

Management Plan for the Amirantes to Fortune Bank Sustainable Use (Zone 2) Area (2024 – 2028)

Third South West Indian Ocean Fisheries Governance and
Shared Growth Project (SWIOFish3)



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Management Plan for the Amirantes to Fortune Bank Sustainable Use (Zone 2) Area (2024 – 2028)

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Shared Growth Project (SWIOFish3)

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Executive Summary

Seychelles is a small island nation of about 115 tropical islands (both granitic and coralline) with a population of approximately 98,000 people (United Nations 2022¹), mostly living on the Inner Islands. Located in the western Indian Ocean northeast of Madagascar, the country is widely known as a large ocean state with an Exclusive Economic Zone (EEZ) of 1.4 million km² and small land area of 459 km².

Environmental protection is a continuing flagship for Seychelles as the island nation's ocean resources are considered vital for the development of its fisheries and tourism industries, as well as for facilitating trade. To bolster environmental sustainability, the Seychelles government has embraced a blue economy agenda as an organising principle to drive growth further, while preserving and building the country's natural assets. A national Blue Economy Roadmap has been developed and is in line with the UN Sustainable Development Goal (SDG) 14: *Conserve and sustainably use the oceans, seas and marine resources for sustainable development*.

The Government of Seychelles (GoS) is developing a Seychelles Marine Spatial Plan (SMSP) and in 2020 designated thirteen areas based on protection of biodiversity values and sustainable uses (Zone 1 and Zone 2), reaching the milestone of 30% marine protection gazetted (March 2020).

The **Amirantes to Fortune Bank (AFB) Sustainable Use Area** (Zone 2)² is in the centre-east of the Seychelles EEZ and encompasses the Mahé Plateau, the Amirantes Ridge and the Amirantes Basin, covering 217,589 km² or 16.1% of the Seychelles EEZ. The 2019 SMSP nomination file states that the Area contains 67 biodiversity features and 38 of 44 national habitat conservation features. It is an area with important biodiversity values, as well as multiple commercial and recreational uses. Multiple types of fishing occur in the Area including artisanal, semi-industrial longline, industrial purse seine and longline fisheries. The area, especially the Amirantes Basin, is of high value to industrial and semi-industrial tuna fishing and is associated with high catch. Also popular within this area are activities such as marine excursions, yachting, cruise ships, sport and recreational fishing, and snorkelling and diving. Commercial shipping traffic passes between Mahé Plateau and African Banks. There is ongoing petroleum exploration in the area with four active exploration blocks licensed by PetroSeychelles on the Mahé Plateau (and beyond).

The management goal for this Sustainable Use Area is ***To support biodiversity conservation and sustainable development through improved and transparent governance and equitable access to marine resources***. There are four management objectives to meet this goal under each of four thematic categories:

1. To maintain and enhance biodiversity and ecological values for resilient marine ecosystems (ecological and biodiversity).
2. To apply integrated governance mechanisms to ensure transparent decision making, equity and effective implementation (governance).

¹ <https://population.un.org/wpp/>

3. To facilitate equitable access and opportunities for Seychellois to maintain and enhance social benefits and cultural values (social and cultural).
4. To optimise environmentally sustainable economic activities and create equitable opportunities (economic).

This document provides a sustainable use management plan for the Amirantes to Fortune Bank Sustainable Use Area under the Seychelles MSP, and it has been developed through stakeholder consultation (from September 2022 to August 2023). The Management Plan comprises 10 sections:

- Section 1 is the **Introduction** and contains the purpose and scope of the Management Plan (including management goal and objectives), a description of how the planning process was undertaken, and instructions on how to use this Management Plan for managers, stakeholders and other users.
- Section 2 provides the **Management Context**. It describes the management body, overall governance and designation for sustainable use area protection in the Seychelles, the legal and policy framework, tenure and other management instruments in the Area.
- Section 3 describes the **Management Area Pressures and Issues**, identified by stakeholders and in the literature, the scope of the Management Plan to address these issues, and presents a set of key principles (biophysical, socioeconomic and cultural) to guide the development of the Amirantes to Fortune Bank management plan.
- Section 4 covers the **Management Strategies** defined for the Area, including a description of the sustainable use allowable activities, the strategies and actions to address the identified priority issues while delivering improved sustainable use of the Area, and a description of the enabling policy and regulations in place.
- Section 5 defines the **Amirantes to Fortune Bank Sustainable Use Area**, including the history of the site, surrounding features and its values (ecological, social, cultural, economic and others).
- Section 6 summarises the **Current Uses** in the Area, including fisheries, maritime infrastructure, tourism and recreation, non-renewable and resource extraction activities, and other activities related to research and education in the Area.
- Section 7 provides an overview of **Implementation and Governance** under this sustainable use management plan.
- Section 8 identifies the **Performance Measurement Framework**, including a list of indicators to be monitored and reported on to track the implementation and effectiveness of this sustainable use management plan.
- Section 9 covers **Compliance and Enforcement**, including **monitoring and surveillance** needed to ensure successful implementation of strategies in the Management Plan.
- Finally, Section 10 contains an overview of the **Plan review process**.

These sections are supplemented by Annexes that provide further detail around implementation and governance, financing, regulations and enforcement, and the stakeholders involved in the Management Plan development process. It is intended that this sustainable use management plan is a 5-year document (2024-2028), that will be reviewed mid-way (2026) and updated every 5 years throughout implementation.

Acknowledgements

We would like to acknowledge the Government of Seychelles (GoS) for recognising the need for a national marine spatial plan (MSP) and their world-leading initiative in this field. The Ministry of Agriculture, Climate Change and Environment (MACCE) provided welcome guidance and support throughout the sustainable use management planning process, particularly PS Denis Matatiken, Ashley Dias and Sophie Morel from the Department of Environment, and Justin Prosper from the Climate Change Department. We also thank the Seychelles Fishing Authority for their support and engagement in the process, in particular Vincent Lucas and Rodney Govinden. The funding for this sustainable use management planning process was made available through the Third South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish3) and the Project Coordination Unit, particularly Jan Robinson, provided valuable guidance and support throughout. Helena Sims, Joanna Smith, and Elke Talma from the Seychelles MSP team and SeyCCAT also provided valuable feedback and guidance on consultations with stakeholders. We also wish to thank the individuals and stakeholder groups of the Amirates to Fortune bank Area who contributed their valuable time to develop this sustainable use management plan under the Seychelles MSP.

1. Introduction

1.1. Management Plan purpose

This document represents the first management plan developed to guide the environmental management of the Amirantes to Fortune Bank Sustainable Use Area designated under the Seychelles Marine Spatial Plan initiative. The Amirantes to Fortune Bank Management Plan has a focus on protecting marine habitats and species, while allowing opportunities for economic activities and sustainable long-term use of resources to ensure that current and future activities do not cause environmental harm.

