

# MALDIVES NATIONAL FRAMEWORK FOR MANAGEMENT OF PROTECTED & CONSERVED AREAS

2024 - 2029



Ministry of Climate  
Change, Environment  
and Energy



UK International  
Development

Partnership | Progress | Prosperity

# MALDIVES NATIONAL FRAMEWORK FOR MANAGEMENT OF PROTECTED & CONSERVED AREAS 2024-2029

AUGUST 2024

---

**FOR FURTHER  
INFORMATION  
PLEASE CONTACT:**

Ministry of Climate Change,  
Environment and Energy

[protected.areas@environment.gov.mv](mailto:protected.areas@environment.gov.mv)

---

**FUNDING  
ACKNOWLEDGEMENT:**

This project was funded with UK International  
Development from the UK Government.

## PREFACE

The Maldives, a country consisting 99% of marine area is nestled in the middle of the Indian Ocean. With over a thousand islands dispersed across an area 822km long and 130km wide, the country has historically relied heavily on its vast marine resources.

The tourism and fisheries sectors, largest contributors to the economy, are directly dependent on the health of marine ecosystems.

Since the 1990s, the Maldives has demonstrated a strong commitment to protecting and conserving its natural systems.

The initial formal protection of environmentally significant areas was driven by the need to preserve popular dive sites. This led to the protection of 1v dive sites in 1995 and an additional 10 sites in 1999.

Since then, the number of protected areas has increased to 91, encompassing 62894.55ha of diverse range of ecosystems. The country is a signatory under the Convention on Biological Diversity (CBD), working towards achieving the Kunming-Montreal Global Biodiversity Framework goals. Out of the 23 targets, Target 3 of the framework is related to conservation of biodiversity and ecosystem functions and services.

It states that 30% of terrestrial, inland water, coastal and marine areas should be under effective conservation and management by 2030. Effective protection and management of key environmental habitats are crucial to contribute to the success of the framework.

In 2021, the Government of Maldives established a partnership with the UK Government led Ocean Country Partnership Programme (OCP), delivered under the UK Blue Planet Fund, to explore opportunities to support effective management of the Maldivian marine environment.

A key focus of this partnership is to provide demand-led technical assistance to support the Maldives Marine Protected Area (MPA) network.

During the first year of the OCPP, Protected Area Management Effectiveness (PAME) assessments were undertaken for three different types of marine sites in the Maldives. The assessments highlighted key successes and recommendations to help improve the management of each site.

**Recommendations were similar for all three sites and included:**

1. *The development of SMART (Specific, Measurable, Attainable, Relevant and Time Based) management plans*
2. *The development of Research and Monitoring Plans that are linked to the MPA management plan aims and objectives*
3. *Improved stakeholder engagement in MPA management*
4. *Improved awareness raising and communication around designated MPAs.*
5. *Resource mobilization and exploration of new technology to support management and enforcement of PCAs*

To help initiate these recommendations, the Government of Maldives has developed a National Management Framework to support the effective management of the network of Protected and Conserved Areas (PCAs) across the Maldives. The Framework sets out the context for

PCAs in Maldives, outlines management goals and priorities and provides overarching guidance on management principles and tools. It will ensure sites are managed in a consistent and integrated manner, aiding decision making, streamlining and strengthening enforcement mechanisms, whilst building resilience through effective compliance and enforcement mechanisms.

The Framework is designed to be adaptive, and as such will be reviewed every 5 years to ensure recommendations remain relevant and fit for purpose.

Guidance for SMART Management Plans and Research and Monitoring Plans sit under this Framework and support the efficient delivery of site-specific management. This document has been developed and validated by key Ministries and stakeholders.

A workshop was held with key Ministries and Authorities involved in the designation and management of PCAs in January 2023 to discuss the advantages and content of a Maldives National Framework for Management of PCAs.

Outputs from this workshop have been used to inform the document. Additional meetings took place in June 2023 and January 2024 with key Ministries to ensure a holistic approach to information gathering and validation of the work was undertaken.



PHOTO BY: FUVAHMULAH BIOSPHERE RESERVE

# CONTENTS

	SECTION	CONTENT	PAGE
	1	Foreword	08
	2	Vision and Mission Statement	10
	3	National Goals	11
	4	Context	12
	5	Maldives Marine Environment	14
	6	Threats to Maldives Marine Environment	16
	7	Marine Protection	19
	7.1	What is an MPA?	19
	7.2	What is an OECM?	21
	7.3	What is a PCA?	21
	8	Drivers for MPA designation in Maldives	22
	8.1	International drivers	22
	8.2	National drivers	23
	8.3	National Designations	26
	8.3.1	History of MPA designation in the Maldives	26
	8.3.2	National MPAs	28
	8.3.3	Protected Grouper Spawning Aggregation Sites	28
	8.3.4	OECMs	28
	8.3.5	National Shark Sanctuary	28
	8.4	International Designations	30
	8.4.1	UNESCO Biosphere Reserves	30
	8.4.2	Key Biodiversity Areas (KBAs)	30
	8.4.3	Ecologically or Biologically Significant Marine Areas (EBSAs)	31
	8.4.4	Indian Ocean Whale Sanctuary	31
	8.4.5	Mission Blue Hope Spot	31

	<b>SECTION</b>	<b>CONTENT</b>	<b>PAGE</b>
	8.5	Benefits	32
	8.5.1	Benefits of PCAs	32
	8.5.2	Cost of PCAs <sup>20</sup>	33
	9	Governance of PCAs	34
	9.1	Governance structure	34
	9.2	Management Principles	38
	9.2.1	Ecological Principles	38
	9.2.2	Social Principles	40
	10	Management of PCAs	41
	10.1	Management Planning	41
	10.1.1	Management Plans	41
	10.2	Stakeholder Engagement for Management Planning	43
	10.3	IUCN Green List Standard: Guidance and best practice for MPA management in the Maldives	45
	10.4	Management Tools	45
	10.4.1	Codes of Conduct for Marine Tourism	45
	10.4.2	Environmental Impact Assessments	47
	10.4.3	Permits and Licences	47
	10.4.4	Zoning	47
	10.5	Implementing the Green List in the Maldives	48
	10.6	Enforcement of PCAs	49
	11	Monitoring & Evaluation of PCAs	51
	11.1	Monitoring	51
	11.2	Evaluation	52
	12	References	53

# I. FOREWORD



**THORIQ IBRAHIM**

Minister for Climate Change,  
Environment and Energy

“The Maldives, situated in the heart of the Indian Ocean consists of over 1000 coral islands stretching to a chain of approximately 822km.

Being a nation comprised of 99% ocean, our reliance on the ocean and its resources is one that roots from generations ago.”

For decades, we have reaped benefits from our marine ecosystems, for food, income and sustenance of our livelihoods. Our two largest sectors, contributing to the economy of the country, tourism and fisheries, are directly reliant on thriving marine ecosystems.

This more than ever, highlights the urgency and need to effectively manage our vital marine resources. Efforts to protect our vital marine resources, have made remarkable progress.

With the protection of 93 protected areas, spanning approximately 63400 hectares, the government of Maldives is currently working on expanding the biosphere reserve network to additional atolls in the future.





PHOTO BY: OCPP

*For years, despite the protection of ecologically significant areas on paper, majority of the protected areas have remained unmanaged.*

*With the launching of the Maldives National Framework for Management of Protected & Conserved Areas (PCAs) of the Maldives (2024-2029) and Maldives National Management Plan Guidance for Protected and Conserved Areas (PCAs), we aim to:*

*1) Outline the main goals and principles for effectively managing the network of PCAs in the Maldives and*

*2) Assist PCA managers develop site-specific Management Plans while ensuring a consistent national approach.*

*These vital documents developed to meet our commitments under the 30 by 30 target, serves as a crucial guide for the effective management of the network of Protected and Conserved Areas (PCAs) across the Maldives by setting national context for Protected and Conserved Areas (PCAs) and highlighting national management goals and priorities to offer comprehensive guidance on management*

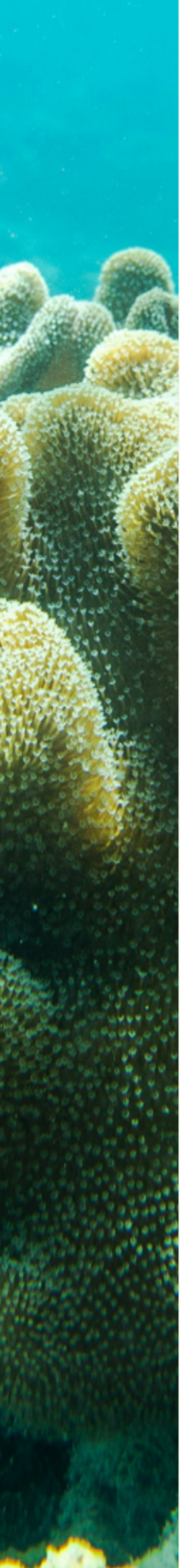
*principles and tools.*

*On behalf of the Ministry, I would like to express my sincere gratitude to the UK Government led Ocean Country Partnership Programme (OCPP), delivered under the UK Blue Planet Fund, for their unwavering support in exploring opportunities to support effective management of the Marine Protected Areas (MPAs) of the Maldives.*

*We are hopeful that this initiative will pave way for effective management of our Marine Protected Areas (MPAs), not just in paper, but practically, to sustain our ocean resources for generations to come.*

## LIST OF ACRONYMS

<b>CBD</b>	Convention on Biological Diversity
<b>EIA</b>	Environmental Impact Assessment
<b>EPA</b>	Environmental Protection Agency
<b>GOA</b>	Global Ocean Alliance
<b>HAC</b>	High Ambition Coalition for Nature and People
<b>IUCN</b>	International Union for Conservation of Nature
<b>MMRI</b>	Maldives Marine Research Institute
<b>MPA</b>	Marine Protected Area
<b>METT - 4</b>	Management Effectiveness Tracking Tool (version 4)
<b>MCCEE</b>	Ministry of Climate Change, Environment and Energy
<b>MFMR</b>	Ministry of Fisheries, Marine Resources and Agriculture
<b>MOT</b>	Ministry of Tourism
<b>NAPA</b>	National Adaptation Plan of Action
<b>NBSAP</b>	The National Biodiversity Strategy and Action Plan
<b>OCP</b>	Ocean Country Partnership Programme
<b>OECM</b>	Other Effective Area-Based Conservation Measure
<b>PAME</b>	Protected Area Management Effectiveness
<b>PCA</b>	Protected and Conserved Areas
<b>SDG</b>	Sustainable Development Goals
<b>SMART</b>	Specific, Measurable, Attainable, Relevant, Time-bound



## 2. VISION & MISSION STATEMENT

The vision and mission statement for the network of Protected and Conserved Areas (PCAs) across the Maldives are:

### **VISION**

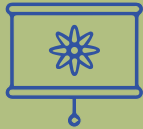
A globally renowned marine environment where people and wildlife of the Maldives live in unity.

### **MISSION STATEMENT**

Protect and conserve the key ecosystems of the Maldives, through a network of effectively managed Protected and Conserved Areas, where people are aware and engaged, and sustainable and equitable benefits for people and the environment are achieved through evidence-based decision making.

