range of environmental and climate action plans and commitments (Section 2.3.2), which look to further Belize’s conservation record into the future. Many of these will shape Belize PA reporting and management, including PAME assessments. Belize has also recognised that PA management across Belize’s marine network may benefit from better coordination to ensure all marine-based PAs are maintaining or reaching their conservation objectives. Work to assess the current PA management systems (such as PAME assessments) in place and how best these can be further improved is ongoing.

2.4 Protected Area Management Effectiveness (PAME) Assessments

The overarching goal of PAs is to achieve the long-term conservation of biodiversity and the environment; to ensure the continuation of vital ecosystem functions/services, preservation of cultural values, and delivery of the associated socioeconomic benefits (Hockings *et al.*, 2006). The long-term success of protected areas hinges on how effectively they are managed so as to protect the habitats and species to deliver these goals.

The implementation cycle of PAs requires significant investment in terms of time, money, expertise, and engagement from a vast array of stakeholders. It is vital that everyone with a vested interest in the PA knows that their investment is worthwhile and that the goals of the PA are met through effective management (Leverington *et al.*, 2008). Additionally, as global habitat conservation increases through the designation of PAs, the need for accountability has grown to ensure transparency and demonstrate contribution to international commitments such as the 30by30 commitment (Section 2.3.2).

Protected Area Management Effectiveness (PAME) assessments, also known as Management Effectiveness Evaluation (MEE) assessments, are a tool used by PA managers and governments globally to evaluate progress towards attaining a protected area's goals and objectives. Understanding how well a PA is performing is essential for adaptive management, allowing managers and stakeholders to understand what management intervention works, and where improvements are needed.

Consistent assessment, whether repeated annually or less frequently, is critical. Consistent assessments provide a valuable overview of how a protected area/network is changing over time, highlighting any required modifications to the management plan and helping to prioritise resources (Hockings *et al.*, 2006; Leverington *et al.*, 2008).

However, as every country and PA is unique, with different aims/objectives, cultural settings, and management regimes, it is not feasible to have a 'one size fits all' PAME methodology. For this reason, a common framework was established by the IUCN World Commission for Protected Areas (IUCN WCPA Framework) to provide a solid theoretical and practical basis for assessment, enabling the use of multiple PAME assessment methodologies, and allowing evaluations to be conducted at different scales and depths (Hockings *et al.*, 2006). The Framework is comprised of six key elements which follow the principle that successful management of PAs follows a cyclical process (Figure 4).



Figure 4. IUCN WCPA Management Effectiveness Cycle (Hockings *et al.*, 2006).

3 Review of PAME Assessments used for PAs in Belize

3.1 Status of PAME assessments for marine-based PAs in Belize

Belize has a long history of undertaking PAME assessments, both at an individual PA level and at a national level through the National Protected Areas System Management Effectiveness Assessment Tool (NPAS-MEE).

Between 1993 and 2001, the very first site level assessments of a protected area in Belize began under TNC's Parks in Peril Program (PIP). The PIP Consolidation Scorecard framework was developed to enable conservation managers to measure their successes and help guide the cycle of program monitoring and management planning (Balloffet & Martin, 2007). In 2005, the first [National Protected Areas System Plan \(NPASP\)](#) was developed, promoting the use of management effectiveness evaluations, and resulting in a significant increase in PAME assessments across the NPAS.

Between 2005 and present, two core methodologies have been used for PAME assessments in Belize. The first, at the site level, is the Management Effectiveness Tracking Tool (METT) and its various iterations. METT was one of the first tools developed to reflect the IUCN WCPA Framework for PAME and has since undergone numerous revisions. Further discussion of this methodology and its iterations can be found in Section 3.4. The second is the NPAS-MEE, which is run on a national level. As with METT, the NPAS-MEE has undergone multiple iterations, further details and a discussion of NPAS-MEE can be found in Section 3.3.

3.2 Methodology

This review was initiated following a recognition by the Government of Belize (GOB), through the Ministry of Blue Economy and Civil Aviation (MBECA), the Fisheries Department (BFiD) and the National Biodiversity Office (NBIO), that the PAME assessment process within Belize may benefit from being further coordinated and streamlined. Further streamlining and coordination can assist reducing the resource requirements needed to complete the reviews. It can also ensure that the data and information collated is being effectively used to inform MPA management decisions and reporting requirements. The OCPP team used several methods to gather the information required to complete this review.

The initial scoping around Belize's PAME assessments was completed through literature reviews of PA and PAME assessment documentation, accessed through online internet searches, and virtual meetings and email discussions with key Belize

stakeholders to access PAME resources and begin to understand the PAME process in Belize.

A PAME assessment methodology evaluation checklist was adapted from Leverington *et al.* (2008), to undertake the formal review of the PAME methodologies. This checklist included a series of eight questions:

1. Is the methodology useful and relevant in improving protected area management; providing explanations and highlighting patterns; improving communication, relationships, and awareness?
2. Is the methodology logical and systematic? Does it adhere to a logical and accepted Framework with a balanced approach?
3. Is the methodology based on holistic, balanced, and useful indicators?
4. Is the methodology accurate, providing true, objective, consistent and up-to-date information?
5. Is the methodology practical to implement? Does it give good balance between measuring, reporting and managing?
6. Is the methodology part of an effective management cycle? Is it linked to defined values, objectives, and policies?
7. Is the methodology cooperative? Does it foster good communication, teamwork, and participation?
8. Does the methodology promote positive and timely communication, and positive use of results?

Each question had a number of sub-criteria under them, which provided more detailed questions to understand whether the methodologies answered the question. A column to leave additional comments was also included. A template of the evaluation checklist can be found in the Appendix.

The OCPP team also gathered a range of stakeholder's opinions about the PAME assessments currently being undertaken in Belize. This was initially completed through virtual meetings and emails discussions whilst in the scoping phase. Following this, a two-week in-person visit was undertaken in April 2022 to enable more in-depth discussions with key government and NGO stakeholders involved in PA co-management.

The discussions and information gathered during these discussions were collated with the formal methodology reviews to present the key strengths, challenges, and unknowns of the specific PAME assessment methodologies and how PAME assessments are implemented across the PA network of Belize.

3.3 National PAME Assessment – NPAS-MEE

3.3.1 History of the NPAS-MEE

Belize’s National Protected Areas System (NPAS) is a network of marine and terrestrial sites designed to protect and preserve Belize’s biological diversity and to contribute towards Belize’s sustainable development by providing economic opportunities and for the wellbeing of Belizeans.

Management effectiveness evaluations of the NPAS began in 2006 and there has been a total of three national assessments to date (2006, 2009 and 2019) (Walker, 2020a). The next NPAS-MEE is due to be undertaken in 2023. Since the first iteration in 2006, the NPAS-MEE has been continually adapted to improve the outputs of the assessment and align to internationally important frameworks, such as the World Commission on Protected Areas (WCPA) Evaluation Elements (Figure 5).

At the national level, the NPAS-MEE is expected to contribute to Critical Success Factor 3 (CSF3) of the Growth and Development Strategy (GSDS / Horizon 2030), and under that, to achieving the targets of the National Biodiversity Strategy and Action Plan (Belize Government, 2016) and the National Protected Areas System Plan (Salas and Shal, 2015; Walker, 2020a).

3.3.2 Review of NPAS-MEE Methodology

The Status of Protected Areas in Belize: 2019 Report was provided by Wildtracks for this review (Walker, 2020a). The report was completed as the end product of the 2019 NPAS assessment.

The report was split into four sections:

1. Assessment process discussion
2. Results presented by management category
3. Results presented by WCPA Evaluation Elements
4. Comparison to 2009 results

The 2019 report provides further information on the alignment of its indicators with previous reporting years, as well as alignment to the IUCN Green List indicators (IUCN and WCPA, 2017; Walker, 2020b). The report includes assessments of all seven types of PAs (both marine and terrestrial) in Belize: National Parks, Nature Reserves, Natural Monuments, Forest Reserves, Wildlife Sanctuaries, Marine Reserves and Private Protected Areas.