The Government of Seychelles (GoS) is developing a Seychelles Marine Spatial Plan (SMSP) and in 2020 designated thirteen areas based on protection of biodiversity values and sustainable uses (Zone 1 and Zone 2), reaching the milestone of 30% marine protection gazetted (March 2020). The Amirantes to Fortune Bank Sustainable Use Area is one of eight Zone 2 (sustainable use) areas³. The Department of Environment within the Ministry of Agriculture, Climate Change and Environment (MACCE) will oversee implementation of the Amirantes to Fortune Bank Sustainable Use Area Management Plan (the Management Plan) undertaken by delegated authorities. This Management Plan provides a resource for managers and stakeholders to know what activities are allowed, how compliance and enforcement will be conducted, and understand their responsibilities as users of the Area and within the broader SMSP.

The preparation and implementation of this Management Plan forms part of the SMSP initiative. Article 38 of the Seychelles Constitution and the guiding principles of the Seychelles Sustainable Development Strategy provide an overall goal for the MSP Initiative: *develop and implement an integrated marine plan to optimise the sustainable use and effective management of the Seychelles marine environment while ensuring and improving the social, cultural and economic wellbeing of its people*. Under the SMSP initiative, an MSP Policy has been drafted and was endorsed by Cabinet in Sept 2020. The MSP Policy has multiple objectives, in particular to: *address comprehensive marine environmental management of Seychelles EEZ and Territorial Sea, take on-board the Seychelles' international commitments while taking into consideration modern developments in Protected Area management, blue economy and sustainable development, meet and surpass the Convention on Biological Diversity (CBD) Aichi target of 10% marine protection by 2020, facilitate integrated governance between Ministries, and meet and surpass the United Nations Sustainable Development Goals (SDG) of 10% marine protect by 2020*.

The SMSP initiative and this Management Plan form part of the Seychelles international commitment to:

- **Convention on Biological Diversity Aichi Target 11:** 10% of coastal and marine areas are effectively conserved by 2020.
- **Sustainable Development Goal Target 14.5:** By 2020, conserve at least 10% of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

1.2 Management Plan scope

This Management Plan serves as a blueprint for the administration and operation of the Amirantes to Fortune Bank Sustainable Use Area, with a focus on biodiversity conservation,

sustainable use, equitable access, transparent decision-making, and addressing current and future challenges.

The Amirantes to Fortune Bank Sustainable Use Area is in the centre-east of the Seychelles EEZ covering an area of 217,589 km², and encircles the inner islands, although they are excluded from this Management Plan.

This Management Plan covers the marine waters around and between atolls and islands in the Amirantes to Fortune Bank Area and applies to the area defined by S.I. 77 2023 pertaining to the Sustainable Area (Marine) Order, 2023 designated under the Nature Reserves and Conservancy Act 2022. The boundaries of the Area are detailed in the gazetted Schedule of the Designation Order (Figure 1).

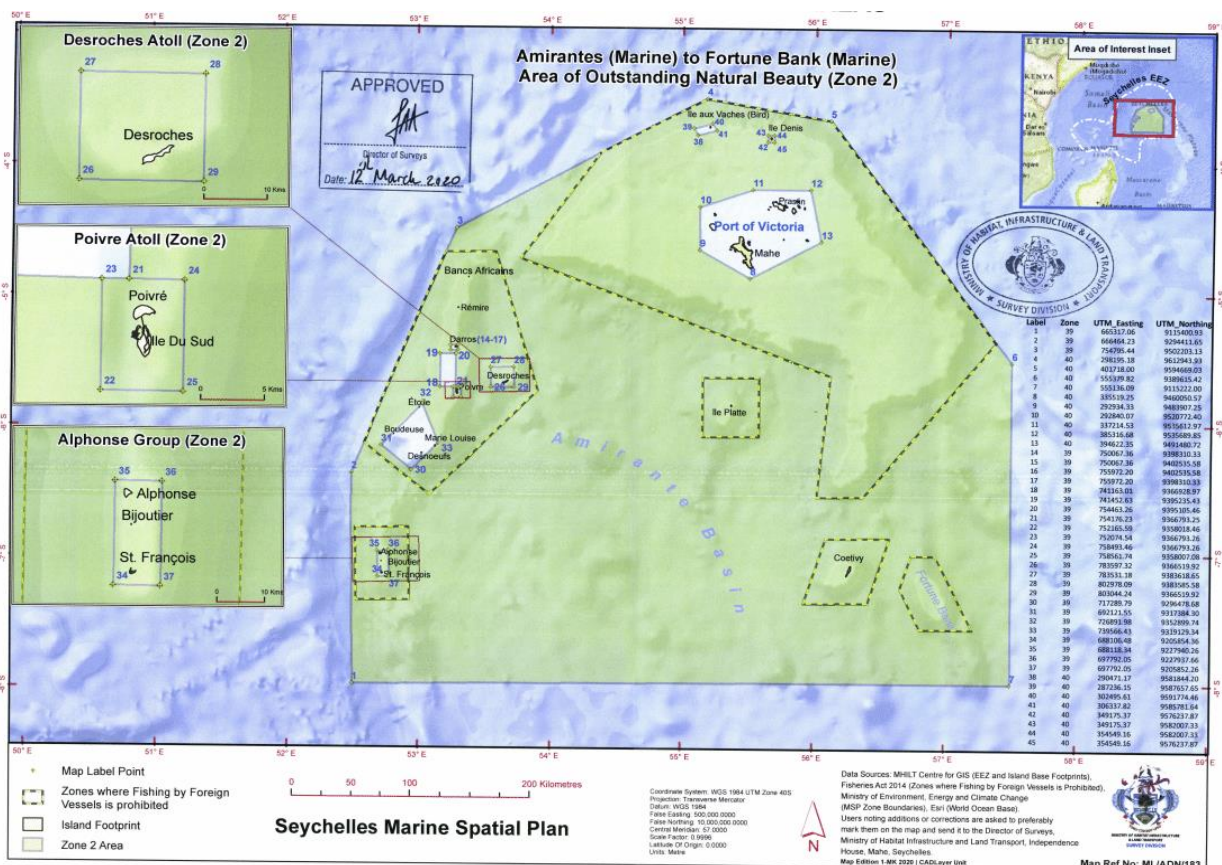


Figure 1. Map showing the boundaries of the Amirantes to Fortune Bank Sustainable Use Area with inserts showing the location within the Seychelles EEZ (top right), the industrial fisheries exclusion zones (hatched lines) and sub-management units (blue lines).