# 3. NATIONAL GOALS

There are five national goals which are aligned with the mission statement and, together, will help to achieve the vision.



1

1. Decisions are based on research and monitoring to inform effective and adaptive management of PCAs.



2

2. There is effective collaboration with community groups and stakeholders to ensure sustainable benefits for coastal communities achieved through participatory, equitable and inclusive approaches.



3

3. Discussion and decisions on PCA management are transparent and accountable.



4

4. PCAs are managed to enhance their climate change mitigation and adaptation potential.



5

5. There are effective systems and processes in place to support high level compliance with the rules and regulations.

## 4. CONTEXT

The Maldives National Framework for Management of Protected and Conserved Areas provides the strategic direction for the effective management of the national network of Marine Protected Areas (MPAs) and Other Effective Area-Based Conservation Measures (OECMs) – collectively referred to as Protected and Conserved Areas (PCAs).

It sets out the overarching goals and principles for a well-managed network of PCAs and signposts to key legislation and documents for effective management.

---

### THE FRAMEWORK:

1. Helps to achieve a clear and consistent approach to the development and maintenance of PCA management approaches including management plans.
2. Supports the Government of Maldives' commitment to contributing to the global target of effectively conserving 30% of marine areas through protected areas and other effective area-based conservation measures by 2030.
3. Supports the Government of Maldives' climate change mitigation and adaptation goals.
4. Enables all MPAs to meet the requirements of the Environmental Protection and Preservation Act of Maldives (Law No. 4/93).
5. Supports the Government of Maldives' reporting on marine protection success at a national level.

The Framework is designed to be adaptive and as such is time limited to 5 years, running from 2024 – 2029 inclusive.

A review will then be undertaken to ensure its recommendations remain relevant and the document continues to provide advice that is fit for purpose; interim reviews could be undertaken more frequently if desired.

## 5. MALDIVES MARINE ENVIRONMENT

Of particular note, Maldivian waters host globally significant populations of whale shark (*Rhincodon typus*) and reef manta rays (*Mobula alfredi*) with the greatest known aggregation of reef manta rays in the world found in Hanifaru Bay, Baa Atoll (MEE, 2015b; Harris et al., 2020).



## 5. MALDIVES MARINE ENVIRONMENT

Maldives' marine environment<sup>2</sup> is vast, accounting for 99% of the country's entire area.

The archipelago of over 1,100 low-lying coral islands in the Indian Ocean forms 26 natural atolls that stretch 820km north to south and 80 to 120km east to west (MEE, 2015a).

Coral reefs are the dominant ecosystem in Maldives and represent the fifth richest reef biodiversity and the seventh largest reef ecosystem in the world (MEE, 2015b).

Over 280 species of hermatypic corals have been recorded on Maldivian reefs alongside globally significant reef species such as the giant grouper (*Epinephelus lanceolatus*), napoleon wrasse (*Cheilinus undulatus*) and internationally threatened populations of green turtle (*Chelonia mydas*) and hawksbill turtle (*Eretmochelys imbricata*) (MEE, 2015b; Emerton et al., 2009).

Maldives' ecosystems also comprise of seagrass beds, mangrove forests, tidal flats,

sandy beaches, shallow and deep lagoons, offshore pelagic areas and seamounts<sup>3</sup> (Emerton et al., 2009; MEE, 2015b; Agardy et al., 2017).

This extensive range of habitats supports a diversity of marine life including 20 species of whales and dolphins, over 1,090 species of demersal and epipelagic fishes, including 40 species of sharks, 5 species of marine turtle and over 167 species of birds, 5 of which are endemic to Maldives (MEE, 2015b).

Of particular note, Maldivian waters host globally significant populations of whale shark (*Rhincodon typus*) and reef manta rays (*Mobula alfredi*) with the greatest known aggregation of reef manta rays in the world found in Hanifaru Bay, Baa Atoll

(MEE, 2015b; Harris et al., 2020).

<sup>2</sup> The Maritime Zones of Maldives Act (Act No. 6/1996) defines the internal waters, territorial sea, contiguous zone and the exclusive economic zone of Maldives)

<sup>3</sup> [www.isles.gov.mv/ProtectedArea/IndexEn](http://www.isles.gov.mv/ProtectedArea/IndexEn)

## 6. THREATS TO MALDIVES MARINE ENVIRONMENT

Key overarching threats to the marine environment of Maldives aligning with the State of the Environment Report 2016<sup>4</sup> include, but are not limited to:



### 1. CLIMATE CHANGE:

An increase in sea surface temperature (SST), ocean acidification and increased frequency of extreme weather events such as storms as a result of climate change are already impacting on the marine environment.

Increased seawater temperatures caused widespread coral bleaching in 1998 and 2016 leading to mass mortality of coral reefs (MEE, 2017). Future projections for SST show an increase of 0.76 to 1.33oC for 2030, 1.01 to 1.93oC for 2050 and 1.2 to 3.4oC by 2080 (MEE, 2016).

Maldives is also affected by sea level rise, and changes in wind and ocean currents are exacerbating coastal erosion. The maximum sea surface height is projected to increase between 0.40 and 0.48m by 2100 (MEE, 2017).

Other threats and impacts listed below have the potential to reduce the potential resilience of marine habitats and species to these climate driven changes.



### 2. COASTAL MODIFICATION:

Activities including sand mining, cutting channels, reclamation and harbour development are identified as significant threats to the marine and coastal environment (MEE, 2017).

The limited land area on islands requires reclamation to provide land for human settlement and increasingly for tourist resort development. However, reclamation comes at the expense of destroying areas of reefs, lagoons, mangroves and inter-tidal marsh.

Collectively the destruction of habitats as a result of these activities was identified as one of the main emerging threats

in the National Biodiversity Strategy and Action Plan (NBSAP) 2016 – 2025.

These activities can both directly damage or destroy marine habitats as well as indirectly impact them through factors such as increased sedimentation and changes to coastal processes.



### 3. POLLUTION:

Coastal and marine pollution ranging from plastic, sewage, solid waste and chemical pollution through to airborne pollutants have the potential to impact marine ecosystems in Maldives.

Waste management is one of the most challenging environmental issues in Maldives (MEE, 2017). Island waste is often burnt or dumped, and the majority of food waste is dumped in the sea, contributing to nutrient influx in marine waters and leading to algal blooms (MEE, 2017).

<sup>4</sup> [www.environment.gov.mv/v2/en/download/4270](http://www.environment.gov.mv/v2/en/download/4270)



Discharge of untreated sewage due to a lack of effective waste management systems in some areas can contain a variety of pollutants including pathogens, heavy metals and organic compounds which can both directly and indirectly impact reef habitats and marine organisms.

Air pollution is also a threat due to the open burning of waste which generates toxic fumes. In addition to local pollution, transboundary pollution is of concern to the marine environment.

In particular, persistent organic and heavy metal pollutants, oil spills and drifting fishing nets and long lines (MEE, 2017).



#### 4. OVEREXPLOITATION OF MARINE RESOURCES:

The overexploitation of marine resources can have ecosystem wide consequences.

The impact of overexploitation can be most severe in complex and diverse ecosystems such as coral reef communities where removal of larger carnivorous

fish can have impacts throughout the food chain (Dhunya, Huang et al. 2017).

Illegal fishing, while also exacerbating overexploitation of particular species can have wider impacts on protected stocks or greater impact to habitats due to the fishing methods used.

There are few incentives for Maldivian fishermen to infringe on fishing regulations however some potential issues of concern include quota overshoot for some longline vessels, handline fishing for yellowfin in the 3 nautical mile zone around Fish Aggregating Devices (FADs) and failure to comply with size limits on grouper catches in the reef fish fishery (MFMRA, 2019).

A greater concern is illegal, unreported and unregulated (IUU) fishing activity by foreign vessels in the Maldives' Exclusive Economic Zone (EEZ) using longlines and driftnets (MFMRA, 2019).

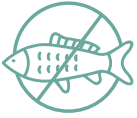


#### 5. DISTURBANCE:

Tourism in Maldives is closely linked to the marine environment with activities such as snorkelling, scuba diving and wildlife watching tours popular amongst tourists.

If not managed appropriately, these activities can have detrimental impacts on species, through visual, sound and physical disturbance.

Examples include increased boat traffic increasing noise pollution and the risk of collisions and propeller strikes to wildlife, feeding of wildlife for tourism purposes resulting in wildlife altering its behaviour, and diver and snorkeler related damage to coral reefs (Mundy 2017, Kallsen 2018, Harvey-Carroll, Stewart et al. 2021).



## 6. INVASIVE NON-NATIVE SPECIES (INNS):

There has been an increase in the import of non-native species in recent years including as exotic pets, ornamental plants and agricultural crops (NBSAP, 2016).

Marine non-native species can also be introduced through ships' ballast water or on ships' hulls, releases from aquaculture farms or aquariums or by ocean currents. Some non-natives species have the potential to become invasive if they escape into the natural environment and can subsequently impact native species through competition or via predation.

Although native and considered part of a healthy ecosystem in Maldives, outbreaks of Crown of Thorns Starfish (*Acanthaster planci*), where population numbers increase dramatically due to optimal conditions, can severely degrade reef systems. The first recorded outbreak of CoTS in Maldives

occurred in the 1970s and the most recent outbreak began in 2013 (MEE, 2017).

The cause for outbreaks can be triggered by several of the other threats set out in this section including the removal of predatory species and increases in plankton load due to nutrient enrichment, symptoms of over exploitation of fisheries resources and unregulated pollution respectively.



## 7. MANGROVE DIE OFF:

There has been a notable reduction in mangrove coverage in core areas of the Maldives since 2020. In response to this, a cross government interdisciplinary task force was deployed to research the phenomenon and develop recommendations on stemming the decline.

Preliminary findings on 7 areas have noted composition of soil run off, nutrient variability or fungal infection may be the leading cause of die off.

## 7. MARINE PROTECTION

### → 7.1

#### WHAT IS AN MPA?

An MPA is described as 'A geographically defined area, which is designated or regulated and managed to achieve specific conservation objectives' as defined in Article 2 of the Convention of Biological Diversity (CBD).'



PHOTO BY: BAA ATOLL BIOSPHERE RESERVE

## → THE IUCN DEFINES MPAs AS

“A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long- term conservation of nature with associated ecosystem services and cultural values” (IUCN 2022).

MPA is a term that encompasses many different forms of protection, all with varying degrees of management interactions, but all have the primary objective of biodiversity conservation.

The IUCN have developed six internationally accepted protected area management categories (one with a sub-division) (Dudley, 2008) as listed in Table 1.

These categories underpin the main MPA categories used in the Maldives as listed in the Protected Areas Regulation (2018/R-78).

**TABLE 1.** Table to show the internationally recognised Protected Area categories developed by the IUCN and the equivalent category as described in the Maldives Protected Areas Regulation (2018/R-78). Refer to the Protected Areas Regulation for category descriptions.