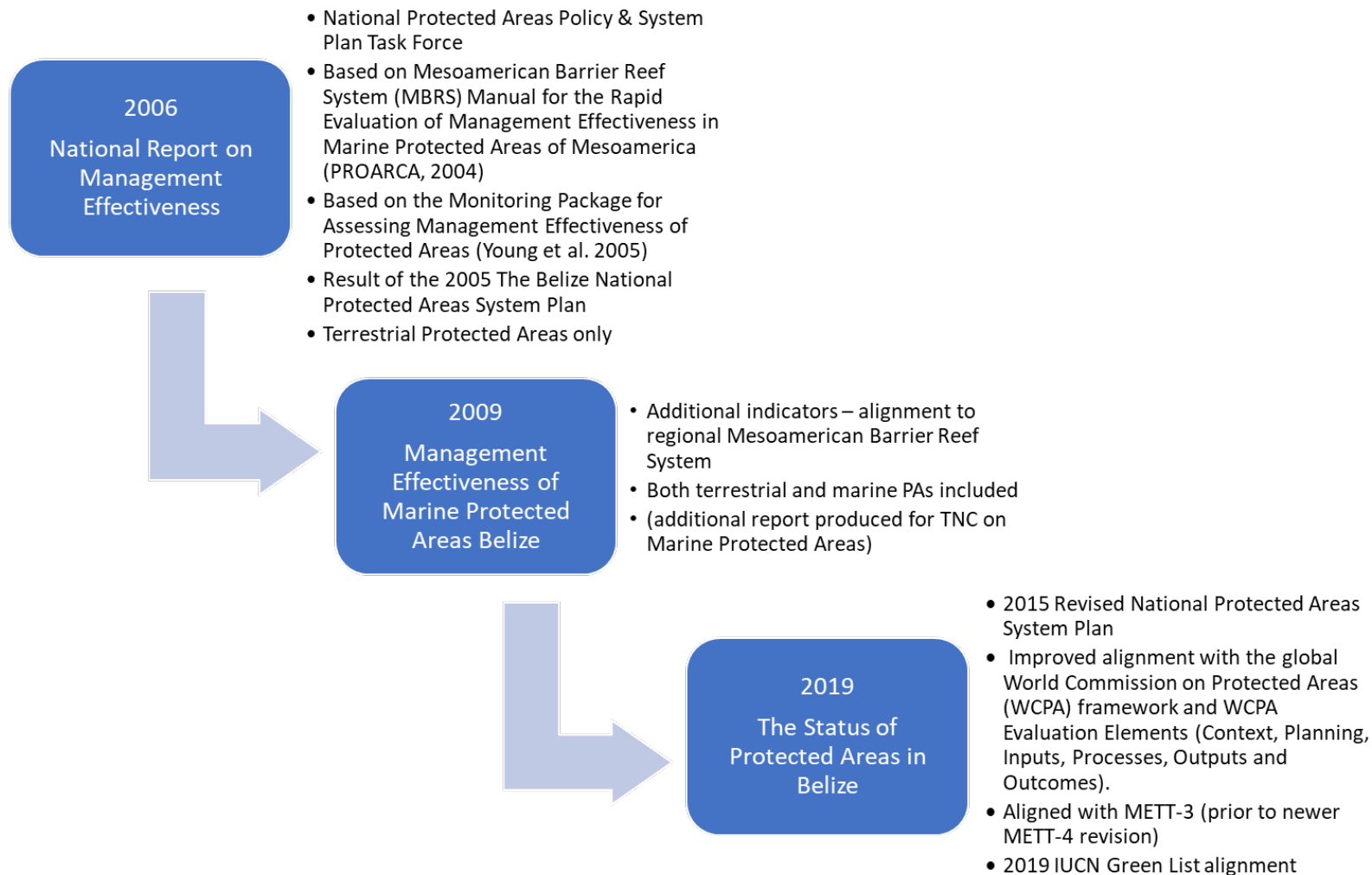


Figure 5. The development of the NPAS-MEE over time. (Diagram adapted from calls with Wildtracks in 2022).

The assessment process was conducted via workshops and meetings, including representatives from the relevant management authorities (Forest and/or Fisheries Departments), Protected Areas Conservation Trust (PACT), co-manager NGOs and associated site-level representatives (Walker, 2020c). An additional document (Walker, 2020b) was published, providing further detail on how the indicators align with the IUCN Green List.

The Status of Protected Areas in Belize (2019) report provides a detailed summary of the results from the NPAS-MEE of 64 PAs. It is divided into distinct sections, which allow for a range of analyses. There are a total of 79 indicators. All indicators are rated on a scale of 1 to 4 (1 being low management effectiveness and 4 being high). The same 79 indicators were analysed in management categories (temporal comparisons) and in WCPA evaluation elements (international comparisons). As the indicators have been used in different combinations to describe the two different categories of analysis the categories cannot be compared (Table 9).

Table 9. Indicator categories used in The Status of Protected Areas in Belize: 2019 Report (Walker, 2020c).

Analysis	Category of Indicator	Number of Indicators
Management Category	Resource information	15
	Resource management	21
	Community engagement, participation and socio-economic benefit	11
	Management planning	12
	Governance	5
	Human resources	6
	Financial and capital management	9
WCPA Evaluation Elements	Context	13
	Planning	13
	Inputs	8
	Processes	25
	Outputs	13
	Outcomes	7

This review is split into three sections: strengths, challenges, and unknowns of the methodology.

3.3.2.1 Strengths

Indicators:

- The methodology is based on holistic, balanced, and useful indicators.
- The ability to rank responses (scores from 1 to 4) provide quantifiable outputs, while thorough descriptions of the results from each indicator provide further detail into the rationale behind each score.
- As the indicators were aligned to past assessments, temporal analysis is possible across the network and categories.
- Data and evidence were requested to support the scores given to each response, to allow clear justification of ratings throughout the assessment and reducing potential bias.

Report:

- The detailed report that accompanied the NPAS-MEE assessment identified recommendations for every section of the assessment and clearly highlighted national challenges, areas for improvement and recommendations to achieve these.
- The report can also be used at the site level as it provides clear actions to input into PA management plans.
- NPAS-MEE is designed to be compatible with IUCN Green List criteria and METT site-level assessments, affording an opportunity to avoid unnecessary reassessments for some topics, providing the individual and national assessment timelines match.

Assessments:

- Assessments were conducted in the workshop-style setting with representatives from the majority of key stakeholders present.
- By including government departments, managers, on the ground staff and PA users, it allowed for a greater accuracy in reporting on the management status of the protected area.
- When utilised fully, repeat assessments (1 to 5 years) will allow site staff to see progress and improvements of management in protected area outcomes clearly. In addition, repeat assessments allow for adaptive management in response to new pressures.

3.3.2.2 Challenges

Completing the assessment:

- Not all PAs were included in the assessment which prevented the objective of a full assessment of the National Protected Area network to be completed. For example, the Archaeological reserves were not included as the competent authority did not feel NPAS-MEE was appropriate for many of their sites as they are not based on biological or environmental features.
- Following the workshop, it was noted, that there were instances of inconsistency answering of questions between different PA managers and/or incomplete answering of the questions. The inconsistency was often due to whether the PA managers considered the wider governmental framework in place to support PAs or just considered the indicator scoring from a PA site level. Incomplete answers were usually due to the lack of easily accessible data to answer the indicator or that the more detailed information to justify the score for each indicator was not completed.
- Following the workshop, it was noted, that not all stakeholders were able to make the date and time, or fully engage with the assessment due to other commitments.
- Undertaking the NPAS-MEE assessment is a time and resource heavy process both for the Government of Belize and PA co-managers. During the previous iterations of the NPAS-MEE, different sources of funding have been used and the assessment delayed until funding and resource was available, emphasising the need for a sustainable funding and resourcing for completing future NPAS-MEE assessments.

Methodology:

- Changes in the methodology throughout the various iterations of the NPAS-MEE have not necessarily been clearly tracked and publicised. This can make it difficult for those involved in completing the assessments to understand how lessons learnt have been tackled and incorporated into future assessments.
- The methodology requires large amounts of supporting data to ensure the ratings for different indicators are well justified. However, not all stakeholders imputing into assessment had easy access to the required data (either because it needed to be found or collated), therefore causing delays in the following reporting.
- Whilst a key strength of the NPAS-MEE assessment is its alignment to the WCPA framework and evaluation elements, in one aspect this has caused more of a challenge. When considering the need to provide site

level recommendations and feedback, the WCPA categories often align less comfortably with the PA programme areas than the original categories identified in the 2005 iteration of the NPAS-MEE.

Report:

- The detailed report (highlighted above as a key strength of the NPAS-MEE) also requires a substantial amount of time to create and publish, leading to a delay in stakeholders being able to access the results needed to inform adaptive management processes, reporting requirements etc.
- There is currently no written guidance provided to advise how best to utilise the report outputs as part of a management plan review.
- The report results included clear graphs but not all were easily extractable and/or showed required information that would allow the multiple users of the data to access information quickly and easily.
- Changes in the report throughout the various iterations of the NPAS-MEE have meant that some sections are included in one assessment and not in others. This potentially makes it tricky to compare certain aspects of the report across the years of implementation and could mean that important lessons learnt are not being tracked and implemented. For example, in 2009 a separate annex to the report was produced that captured lessons learnt, strengths and weaknesses of the NPAS-MEE. However, this information was not captured in the 2019 NPAS-MEE assessment due to budget, making it more difficult to see how the lessons learnt and weakness had been tackled in the newest iteration.

Use and Implementation:

- It was also noted that there was a lack of feedback loops directly within the NPAS-MEE process, within the methodology and report (as captured above), as well through governance processes at a site and national level. For example, the most recent NPAS-MEE report did not have a chapter detailing lessons learnt, that it isn't always clear that recommendations from each iteration are being taken forward and addressed to improve PA and marine conservation outcomes before the next iteration begins.