The Area includes the industrial fisheries exclusion zones defined in Schedule S.I 77 (2023)

- Mahé Island and Seychelles Bank
- Platte Island
- Coëtivy Island
- Fortune Bank
- Amirantes Islands
- Alphonse Island

The Area excludes the following locations also defined in the Schedule:

- Port of Victoria limit area

- Denis Island (Marine) Sustainable Use Area
- Desroches Atoll (Marine) Sustainable Use Area
- Poivre Atoll (Marine) Sustainable Use Area
- Alphonse Group (Marine) Sustainable use Area
- Bird Island (Ile aux Vaches) (Marine) National Park
- D' Arros Atoll (Marine) National Park
- D' Arros to Poivre Atolls (Marine) National Park
- Amirantes South (Marine) National Park

1.2.1 Management Goal

To support biodiversity conservation and sustainable development through improved and transparent governance and equitable access to marine resources.

1.2.2 Management Objectives

To support the management goal, there are four management objectives:

Ecological & Biodiversity: To maintain and enhance biodiversity and ecological values for resilient marine ecosystems.

Governance: To apply integrated governance mechanisms to ensure transparent decision making, equity and effective implementation.

Social & Cultural: To facilitate equitable access and opportunities for Seychellois to maintain and enhance social benefits and cultural values.

Economic: To optimise sustainable economic activities and create equitable opportunities.

1.3. Planning process

The development of this Management Plan built on the extensive consultative processes and networks developed during the SMSP processes since 2014 (Table 1). A consultative process involving multiple and diverse stakeholders was conducted from September 2022 to August 2023⁴. The consultation process was conducted in conjunction with processes to develop management plans for the Cosmoledo & Astove Archipelago and Farquhar Archipelago Sustainable Use Areas.

The process for developing this Management Plan was consistent with the principles of participatory management planning and international best-practice in this field (IUCN 2003, Green et al. 2020) and followed a systematic and structured four-step approach (Figure 2). It included a **scoping step** to collect information through a desk-top review and consultation with stakeholders via email and direct discussions in Seychelles during September 2022. Followed by participatory discussions about the goal and objectives, main issues and management strategies for the Area during workshops and virtual meetings from November 2022 to January 2023 (**plan development step**). Collectively, this information was used to draft the Management Plan, which was circulated for further input in April 2023 (**plan review step**), before a second public consultation phase during June-August 2023 and finalising the Management Plan (**finalise plan step**).

⁴ Project led by C2O Fisheries under guidance of the Seychelles Department of Environment, funded by SWIOFish3.

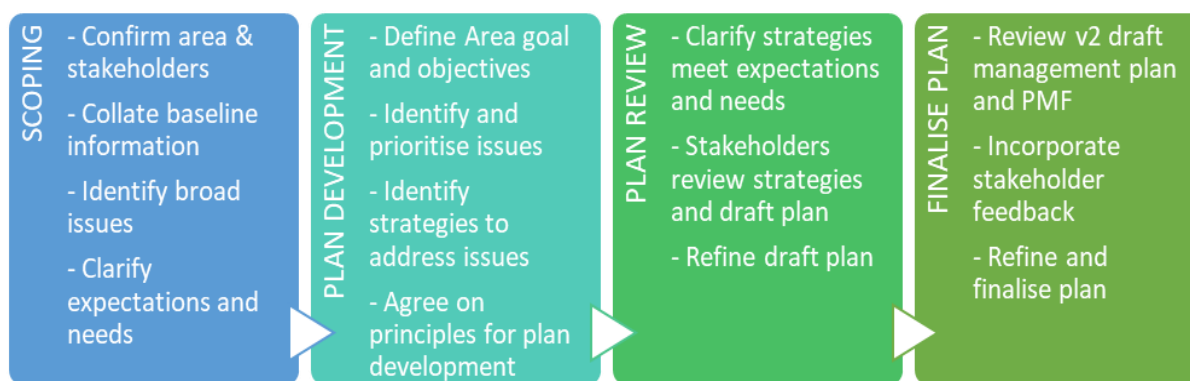


Figure 2. Overview of the process for developing the Amirantes to Fortune Bank Sustainable Use Area Management Plan consistent with the principles of participatory planning and international best-practice.

The Management Plan was developed through a consultative process involving diverse stakeholders and is an extension of the consultative processes conducted under the overarching SMSP process. The chronology for development of the Management Plan within the national SMSP process is detailed in Table 1.

Table 1. Chronology of key Seychelles MSP foundational activities (shaded in green) and consultation and process steps in the development of the Amirantes to Fortune Bank Sustainable Use Area Management Plan.

Year	Key Event
2012	Seychelles commits to protect 30% of the EEZ and 50% of terrestrial area
January 2014	Seychelles signs Abu Dhabi Blue Economy Declaration
February 2014	Seychelles initiates the Seychelles MSP initiative
November 2015	Seychelles Conservation and Climate Adaptation Trust (SeyCCAT) Act enacted
February 2016	Debt Swap agreement finalised
September 2017	MSP Policy drafted
February 2018	MSP Milestone 1 completed – 15% marine protected gazetted
July 2018	Cabinet approval to develop governance framework to implement MSP Ocean Authority
November 2018	Cabinet approval for preparation nomination file MSP Phase 2, Milestone 2 areas
April 2019	MSP Milestone 2 completed – 26% marine protection gazetted
November 2019	Cabinet approval for preparation nomination file MSP Phase 2, Milestone 3 areas
March 2020	MSP milestone – 30% marine protected gazetted
April 2020 – 2022	Planning process slowed during COVID-19 Global Pandemic
September 2022	Process commences for developing Amirantes to Fortune Bank Archipelago and other Sustainable Use (Zone 2) Area Management Plans – Scoping Step
Nov 2022 – March 2023	Broad stakeholder engagement – Plan Development Step
Mar-Apr 2023	Public review of draft management plans – Plan Review Step
June-August 2023	Public review period for final management plans – Finalise Plan Step

A total of 48 meetings, 10 participatory workshops, 3 public information sessions, and over 60 stakeholders’ groups or representatives were consulted and provided input to the development

of this Management Plan over the 12-month engagement period from September 2022 to August 2023. A full list of all stakeholders involved in the planning process is provided as part of the Stakeholder Analysis Annex.

1.4 How to use this Management Plan

This Management Plan is a guide for managers, stakeholders and users of the Area on the issues (Section 3), allowable activities, management strategies and actions (Section 4). It includes a summary of the history and values of the Area (Section 5) and current uses (Section 6), as well as implementation and governance (Section 7). Managers can refer to Section 4 for management strategies and specific actions that need to be translated into regulations under the relevant legislation. Managers and stakeholders should also refer to the Area performance management framework (Section 8), compliance and enforcement (Section 9) and management plan review overview (Section 10).