IUCN Protected Area Category		Maldives Protected Area Category	
IA	Strict Nature Reserve	2	Strict Nature Reserve
IB	Wilderness Area	3	Wilderness Area
II	National Park	4	National Park
III	Natural Monument or Feature	5	Natural Monument
IV	Habitat/Species Management Area	6	Habitat/Species Managed Area
V	Protected Landscape or Seascape	-	-
VI	Protected Areas with Sustainable Use of Natural Resources	7	Protected Area with Sustainable Use
-	-	1	Internationally Recognised Area

## → 7.2

### WHAT IS AN OECM?

OECMs are a relatively new conservation approach that was defined by Parties to the Convention of Biological Diversity in 2018.

OECMs are defined 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”.

Because OECMs are based on existing management practices they are recognised rather than designated. OECMs offer the opportunity to increase conservation recognition and support other means of protection outside of MPAs under a range of governance and management measures whilst working alongside local communities and other private sector entities.

Three types of OECM have been identified:

#### **Ancillary Conservation**

Delivering in situ conservation as a by-product of management (even if biodiversity is not the main driver i.e. Military training grounds)

#### **Secondary Conservation**

Biodiversity outcomes are a secondary management objective. i.e., conservation corridors

#### **Primary Conservation**

These are defined areas meeting the IUCN definition of MPA but the governance authority does not wish for the area to be defined as such.



PHOTO BY: IBRAHIM SHABIL

## → 7.3

### WHAT IS A PCA?

In the context of this National Framework, the use of PCA refers to both MPAs and OECMs.

# 8. DRIVERS FOR MPA DESIGNATION IN MALDIVES

The Government of Maldives has signed up to several international and national commitments relevant to the identification and designation of MPAs.

## → 8.1 INTERNATIONAL DRIVERS

### **Convention on Biological Diversity (CBD):**

Maldives became a signatory to the CBD in 1992 where the primary objective of the Convention is the conservation of biological diversity, sustainable use of its components, and the fair and equitable sharing of benefits arising out of the utilization of genetic resources.

Ratification of the CBD commits the Government of Maldives to establishing a system of protected areas to conserve biological diversity while promoting environmentally sound development around these areas. Following COP15, and the adoption of the Kunming – Montreal Global Biodiversity Framework, Governments agreed on a new set of targets to guide global action through 2030 to halt and reverse nature loss.

Target 3<sup>5</sup> specifically accelerates and quantifies the commitment to effectively conserve and manage at least 30% of coastal and marine areas through ecologically representative, well-connected and equitably governed systems of Protected Areas and OECMs by 2030.

### **UN Sustainable Development Goals (including Goal 14):**

In September 2015, 193 world leaders unanimously committed to the 17 Sustainable Development Goals (SDGs). SDG 14 focuses on life below water and aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Target 14.5 is that by 2020, countries will have conserved at least 10% of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

### **The Global Ocean Alliance (GOA):**

is a 73-country strong alliance led by the UK. It champions ocean action through the CBD. In particular it supports the target to protect at least 30% of the global ocean within PCAs by 2030; this is known as the 30by30 target<sup>6</sup>.

### **Leaders Pledge for Nature:**

Developed during the United Nations summit on biodiversity in September 2020, the pledge allows political leaders from 94 countries across the globe to commit to reversing biodiversity loss by 2030<sup>7</sup>.

### **High Ambition Coalition for Nature and People (HAC):**

Officially launched in January 2021 at the One Planet summit led by Costa Rica and France and co-chaired by the United Kingdom during the United Nations Framework Convention on Climate Change (UNFCCC). The commitment brings together 102 signatory members to achieve the 30by30 vision.

<sup>5</sup> [www.cbd.int/gbf/targets](http://www.cbd.int/gbf/targets)

<sup>6</sup> *Aichi Biodiversity Target 11 Country Dossier*<sup>5</sup> [www.cbd.int/gbf/targets](http://www.cbd.int/gbf/targets)

<sup>7</sup> *Leaders\_Pledge\_for\_Nature\_27.09.20-ENGLISH.pdf* ([leaderspledgefornature.org](http://leaderspledgefornature.org))

## Nationally Determined Contributions

**(NDC):** The vision of Maldives' Nationally Determined Contribution recognises the status of Maldives as a nation suffering from the adverse impacts of climate change and recognises that strengthening adaptation actions and building climate resilience is a high national priority.

The updated NDC in 2020<sup>8</sup> specifically includes a mitigation action to strengthen national conservation programmes, considering different categories of protection, to contribute to the conservation of marine and coastal biodiversity and increase their resilience to climate change impacts.

## → 8.2 NATIONAL DRIVERS

### Constitution of the Republic of the Maldives

Article 22 of the Constitution states: The State has a fundamental duty to protect and preserve the natural environment, biodiversity, resources and beauty of the country for the benefit of present and future generations.

The State shall undertake and promote desirable economic and social goals through ecologically balanced sustainable development and shall take measures necessary to foster conservation, prevent pollution, the extinction of any species and ecological degradation from any such goals.

### The Government of Maldives

#### Strategic Action Plan 2019 – 2023:

The Strategic Action Plan (SAP) 2019 – 2023 is a central policy framework and planning

document that guides the overall development direction of the Maldives for the next five years.

The SAP consolidates the current Government's manifesto pledges with existing sectoral priorities. The SAP serves as the main implementation and monitoring tool to track the progress of the delivery of the Government's policies and development priorities. Section 4.3 of the SAP details intent to 'improve conservation efforts to preserve biodiversity of Maldives and ensure maximum ecosystem benefits'.

It includes targets around establishing a comprehensive and functional PA system in Maldives, and that by 2030 at least 10% of coral reef area, 20% of wetlands and mangroves and at least 1 sand bank and one uninhabited island from each atoll are under some form of protection and management. The SAP was formally rolled out into the line ministries' day to day operations from 1 October 2019<sup>9</sup>.

### The National Biodiversity

#### Strategy and Action Plan (NBSAP):

The Maldives prepared its first NBSAP in 2002. Since its preparation, the NBSAP was widely used as guidance for other national policies, work plans and regulations on biodiversity.

However, after 10 years, status, trends, and threats to biodiversity have changed and was therefore revised in 2015 to cover 2016 – 2025.

Under Strategy 5, Target 18 is that at least 10% of coral reef area, 20% of wetlands and mangroves and at least one sandbank and one uninhabited island from each atoll are under some form of

<sup>8</sup> Update of Nationally Determined Contribution of Maldives (unfccc.int)

<sup>9</sup> <https://storage.googleapis.com/presidency.gov.mv/Documents/SAP2019-2023.pdf> (decentralisation pg 252)

protection and management by 2025. Activities under this target include identifying significant ecosystems, declaring protected areas and creating management plans or regulations<sup>10</sup>.

### **National Adaptation Plan of Action (NAPA):**

The first National Adaptation Programme of Action (NAPA) for the Maldives was developed in 2006 to identify climate change adaptation goals and an overall adaptation policy framework. The plan lists the key adaptation needs which includes the establishment of MPAs.

### **The Environment Protection**

**and Preservation Act:** The Environment Protection and Preservation Act of the Maldives (Act No. 4/93) sets out that it is the responsibility of the mandated government institution to identify protected areas and natural reserves and to draw up the necessary rules and regulations for their protection and preservation.

### **The Protected Species Regulation:**

The Protected Species Regulation (2021/R-25) aims to preserve and maintain the health of endangered species, their environments, and interconnected systems in a sustainable manner. The habitats of species protected under this Regulation are identified and used to inform the designation of protected areas.

### **The Protected Area Regulation:**

The Protected Area Regulation (R78/2018) makes provision with respect to protection, and its objectives are:

1. *to establish effective guidelines for declaration and management of protected areas;*

2. *to ensure that the process of protected area declaration is consultative transparent;*
3. *to enlist environmentally significant areas in the Maldives;*
4. *to establish and sustainably a mechanism to maintain a framework for protected areas;*
5. *to enhance awareness and participation of community in protected area designation and management;*
6. *to ensure future generations benefit from natural resources, ecosystem services and biodiversity richness of the country<sup>11</sup>.*

Section 9 of the Regulation sets out that management of protected areas may be assigned to a state institution or another entity.

Section 12 requires that a management plan shall be prepared to manage the protected area. Should the Agency [the EPA] decide to assign management of the protected area to another party, the said party shall submit and approve a management plan within the period specified by the Agency.

Section 13 notes that the protected area shall be managed in accordance with international standards (management criteria) and with approval from the Agency.

Section 14 makes provision for the Agency at its discretion to monitor management of protected areas and sets out the standards that should be observed in relation

<sup>10</sup> <https://storage.googleapis.com/presidency.gov.mv/Documents/SAP2019-2023.pdf>

<sup>11</sup> <https://leap.unep.org/countries/mv/national-legislation/protected-areas-regulation-no-2018r-78#:~:text=The%20objective%20of%20this%20Regulation,to%20establish%20and%20sustainably%20a>





PHOTO BY: FUVAHMULAH BIOSPHERE RESERVE

to monitoring and evaluation of management of protected areas.

Sections 16 to 18 set out how activities within protected areas should be managed. Activities within a protected area may be controlled and managed in accordance with the protected area management plans.

Relevant guidelines should be developed for any permitted activities, and entrance and exiting the protected area should be in accordance with standards and permits set by the Agency.

The Protected Area Regulation applies to all protected areas in Maldives, with the exception of three protected areas that are exempt, due to bespoke Regulations governing the areas.

1. **Hanifaru Protected Area:** Regulation No: 2012/R-23 (B. Hanifaru Protected Area Management Regulation)
2. **Addu City Protected Area:** Regulation No: 2018/R-105 (Addu City Protected Area Management Regulation)

### 3. **Fuvahmulah City Protected Area:**

*Regulation No: 2018/R-106 (Fuvahmulah City Protected Area Management Regulation)*

For any new PCAs, the management authority should determine whether human activities within the site can be managed and enforced under the Protected Area Regulation or whether a bespoke site-specific regulation needs to be drafted.

This may be the case where the site has complex management needs due to the number of human activities in or adjacent to the PCA or due to the level of threat identified.

Examples of when a PCA may require its own regulation include when specific user/entrance fees, permits, fines, access rules are introduced or if the PCA has particular enforcement needs.

#### **Decentralisation Act 2012**

The Decentralisation Act which came into effect in 2012 is an important step towards improving local governance in the country.

Through the Act, 187 island councils, 19 Atoll councils and 2 city councils were formed with a legal mandate of ensuring democratic and accountable governance, provision of social services, fostering economic growth and ensuring environmental protection.

The process of decentralisation and transferring to localised decision-making plays an important role in implementation of SDGs and the management of PCAs, empowering local communities and ensuring that collaboration

with and inclusion of all voices results in more meaningful participation from Maldives' citizens.

### **Noo Raajje**

Noo Raajje is a partnership between the Government of Maldives and the Blue Prosperity Coalition. The programme seeks to safeguard ocean resources and sustainably grow marine industries through the management and protection of Maldives waters, based on evidence, balance and collaborative, community driven policies<sup>12</sup>.

### **Environmentally Sensitive Area List**

Developed and delivered through the EPA, the Environmentally Sensitive Area List is a key document for the identification and progression of MPAs in the Maldives.