3.3.2.3 Unknowns

Completing the assessment:

- Moderation and quality assurance was completed post-workshop with all key management authorities to ensure consistency across PA interpretation. The method of moderation and quality assurance, however, wasn't documented within the methodology or report. Meaning for those not involved in the process, it is unclear how this was done and potentially means that future assessments may vary the methodology for the moderation and quality assurance without realising.

Use and Implementation:

- Explicit details were lacking on how the specifics of the NPAS-MEE assessment results were intended to feed into the PA management cycle and associated documentation and process (such as site level management plans).
- Details needed on how to access individual PA results as the results report only presented aggregated results.

3.4 Site-level PAME Assessments for marine PAs – METT

Site-level PAME assessments have been implemented in Belize (often on an *ad-hoc* basis) to: (a) help inform management decisions at an individual site level; and (b) as required as part of the proposal writing process set out by funding bodies.

A number of PAME assessments have been implemented across Belize's marine PAs, including Management Effectiveness Tracking Tool (METT), Parks in Peril Consolidation Scorecard (Balloffet & Martin, 2007), [World Heritage Outlook Report](#), [Healthy Reefs Eco-Audit](#) and [Rapid Assessment and Prioritization of Protected Area Management \(RAPPAM\)](#).

More recently, Belize PA managers have focused on using the various iterations of the METT, in particular METT-3, Advanced METT and now moving towards the newest iteration, METT-4. This has, in large part, been directed by the requirement of funders to complete these assessments.

With the implementation of the NPAS-MEE assessment tool at a national level, the intention was for the tool to also be implemented as an annual site-level assessment across Belize's PAs. Although a couple of terrestrial PAs are using the NPAS-MEE annually or at 2-to-5-year intervals, this doesn't appear to have happened yet across the PAs in the marine environment. However, there is an ambition within the GOB that site-level assessments are being implemented on an annual basis moving forward.

3.4.1 History of the METT

The METT was originally developed by the WWF Alliance and World Bank. It is a simple questionnaire-based toolkit designed to be used by individual protected areas managers (Stolton *et al.*, 2019). It is one of the most widely documented and used management effectiveness assessments and has been implemented by over 127 countries.

The METT aims to report progress on management effectiveness. It has been developed to document and advance the progress individual protected areas are making to improve the effectiveness of managing their area and is filled in by the protected area manager or other relevant site staff (WWF, 2007).

Within the guidance for the METT, it is clear there are limitations on what it can achieve: it should not for example be regarded as an independent assessment, or as the sole basis for adaptive management. It also has strict limitations in terms of allowing comparison between sites: the scoring system, if applied at all, will be most useful for tracking progress over time in one site or a closely related group of sites (WWF, 2007).

The METT has been updated four times since its first iteration in 2002 (Stolton *et al.*, 2007; Stolton and Dudley, 2016) (Figure 6).

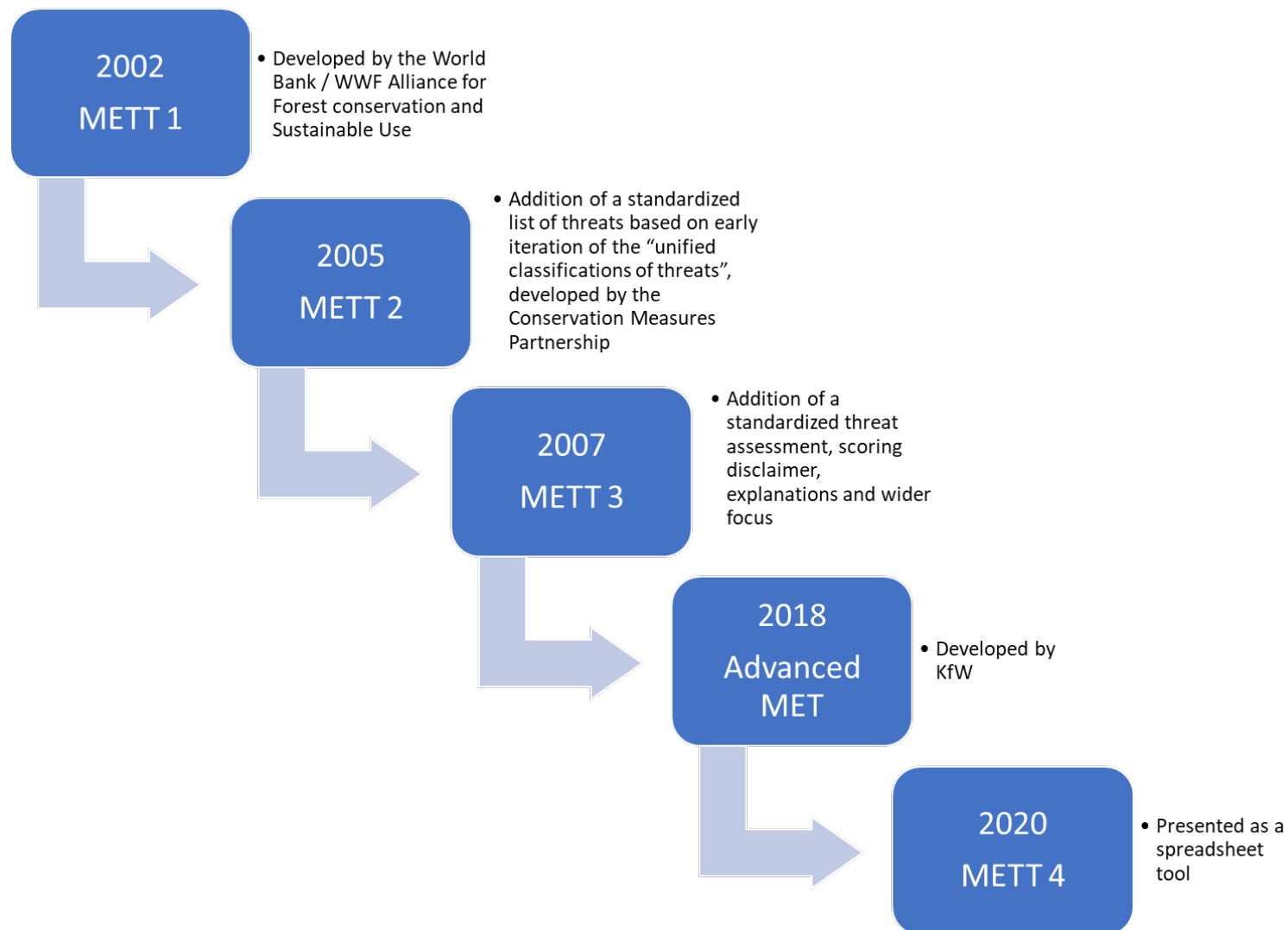


Figure 6. The development of METT over time. (Adapted from KfW Development Bank, 2018).

3.4.2 Review of the METT-3 Methodology

The METT-3 assessment report for Sapodilla Cayes conducted in 2014 was provided by the Belize Fisheries Department (BFiD) for this review, alongside the formal METT guidance documents (WWF, 2007; WWF, 2016). The METT-3 methodology has been completed across a number of Belize PA sites.

The METT-3 methodology was published in 2007 and updated the 2005 METT-2 (Figure 6). METT-3 assessments contain a set of questions that have been designed to be easily answered by those managing the protected area without any additional research. METT-3 aligns with the WCPA Evaluation Elements: Context; Planning; Input; Process; Outputs; and Outcome however some indicators were used in multiple categories.

METT-3 assessments have two main sections:

1. Datasheets
 - a. Data sheet 1: records details of the assessment and some basic information on the site.
 - b. Data sheet 2: generic list of threats to PAs to rank.
2. Assessment Form
 - a. 30 questions to which a score can be given between 0 (poor) to 3 (excellent). A series of four answer explanations are provided against each question to help assessors to make judgements as to the level of score given. In addition, there are supplementary questions which elaborate on key themes in the previous questions and provide additional information and points.
 - b. There is also space for additional comments to be written for each of the questions and a section for planning associated next steps.

The guidance states that, in most cases, a group of protected area staff from the reserve, project staff or other agency staff should be involved in answering the questions in the METT; where possible additional external experts, local community leaders or others with knowledge and interest in the area and its management should also be involved.

The review is split into three sections: strengths, challenges, and unknowns of the methodology.

3.4.2.1 Strengths

Methodology:

- The structure and format of METT-3 is well aligned with the WCPA evaluation element categories and has a robust assessment structure that covers different aspects of management.
- The ability to score responses (from 0 to 3) provides quantifiable outputs of the assessment, while comment boxes provided space for the assessors to add detailed rationales for their scores.
- Outcomes of the METT-3 “next steps” sections can be integrated into management plan updates as part of the repeated protected area reporting cycle.
- When utilised fully, repeat assessments with the METT-3 system (1 to 5 years) allows site staff to see progress and improvements of management in protected area outcomes. In addition, repeat assessments allow for adaptive management in response to new pressures.