Note that this Management Plan is to be implemented in conjunction with other legislative instruments, including international conventions. This Management Plan neither negates or replaces these other legal arrangements, and should be implemented alongside and in coordination with these legal instruments (see Sections 2.3 and 2.6).

2. Management Context

As a signatory to various international conventions, the Seychelles is committed to protecting 30% of their marine EEZ, under the guidance of the Seychelles Marine Spatial Plan (SMSP) Initiative (see Section 1.3). The SMSP Zoning Framework contains three zone categories: Zone 1: high protection of marine biodiversity; Zone 2: medium protection of biodiversity and sustainable uses; and Zone 3 multiple uses. The Amirantes to Fortune Bank, identified as a sustainable use (Zone 2) area, aligns with the objective for medium biodiversity protection and sustainable uses. Allowable activities in the Area are intended to be compatible with this objective and include some extraction, commercial harvest, seabed disturbance, and economic development.

This Management Plan provides the guidance for managing the Amirantes to Fortune Bank Sustainable Use Area in line with the MSP allowable activities and is intended to reflect and align with the intent and strategies of existing management instruments in place in the Area.

2.1. Management body

Implementation of the management plans developed through the SMSP process requires an empowered coordinating agency to enable effective monitoring and evaluation, adaptive management, and the realisation of the SMSP strategic objectives. After extensive consultation including government agencies and stakeholders, the *Seychelles Oceans Authority Bill* was drafted in preparation for the transition of the SMSP to implementation. Once established, the Seychelles Oceans Authority (SOA) will have the mandate for overall marine spatial planning and to provide coordination and oversight of implementing agencies to progress the goals and objectives of the various management plans including this Management Plan. More information on these governance arrangements is detailed in Section 7.

While governance arrangements are yet to be finalised and the SOA is yet to be established, the Seychelles Oceans Agency has been nominated as an interim governing body that will work with implementing agencies through an advisory SOA management committee to provide oversight, coordination and where appropriate, implementation of SMSP.

The delegated authorities specifically responsible for overseeing the implementation of the Amirantes to Fortune Bank Sustainable Use Area Management Plan are yet to be officially designated by the Government. It is expected that a multi-stakeholder co-management approach will be adopted, and that the governance framework will include representation from a range of stakeholders with interest in this area.

The delegated authorities will report to MACCE and will work cooperatively to implement the strategies in this Management Plan, and conduct compliance and enforcement activities to ensure the goal and objectives for the Amirantes to Fortune Bank Sustainable Use Area are achieved.

2.2. Protected Area governance

In the 1960–1990s, Seychelles was one of the first countries in the Western Indian Ocean to establish a network of marine protected areas (MPA), at the time covering less than 1% of the EEZ. The selection criteria for these early MPA were based primarily on aesthetic objectives for tourism values and were designated with limited stakeholder consultation. The Government of Seychelles has various international and national commitments to conservation and management that guide the ongoing processes and governance of these MPA (details provided in Appendix A).

The SMSP is being developed as a regulatory plan, where zones will be legally designated and enforced. The SMSP Zoning Framework is an objective-based framework that contains three zone categories: Zone 1: high protection of marine biodiversity; Zone 2: medium protection of biodiversity and sustainable uses; and Zone 3 multiple uses (pending approval). The zoning categories correspond to the MSP objectives for 30% marine protection goal (Zones 1 and 2), sustainable economic development (Zones 2 and 3), climate change adaptation (all zones), and advancing the Blue Economy roadmap (all zones).

While management arrangements are yet to be finalised, it is proposed that implementation of this Management Plan will be coordinated and overseen by the Seychelles Oceans Agency with implementation delivered through line agencies. Under this arrangement, management of specific activities will be delivered through the relevant implementing line agencies. For example, management arrangements related to fishing activities will be delivered through the SFA; compliance and enforcement through coordinated efforts of the Seychelles Coastguard, SFA, SDF, IDC and NISCC; and management of vessel related issues delivered through the SMSA. Meanwhile, the governance arrangements for this Management Plan will also include a multi-sectoral management committee, a multi-sectoral scientific committee, and an independent Complaints and Resolution body to address complaints (see Section 4).

All legal activities within Zones 1 and 2 are allowable under existing management regimes until this Management Plan is endorsed by Cabinet, relevant legislation is enacted, and management systems have been established and are legally enforceable (e.g. national permit system). This Management Plan also includes actions to develop further management arrangements, for example, establishing a coordinated permits system (see Section 4). Until those arrangements commence, existing management arrangements will continue to apply. Furthermore, this Management Plan does not replace or extinguish other legally binding management arrangements currently in force, for example the provisions of the Seychelles Fisheries Act and Regulations (see Section 2.6).

2.3. Legal and policy framework

The Government of Seychelles has enacted laws that call for the protection of biodiversity and land and seascapes through several legal and policy instruments (see AE Law review 2023). The Seychelles Nature Reserves and Conservancy Act (NRC Act) commenced on 3 July 2023 and the NRC Act includes the legal framework for categorising Sustainable Use Areas.

The legal and policy framework is derived from Article 38 of the Constitution, which establishes the principle of environmental rights and declares that: *“the State recognizes the right of every person to live in and enjoy a clean, healthy and ecologically balanced environment and with a view to ensuring the effective realization of this right the State undertakesto ensure a sustainable socio-economic development of Seychelles by a judicious use and management of the resources of the Seychelles”*. The specific legal framework for the designation of different types of Protected Areas is provided by the National Parks and Nature Conservancy Act (1969).

The Government of Seychelles has ratified and/or is a voluntary signatory on several international treaties and agreements. Activities in the Amirantes to Fortune Bank Area must be done in accordance with the terms of these agreements, including the Convention on International Trade on Endangered Species (CITES); Port State Measures Agreement (PSMA); UN Convention on Biological Diversity (UN CBD); Convention on the Conservation of Migratory Species of Wild Animals (CMS); UN Convention for the Law of the Sea (UNCLOS); UN Sustainable Development Goals (UN SDG).

The Management Plan for this Area will be a regulatory plan that is legally designated and enforced. Specific legislation for designating and implementing this Management Plan has been finalised but the regulations are currently being developed. The *Seychelles National Parks and Nature Conservation Act* (NPNC Act 1969) was used for designating the SMSP zones. The Zone 1 areas are in the category of ‘(Marine) National Park’. Sustainable Use ‘Zone 2’ areas, including the Amirantes to Fortune Bank, are gazetted using the ‘(Marine) Sustainable Use Area category in the NRC Act which came into effect in June 2023.

2.4. Protected Area designation

All areas in the 2019 SMSP nomination file were proposed during extensive consultations with stakeholders between 2017–2019, with scientific analyses of best available data, and reaching agreement for support with all marine sectors. The 30% marine protection is half “no take” areas to protect marine biodiversity resources and half sustainable use and biodiversity conservation.