### **IUCN Green List Standard**

The IUCN Green List Standard<sup>13</sup> is a global standard in protected and conserved area (PCA) management that provides an adaptable framework, applicable to all environmental and social conditions.

The Government of Maldives has stated that the IUCN Green List Standard should be a core part of developing its protected and conserved area management framework as well as a desire for sites to achieve the Green List Standard certification where feasible.

### **Maldives Red List**

The Maldives Red List<sup>14</sup> is a national list of threatened species.

The Red list can be used as an aid to guide decision making at a national level in regard to species protection, management and conservation.

## → 8.3

## NATIONAL DESIGNATIONS

### 8.3.1 HISTORY OF MPA DESIGNATION IN THE MALDIVES

The first PCAs in Maldives were identified and designated in 1995. Since then, there have been continuous and progressive steps taken for the protection of the marine environment.

<sup>12</sup> Noo Raajje | Healthy Oceans, Thriving Communities

<sup>13</sup> IUCN Green List Home - IUCN Green List

<sup>14</sup> Maldives Red List – Ministry of Environment, Climate Change and Technology

**FIGURE 1.** details the chronological progress of PCAs in the Maldives, from the first dive sites protected in 1995 under the Environmental Protection and Preservation Act of the Maldives (Law No. 4/93) to the most recent development of OECM's.

<b>Protection of the 1st areas 15 dive sites</b> - under the Environmental Protection and Preservation Act of Maldives (Law No. 4/93)	←	<b>1995</b>	
		<b>2004</b>	→ <b>Protection of the 1st Mangrove / Wetland area</b>
<b>Ban on Shark Fishing</b> Directive 30-D2/29/2010/32	←	<b>2010</b>	
<b>First Protected area management plan</b>	←	<b>2012</b>	→ <b>Trust fund formulated for Environmentally sensitive areas</b>
<b>Designation of 5 grouper aggregation sites by the Ministry of Fisheries</b> Regulation on Grouper Fishing and Exporting Groupers from the Maldives (Reg No.2013/R-41) superseded by Fisheries Act (Law No.14/2019)t	←	<b>2013</b>	
		<b>2014</b>	→ <b>Ban on harvesting sea turtles and their eggs</b> Environmental Protection and Preservation Act (No.4/93) Section A
<b>Protected Area Regulation</b>	←	<b>2018</b>	→ <b>Pledge to protect minimum 1 reef, 1 island, 1 Mangrove from each Atoll</b>
		<b>2021</b>	→ <b>Protected Area Management through decentralisation</b>
<b>OECMs recognised within tourist resort boundaries</b>	←	<b>2022</b>	
		<b>2024</b>	→ <b>91 MPAs now protected</b>

### 8.3.2 NATIONAL MPAs

MPAs were first introduced in Maldives in 1995 under the Environmental Protection and Preservation Act of Maldives (Law No. 4/93) to protect species and habitats from harmful anthropogenic activities.

Activities may be controlled and managed in accordance with the objectives of the site. To date, there is a total of 91 National MPAs established under this Act covering an area of 54,315ha (less than 1% of the Maldives marine area).

To view a list of designated MPAs with their location, size and date of designation, visit Maldives Protected Areas government website.

### 8.3.3 PROTECTED GROUPER SPANNING AGGREGATION SITES

Five sites have been established under the Fisheries Act (Act No. 14/2019) to protect key grouper spawning aggregation sites across the country from fishing and disturbance. The sites were first legally introduced in 2013 under the Regulation on Grouper Fishing

and Exporting Groupers from Maldives (Reg No.2013/R-41).

They have since been integrated into the Regulation on Grouper Fishery Management (Reg No.2022/R-2), extending the protection of these sites for a further 10 years.

The grouper spawning aggregation sites are considered IUCN management category IV (Habitats/Species Management Areas) sites and form part of a package of fisheries measures to support and promote a sustainable national grouper fishery.

National management objectives, activities and regulations for the five grouper spawning aggregation sites can be viewed in the Regulation on Grouper Fishery Management (Reg No:2022/R-2).

### 8.3.4 OECMs

In addition to MPAs, Maldives has recently recognised areas within tourist resort boundaries as candidate OECMs. In 2022, the MECCT declared three well-managed resort house reefs as candidate OECMs.

These sites are rich in marine life and are governed and managed for long-term sustainability and conservation of biodiversity by the associated resort.

Environmentally damaging activities are restricted within the boundaries of the OECMs and threats to biodiversity are managed (MECCT, 2022). The number of OECMs is expected to increase as further resorts apply for OECM recognition.

Guidance on the OECM application process is provided in the Guideline for Recognising Areas as Other Effective Area-Based Conservation Measures (OECMs) in Areas Leased for Tourism Operations.

### 8.3.5 NATIONAL SHARK SANCTUARY

In 2010, a ban on shark fishing throughout Maldives was introduced (Directive 30-D2/29/2010/32), effectively making the whole of Maldives a shark sanctuary.

<sup>15</sup> <https://protectedareas.environment.gov.mv/en>

**TABLE 2.** A summary of the three main types of PCA in Maldives <sup>16</sup>

Site Name	Total Number	Total Area Covered	Relevant Legislation	Examples of Key Species / Habitats Protected
National MPA	91 <sup>15</sup>	62,895ha	Environmental Protection and Preservation Act of Maldives (Law No. 4/93)	Whale Shark, Manta Rays Coral reefs, Mangroves
Grouper Aggregation Site	05	—	Fisheries Act (Law No. 14/2019)	Grouper Species
OECM	Candidate Sites Only		Tourism Boundary Regulations	Coral reefs and associated species



PHOTO BY: FUVAHMULAH BIOSPHERE RESERVE

<sup>16</sup> Map files can be found EPA MPA location map

<sup>17</sup> <https://files.epa.gov.mv/file/2928>

## → 8.4 INTERNATIONAL DESIGNATIONS

Beyond PCAs, several marine habitats, species and ecosystems in Maldives are afforded international recognition and protection through the designations listed below. Many of these designations overlap with national MPA designations.

### 8.4.1 UNESCO BIOSPHERE RESERVES

Biosphere Reserves are nominated by national governments and are designated under the intergovernmental Man and the Biosphere (MAB) Programme (UNESCO 2022). Their status is internationally recognised.

#### The World Biosphere Reserve status seeks to promote:

- Conservation of culture and biodiversity
- Sustainable economic development
- Evidence led decisions through research, monitoring, education and training.

There are three designated Biosphere Reserves in the Maldives, each of which encompass national MPAs.

#### 1. Baa Atoll Biosphere Reserve

The Baa Atoll Biosphere Reserve is located in the central western part of the Maldives and was designated in 2011.

It covers an area of 139,715ha and the main habitat types found in the reserve are coral reefs, islands, sea grass beds and mangroves.

It is a key area for populations of manta rays (*Manta birostris*), and whale sharks (*Rhincodon typus*) (UNESCO, 2020).

#### 2. Fuvahmulah Biosphere Reserve

The Fuvahmulah Biosphere reserve, in southern Maldives, was designated in 2020 and is approximately 1,300ha.

The atoll encompasses a variety of biodiversity within its coral, mangrove, and wetlands (also known as Khili) systems.

The reef systems are home to significant populations of sharks and the area is important for migratory birds (UNESCO, 2020).

#### 3. Addu Atoll Biosphere Reserve

The Addu Atoll Biosphere reserve was designated in 2020 and is located north of the Chagos Archipelago.

It is approximately 13,000ha and covers a large variety of ecosystems including lagoons, reef passes, seagrass beds, sandbanks, coral islands, lush tropical vegetation, mangroves, wetlands, and residential areas (UNESCO, 2020).

### 8.4.2 KEY BIODIVERSITY AREAS (KBAs)

KBAs are sites of global importance to the planet's overall health and the persistence of biodiversity. In 2004, Haa Alifu Atoll was officially recognised as a KBA of international significance for its population of lesser noddy (*Anous tenuirostris*) (Key Biodiversity Areas Partnership 2022). The Atoll is also an Important Bird and Biodiversity Area (IBAs) due to the area's significance for the international conservation of lesser noddy (BirdLife International, 2022).

### 8.4.3 ECOLOGICALLY OR BIOLOGICALLY SIGNIFICANT MARINE AREAS (EBSAS)

EBSAs are special areas in the ocean that serve important purposes to support the healthy functioning of oceans and the many services that it provides.

Appropriate measures for conservation and sustainable use of EBSAs are identified and adopted to protect these significant areas.

**There are 2 atolls in Maldives designated as EBSAs:**

#### 1. Baa Atoll

Recognised as an EBSA in 2012 because of its unique diversity of benthic fauna, high density of ring-shaped reef forms (faroes) and Hanifaru Bay (CBD, 2017a).

#### 2. Rasdhoo Atoll Reef

Recognised as an EBSA in 2012 due to the atoll's globally significant coral area and aggregations of hammerhead sharks (CBD, 2017b).

### 8.4.4 INDIAN OCEAN WHALE SANCTUARY

Maldives is within the Indian Ocean Whale Sanctuary designated by the International Whaling Commission (IWC) in 1979. The Sanctuary covers the whole of the Indian Ocean south to 55°S and prohibits commercial whaling.

### 8.4.5 MISSION BLUE HOPE SPOT

Hope spots are special places that are scientifically identified as critical to the health of the ocean. They are not designations as such and do not have legal standing, but they recognise significant areas for protection.

Maldives was declared a Hope Spot in 2013 to highlight its rich marine biodiversity and fragility due to the climate crisis.

Laamu Atoll was declared as an additional Hope Spot in 2021 in recognition of sustainable ecotourism practices and marine conservation efforts.

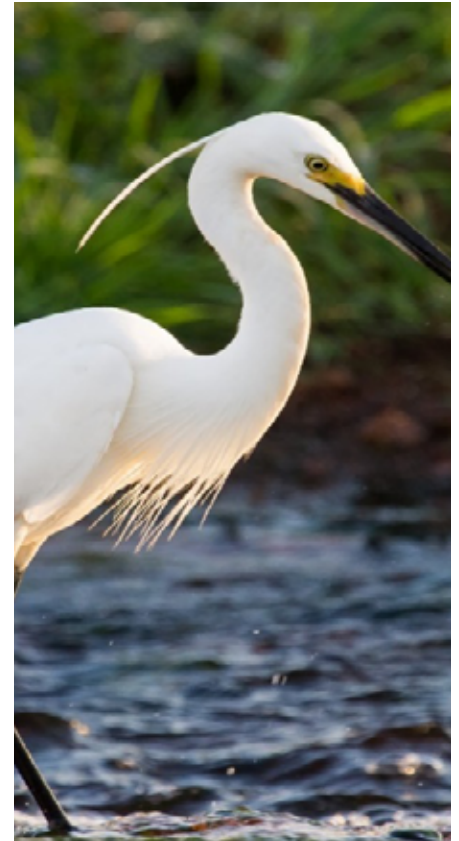


PHOTO BY: FUVAHMULAH  
BIOSPHERE RESERVE

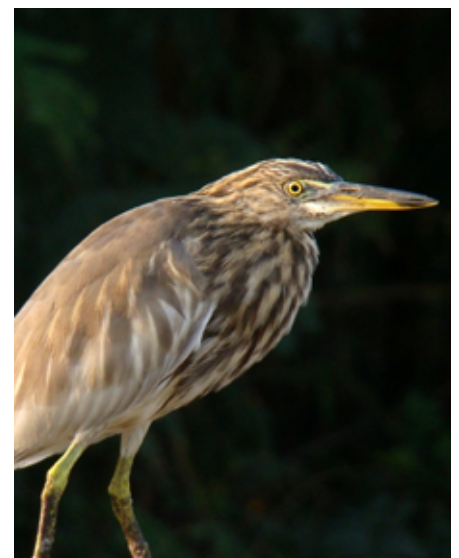


PHOTO BY: FUVAHMULAH  
BIOSPHERE RESERVE

## → 8.5 BENEFITS

### 8.5.1 BENEFITS OF PCAS

Maldives relies heavily upon the marine environment for its economy and the livelihoods of its people. According to the 'Valuing Biodiversity

Report' published in 2009, the biological diversity of Maldives contributed to 71% of employment, 89% of GDP and 98% of export (Emerton et al., 2009).