3.4.2.2 Challenges

Completing the assessment:

- The self-assessment forms have potential limitations regarding inconsistency across sites / managers. The guidance for each scoring is broad, but the wording of scorings is not fully explained so it could be interpreted differently.
- No references are required to justify scorings in the assessment, leading to a potential lack of quality control or regulation.
- The METT guidelines encourage collaborative workshops with site teams and community as part of the assessment, but there is no requirement or associated scoring for running the assessment this way, potentially leading to manager bias. The Sapodilla Cayes 2014 assessment was only completed by two people.

Report:

- The word document format provides no visualisations of results, and unless the “next steps” section is completed there is a lack of useable outputs, with only a final score provided.
- There is no guidance provided within the report to advise how best to utilise the outputs as part of a management plan review.

- There is also no guidance for reporting the outputs of the assessment to communities or stakeholders allied with the site, potentially limiting the impact of “next step” recommendations.

3.4.2.3 Unknowns

Report:

- With regards to the 2014 assessment, there is a lack of information provided to explain why the PAME assessment was completed and what the intended purpose was.
- No details provided within the report as to how the results were expected to be used, meaning outcomes of the PAME assessment review could not be assessed.

3.4.3 Review of Advanced METT Methodology

The Advanced METT assessment and report for Sapodilla Cayes in 2019 was provided by BFiD for this review, alongside the formal METT guidance documents (WWF, 2007; WWF, 2016). The comprehensive Advanced METT spreadsheet, split output results into four sections:

1. Results presented by management element
2. Area attributes form
3. Detailed threat assessment
4. Ways forward after assessment

The Advanced METT assessment is a modified version of METT-3. It covers additional areas excluded in METT-3, such as climate change adaptation, indicator species and habitats, and responses to PA threats. The Development bank KfW is behind its conception (KfW Development Bank, 2018) and KfW, alongside other funding bodies such as the Global Environment Facility (GEF), expects (Advanced) METT as a minimum to be completed on the PAs they support.

The Advanced METT is completed through an Excel-based self-assessment scorecard composed of 36 questions. Accompanying guidance advises that the assessment is carried out in a workshop setting with stakeholders (e.g. community members and fishers) on a “regular basis” of every 1 to 5 years (ideally annually).

In the assessment, questions are answered using a score of 0 to 3, with each question and scoring point providing guidance for an accurate response. Space is allotted for comments and referencing to appropriate paperwork that would justify the answer given. The scores are aggregated on a results page with graphs to illustrate management areas where there is room for improvement. The recommendations for

site improvement rely on input from site managers, making them personal to the site, but reliant on the effort of the reviewer during the assessment.

The review is split into three sections: strengths, challenges, and unknowns of the methodology.

3.4.3.1 Strengths

Methodology:

- The scorecard-based system of Advanced METT includes comprehensive guidance, and the excel assessment itself is easy to navigate over the course of an examination, allowing it to be completed by site managers with relatively little training.
- The inclusion of additional questions relating to climate change adaptations, changes in indicator species status and individual PA threats provided an opportunity re-assess the PA for new and upcoming risks.
- The clear scoring metrics and graphs, alongside a detailed “ways forward after assessment” section allow for site staff to build management plans that target specific attributes to improve PA outcomes.
- The Advanced METT is designed to be compatible with IUCN Green List criteria and has many topics that carry across to the NPAS-MEE assessment, providing an opportunity to avoid unnecessary reassessments for some topics, providing individual and national assessment timelines match.

Report:

- Output scores and graphs are immediate which summarised management strengths of the site, in addition to highlighting where management improvement was needed.

3.4.3.2 Challenges

Completing the assessment:

- As the Advanced METT assessment is undertaken through a self-assessment it can be subject to manager bias. The guidance associated with the Advanced METT recommends carrying out the assessment in a workshop with local stakeholders and community members as it can limit the potential manager bias (Stolton *et al*, 2019). The 2019 study was carried out by a single member of staff

from the BFiD, in the absence of a workshop setting, so bias could not be ruled out.

- The Advanced METT assessment requests that in answering each question, there is a link to relevant source information, however verification or referencing of sources is not required in order to obtain scorings. In the 2019 Sapodilla Cayes case study no sources are referenced for any of the 36 questions answered. This makes it difficult to validate answers given and is an inherent issue with the format of the assessment.
- While it is possible to compare the METT scores of a site over time to judge for improvements, the METT-3 assessment used previously does not allow for a full temporal comparison.
- One of the most informative sections of the Advanced METT form “ways forward after assessment” was not filled out in the 2019 case study. While this section is valuable for improvement of management plans, it does not contribute towards the Advanced METT scoring for an individual area.

3.4.3.3 Unknowns

Report:

- There is a lack of information provided to explain why the PAME assessment was completed and what the intended purpose was.
- No details provided within the report as to how the results were expected to be used, meaning outcomes of the PAME assessment review could not be assessed.

3.4.4 Review of METT-4 Methodology

A new version of METT was developed in 2021 that improves and expands on the Advanced METT methodology. At the time of writing this report, we are awaiting confirmation as to whether this methodology has been used to assess management effectiveness in any of Belize’s PAs. Once confirmation has been received, along with the relevant documentation for a review to take place, this section will be updated accordingly, and future versions circulated.

3.5 Broader Strengths and Challenges Identified at a National and Site Level for PAME Assessments in Belize

Focused discussions with key stakeholders were also conducted to understand the broader strengths and challenges with the current PAME assessment systems used

across Belize. The stakeholders within the Government of Belize were the Fisheries Department, National Biodiversity Office, and the Coastal Zone Management Authority & Institute. Non-governmental stakeholders were Wildtracks, Turneffe Atoll Sustainability Association, Belize Audubon Society, Toledo Institute for Development and Environment and Sarteneja Alliance for Conservation and Development. Focused discussions were carried out virtually and then in-person during a technical trip to Belize in April 2022. Detailed notes were captured of the discussions and the information collated within the technical trip report (OCPD unpublished, 2022) and this review.

Key strengths identified by stakeholders were:

1. Belize implements both national and site level PAME assessments across its PA network:

- Belize uses both national and site level PAME assessments to assess management effectiveness and feed into national and international reporting requirements, as well as site-level planning.
- It was recognised that, globally Belize is one of the leading countries for PA management, as many countries do not implement PAME assessments at national and/or site level.

2. Belize's NPAS-MEE has been designed and adapted to meet Belize's needs:

- The NPAS-MEE is based on several well recognised site level PAME assessments ensuring it captured PAME assessment best practice during its development.
- The NPAS-MEE has been tailored to the specific requirements and needs of Belize's PA network.
- The NPAS-MEE is being improved for each iteration ensuring it fully reflects the requirements and needs of Belize.

3. Belize's PA management teams in the marine environment

- Belize's PAs are managed by skilled, passionate staff from the government and the non-governmental organisations.
- PA management teams truly understand the importance of conserving the PAs they are in charge of and the importance of the reporting requirements, including supporting the completion of PAME assessments.
- PA management teams also understand the importance of working with the local communities to ensure their opinions are captured within PA management reporting and decisions.
- Planning is underway by some NGOs in Belize to support training and mentoring for conducting PAME assessments.

Key challenges identified by stakeholders were:

- 1. Although the NPAS-MEE assessment or equivalent is also recommended to be implemented annually at a site level, it is currently not being implemented across the Belize PA network in the marine environment at the site level:**
 - Currently within marine PAs there is an ambition to deliver annual site level PAME assessments, however, staff resource and funding have currently prevented this ambition from being realised.
 - Site level PAME assessments are therefore completed on a more ad-hoc basis, dependant on the needs of the PA manager and the resource available to them.
 - Most outside funders for PAs request their preferred PAME methodology is used which forms a central challenge for standardisation and may contribute to the reasons behind not implementing one method of assessment at a site level.
 - This means information to help inform management decisions and international reporting is not standardised and can result in additional resource needs for certain PAs and varying confidence in information being fed into reporting, depending on when it was last collected.
- 2. A lack of clear, easy to use visualisations of results from PAME assessments:**
 - Both at national and site level there has been a lack of clear, easy to use and to extract, results and recommendations that can be pulled across into other documentation and reporting.
- 3. A lack of clear guidance on how to incorporate PAME assessment results into other PA management documentation and decisions:**
 - At both a national and site level, there appears to be a lack of connection between the results and recommendations identified during the PAME assessments and how those are implemented across the PA management cycle to improve the conservation outcomes of the PAs in the marine environment.
 - This is leading to a lot of effort being fed into PAME assessments without all the benefits being fully realised.
- 4. A lack of integration between the NPAS-MEE and site-level PAME assessments:**
 - Although the NPAS-MEE has been developed from site level PAME assessments and aligned to meet specific reporting requirements (such as the IUCN Green Listing) and been designed with the intention to be used, in an adapted form, for annual site level assessments. The adapted NPAS-MEE is not being successfully implemented at a site

level in the marine environment PAs, due to the reasons captured above.