The SMSP Zone 2 areas are designated in a protected area category that aligns with an objective for medium biodiversity protection and sustainable uses. Allowable activities are intended to be compatible with this objective and include some extraction, commercial harvest, seabed disturbance and economic development. The draft list of allowable activities is included in Section 4, and definitions of these activities are included in Appendix B.

The Amirantes to Fortune Bank Area is designated as Sustainable Use Area through S.I. 77 of 2023–Sustainable Use Area (Amirantes to Fortune Bank) (Marine) (Designation) Order 2023 under the Nature Reserves and Conservancy Act 2022. The sustainable use status aims to improve management and protection of lagoons, shallow waters and coral reef habitats within the Area, and support the advancement of the Seychelles’ Blue Economy for local food security and sustainable livelihoods.

The Amirantes to Fortune Bank Sustainable Use Area is currently gazetted and managed under the NPNC Act (see Section 2.3). Once the required regulations are finalised, the new legislation for designating and implementing this Management Plan will come into force.

2.5. Tenure

The Amirantes to Fortune Bank Area is owned by the Government of Seychelles. The waters within the Seychelles Exclusive Economic Zone (EEZ) are managed through several different Acts and delegated authorities. All islands within the Amirantes to Fortune Bank Area, including within the management sub-units, apart from D'Arros and St. Joseph, Bird and Denis, are owned by the Government of Seychelles and leased to the Island Development Company (IDC). The other islands are privately owned and administered.

2.6. Other management instruments

The Amirantes to Fortune Bank Sustainable Use Area overlaps and is surrounded by existing maritime zones and boundaries managed by a range of agencies for different management purposes. This Section provides information related to integration and alignment with these other maritime boundaries and the relevant policies, regulations and management plans. It is intended to reflect and align with the intent and strategies in these other management instruments. These other management instruments include:

- The *Fisheries Act (2014)* and *Fisheries Regulations (1987)* which provides the legal framework for the management and sustainable development of fisheries in accordance with international norms, standards and best practice and an ecosystem approach to fisheries. The Act and Regulations provides the framework for the licensing of different types of fisheries vessels, the types of gears that can be used and areas where certain types of fisheries are excluded. Schedule 1 of the Fisheries Regulation (1987) defines the Industrial Fisheries Exclusion Zones where fishing by industrial vessels is prohibited. The boundaries of the exclusion zones are repeated in the Schedule S.I. 77 2023 - SI 77 2023 - Sustainable Use Area (Amirantes to Fortune Bank) (Marine) (Designation) Order 2023
- The *Fisheries (Mahé Plateau Trap and Line Fishery) Regulations (2021)* provides the legal framework for the implementation of the Seychelles Mahé Plateau Trap and Line Fishery Co-management Plan, published in Government Notice No. 68 of 2020.
- The *Environment Protection Act (2016)* has provisions that regulate pollution including marine litter, sewage and wastewater discharge, coastal zone management, and environmental impacts assessment.
- The *Petroleum Mining Act (1976)* control the exploration, prospection and mining of petroleum.
- The *Wild Animal and Birds Protection Act (1966)* which includes protections for turtles, seabirds, and the whale shark. This Act may soon be updated to provide protections for additional marine species (e.g. sharks and rays listed on Appendix I of the Convention on the Conservation of Migratory Species of Wild Animals).
- The *Maritime Safety Authority Act (2019)* which regulates shipping and navigation, ship groundings and oil spills.
- National *Fish Aggregating Devices (FAD) Management Plan* which describes the requirements for the use of FADs in the tuna fishery, including the number of FADS that can be deployed, FAD markings and identification, and the deployment and retrieval of drifting FADs.

- The National Plan of Action for the Conservation and management of sharks (Nevill et al. 2007) that provides a national overview and actions for conserving sharks and rays across the Seychelles.
- There is a “Red areas to be avoided” on the Mahé Plateau. Designated by the International Maritime Organisation (IMO) on the two sides of the northern and southern approach onto the Mahé Plateau for vessels above 200 Mt for protection of the environment.
- There are ballast exchange requirements, and an area has been designated as a ballast exchange point to the South of the Mahé Plateau for ships to exchange ballast water before coming on the Mahé Plateau.

The following areas within the Amirantes to Fortune Bank Area have been designated as Marine National Parks and Areas of Outstanding Natural Beauty as part of the Seychelles Marine Spatial Plan Initiative and are expected to have their own management plans.

- Bird Island (Ile aux Vaches) (Marine) National Park
- D’ Arros Atoll (Marine) National Park
- D’ Arros to Poivre Atolls (Marine) National Park
- Amirantes South (Marine) National Park
- Denis Island (Marine) Sustainable Use Area
- Desroches Atoll (Marine) Sustainable Use Area
- Poivre Atoll (Marine) Sustainable Use Area
- Alphonse Group (Marine) Sustainable Use Area

Additionally, the Seychelles Tuna Fishery Management Plan which is currently under preparation will also apply to the entire Seychelles EEZ, Third Countries EEZ and Areas Beyond National Jurisdiction (ABNJ) for Seychelles flag vessels.

3. Management Area Pressures and Issues

The focus of the Amirantes to Fortune Bank Sustainable Use Area Management Plan is to provide overarching guidance for how the Area is managed within the broader SMSP initiative, balancing nature conservation with a range of allowable activities that include fisheries, marine infrastructure, non-renewables and prospecting, tourism and recreation, and research. The scope of management strategies covers ecological and biodiversity, governance, social and cultural, and economic themes.

This Management Plan has been developed with consideration of the key issues and threats identified during stakeholder workshops in 2022 and documented threats, and is aligned with the principles agreed by stakeholders (Section 3.1) and with the guiding principles of the SMSP initiative⁵.

3.1 Key principles

The Key Principles used to guide the development of this Management Plan were derived from stakeholder consultation workshops held in 2022, and consider the guiding principles of the SMSP initiative. Table 2 summarises input by stakeholders and is specific for the Amirantes to Fortune

⁵ <https://seymsp.com/the-initiative/guiding-principles/#:~:text=Transparency%2C%20inclusivity%20and%20participation%20are,to%20improve%20ecological%20sustainable%20development.>

Bank Sustainable Use Area. These are based on global principles (Green et al. 2020) and two types of principles were identified:

Biophysical aimed at achieving ecological objectives by taking key biological and physical processes into account.

Socioeconomic and cultural aimed at maximizing benefits, minimizing conflicts and minimizing costs to local communities and industries.

Table 2. Key principles identified by stakeholders to guide the development and implementation of the Amirantes to Fortune Bank Sustainable Use Area.