The two main industries are tourism and fisheries and in order for them to prosper, healthy and diverse marine

ecosystems are required. The introduction of a network of well-managed PCAs across Maldives is one of the tools used to support the sustainable use of the country's marine resources.

PCAs can bring many economic, social, and biological benefits to Maldives (Table 3).

**TABLE 3.** A summary of the different types of benefits PCAs can help deliver, including biological, social and economic for the marine environment and people of the Maldives.

Benefit Type		Benefits	
1	Biological	1.2	Provide safe havens for habitats and species to grow and reproduce (protect key nursery areas)
		1.2	Protect, conserve and restore rare, threatened, endemic and unique species and habitats
		1.3	Protect internationally recognised important populations, contributing to global protections e.g., migratory species such as the manta ray
		1.4	Allow for the restoration of ecosystems
2	Climate Change	2.1	Enhance ecological resilience (the ability to resist or recover) of marine ecosystems to impacts of climate change
		2.2	Protect habitats such as seagrass, mangrove and saltmarsh that capture and store carbon
		2.3	Protect habitats such as wetlands and coral reefs that buffer against the impacts from extreme weather
		2.4	Provide corridors for species and habitats that are shifting due to climate change
3	Economic	3.1	MPAs support sustainable fisheries and other marine resources by helping species to recover and by providing spillover and seeding effects. In doing so MPAs may sustain or increase yields of nearby fisheries.
		3.2	High biodiversity and healthy coral reefs support ecotourism such as scuba diving, snorkelling, recreational fishing, boat safari's
		3.3	Internationally recognised protected areas increase tourism opportunities
4	Social	4.1	Enhance outreach and educational opportunities
		4.2	Provide research and monitoring opportunities
		4.3	Provide communities with a sense of pride for the importance of their local marine environment
		4.4	Protect and promote cultural heritage





PHOTO BY: OCPP

### 8.5.2 COST OF PCAS

Not all ocean-based activities are compatible with the objectives of PCAs, and the exclusion of some activities can negatively impact livelihoods, businesses and wellbeing when management is introduced.

Impacts could include loss of livelihoods due to restrictions on human activities in the MPA, increase in operating costs (e.g., extra travel costs for fishers when displaced from their original fishing grounds),

restricted or loss of access to marine resources and culturally significant places, loss of social opportunities, inequitable distribution of benefits, increased social conflict and the undermining of social and cultural practices, and increased conflict with development opportunities (e.g., tourism or local island development projects).

It is therefore important to consider socio-economic impacts throughout the designation and management

stages of a site to ensure the long-term benefits of protection (e.g., increased productivity and resilience to climate change) outweigh potential negative effects and lessen the impacts of cost over time.

If the socio-economic importance of an area is significantly greater than its ecological importance, for example the area covers important fishing grounds or tourism potential it may not be suitable for MPA designation.

## 9. GOVERNANCE OF PCAS

### → 9.1 GOVERNANCE STRUCTURE

PCAs in Maldives are managed by a mosaic of government ministries, agencies and other organisations (Figure 2).

Those responsible for developing and implementing management vary depending on the type of site and management activity.

A brief description of key parties and their responsibilities related to PCAs is provided below.

The Protected Areas Regulation (No. 2018/R-78) is currently under review, which may lead to changes in responsibilities in reference to national MPAs.



PHOTO BY: FUVAHMULAH BIOSPHERE RESERVE

**PCAs in Maldives are managed by a mosaic of government ministries, agencies and other organisations (Figure 2).**

Those responsible for developing and implementing management vary depending on the type of site and management activity.

A brief description of key parties and their responsibilities related to PCAs is provided below. The Protected Areas Regulation (No. 2018/R-78) is currently under review, which may lead to changes in responsibilities in reference to national MPAs.

Please refer to the regulation for the most recent iteration. [link to be added when available].

**Ministry of Climate Change, Environment and Energy (MCCEE)**

Responsible for the development of legislation and policy related to national PCAs. Provide executive-level oversight for the management of national MPAs but may co-manage sites with the EPA and other ministries such as the Ministry of Defence. MCCEE is responsible for reporting successes and progress

towards PCA ambitions on a national and international scale. This includes overseeing management and reporting for international designations.

**Ministry of Tourism (MoT)**

In collaboration with the MCCEE the MoT is responsible for overseeing the recognition of resort house reefs as OECMs.

The MoT is responsible for the monitoring and management of the environment related to all tourist resort islands. Many resort house reef rules and boundaries derive from the Ministry’s Tourism Boundary Regulation - ‘Regulation on Determining Boundaries of Leased Islands for Tourism Development (R-7/2012)’.

**Other Ministries**

Other ministries may be involved in the management of individual sites such as the Ministry of Defence and the Attorney General’s Office, responsible for overseeing civil law enforcement such as the Environment Act (4/93).

**Environmental Protection Agency (EPA)**

The EPA has the mandate of regulation, enforcement and

monitoring for the continued effectiveness of national MPAs as well as to undertake research related to them.

The Authority co-leads the management of national MPAs with the MCCEE. Key responsibilities include the creation and maintenance of management plans, administration of permits and processing regulation breaches and fines.

**Maldives Marine Research Institute (MMRI)**

The MMRI lead on monitoring, research and education awareness for grouper aggregation sites.

As Maldives’ lead scientific organisation, they are also responsible for national monitoring of fisheries, coral reefs and biodiversity all of which can provide valuable data for MPAs.

**Maldives National Defence Force Coast Guard**

The Maldives National Defence Force Coast Guard is the primary body responsible for law enforcement at sea, supported by the Maldives Police Service Marine Police.

The Coast Guard's main role is to defend and protect Maldives' maritime zone, but it also has roles in relation to maritime law enforcement, disaster response and relief, marine pollution response, environmental protection and marine resource protection. The Coast Guard will also support management of large MPAs such as South Ari Atoll MPA.

#### **Maldives Police Service**

The Maldives Police Service support the Coast Guard and the EPA and are responsible for conservation law enforcement, primarily supporting the enforcement of smaller MPAs.

#### **Local Government / Local Councils / Civil Service Office**

In some incidences, local government such as Atoll or Island Councils or a localised Civil Service Office, such as a Biosphere Reserve Office, may manage the day-to-day operations of a site and provide on-the-ground staff.

They may lead on implementing the management plan, community outreach and education, and implementation of livelihood and sustainability programmes.

#### **MPA Advisory Committees**

Advisory committees consist of key stakeholders that advise and oversee the management of an MPA. A committee normally includes representatives from Atoll and Island Councils close to the MPA, resorts, EPA, independent experts, Local Government Authority, and the tourism sector e.g., liveaboards.

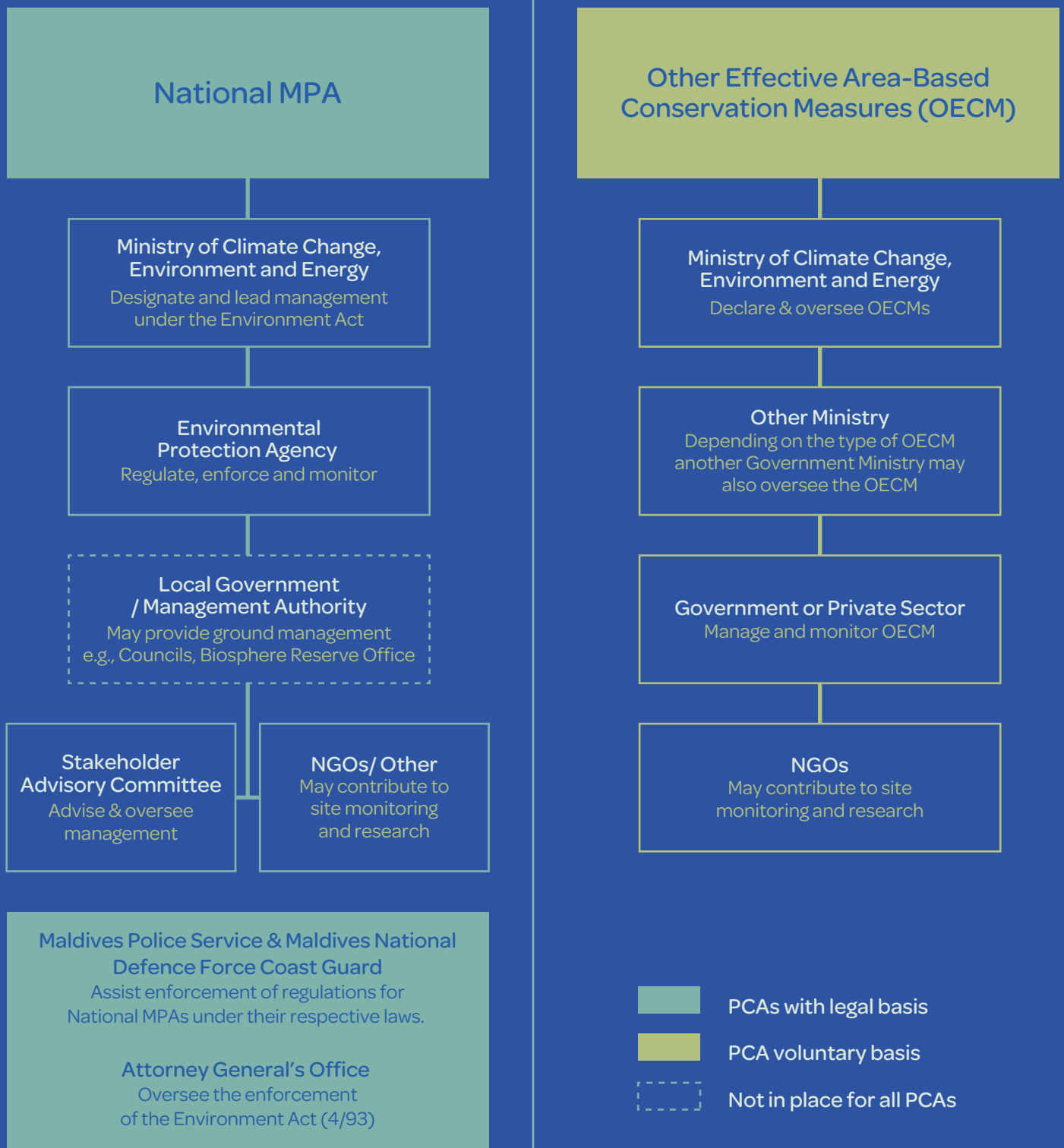
#### **Resorts**

Resorts with OECMs are responsible for managing all aspects of the site including financial resources for management activities and monitoring. Resorts may also contribute to the research and monitoring of national MPAs and OECMs in collaboration with the other organisations and Ministries.