- This is leading to a lack of coordination between the NPAS-MEE on a 5-year cycle and the more ad-hoc site level PAME assessments.
- This potentially means repeated effort and/or additional resource is required to complete the two types of assessment to ensure that PA managers are meeting all reporting requirements and/or receiving all the information required for management. For example, supporting the collation of information for national and international commitment reporting and gathering the information required to make informed management decisions within their PA(s).

5. Resource requirements:

- Ensuring staff capacity to run both the NPAS-MEE and site level PAME assessments has been difficult.
- This includes staff time to hold the workshops to complete the assessments and staff training to ensure they understand how to complete assessments fully and can guide stakeholders to support the completion of assessments.

6. Financial planning:

- Long term financial planning for PAs is currently not complete at a site level and a network level.
- This means at a site level PA managers cannot allocate resources and plan management activities efficiently. If site level PAME assessments are to be standardised across the PA network, it is unclear how PA managers would support this.
- At a national level there is uncertainty as to how future NPAS-MEE will be supported and implemented.

4 Recommendations for future PAME assessments

The recommendations within this section aim to identify solutions for the challenges and gaps captured during the detailed PAME methodology reviews (Sections 3.3 and 3.4), stakeholder discussions (Section 3.5), expert opinion and lessons learnt from around the globe.

Belize's marine conservation efforts are world leading, including in PA management. The continued work to improve each iteration of the NPAS-MEE, ensuring it aligns with Belize's own ambitious environmental commitments and international 'gold standards', demonstrates Belize's commitment to continuing to ensure successful, long-term conservation goals.

At a site level, although the NPAS-MEE was recommended as an annual assessment tool as well, this appears not to be successfully implemented across the marine-based PAs. Therefore, PAME assessments are conducted on a more ad-hoc basis and are often donor-driven, necessitated as part of the grant writing process. Despite this, they do provide a great site-level insight for managers and co-managers to understand how well objectives are being met and what areas need further improvement.

These recommendations aim to identify where Belize can better coordinate and streamline the PAME assessment process across its marine-based PA network, reducing the resource requirements needed to complete the reviews, and ensuring that the data and information collated is being effectively used to inform PA management decisions and reporting requirements, as well as national and international commitments.

The recommendations are split into three tables. Table 10 for recommendations that are relevant for both NPAS-MEE and PA site level PAME assessments. Table 11 for recommendations specific to the NPAS-MEE and Table 12 for recommendations specific to site level PAME assessments.

Table 10. Recommendations for both NPAS-MEE and site-level PAME assessments.

Recommendation	Rationale	Possible actions involved	Possible mechanisms
General			
Standardise language for marine conservation	<p>Within Belize, PAs in the marine environment have been designated to align with IUCN classifications and definitions. These are managed under several different pieces of legislation, which has led to some variation in the language used to describe the same principle, such as the different classifications of PAs and the type of management being enforced within the PA.</p> <p>Standardising any varying definitions used within PAs, where possible, would prevent confusion and enable consistent reporting.</p>	<p>Use standardised language and definitions across all PAs.</p> <p>Review language and definitions being used to classify PA management strategies and zonation across the marine PA network.</p> <p>Ensure that PA documentation, national and international documentation language align as best as possible.</p>	Create a publicly available guidance document that identifies where definitions vary across legislation, to allow quick, standardised cross-referencing.
Methodologies			
Consider the full PA management cycle within the design, planning and implementation of PAME assessments	<p>PA management is not a linear process, and each aspect of the management cycle (Figure 4) should be systematically reviewed and feedback into the management of a PA or PA network.</p> <p>PAME assessments are an important aspect of the PA management cycle and can provide useful information that can support other aspects, such as monitoring and reporting.</p> <p>NPAS-MEE’s assessment does capture all aspects of the PA management cycle and there is a standard NPAS Management Plan that aims to capture lessons learnt. However, the NPAS Management Plan requires updating and currently is not applicable for one type of PAs in the marine environment (Marine Reserves).</p>	<p>Ensure any PAME assessment methodology used at a site level includes questions that address each aspect of the PA management cycle.</p> <p>Ensure timing of PAME assessments aligns with other aspects of PA management cycle (for example, financial planning and status reporting) to allow clear feed in of results and recommendations.</p> <p>If needed, update other PA documentation to allow incorporation of PAME assessment results and recommendations.</p>	<p>Implement METT-4 or a METT-4 format of outputs within national and site level PAME assessments, to ensure easily accessible evidence and next steps.</p> <p>Update and improve the existing NPAS Management Planning template for PA management plans, so it reflects current language and requirements, whilst also addressing any potential barriers to use by PA managers. This includes the section on communicating the management recommendations that resulted from a PAME assessment.</p>

Recommendation	Rationale	Possible actions involved	Possible mechanisms
	<p>Additionally, it is unclear how the results and outputs are to be incorporated into other PA documentation, such as assessments on condition of the PA and its features.</p>		<p>Assess and align the NPAS Management Planning template with the management planning template being used for Marine Reserves.</p> <p>Or</p> <p>Investigate the possibility of all PAs in the marine environment using the same Management Planning template.</p>
<p>Alignment and harmonization of site management planning and reporting with MEE and other effective tools.</p>	<p>Sustainable resourcing of PAs in the marine environment is essential to ensure they are well managed and can reach or continue to meet their conservation objectives.</p> <p>Whilst PAME assessments should not be used as the only tool to assess and report on meeting resource targets, they can support and easily feed in information to national and site level financial plans for PAs.</p> <p>The NPAS-MEE comprehensively assesses the financial and human resources across the PA network, which can be utilised to provide an outlook in management plans for PAs.</p> <p>However, it is unclear how successfully this assessment is incorporated into resource assessments and delivery both at a site and national level.</p>	<p>Ensure outputs of NPAS-MEE are incorporated into PA network resource planning at a national level and can also be utilised at a site level.</p> <p>Ensure site level PAME assessments sufficiently capture information on resource (staff and financial resource).</p>	<p>Produce a practical guidance, roadmap or planning document to ensure resource assessment results from the NPAS-MEE will be utilised in national and site level resource planning and reporting.</p> <p>Schedule a national and site-level workshop(s) or meeting(s) with key stakeholders and decision makers after any assessment, to discuss and operationalise PAME assessment recommendations.</p> <p>Adapt or add in additional questions to PAME methodology at a site level to ensure the needs of site level resource planning are captured.</p>

Recommendation	Rationale	Possible actions involved	Possible mechanisms
<p>Incorporate wider uses of PAME assessment data into the design, planning and implementation of PAME and sustainable management of resources in Belize.</p>	<p>The evidence collated to complete PAME assessments, and the results of the assessments can help to inform wider applications beyond PA management and reporting. By considering these potential uses at the planning stage, relevant stakeholders can be aware and/or involved in the process, maximising the benefits for all involved.</p> <p>For example, PAME assessment information can be useful in IUU fishing investigations and enforcement strategies.</p>	<p>Scope possible wider applications of PAME assessment data, across other government departments and other organisations.</p>	<p>Develop a practical guidance, roadmap or planning document to jointly agree on how PAME assessment data and information will be shared across wider applications and development frameworks for Belize.</p>
<p>Incorporate all PAs, including SPAG sites outside of PAs, into PAME assessments.</p>	<p>Spawning Aggregation Sites (SPAG) are designated in Belize as a fisheries management measure. Currently, if the SPAG site is within a current PA it is considered part of the PA and its conservation benefits taken into account.</p> <p>However, if part or all of the SPAG site falls outside a designated PA, its conservation benefits are not considered in the NPAS-MEE and they do not have their own PAME assessments undertaken.</p>	<p>Consider whether the SPAG sites which are located outside of recognised PAs in Belize could be formally recognised as PAs, therefore ensuring they are monitored and managed in-line with other recognised PAs in the marine environment.</p> <p>Include all 13 SPAG sites (both inside and outside of PAs) within Belize's PAME assessments, where they are not already incorporated.</p>	<p>Consider what documentation needs to be in place for SPAG sites outside of PAs to be incorporated in the NPAS-MEE and implement.</p> <p>Review current legislation for SPAG sites and identify how SPAG sites could be adapted to allow them to be considered PAs.</p> <p>And/or</p> <p>Identify whether current PAs and their legal documentation could be amended or extended to incorporate the SPAG sites within their area.</p> <p>This would also remove the risk of double accounting (where there is an overlap between a SPAG site and current PA).</p>