Biophysical Principles	Amirantes to Fortune Bank Area context
Manage Critical, Special and Unique Areas and Species.	Manage critical areas or habitats for: <ul style="list-style-type: none"> - Protection of integrity, functionality and ecological roles. - Seasonal and spatial protection of fish spawning aggregations (key species), - Mitigate interactions between longline fisheries and sensitive species classified as endangered, threatened and protected (e.g. cetaceans, sharks, turtles, seabirds). - Put in place measures to protect cetacean’s nursery areas. - Put in place measures to protect whale sharks and Manta rays feeding areas. - Consider the use of temporary closures.
Support Larval Dispersal	<ul style="list-style-type: none"> - Integrate larval dispersal in design where information is available. - Identify source and sink habitats (e.g. for corals) and manage for both.
Promote Recovery	<ul style="list-style-type: none"> - Establish long term (>20-40 years) protection, or permanently. - Use short-term (<5 years) or periodically harvested strategies for species with fast recovery rates in sector management plans to be responsive to ecosystem change. - Take a precautionary and analytical approach to the need for and methods used for habitat restoration.
Manage Healthy Areas from Local Threats	<ul style="list-style-type: none"> - Manage areas where habitats and populations of important species are in good condition with low levels of local threats (e.g. from overfishing, destructive fishing, coastal development, mass tourism, land-based runoff, marine pollution, shipping, mining, oil and gas industries). - Manage healthy habitats from local threats, such as vessel anchoring e.g. identify and designate areas for safe anchorage to provide sheltered locations in different conditions but not on coral reefs or seagrass. - In areas where habitats and populations of important species are in poor condition due to local threats: <ul style="list-style-type: none"> o reduce threats, o Facilitate natural recovery (e.g. by protecting larval sources and species like herbivores that play important functional roles in ecosystem resilience), and o consider the costs and benefits of rehabilitating habitats and species (e.g. by restoring structures, transplanting corals, or facilitating population recovery of species by restocking or using temporary closures.)
Adapt to Changes in Climate and Ocean	<ul style="list-style-type: none"> - Manage sites that are likely to be more resilient to global environmental change. - Promote catch and release for sport fisheries, particularly of species that play an important functional role in ecosystem resilience
Traceability/Sustainability	<ul style="list-style-type: none"> - Promote/encourage fish supplies coming from Zone 2 from fleets that are certified or participating in fisheries improvement projects that are internationally recognized.

Increase level of observation in industrial fisheries	<ul style="list-style-type: none"> - Achieve 100% observer coverage on industrial tuna vessels (onboard and electronic)
Improve management of FADs	<ul style="list-style-type: none"> - Improve the effectiveness of FADs recovery through projects (e.g. FAD-Watch) or fishing operations. - Mitigate the impact of DFADs stranding on the ecosystem.
Socio-economic Principles	Amirantes to Fortune Bank context
Involve Stakeholders in Planning and Establishing Sustainable Use Area	<ul style="list-style-type: none"> - Involve all stakeholders in each step of the process. - Consider opportunities for collaborative management and implementation among all stakeholders. - Implement balanced and fair governance and management.
Ensure Fair and Equal Access and Use	<ul style="list-style-type: none"> - Ensure stakeholders have fair and equal access to, and use of, marine and fisheries resources. - Avoid exclusive use of marine and fisheries resources.
Support Multiple, Environmentally Friendly Uses	<ul style="list-style-type: none"> - Allow for multiple sustainable uses (including sustainable fishing, tourism, aquaculture, education and research, exploration) in line with government policy. - Resolve conflicting uses through negotiation and compromise between stakeholders.
Support Local Livelihoods	<ul style="list-style-type: none"> - Apply environmental and social standards to safeguard access in support of livelihoods. - Promote/carry out ESIA's for major development/activities/research to ensure that biodiversity and livelihoods are safeguarded. - Support management actions that maintain or increase ecosystem goods and services for local communities. - Support sustainable livelihoods, including artisanal fisheries, aquaculture, sport fishing, and marine eco-tourism. - Support local jobs through sustainable artisanal and industrial fisheries and commercial tourism.
Support Local Customs and Practices	<ul style="list-style-type: none"> - Protect local knowledge, traditional law, and culture that support sustainable resource management. - Protect areas that have important traditional cultural values for local people (e.g. fishing grounds, shipwreck sites)
Education and communication	<ul style="list-style-type: none"> - Make new management area boundaries available on navigational charts for easy distribution and communication. - Ensure that information reach concerned stakeholders using appropriate distribution channels. - Educate the population of management measures in place and how to comply with them.
Inclusion of management authorities	<ul style="list-style-type: none"> - Ensure inclusion of existing management authorities in the site management committee.

3.2 Priority issues

There are several issues and *pressures* that affect the social, cultural, economic, ecological and biodiversity values of the Amirantes to Fortune Bank Area. Understanding the issues, pressures, and their drivers can inform conservation priorities to mitigate the impacts of current and future change on the marine ecosystem. The following definitions are offered (Oesterwind et al. 2016):

Drivers are a complex phenomena governing the direction of ecosystem change, which could be of human and/or nature origin. Drivers are considered beyond the direct control of management, for example anthropogenic drivers are based on economic, social and political fundamental needs (demands) for food, clean water, employment, transport and energy. While natural drivers are independent from anthropogenic causes (also referred to as “force majeure”), such as earthquakes, volcanic eruptions or tectonic drift.

Pressures are the result of a driver-initiated mechanism (human activity or natural process) causing an effect on any part of an ecosystem that may alter the environmental state. Management can have a direct influence on the intensity, direction and occurrence of pressures, which include climate change, extractive fishing and shipping, as examples.

In combination, these drivers and pressures create issues that occur in a specific area, and understanding these relationships can help identify the most effective and appropriate management response. For example, illegal fishing by foreign fishing vessels may be identified as a high priority issue. Understanding the nature of the issue, the pressures and drivers creating it, and resulting impact can help managing authorities prioritise and design an effective response. Meanwhile, understanding the drivers behind this pressure may highlight additional steps that can be taken through other means, for example, diplomatic efforts or regional measures that may help to address the underlying causes driving illegal fishing.

A global assessment of the overlap in the distributions of different pressures has important implications for biodiversity change attribution and the potential for interactive effects and found combinations of anthropogenic pressures explain patterns of biodiversity and ecosystem change (Bowler et al. 2020). At a regional scale, in the Indian Ocean, the primary drivers and pressures on biodiversity and ecosystem condition were climate change followed by human use (extraction), with human population, pollution and biosecurity risks (invasive potential) negligible and well below the global median.