#### **Non-Governmental Organisations (NGOs) and Research Organisations**

Often limitations in Government capacity and resources can affect MPAs from achieving their objectives. To mitigate these challenges, environmental NGOs and other organisations such as universities can be utilised to help facilitate and implement monitoring and research programmes for all types of PCAs in Maldives.

Figure 2 summarises government departments and organisations responsible for the management of national MPAs and OECMs in Maldives



**FIGURE 2.** Organogram to summarise government departments and organisations responsible for the management of national MPAs and OECEMs in Maldives

## → 9.2 MANAGEMENT PRINCIPLES

All PCAs within the national network will be guided by the following management principles. These principles should be used to aid decision-making by the sites' management authority to support sustainable development and collaboration between the authorities and local communities.

### OVERARCHING PRINCIPLE: CLIMATE CHANGE AWARE

Climate change considerations should be incorporated into the design and management of PCAs. PCAs cannot halt the effects of climate change (e.g., ocean warming, acidification, sea level rise, increased frequency of coastal storms), but they can be used as a mitigation and adaptation tool to manage marine biodiversity in response to climate change (Table 3).

The potential impacts of climate change will be considered in all management decision-making through the following mechanisms:

- Designation of new PCAs should consider mitigation (e.g., protection of blue carbon ecosystems) and adaptation mechanisms (e.g., protecting climate refugia, increasing connectivity between PCAs, reducing other stressors and ensuring adaptive management) when determining their location and site boundaries.
- PCA Management Plans should clearly identify the vulnerability of physical, socioeconomic and ecological site features to climate change. They should

set objectives with specific targets and thresholds, combined with carefully designed monitoring targeting multiple indicators for ecological and social effectiveness, and adaptive mechanisms to continually respond to ongoing climate change impacts (O'Regan et al., 2021; Tittensor et al., 2019).

Management for climate change impacts will be coordinated across the entire PCA network.

### 9.2.1 ECOLOGICAL PRINCIPLES

#### Ecosystem approach

The ecosystem approach as defined by the CBD<sup>18</sup> is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. The ecosystem approach requires that the management of resources be applied to wider ecosystems rather than to individual species and that their management should be decentralised to the lowest appropriate level.<sup>19</sup>

The ecosystem approach will be embedded in all management decision-making by:

- Recognising the importance of maintaining the linkages and connectivity between component elements of the ecosystem (mangroves, seagrass beds and coral reefs).
- Recognising that protecting a single reef alone will not be effective unless other reefs and associated habitats are also protected from human impacts.

<sup>18</sup> *Text of the Convention (cbd.int)*

<sup>19</sup> *See Ecosystem Approach (cbd.int)*



PHOTO BY: FUVAHMULAH BIOSPHERE RESERVE

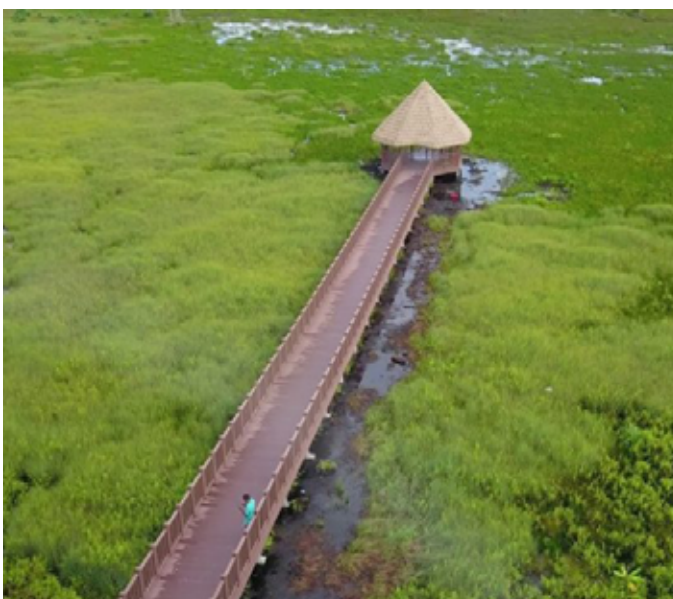


PHOTO BY: FUVAHMULAH BIOSPHERE RESERVE

### **Adaptive and evidence-based management**

Adaptive and evidence-based management is a participatory approach to management and is a particularly useful framework where there are multiple uncertainties or evidence gaps relating to the ecosystem or activity.

It is a cyclical process which starts with a problem or management challenge being identified. Management is then designed based on existing evidence, often using a stakeholder led participatory approach.

Once management is agreed and implemented, its performance is monitored through an evidence-based approach, and its success evaluated. The results of the evaluation can then influence potential redesign of the management measures, adjusting decisions based on technical learning.

The national network of PCAs in Maldives will be managed adaptively by developing and iteratively improving management actions as new evidence (both environmental and socio-economic) becomes available through monitoring and evaluation of existing measures. This will help to:

- Address the range of management challenges and considerations within PCAs including the management of fisheries and tourist activities.
- Manage the impacts of climate change and the uncertainties on how changes will manifest in the marine environment.

**Precautionary principle**

The precautionary principle provides a critical safeguard for the sustainable utilisation of natural resources and for achieving environmental balance by managing risk for policy or decision makers.

It ensures that if there are reasonable grounds for concern that any activity may cause harm to the environment, preventive measures should be taken in anticipation of the risk, even if scientific evidence is insufficient, inconclusive or uncertain.<sup>20</sup>

It therefore gives policy / decision-makers the option to decide to restrict activities in situations where there is scientific uncertainty.

All decision-making related to management of PCAs will take the precautionary principle into account as part of a structured approach to an environmental risk assessment.

It will be used to provide a framework for assessing situations where there is a plausible risk of environmental impact from activities and scientific uncertainty surrounding the evidence

base about the environmental impact of those activities.

**9.2.2 SOCIAL PRINCIPLES****Sustainable development**

Any activities within PCAs must have minimal impact on marine biodiversity, habitats and ecosystems and must bring equitable positive benefits to local communities.

A holistic approach to management will be adopted to consider multiple activities, balance environmental, socio-economic and cultural objectives, and apply the principles of ecosystem-based management. This will ensure that activities within the PCAs meet the needs of the present, without compromising the ability of future generations to meet their own needs.

**Stakeholder and collaborative engagement**

Stakeholder engagement is essential throughout the PCA designation and management processes. There is currently no formal guidance in place for stakeholder consultations, however, the Environment Protection and Preservation Act provides policies and

regulations on environmental protection that need to be formulated in consultation with the relevant authorities (Noo Raajje, 2021).

How PCA management authorities engage with their stakeholders may be different for each site. In all cases however, the participatory approach will be equitable and inclusive of gender, age ability and disadvantaged groups.

This will ensure that all stakeholders are empowered to participate in planning, management and decision-making processes related to PCAs. Management authorities will set out clear accountability and defined responsibilities and all decisions will be made through open and transparent processes.

**Equitable management**

The PCAs will generate a flow of benefits but there may also be costs. Management of PCAs will ensure that certain groups, especially poor and vulnerable groups of society, are not impacted disproportionately and that any benefits from the PCA are distributed in a fair and equitable way amongst the whole community.

<sup>20</sup> *Environmental principles policy statement - GOV.UK (www.gov.uk)*





PHOTO BY: FUVAHMULAH BIOSPHERE RESERVE

# 10. MANAGEMENT OF PCAS

## → 10.1 MANAGEMENT PLANNING

### 10.1.1 MANAGEMENT PLANS

As set out in the Protected Areas Regulation (2018/R-78), all national MPAs must have an associated Management Plan in place. With the exception of three MPAs that sit under their own regulations (B. Hanifaru Protected Area Management Regulation (2012/R-23); Addu City Protected Area Management Regulation (2018/R-105); and Fuvahmulah City Protected Area Management Regulation (2018/R-106)), the Management Plan itself does not have a legal status.

It is, however, a key document that works alongside PCA regulations by setting out the management approach and goals, together with a framework for decision making, to apply in the MPA over a given period of time (Thomas and Middleton, 2003). The regulation will remain as the mechanism to outline legal requirements associated with the PCA to allow for the enforcement of compulsory obligations.

Management Plans should be developed as soon as possible after the MPA has been designated. In contrast Management Plans for OECMs must be developed before the site can be officially recognised as an OECM (MECCT, 2022).

As the Maldives has a considerable number of PCAs, the development of Management Plans will be prioritised for PCAs with conflicting uses and high levels of activity.

The MCCEE is responsible for leading the designation and management of protected areas, however, the development of Management Plans for these sites can be led by a range of parties depending on the context of the protected area (Table 4.).

Once a Management Plan is developed, the EPA will review and provide sign off, in consultation with the MCCEE. Gazetting of MPA Management Plans is led by the MCCEE.

Resorts associated with the house reefs applying for OECM recognition are responsible for developing their own Management Plans with the MCCEE providing final sign off (Table 4).

Although Management Plans are ultimately led by one party it is essential that they are developed in collaboration with key stakeholders to provide a sense of ‘shared ownership’ and increase the success of the plan.

Management Plan guidance has been created to assist PCA managers in developing Management Plans and to ensure a consistent approach is followed throughout the country.

Please see the Maldives National Management Plan Guidance for Protected and Conserved Areas.

**TABLE 4.** Table to show the *three* types of marine PCAs in Maldives and parties responsible for Management Plans.

Marine Site	Management Plan Lead	Management Plan Official Sign Off
National MPA	Varies depending on the site but could include: Environmental Protection Agency, Ministry of Climate Change, Environment and Energy, Local Government Biosphere Reserve Office	Environmental Protection Agency Ministry of Climate Change, Environment and Energy (gazette)
OECM	OECM Resort	Ministry of Climate Change, Environment and Energy

## → 10.2 STAKEHOLDER ENGAGEMENT FOR MANAGEMENT PLANNING

Effective engagement provides a mechanism for all stakeholders to influence the decision-making process in a manner that is transparent and accountable. This will ensure that stakeholders understand the reason for the PCA designation and associated management and are therefore more likely to be supportive of the PCA, resulting in a higher level of compliance.

Understanding the potential issues that stakeholders may have with the proposal of any new management along with the approach taken to engage with key stakeholders is important to address any concerns that stakeholders may have early in the process so that these can be factored into decisions made.

There is no one engagement methodology that fits all stakeholders and all PCA management processes across the national network. Where appropriate, site-specific stakeholder engagement plans will be developed to ensure that engagement methods are tailored to the local situation and achieve the desired outcomes.