Recommendation	Rationale	Possible actions involved	Possible mechanisms
<p>Consider whether OECMs could be designated within Belize waters.</p>	<p>Although not formally designated as PAs, OECMs by definition have to have a conservation benefit. Therefore, they can contribute to a country's network of conservation areas and play a role in supporting national and international biodiversity goals (IUCN, 2019).</p> <p>By considering whether there are any areas that can be designated as OECMs and incorporating them within PAME assessments at a site and national level, means these areas can contribute to the wider PA network, and their contribution to the PA network assessed.</p>	<p>Consider whether there are any areas in Belize that could meet the criteria for OECMs and whether recognising them as OECMs would be beneficial.</p>	<p>Develop a roadmap for the process of identifying and tracking OECMs in Belize.</p> <p>Create a list of potential areas that may meet OECM criteria.</p> <p>Follow the IUCN Site-Level tool for identifying OECMs (IUCN/WCPA, 2022) or develop another tool that can assess areas to see if they meet the criteria to become OECMs.</p> <p>Adapt (if needed) NPAS-MEE to incorporate new OECMs within the assessment.</p>
<p>Engage a wide range of stakeholders when completing PAME assessments</p>	<p>Engaging a wide range of stakeholders across different sectors helps to incorporate multiple perspectives into the PAME assessments, reducing bias in the assessment.</p> <p>Employing a participatory approach improves understanding of impacts on stakeholders and ensuring transparent and open communication helps to generate support for PAs across marine stakeholder groups.</p>	<p>Increase involvement of stakeholders in workshops for completing assessments, including fishers, fishing cooperatives, existing committees, and private/tourism sector where relevant.</p> <p>Ensure all relevant stakeholders have the opportunity to feed in around their work patterns.</p> <p>Increase involvement of stakeholders in how to effectively share PAME results from the design and planning stage.</p>	<p>Set up regional meetings/ workshops/ questionnaires/ online consultations with local stakeholders to understand what they know about PAME assessments and how they would like to be involved in future assessments.</p> <p>Where feasible and relevant, this consultation and participatory approach can be integrated within existing stakeholder meetings.</p> <p>Develop an awareness campaign to compliment the stakeholder consultation and engagement.</p>

Recommendation	Rationale	Possible actions involved	Possible mechanisms
Increase resource mobilisation	<p>For all PAs, completing, monitoring, reporting, planning and implementation of PA documentation, including national and site level PAME assessments, requires extensive staff resource and funding.</p> <p>Currently, many PAs do not have the capacity, training support or the sustainable financing to ensure the long-term delivery of PA management and documentation.</p>	<p>Increase capacity and efficiency through training in key areas, such as data analysis and interpretation, writing skills for reporting and proposal/bid applications.</p> <p>Where needed, streamline PA monitoring, management and reporting. Ensuring outputs can be utilised at multiple scales, reducing duplication.</p> <p>Identify long-term, sustainable financing for PAs.</p>	<p>Provide training for Belize PA managers through courses, knowledge sharing and collaborations with specialists and regional partners.</p> <p>Identify and specify minimum baseline data collection and reporting required for a marine PA.</p> <p>Identify resourcing (staff and funding) required to meet the baseline needs. This could be supported by the work already begun under the marine and coastal Project Finance for Permeance for Belize and the Blue Bond Agreement.</p> <p>Support the development of a new generation of marine professionals by funding educational programmes and training (such as, University courses and internships).</p>
Outputs			
Improving and streamlining data management systems.	<p>Currently there is no agreed method for storing and sharing PA area data, including site and national level PAME assessment data.</p> <p>Clear and systematic data storage for PAME assessment results and supporting data (such as PA monitoring data) can support the streamlining of PA related reporting at a national and international level.</p>	<p>Explore options to streamline PAME assessment data storage at a site, regional and national level.</p> <p>Review existing data storage and sharing platforms to consider whether any are suitable for long-term use for sharing of PA data including marine monitoring, PAME assessment, and supporting data.</p>	<p>Update or develop new data storage and sharing platform so all PAME assessment data can be easily accessible to all stakeholders.</p>

Recommendation	Rationale	Possible actions involved	Possible mechanisms
	<p>Additionally, improved data storage can facilitate better utilisation and sharing of data to support new policy and legislation, research and outreach.</p>	<p>Consider whether legislation/ policy requires updating to ensure all PAME assessment data is uploaded and shared.</p>	
<p>Share knowledge and experience with other nations</p>	<p>Belize is world-leading in its PAME assessment procedures.</p> <p>Opportunities to share knowledge and experience with other countries, particularly nations in the Mesoamerican Reef region, could enhance PA effectiveness internationally.</p>	<p>Establish knowledge-sharing relationships with other countries to support their PAME assessment development.</p> <p>Provide support and guidance for other nations in the Mesoamerican Reef region.</p>	<p>Utilise existing membership and presence on regional and international platforms.</p> <p>Hold workshop for other nations on the NPAS-MEE and Belize's work on PAME.</p> <p>Publish results in relevant journals, if applicable.</p>

Table 11. Recommendations specific to NPAS-MEE.

Recommendation	Rationale	Possible actions involved	Possible mechanism
Methodology			
<p>Assess whether all types of PAs are appropriate to include in the NPAS-MEE assessment.</p>	<p>The NPAS-MEE provides a thorough national overview of the PA system in Belize every five years. However, not all PAs were included in the national assessment.</p> <p>There are several reasons why PAs weren't included in the previous NPAS-MEE assessments. This includes because the appropriate authority did not feel the NPAS-MEE was the correct tool to assess management due to its focus on biological and environmental indicators (i.e. for the Archaeological reserves) or because the PA is actually an urban, green area and the appropriate authority did not feel it requires any management, therefore also no Management Effectiveness assessment.</p>	<p>Redefine the definition of what the PA network covers. Is the focus a biological and environmentally focused PA network?</p> <p>Removing PAs from the network that do not have a biological or environmental focus and therefore don't participate in the NPAS-MEE and wider PA network assessment, as they do not feel it is appropriate.</p> <p>Work with appropriate authorities that don't participate in the NPAS-MEE and develop a new section of the NPAS-MEE specifically designed to assess the relevant indicators for these PAs.</p>	<p>Discuss with appropriate authorities not currently engaging with NPAS-MEE as to whether they would be interested in the future iterations of assessment if it was more tailored to their PAs.</p> <p>Workshop to discuss how PAs not included in the last NPAS-MEE can be assessed in the next iteration, and what adjustments are needed to undertake this.</p> <p>Or</p> <p>Redefine the definition of the PA network and remove PAs not meeting that definition for future assessments.</p>
<p>Continue alignment of PAME assessments with international reporting requirements</p>	<p>Incorporating global standards for marine conservation into Belize's PAME assessments means Belize can continue to improve and be world leading in marine PA management.</p> <p>Additionally, understanding Belize's national and international reporting commitments and incorporating them means that the resources needed to report can be streamlined.</p> <p>NPAS-MEE assessment has already been aligned to the IUCN Green Listing requirements.</p>	<p>Continue to incorporate indicators that align with IUCN WCPA evaluations elements and IUCN Green Listing as the global standards.</p> <p>Review national and international commitments across Belize and ensure other reporting requirements are incorporated into PAME assessments.</p> <p>Consider how alignment to global standards may complicate site level feedback and recommendations, as categories may not align as well with site level programmes of work.</p>	<p>Continue developing outputs of the NPAS-MEE that meet the reporting needs of the Green List, UNCBD and other pertinent national reporting commitments.</p> <p>Assess whether any integration or consideration is required with regional approaches to MPA effectiveness reporting, such as the Caribbean Marine Protected Area Network and Forum (CaMPAM).</p>

Recommendation	Rationale	Possible actions involved	Possible mechanism
			Provide guidance on how to align NPAS-MEE indicator categories with PAs programmes of work, to improve decision making and implementation of change following the NPAS-MEE assessment.
Ensure lessons learnt and updates to the NPAS-MEE are clearly captured in future iterations.	<p>The NPAS-MEE has been updated and amended at each iteration to better align with the needs and requirements of Belize.</p> <p>The updates and lessons learnt from each iteration have not always clearly been shared with PA managers and other stakeholders involved due to tight budgets.</p> <p>This makes it difficult to track how feedback has been incorporated in future iterations and why changes have occurred.</p>	Ensure any updates and amendments are clearly captured and explained in the next iteration of the NPAS-MEE.	Introduce a section in the NPAS-MEE report or an annex tracking any changes that have occurred between the NPAS-MEE iterations and the reasoning behind each change.
Outputs			
Produce interpretable outputs from assessments	<p>Clear visualisations or statistical summaries of results that can be easily incorporated into reports, communications and outreach would make the NPAS-MEE more easily accessible for decision-makers and stakeholders.</p> <p>Generating easily interpretable assessment results ensures this information can be rapidly incorporated into national assessments and promotes their wider use across other work areas.</p> <p>During the 2010 iteration this was completed, however, was very time consuming and expensive. So future iterations only produced these summaries at a site level on request.</p>	<p>Explore options and resource for visualising assessment results in an easily interpretable format.</p> <p>In addition to a national level summary, explore whether site-level summaries from the NPAS-MEE could be produced in a time efficient and cost-effective manner for all PAs.</p>	<p>Apply simple and accessible METT-4 style visualisations to NPAS-MEE assessments, focusing on results and recommendations for management.</p> <p>Develop templates to support easy, quick delivery of site-level summaries for PAs after the NPAS-MEE has been completed.</p> <p>Support training and capacity building across relevant PA stakeholders to improve understanding and increase use of the NPAS-MEE across the PA management cycle.</p>