At a national scale, pressures that have been identified include climate change, small land area (thus requiring reclamation that has impacted coastal environments), high dependence on a few industries including tourism, fisheries, ICT and shipping (most of which occur in the marine environment), concentration of the population in the coastal zone, remoteness, limited capacity and lack of resources (Government of Seychelles 2019, 2020). These are important considerations for this Management Plan.

Eliciting local knowledge is crucial in planning and management at local scales to identify perceived issues, areas of conflict, and to understand stakeholder needs and concerns (Castellanos-Galindo et al. 2011, Mellado et al. 2014). This ‘issue elicitation’ step is a recognized part of the planning process (Thomas & Middleton 2003), and local engagement and recognition of local perspectives is crucial to successfully managing shared resources (Ostrom et al. 1999, Basurto 2005, Viteri & Chavez 2007, Ostrom 2008). As part of the consultation process, stakeholders provided their local knowledge and perceptions regarding the issues affecting the Amirantes to Fortune Bank Sustainable Use Area., The issues raised were then ranked by stakeholders and fall into four themes: ecological and biodiversity, governance, social and

cultural, and economic (Table 3). The priority issues that were perceived as being the most important by stakeholders and/or appeared under multiple themes are highlighted in blue in

Table 3. Stakeholder issues, particularly high priority issues, as well as documented threats to the Area were the focus of the management strategies in Section 4.

Table 3. Issues identified and prioritised by stakeholders in four thematic areas for the Amirantes to Fortune Bank Sustainable Use Area. Issues in blue are those that this Management Plan could address.

<p>Ecological & Biodiversity:</p> <ol style="list-style-type: none"> 1. Poaching/IUU. 2. Marine pollution/illegal dumping. 3. FAD management ineffective. 4. Inadequate monitoring, research, and conservation. 5. Lack of data on by-catch. 6. Climate change impacts. 7. Anchor damage. 8. Effect of tourism activities on species/ecology. 9. Failure to include results of scientific research in area management. 10. Depredation by cetaceans in industrial longline fishery. 	<p>Governance:</p> <ol style="list-style-type: none"> 1. IUU/Poaching. 2. Different types of conflicts among users of the area. 3. Conflict- within fishing industry. 4. Inadequate FAD management. 5. Ineffective mechanism to retrieve drifting FADs. 6. Low capacity for enforcement 7. Lack of resources for effective response. 8. Lack of information on best practices for different types of ongoing activities. 9. Insufficient monitoring of fishing activities.
<p>Social & Cultural:</p> <ol style="list-style-type: none"> 1. Lack of knowledge and awareness /ocean literacy. 2. Lack of access for Seychellois citizens. 3. Lack of recognition of cultural values. 4. Little cultural value placed on deep ocean habitats 5. Lack of independence of NGOs. 6. Lack of information on responsibility of different users in the area. 7. Lack of information on activities taking place within the area. 8. Misconception of issues across different user groups. 	<p>Economic:</p> <ol style="list-style-type: none"> 1. Lack of valuation information. 2. Lack of control of local operators. 3. Lack info on opportunities. 4. Respect of no fish sale for recreational fishers. 5. Lack of financial resources. 6. Inadequate knowledge about AFB Area resources. 7. Focus on profit vs conservation. 8. Need to domesticate eco-tourism activities.

3.3 Pressures and threats

The Amirantes to Fortune Bank areas has a number of documented pressures and threats, both natural and manmade, that contribute in varying ways to the stakeholder issues of concern:

- **Unregulated fishing:** While the Mahé Plateau has a fishery management plan for the trap and line fishery that controls fishing activities on parts of the Mahé Plateau falling within the Amirantes to Fortune Bank Sustainable Use Area, the other areas are currently not managed. As a result, there is no indication on the level of fishing pressure that the shallow areas around each of the islands can support. Fishing for sea cucumber within the area is controlled by output measures which specifies the number of pieces of each of the three

harvested species that can be removed, but there is no annual catch limit by area. There is no national level management of recreational fishing in the area and rod number are decided by IDC for island-based operations, and by private operators for live aboard.

- **Climate change:** Increasing ocean temperatures have been recorded in the Area along with periods of marine heatwaves that drive mass coral bleaching events. Higher ocean temperatures are also linked to increasing incidents of hard coral disease, particularly in coastal areas with land-based inputs (e.g. lagoons). Ocean acidification has also been linked to impacts in marine organisms with calcium carbonate skeletons such as corals (Hill & Hoogenboom, 2022, Kaniewska et al. 2012), echinoderms (Dupont et al. 2010), gastropods (Bibby et al. 2007, Melatunan et al. 2013).
- **Marine debris:** Accumulation of marine plastic waste on the beaches of the islands within the Amirantes to Fortune Bank Area is a common sight. Dispersal simulations indicate that most of the marine debris of terrestrial origin that reaches the beaches of the Seychelles southern islands originates from Southeast Asia (Duhec et al. 2015, Vogt-Vincent et al. 2023) as well as from shipping and fisheries (Balderson & Martin 2015, Duhec et al. 2015, Honorato-Zimmer et al. 2022, Imzile et al. 2022, MacMillan et al. 2022, Vogt-Vincent et al. 2023, Zudaire et al. 2018).
- **Wildlife poaching:** The poaching of protected wildlife is an important threat for biodiversity in the Area. Poaching of sea turtles, particularly the IUCN classified “Endangered” green turtle (*Chelonia mydas*) for meat as well as bird eggs of sooty terns (*Sterna fuscata*) and Brown noddies (*Anous stolidus*) and meats of the tropical shearwater (*Puffinus bailloni*) and wedge tail shearwater (*Ardenna pacifica*). The IUCN classified “Vulnerable” coconut crab (*Birgus latro*) is not protected locally but is threatened by human consumption and numbers have dwindled dramatically on most islands in the Amirantes to Fortune Bank Area.
- **Indiscriminate anchoring:** Indiscriminate anchoring in shallow areas within the Amirantes to Fortune Bank Area causes damage to coral reefs through physical destruction of fragile coral skeletons and to seagrass beds by ploughing up the roots during anchor retrieval.
- **Petroleum exploration:** Two large areas of 16,284 km² that partially falls with the Amirantes to Fortune Bank Sustainable Use Zone have been licensed for oil exploration. To date there has been no documented negative impacts of oil exploration in the Seychelles. However, as risk is the product of vulnerability and exposure, the high vulnerability from possible impacts of oil exploration makes it an important threat to be considered.

4. Management Strategies

This section describes the activities that are permitted to occur within the Amirantes to Fortune Bank Sustainable Use Area and provides strategies and actions identified to address the priority issues, goal and objectives for the Area (Figure 3). The Allowable Activities for this Area have been drafted under the Seychelles Marine Spatial Plan process and are yet to be finalised. The Allowable Activities that may occur within the Amirantes to Fortune Bank Sustainable Use Area with provisional conditions from the management strategies and actions are detailed in Table 4.