Development of stakeholder engagement plans will follow the process set out in Figure 3:

1. *Clearly define the purpose of engaging stakeholders: this will determine which stakeholders to engage with and the methods to be used.*
2. *Identify the stakeholders to be engaged: depending on the PCA, this may include resource users, administrative councils, regulatory authorities, non-governmental authorities, universities, local community organisations, local businesses and industry and the general public. A wide range of stakeholders that represent different views and perspectives should be included.*
3. *Undertake a stakeholder mapping exercise: this will determine appropriate engagement methods in relation to the stakeholders' level of interest and influence.*
4. *Choose engagement methods: more than one method may be selected for any given engagement and different methods may be used together. Engagement methods could range from workshops and advisory boards to public meetings, informal discussions and social media.*
5. *Plan the engagement process: consider the full list of activities to be carried out and associated costs, timeframes and resources.*
6. *Actively use the stakeholder engagement plan to engage stakeholders in any management decision-making.*
7. *To ensure that the relevant stakeholders are engaged and that the objectives of the engagement are being achieved.*



A detailed guidance document on stakeholder engagement advice will be formulated to ensure all parties responsible for elements of PCA management follow a consistent, standardised approach to stakeholder engagement for management planning going forward.

## → 10.3 IUCN GREEN LIST STANDARD: GUIDANCE AND BEST PRACTICE FOR MPA MANAGEMENT IN THE MALDIVES

In 2023, the Government of the Maldives adopted the IUCN Green List Standard as a guide for MPA management<sup>21</sup>. A feasibility study exploring the potential for taking this forward in the Maldives was undertaken by IUCN.

This highlighted several areas of potential improvement which include the lack of or ineffective management plans; limited political will; land /urban development pressures; and lack of financial resources.

This Framework and the companion document ‘Maldives National Marine Protected Areas Management Plan Guidance & Template’<sup>22</sup> in line with the Green List Standard framework will ensure that the process for the development of robust management plans is undertaken in a comprehensive and methodical way.

The Green List Standard will also be used to help in operationalising the management plan by guiding the priorities and activities set under it, to achieve successful conservation outcomes.



PHOTO BY: FUVAHMULAH BIOSPHERE RESERVE

## → 10.4 MANAGEMENT TOOLS

A suite of management tools will be used to ensure effective management of the national network of PCAs. Not every tool is appropriate for each PCA; it is the responsibility of the PCA management authority to determine the most effective tools to manage human activities within and adjacent to their site.

### 10.4.1 CODES OF CONDUCT FOR MARINE TOURISM

Tourism is of vital importance to the Maldives, providing livelihoods and income to the local community, however it places pressure on the marine environment.

Increased tourism activities such as snorkelling and SCUBA diving can impact on marine habitats for example, through anchoring and the potential

<sup>21</sup> IUCN Green List in The Maldives: A Feasibility Study Exploring the Potential for Taking Forward the IUCN Green List in the Maldives. 2023. International Union for the Conservation of Nature.

<sup>22</sup> Insert hyperlink to the Guidance doc.

introduction of invasive species. Marine species such as whale sharks, dolphins, whales, and birds can be disturbed by increased numbers of boats, and by people approaching too closely.

Any tourism activities within a PCA will follow site-specific regulations or best practice guidance and adhere to the Maldives Recreational Diving Regulation 2003<sup>23</sup>, as appropriate to ensure that the activities are compatible with the site's goals and objectives and that damage and disturbance to marine habitats and species is minimised.

- **Whale sharks and manta rays:** Interactions with whale sharks and manta rays will, where possible, follow site-specific codes of conduct developed in association with MPA managers and Atoll councils<sup>24</sup>.

If a code of conduct is not available, then the Maldives Whale Shark Research Programme Code of Conduct<sup>25</sup> will be followed for whale shark interactions and The Manta Trust Code of Conduct will be followed for manta ray interactions<sup>26</sup>.

- **Sharks:** There is currently no national-level guidance for operators offering opportunities to dive with sharks in Maldives.

There are local level codes of conduct available in areas such as South Ari Atoll MPA (SAMPA) for interactions with whale shark,

however, until national guidance becomes available, shark diving within PCAs will adhere to the best practice guidance developed by the WWF, Project Aware and the Manta Trust<sup>27</sup> where possible.

- **Marine mammals:** There is currently no formalised national best practice guidance for whale watching in Maldives.

Where possible, PCA management authorities will introduce voluntary guidance based on international advice such as from the World Cetacean Alliance<sup>28</sup>.

- **SCUBA diving:** All SCUBA diving operations will follow the Maldives Recreational Diving Regulation 2003<sup>29</sup>.

Section 13.1 states that divers should exhibit reasonable care to protect the marine environment, living organisms and habitats, which includes, but is not limited to, corals and contact with marine animals; Section 13.2 stipulates 'activities that are detrimental to marine protected areas and protected species' are prohibited and a look but don't touch message for these areas must be adopted.

In addition, all SCUBA diving operations will follow best practice guidance to minimise impacts<sup>30</sup>:

<sup>23</sup> Maldives Recreational Diving Regulation ([tourism.gov.mv](http://tourism.gov.mv))

<sup>24</sup> For example, the South Ari Atoll MPA Maldivian Whale Shark Tourist Encounter Guidelines [WhalesharkEncounterGuidelineeng.pdf](http://WhalesharkEncounterGuidelineeng.pdf)

<sup>25</sup> Sustainable Tourism | Maldives Whale Shark Research Programme

<sup>26</sup> How to Swim with Manta Rays ([swimwithmantas.org](http://swimwithmantas.org))

<sup>27</sup> [sharkandrays\\_bestpracticeguide\\_2017\\_hires.pdf](http://sharkandrays_bestpracticeguide_2017_hires.pdf) ([panda.org](http://panda.org))

<sup>28</sup> [www.worldcetaceanalliance.org/global-guidelines/](http://www.worldcetaceanalliance.org/global-guidelines/)

<sup>29</sup> Maldives Recreational Diving Regulation ([tourism.gov.mv](http://tourism.gov.mv))

<sup>30</sup> The EPA recommends operators and divers follow the Green Fins guidelines.

### 10.4.2 ENVIRONMENTAL IMPACT ASSESSMENTS

Throughout Maldives, any proposed developmental activity is screened during the pre- planning phase as a part of the statutory Maldives Environmental Impact Assessment (EIA) process under the Environment Protection and Preservation Act (4/93).

The Environmental Compliance Assessment (ECA) Section of the EPA is responsible for oversight of the EIA process. Plans and projects that are proposed within or adjacent to PCAs with the potential to impact on the health of the PCAs will be screened more thoroughly.

Additional oversight will be provided through the Environment Research and Conservation Unit (ERC) and will involve additional stakeholder consultation and scoping meetings.

Consultations will include local governments, the MECCT as well as the PCA management authority and other relevant stakeholders. If the application is approved, the applicant will submit a monitoring and

mitigation package to the EPA before any works can begin.

Once the application has progressed to the implementation or construction phase, the EPA will undertake inspections to ensure the project is implementing mitigation measures appropriately. Failure to comply with the mitigation measures can lead to penalisation.

### 10.4.3 PERMITS AND LICENCES

Permits and licences enable PCA managers to control and monitor human activities within their, whilst providing a potential source of income. The EPA is responsible for processing and allocating permits for PCAs in Maldives allowing PCA managers to manage human activities.

There are several different types of permits available:

- Research permits
- Access permits
- Videography and photography permits
- Tour guide licences
- Resource gatherer licences

Permits and applications

are made to the EPA via their dedicated website.

### 10.4.4 ZONING

Zoning is a tool that enables PCA managers to segregate geographical areas of a site into different levels of management if a PCA has multiple uses and conservation objectives.

Zones may have different rules on access and use i.e., ‘no take’ and ‘partially protected’ to allow for a wide range of human activities.

This management tool is particularly useful to mitigate user conflict within a site.

Zoning will be used to:

- Provide protection for critical or representative habitats, ecosystems and ecological processes
- Separate conflicting human activities
- Protect the natural and/ or cultural qualities while allowing a spectrum of reasonable human uses
- Enable damaged areas to be set aside to recover or be restored

- Support temporal management where an area is managed according to a set period of time e.g., certain time of day, week, month or year or an event such as breeding seasons.

Zonation will be developed during the management planning stage, linked to the requirements of the national MPA category type.

MPAs that sit within UNESCO Biosphere Reserves are required to have buffer zones that surround core protected areas, which are designed to shield the core zone from the direct impact of human activities adjacent to the MPA (Lausche, 2011).

## → 10.5 IMPLEMENTING THE GREEN LIST IN THE MALDIVES

In line with the Government of Maldives' adoption of the Green List standard and framework, the Maldives Green List Feasibility Report has been undertaken, detailing the key steps in the process to be undertaken in order to achieve green list status<sup>31</sup>.

The recommendations from the Feasibility Report will be taken forwards with assistance from IUCN as follows:

- MCCEE will act as implementing partner for the Green List in the Maldives and will become the focal point to facilitate and support the green list process.



PHOTO BY: OCPP

- An Expert Assessment Group for the Green List will be established.
- Training and capacity building will be provided to enable promotion and facilitation of the Green List standard.
- The IUCN Green List manual will be contextualised for the Maldives and translated into Dhivehi.
- Green List pilot sites will be identified.
- Funding will be sought to secure the long-term sustainability of the Green List.

<sup>31</sup> IUCN Green List in The Maldives: A Feasibility Study Exploring the Potential for Taking Forward the IUCN Green List in the Maldives. 2023. International Union for the Conservation of Nature.



## → 10.6 ENFORCEMENT OF PCAS

PCAs within the national network are regulated by different government departments depending on their status.

Government departments and regulators have powers to implement and enforce management measures to ensure the sites are adequately protected.

PCA regulators (supported by the police) are able to investigate infringements to take appropriate enforcement action.

The approach taken by regulators to facilitate compliance by sea users will be to adopt the principles of, inform, educate and enforce:

- **Guidance and education** form the basis of the enforcement principles.

PCA managers and regulators will work to try to ensure that all parties understand what rules apply to them or their

particular industry (or part of it) and the rationale for the regulation being necessary.

Where people, organisations and industry are not aware of the rules that apply to them, or require further guidance to ensure they are compliant, PCA managers will assist by providing guidance and will raise awareness, where possible, as a first step to achieving compliance.

When new or complex legislation or rules are introduced, the PCA managers will endeavour to ensure that there is an appropriate education period where regulatory effort will be focused on guiding marine users and industry and providing clarity to enable compliance.

- **Monitoring** in this context refers to the monitoring of activity to ensure compliance and is not linked with environmental monitoring.

Compliance and enforcement monitoring will include administrative checks such as ensuring

conditions of permits have been met, patrols in PCAs or inspections of vessels or property.

- **Enforcement.** Where minor infringements are identified, regulators will aim to secure compliance through education and advice informing individuals what needs to be done to be compliant.

In more serious cases, fines will be issued, or permits will be withheld. Regulators also have powers to halt activity within protected areas or withdraw permits.

The National Goals set out a requirement for “effective systems and processes in place to support a good level of compliance with the rules and regulations.”