Recommendation	Rationale	Possible actions involved	Possible mechanism
<p>Disseminate PAME assessment results in a timely manner</p>	<p>Sharing headline results, particularly those that are most important for management strategies, with relevant stakeholders will help to ensure the PAME assessment results implement change as soon as possible.</p> <p>This could facilitate more efficient adaptive management, limiting the time lag between publishing assessment results and subsequent changes in management plans.</p>	<p>Investigate possibilities to rapidly produce a summary results report as an interim, whilst the full results report is being finalised. Incorporating easy visualisations (recommendation above) would support this.</p> <p>Explore producing guidance to accompany visualisation so these can be shared before a full report is ready.</p>	<p>Produce a summary report for both NPAS-MEE and site level PAME assessments and accompanying guidance, if required, on how to incorporate results into management decisions for stakeholders, including government, site managers and community stakeholders.</p> <p>Follow a similar style to the Healthy Reefs Initiative Report Cards (McField, et al. 2020) or the infographics in Belize Travel and Tourism 2020 Digest.</p>

Table 12. Recommendations specific to site-level PAME assessments.

Recommendation	Rationale	Possible actions involved	Possible mechanisms
General			
<p>Collate list of PAME assessments undertaken at each PA</p>	<p>There currently isn't a list of what site-level PAME assessments have occurred at each PA historically and the outcomes of these assessments.</p> <p>This means that the information and recommendations captured within the assessments, whether done for management or funding, are potentially not being captured and shared across the marine PA network.</p> <p>Additionally, any progress of the PAs across the PAME assessment indicators are potentially not being captured. This will lead to more work during the next PAME assessment conducted, either at a site or national level.</p>	<p>Create a central list and repository for site level PAME assessments.</p> <p>Collate lessons learnt and recommendations for each PA and capture progress towards achieving those recommendations and improving the conservation outcome of the PA.</p>	<p>Create a spreadsheet tracking PAME assessments per PA and create a central repository for them to be saved.</p>
Methodology			
<p>Standardise and implement use of one, site-level PAME methodology across entire PA network in the marine environment</p>	<p>Within the GOB, there is ambition to implement a site level NPAS-MEE assessments annually across the marine PAs. However, due to resourcing constraints this ambition currently isn't achievable. Additionally, PA managers complete other PAME assessments at the request of funders, potentially, taking staff resource away from completing and/or supporting an agreed, standard annual assessment.</p>	<p>Implement the same annual PAME assessment methodology at a site level across the marine network.</p> <p>Actions could include:</p> <ul style="list-style-type: none"> • Understand why the current NPAS-MEE site level assessment is not being implemented across PAs on a regular basis. • Agree timeframes for site level PAME assessments in the context of the NPAS-MEE. 	<p>Support capacity building and training for PA managers to allow the full utilisation of the PAME assessment results (NPAS-MEE and site-level assessments) for adaptive management.</p> <p>Workshop with PA co-managers to understand why the site level assessments (NPAS-MEE or equivalent) are not standardised or being achieved annually. Identify what barriers must be overcome for it to be implemented.</p>

Recommendation	Rationale	Possible actions involved	Possible mechanisms
	<p>Standardising the PAME methodologies used at a site level across the entire network will enable consistent identification of gaps and needs for each PA, whilst also enabling consistent reporting of the evidence, justifications, and next steps into other site level PA documentation.</p> <p>This will also enable this information to be more easily aggregated to a regional and national level reporting, such as for the NPAS-MEE.</p>	<ul style="list-style-type: none"> • Agree how recommendations are reflected in PA documentation (such as management plans). • Develop and/or update official policy / regulations / legislation to mandate the requirement for site level assessments. • Update all PA management plans, where required, ensuring agreed framework for PAME recommendations is included. • Provide guidance and create platforms for informal knowledge sharing and discussions for PA managers. • Ensure that the site level PAME methodology and the NPAS-MEE align to streamline reporting and prevent overloading PA managers. 	<p>Workshop with the common funding organisations within Belize for marine conservation to understand why other PAME assessments are requested and what can be done to agree moving towards a standardised site-level assessment.</p> <p>Adapt the NPAS-MEE to remove the barriers identified by PA managers and funding bodies. Ensuring that the tool and results are clear and easy to use across the PA management cycle, supporting adaptive management of PAs.</p> <p>Or</p> <p>Implement the latest METT methodology (METT-4) across all sites. METT-4 has been aligned to the IUCN Green Listing criteria (like the NPAS-MEE) and has improved visualisation of data and identified management recommendations which are easily extractable.</p>
<p>Ensure assessments are meeting national and international reporting requirements.</p>	<p>Ensuring site level assessments are collecting and visualising the evidence required to inform site-level management plans, contribute to national assessments of the entire PA network, and satisfy international reporting requirements, ensures the PAME assessment process efficiently achieves objectives.</p>	<p>Confirm and, if necessary, adapt methodologies to ensure the site-level assessments, once rolled out nationally, are gathering sufficient evidence to contribute to national assessments and providing information that meets international reporting requirements.</p> <p>Modify how assessment results are visualised, delivered and shared to meet local, national and international requirements.</p>	<p>Provide guidance and training to PA managers on how to complete site level PAME assessments. Including how to ensure all sections are completed in full, how to ensure data quality assurance and how to utilise results to inform PA management.</p> <p>Adapt site level assessments to meet the needs of PA managers and Government of Belize departments.</p>

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Belizean policy and action plans relating to the environment and climate: hyperlinks

Policy/Action Plan	URL
Horizon 2030: The National Development Framework for Belize	https://fisheries.gov.bz/download/horizon-2030/?wpdmdl=15566&refresh=5f4ad461c39ce1598739553
National Biodiversity Strategy and Action Plan	https://www.fao.org/faolex/results/details/es/c/LEX-FAOC167539/
National Climate Resilience Investment Plan (NCRIP)	https://med.gov.bz/national-climate-resilience-investment-plan-ncrip/
Updated Nationally Determined Contributions (NDC)	https://unfccc.int/sites/default/files/NDC/2022-06/Belize%20Updated%20NDC.pdf
Climate Finance Strategy of Belize	https://production-new-commonwealth-files.s3.eu-west-2.amazonaws.com/migrated/inline/Climate_Finance_Strategy_of_Belize_UPDF.pdf
Growth and Sustainable Development Strategy	https://med.gov.bz/national-plans/
National Energy Policy Framework	https://www.publicservice.gov.bz/index.php/medias/news-and-events/item/56-belize-national-energy-policy-framework
Sustainable Energy Action Plan	https://energy.gov.bz/wp-content/uploads/2020/09/Belize-Sust-Energy-Strategy-Final-Vol-1-1.pdf
National Solid Waste Management Policy	https://fdocuments.in/document/belize-nswm-strategy-plan-draft-final-report-v1-25-d-draft-final.html

Appendix

A.1. Example of evaluation checklist

Methodology: xxx
Completed every xxx
Completed by (government department/ MPA managers etc):

Q1. Is the methodology useful and relevant in improving protected area management; providing explanations and highlighting patterns; improving communication, relationships, and awareness?		
Checklist of criteria	✓	Additional comments
Is all relevant background information for the Protected Area provided?		
Is a clear, detailed reason for the establishment of the protected area(s) given?		
Has the full assessment history of the site(s) been provided?		
It is clear that using this methodology can achieve one or more of the following: a. It is useful for improving management/ for adaptive management, or to aid understanding; b. It assists in effective resource allocation and prioritisation; c. It promotes accountability and transparency; d. It helps involve the community and promote the protected area's values.		
It helps understanding of whether protected area management is achieving its goals or making progress.		
The questions asked are relevant to the protected area and the management needs, or can be adapted or built on so that they are relevant.		

It allows useful comparisons across time to show progress for the protected area.		
It allows for comparison across multiple protected areas.		