To support this a compliance and enforcement strategy will be developed and implemented to include the following:

- The Government of Maldives’ approach to achieving compliance (summarised above)

- The role and responsibilities of all government institutions (including police) who are involved in enforcement of PCAs. To provide clarity on who is accountable and under what circumstances.
- Commonly used enforcement powers and the conduct of investigations
- Sufficiency of evidence

To further support an effective compliance and enforcement process, additional actions will be taken as appropriate to include:

- Providing assurance to sea users and the public that compliance and enforcement processes are fair and transparent. This will include:
  - Making the process for applying for permits clear
  - Publishing the compliance and enforcement strategy
- Ensuring enforcement action is consistent. This means ensuring that it will make similar (but not necessarily the same) decisions about activity in similar circumstances.

Actions to support this include: harmonising processes across different departments, development of guidelines and standard operating procedures for regulators and publishing public facing guidance on enforcement approach including how and when fines would be imposed.

- Reviewing outdated regulations
- Adopting an Intelligence-Led Risk-Based Enforcement approach to ensure that available resource is used as efficiently and as effectively as possible.

This approach will be used to determine where enforcement resources are needed, by predicting where and when illegal activity is likely to occur and how to detect it.

The Intelligence-Led Risk-Based Enforcement approach will also capture the relative level of risk, allowing organisations to target resource at stopping non-compliance in the highest risk activities, achieving maximum impact.

## II. MONITORING & EVALUATION OF PCAS

As part of an adaptive management approach to ensure that PCA management is effective, Management Plans will undergo a comprehensive review and a Protected Area Management Effectiveness (PAME) evaluation at least every five years (dependent on the individual needs of the PCA) to be completed in collaboration with stakeholders and other interested parties.

This evaluation will consider best available monitoring evidence (both ecological and socio-economic) and new scientific research to assess the extent to which management actions have achieved the PCA objectives over the specified review period.

The results of monitoring and evaluations will be shared with stakeholders, the wider public and amongst Government bodies.

### → 11.1 MONITORING

The development of a National PCA Monitoring Strategy will set out the principles and approaches by which environmental/ecological monitoring should be implemented to understand whether management objectives and actions have been successful.

This strategy will also provide the opportunity to integrate wider monitoring efforts across the protected area network, such as compliance and enforcement, socio-economic and pollution-focused monitoring.

The Management Plan for each PCA will identify the natural, social, cultural, economic and governance indicators and (if possible) metrics and thresholds against which the condition of the PCA and the effectiveness of PCA management will be assessed.

To optimise the strategic delivery of monitoring as part of the wider PCA Management 'life-cycle', Research and Monitoring Plans (RMPs) will be developed for individual PCAs in line with the species and habitat specific requirements set out in the Protected Species Regulation.

These will be tightly linked to the management objectives and indicators to environmental and socio-economic outcomes defined within the management plan (as required to meet IUCN Global Conservation Standards). RMPs will set out what monitoring is required and how indicators will be monitored and by whom and will include long-term targets to determine whether management objectives are being achieved. The RMP will also clearly define roles and responsibilities and governance structures.

In addition to monitoring, RMPs will identify and prioritise knowledge gaps for the individual PCA (and habitats and species for which they are designated), clearly sign-posting scientific researchers to questions which will improve the evidence-base for assessment against management actions. For smaller PCAs, an RMP may not be necessary, however the Management Plan will clearly set-out how the condition of the key ecological, social and cultural values of the site will be monitored over time to demonstrate effectiveness of management actions.

## → 11.2 EVALUATION

The evidence generated through strategic monitoring of individual PCAs, alongside other evidence sources (such as compliance and enforcement information) will provide the necessary evidence to inform progress against management objectives and actions and ultimately feed into an overall evaluation of management effectiveness.

The main output of the PAME evaluation will be a revised PCA Management Plan for the next five years of operations.

PAME evaluations will be used by PCA managers to measure and understand the impact of management actions on the PCAs values and track progress towards achievement of their goals and objectives<sup>32</sup>.

Where appropriate, they will be used in combination with PCA Standards, such as the IUCN Green List Standard, to assess sites using global best practices.

The Management Effectiveness Tracking Tool version 4 (METT-4) will be used to evaluate PAME for all PCAs in Maldives to ensure consistency at a national scale.

The results of the PAME evaluation will help PCA managers to document achievements, identify and set new priorities to improve future management and enable effective resource allocation, as part of an adaptive management approach.

The results of the PAME evaluation may also be used to inform the dossier needed for showing compliance to PCA Standards systems as part of the IUCN Green List process.



PHOTO BY: OCPP

<sup>32</sup> See: *Evaluating effectiveness : a framework for assessing management effectiveness of protected areas* | IUCN Library System

## 12. REFERENCES

1. CBD (2017a) Ecologically or Biologically Significant Areas (EBSAs) – Baa Atoll. Downloaded from <https://chm.cbd.int/database/record?documentID=237768> on 27/10/2022
2. CBD (2017b) Ecologically or Biologically Significant Areas (EBSAs) – Rasdhoo Atoll Reef. Downloaded from <https://chm.cbd.int/database/record?documentID=237767> on 27/10/2022
3. Day J.C., Laffoley D., and Zischka K. (2015) Marine Protected Area Management in: Worboys, G. L., Lockwood, M., Kothari, A., Feary, S. & Pulsford, I. (eds). Protected Area Governance and Management, ANU Press, Canberra, pp. 609–650
4. Dhunya, A., et al. (2017). “Coastal habitats of Maldives: status, trends, threats, and potential conservation strategies.” *Int J Sci Eng Res* 8: 47-62.
5. Dudley N. (Editor) (2008) Guideline for applying protected area management categories. Gland, Switzerland: IUCN x + 86pp. WITH Stolton, S., P. Shadie and N. Dudley (2013). IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types, Best Practice Protected Area Guidelines Series No. 21, Gland, Switzerland: IUCN.
6. Dryden C.S., Rahman M.A., Zareer I.H., Habeeb F.S., Raze N.S., Nightingale M. and Pasha, M.K.S. IUCN Green List in The Maldives: A Feasibility Study Exploring the Potential for Taking Forward the IUCN Green List in the Maldives. 2023. International Union for the Conservation of Nature.
7. Emerton L., Baig S., and Saleem M. (2009) Valuing Biodiversity. The economic case for biodiversity conservation in the Maldives. AEC Project, Ministry of Housing, Transport and Environment, Government of Maldives and UNDP Maldives
8. Harris J.L., McGregor P.K., Oates Y., Stevens G.M. (2020) Gone with the wind: seasonal distribution and habitat use by the reef manta ray (*Mobula alfredi*) in the Maldives, implications for conservation. *Aquatic Conservation: Marine and Freshwater Ecosystems* 30:1649-1664
9. Harvey-Carroll, J., et al. (2021). “The impact of injury on apparent survival of whale sharks (*Rhincodon typus*) in South Ari Atoll Marine Protected Area, Maldives.” *Scientific Reports* 11(1): 937.
10. IUCN (2022). “When is a Marine Protected Area really a Marine Protected Area.”
11. IUCN and World Commission on Protected Areas (WCPA)(2017) IUCN Green List of Protected and Conserved Areas: Standard, Version 1.1. Gland, Switzerland.
12. IUCN World Commission on Protected Areas (WCPA) and Assurance Services International (2019) IUCN Green List of Protected and Conserved Areas: User Manual, Version 1.2. Gland, Switzerland.
13. IUCN (2004) Managing Marine Protected Areas: A Toolkit for the Western Indian Ocean. C3 Management Planning. IUCN Eastern African Regional Programme, Nairobi, Kenya
14. IUCN & World Commission on Protected Areas (WCPA) (2016) IUCN Green List of Protected and Conserved Areas: Standard, Version 1.1. IUCN, Gland, Switzerland.
15. Kallsen, H. (2018). Regulation of whale shark tourism: a data driven approach for the south ari marine protected area, Syddasnk Universitet.
16. Key Biodiversity Areas Partnership (2022) Key Biodiversity Areas factsheet: Haa Alifu Atoll. Extracted from the World Database of Key Biodiversity Areas. Developed by the Key Biodiversity Areas Partnership: BirdLife International, IUCN, American Bird Conservancy, Amphibian Survival Alliance, Conservation International, Critical Ecosystem Partnership Fund, Global Environment Facility, Global Wildlife Conservation, NatureServe, Rainforest Trust,

## 12. REFERENCES

- Royal Society for the Protection of Birds, World Wildlife Fund and Wildlife Conservation Society. Downloaded from <http://www.keybiodiversityareas.org/> on 21/10/2022.
17. Lausche, B (2011). Guidelines for Protected Areas Legislation. IUCN, Gland, Switzerland. 370 pp.
  18. MEE (2015a) National Biodiversity Strategy and Action Plan 2016-2025
  19. MEE (2015b) Fifth National Report of Maldives to the Convention on Biological Diversity. Maldives: Ministry of Environment and Energy
  20. MEE (2016) Second National Communication of Maldives to the United Nations Framework Convention on Climate Change: Ministry of Environment and Energy
  21. MEE (2017) State of the Environment 2016, Ministry of Environment and Energy
  22. MECCT (2022) Guidelines for OECMs to designate areas within the boundary of resort islands in the Maldives, Ministry of Environment, Climate Change and Technology, Malé. Downloaded from <http://www.environment.gov.mv/v2/wp-content/files/publications/20220428-pub-guideline-oecm-en.pdf> 27/10/2022
  23. MFMRA (2019) The Maldives National Plan of Action to prevent, deter and eliminate illegal, unreported and unregulated fishing. Ministry of Fisheries, Marine Resources and Agriculture, Malé, Republic of Maldives, 2019
  24. Mundy, E. (2017). Seasonal hotspots of megafauna and vessel activity in south ari marine protected area, Maldives, University of York.
  25. Noo Raajje (2021) Noo Raajje legal and policy framework assessment report.
  26. O'Regan S.M., Archer S.K., Friesen S.K., and Hunter K.L (2021) A Global Assessment of Climate Change Adaptation in Marine Protected Area Management Plans. *Frontiers in Marine Science*. 8:711085. Doi: 10.3389/fmars.2021.711085
  27. Thomas L., and Middleton J. (2003) Guidelines for Management Planning of Protected Areas. IUCN Gland, Switzerland and Cambridge, UK.
  28. Tittensor D.P., Beger M., Boerder K., Boyce D.G., Cavanagh R.D., Cosandey-Godin A., et al., (2019) Integrating climate adaptation and biodiversity conservation in the global ocean. *Sci. Adv.* 5:eaay9969. doi: 10.1126/sciadv.aay9969
  29. UNESCO (2020) Fuvahmulah Biosphere Reserve, Maldives. Downloaded from <https://en.unesco.org/biosphere/aspac/fuvahmulah#:~:text=The%20Fuvahmulah%20Biosphere%20reserve%20is,unique%20coral%20sand%20beach%20formations> on 26/10/2022
  30. UNESCO (2022). Technical guidelines for biosphere reserves. UNSCO, Paris, 126pp





**MALDIVES NATIONAL FRAMEWORK  
FOR MANAGEMENT OF PROTECTED  
& CONSERVED AREAS**