Q2. Is the methodology logical and systematic? Does it adhere to a logical and accepted Framework with a balanced approach?		
Checklist of criteria	✓	Additional comments
The methodology is based on a systematic framework, preferably presented in a manual or other reviewable document		
The methodology incorporates assessment of the 4 criteria set out in the IUCN Green List of Protected and Conserved Areas Standard: 1. Good governance, 2. Sound design and planning, 3. Effective management, 4. Successful conservation outcomes.		
All 6 elements of the IUCN Management Effectiveness Framework have been measured: 1. context 2. planning 3. inputs 4. processes 5. outputs 6. outcomes of management.		
The methodology includes questions covering each of the different aspects of management e.g., governance and administration, natural integrity, cultural integrity, social, economic, and political drivers. <i>(If not, please provide further details in adjoining table.)</i>		
It is structured so that information can be used to easily answer different needs and reporting requirements (high level vs. technical etc.)		
All assumptions are clearly specified and justified		

Q3. Is the methodology based on holistic, balanced, and useful indicators?		
Checklist of criteria	✓	Additional comments

Indicators are relevant and appropriate (see Q1.), or more indicators can easily be incorporated into the structure of the methodology. There is clear guidance on how to measure and score the indicators.		
Each indicator (alone or in conjunction with other indicators) can explain causes and effects.		
<p>Characteristics of good indicators include:</p> <p>a. Measurable – they can be recorded and analysed quantitatively or qualitatively;</p> <p>b. Precise – defined the same way by everyone;</p> <p>c. Consistent – do not change over time;</p> <p>d. Sensitive – changes in values reflect proportional response to actual changes in the condition or factor being measured.</p>		

Q4. Is the methodology accurate, providing true, objective, consistent and up-to-date information?		
Checklist of criteria	✓	Additional comments
The methodology is structured and explained clearly to yield accurate results.		
Techniques for implementing the methodology are clearly explained e.g., with guidance on how questionnaires should be completed; how workshops should be conducted; or how the population status of a species should be estimated.		
Data collection techniques are well recognised and accepted (or new but defensible), so the assessment can withstand scrutiny.		
It is possible to add more detailed information at a later iteration when available, and the methodology will assist in developing a relevant, ongoing monitoring program.		
Cultural issues are considered so that people are likely to provide accurate responses without fear, bias, or intimidation.		
Evidence quality assurance (EQA) is built in or can be added so data and analyses can be cross-checked to ensure results are honest, credible, and not corrupt.		

Opinions of a good cross-section of people (stakeholders, landowners, protected area staff from different levels, technical experts etc.) are included where possible.		
The evaluation can be conducted quickly enough to provide up-to-date information.		
A secure record of data sources and levels of certainty is kept.		

Q5. Is the methodology practical to implement? Does it give good balance between measuring, reporting and managing?		
Checklist of criteria	✓	Additional comments
It is possible to implement the methodology with a reasonable allocation of resources.		
It allows the use of existing information and processes where possible.		
All steps in the process are clear and unambiguous.		
The design encourages positive interaction and discussion, and immediate improvements in management practices.		
Tools for data entry, analysis and reporting are provided and are simple and easy to use.		
The methodology allows for a level of cooperation, rather than competition between other evaluation exercises in the same area.		

Q6. Is the methodology part of an effective management cycle? Is it linked to defined values, objectives, and policies?		
Checklist of criteria	✓	Additional comments
It is possible to make a commitment to repeated evaluations using this methodology.		
It will meet and be part of the core business cycle and reporting requirements of the agency.		

Does the assessment sit alongside the management plans and conservation aims of the MPA(s)		
It relates to expressed values, goals, and objectives of the protected area or agency, and measures the extent to which these are met and implemented.		
Senior executives and MPA managers can act on recommendations, address gaps, and disseminate the report.		

Q7. Is the methodology cooperative? Does it foster good communication, teamwork, and participation?		
Checklist of criteria	✓	Additional comments
Different viewpoints are actively sought, including perspectives of community and field staff.		
The methodology encourages or allows strong communication and cooperation between all the evaluation partners.		
An adequate, but serviceable level of participation by staff and community is included in both design and implementation.		
The implementation of this methodology will contribute to a higher level of trust, better relationships and cooperation between protected area staff at all levels and the community.		

Q8. Does the methodology promote positive and timely communication, and positive use of results?		
Checklist of criteria	✓	Additional comments
The methodology includes discussion of how results should be communicated and used.		
Reports are clear and specific enough to improve conservation practices realistically, addressing priority topics and feasible solutions.		
Benefits and results from the assessment will be clearly visible in the short term.		

Feedback to participants of the assessment can be given quickly.		
Results will influence future plans and actions in protected area management.		



Management element	Further details/Issues	Additional comments

A.2. NPAS-MEE Planning Workshop – Suggested Content

Overview

An NPAS-MEE planning workshop could address a number of the NPAS-MEE recommendations highlighted and bring together key stakeholders in discussing the next iteration of the NPAS-MEE due in 2023. In the following sections OCPP have suggested potential topics which could be covered in a planning workshop to support the implementation of any recommendations being taken forward by the Government of Belize.

The NPAS-MEE has been designed to be adapted and improved in each iteration ensuring it fully reflects the requirements of Belize. Recommendations to update the NPAS-MEE in the review report included:

- improved visualisation of key results and the possibility of a short summary report,
- re-assessing the PAs included within the assessment,
- ensuring lessons learnt and amendments through the iterations are clearly captured and;
- ensuring sufficient resource to complete the assessment.

Potential workshop content:

Which PAs to include in the NPAS-MEE?

- As identified in the review report, a few of the PAs currently included in the National Protected Area System (NPAS) do not have an environmental/biodiversity focus. For example, urban green spaces and Archaeological Sites. This has led to the appropriate authority not participating in the NPAS-MEE as either they do not see the NPAS-MEE as a priority for their limited resources or they do not deem it appropriate to contribute. This has led to the NPAS-MEE not capturing the entire NPAS and means conclusions cannot be drawn for the entire system.
- Given the reasoning behind the lack of participation for these sites, it may be useful to discuss whether their inclusion is appropriate and necessary in the NPAS and the NPAS-MEE assessment. If it is, then defining what amendments would be required for the appropriate authorities to prioritise their participation in the NPAS-MEE during 2023 would be a useful discussion.
- Most spawning aggregation (SPAG) sites are included within the NPAS-MEE assessment as they are sited within an existing MPA. However, one SPAG site is outside an MPA and therefore is not currently being considered during the NPAS-MEE. It would be useful to discuss and clarify whether this SPAG site be included in future assessments.

What sections should be included in the newest edition of the NPAS-MEE?

- It was identified in the recommendations report that the inclusion of a lessons learnt section to track changes over the iterations of the NPAS-MEE was not always included. Although it is recognised that many of the same Belize staff are involved during each iteration of the NPAS-MEE, without including a section to track lessons learnt from each iteration and amendments made, it may eventually become unclear why changes were undertaken.
- It takes time to produce the detailed results report for the NPAS-MEE, once of the recommendations in the review report suggested that a short summary report or report cards would be useful to share with stakeholders before the full report is available.
- During the workshop it would be useful to discuss what could be included within a summary report and possible brainstorm a template to present this information.

NPAS-MEE Visualisations updates?

- The recommendations in the review report include improving the visualisation of the NPAS-MEE results. The workshop could be used to explore options and resource for visualising assessment results in an easily interpretable format and discussing what outputs need better visualisations and what information is needed within those visualisations.
- The workshop could also discuss the development of templates to support easy, quick delivery of site-level summaries for PAs after the NPAS-MEE has been completed.

Discuss if any further alignment to national or regional standards / reporting are required.

- The NPAS-MEE has already incorporated indicators that align with IUCN WCPA evaluations elements and the IUCN Green Listing as the global standards.
- The workshop can be used to discuss whether there are any other national or international requirements that should be incorporated into the 2023 NPAS-MEE.
- The workshop could also discuss whether developing guidance on how to align the 2023 NPAS-MEE indicator categories with PAs programmes of work would be useful. As identified in the recommendations report, this might be a useful to improve decision making and implementation of change following the NPAS-MEE assessment.
- To note, OCPP are supporting the Government of Belize through the IUCN, with their ambition to Green List their MPAs. A training workshop and rapid assessment of the MPAs in consideration of the standards in May/June 2023 which could potentially highlight some further information that may be useful to capture in the NPAS-MEE.

What resourcing requirements are needed to support the successful completion of the next iteration of the NPAS-MEE?

- A session in the workshop to discuss what resourcing is required to run the next iteration of NPAS-MEE, including staff and funding would be useful to ensure sufficient resourcing and clear roles and responsibilities of those involved.
- It has been highlighted that having a well-trained (in the NPAS-MEE process) neutral individual during the NPAS-MEE process and workshop, may be helpful to PA managers. This would allow all PA managers, whether a government manager or a NGO-co-manager, to focus on completing the NPAS-MEE.

Discuss the ambition and use of NPAS-MEE or equivalent at a site level across the marine and terrestrial PAs.

- The recommendations report highlighted that there is a clear ambition to implement annual site level assessments across the PA network. However, there appears to be a lack in clarity across the network, on what assessment tool is to be used, whether one assessment tool is appropriate for all types of PA and ensuring the resource (time and money) for PA managers to complete these assessments. Additionally, it often seems to be unclear how these assessments are expected to support the NPAS-MEE and wider PA documentation and reporting.
- A workshop could be a useful setting to discuss this and ensure all relevant government and NGO organisations involved in the PA management are clear on the relationship between site level assessments and the NPAS-MEE. Any obstacles to implementing site level assessments annually and resolutions identified, could be discussed.