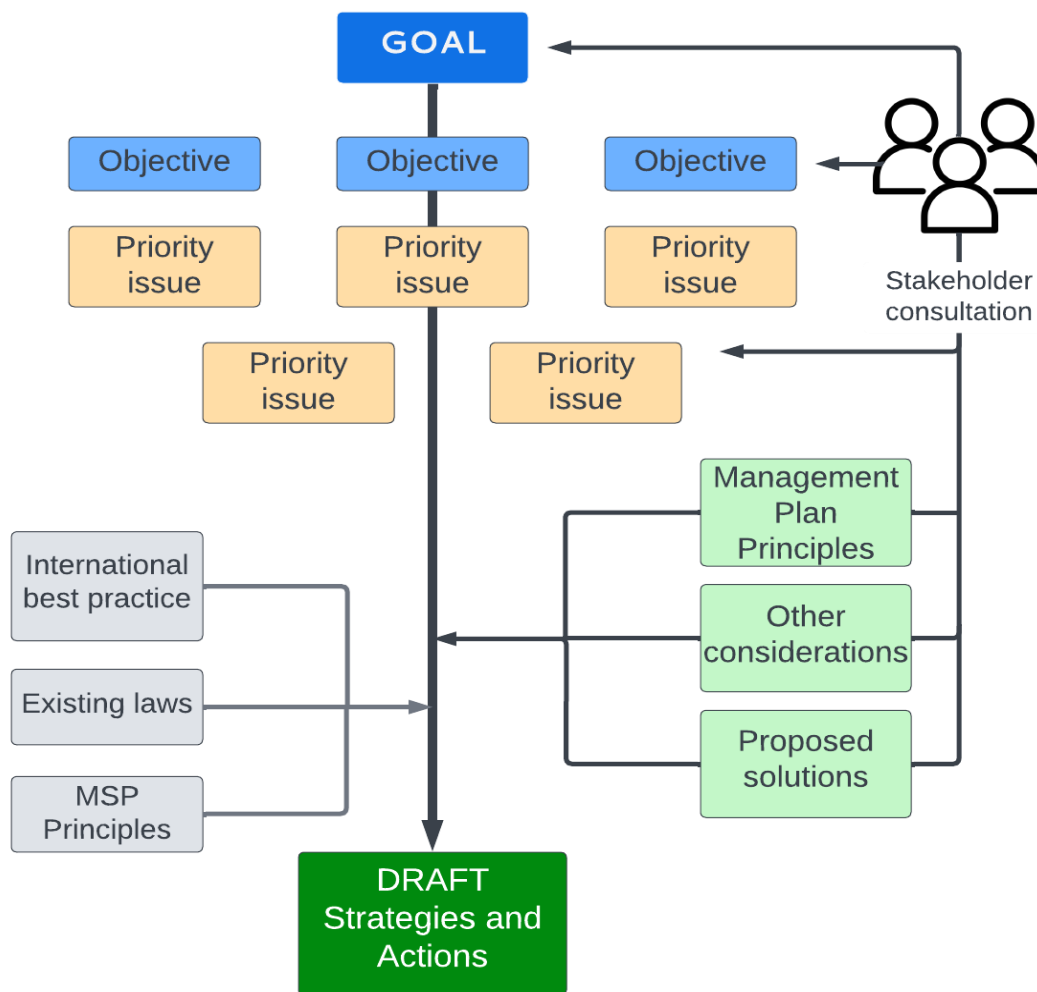


Figure 3. Process and information used to develop the strategies and actions in this Management Plan.

4.1 Sustainable use allowable activities

The list of allowable activities for Sustainable Use Areas that includes a provisional schedule of conditions to support the management actions are detailed in Section 4.2 and Table 4. The draft Allowable Activities table, zoning codes for activities, and definitions of each activity are provided in Appendix B. All activities and uses will be conducted in accordance with applicable national laws, regulations, and policies, as well as applicable international laws, treaties, and agreements.

All existing national laws, regulations, and policies, as well as applicable international laws, treaties, and agreements apply and must be complied with. These include the Fisheries Act and Regulations (2014), Environment Protection Act (2016), Maritime Safety Authority Act (2019), Wildlife Bill (draft 2023), and Petroleum Mining Act (1976) as well as other legislations, management plans (e.g. DFAD Management Plan) and conservation and management measures (CMMs) in place (e.g. sea cucumber management measures, IOTC CMMs). The rules of these legislation are not replicated in the strategies below, but their intent is reflected in all actions.

Furthermore, until such time as operational elements of this Management Plan, such as the national permit system commence, existing management arrangements will continue to apply.

4.2 Management strategies and actions

This section identifies the management strategies and actions to be implemented to address the identified priority issues, to deliver improved sustainable use of the Amirantes to Fortune Bank Area. These management strategies were developed through a consultative stakeholder participation and review process during which management actions were drafted based on the allowable activities for the SMSP Sustainable Use Areas (Zone 2). Each of the management strategies is mapped against the Management Plan objective it supports and detailed actions identified.

Seven management strategies have been identified for the Amirantes to Fortune Bank Sustainable Use Area. Each strategy is comprised of specific actions. Where an action requires further consultation, e.g. setting capacity limits, such consultation must be done in accordance with one of the Guiding Principle of the SMSP: *Transparency, inclusivity and participation are cornerstones of the engagement, consultation and communication with stakeholders and civil society*. Further explanation of the rationale for each management action is provided at Appendix C.

Ecological & Biodiversity objective: To maintain and enhance biodiversity and ecological values for resilient marine ecosystems.

Strategy 1: Minimise human impacts to maintain ecological values of habitats.

1.1	Designate preferred anchorage areas (and if feasible provide moorings) for vessels to protect coral reef habitats, and integrate use of these into permit conditions for charter and tourism vessels.
1.2	Identify and implement fishing limits for high-risk species, or during vulnerable life history stages for key species (e.g. during spawning aggregation and nursing periods).
1.3	Establish no discharge zones for wastewater and ballast water within 2 km of islands and atolls by vessels more than 15 m in length.
1.4	Implement programs to reduce impacts of debris and pollution on marine wildlife (e.g. beach clean-ups, awareness campaigns).

Strategy 2: Minimise anthropogenic pressures on threatened and endangered species.

2.1	Investigate options for management of aggregation sites and ecological corridors for megafauna, threatened and endangered species.
2.2	Retrieve drifting FADs of high risk to habitats and species.
2.3	Remove stranded FADs of high risk to habitats and species.

Strategy 3: Minimise impacts of fishing on marine resources to maintain sustainable fisheries (Interim).

This is an interim strategy to provide a management framework to manage fisheries and related activities until fisheries specific management plans are developed and implemented.

The fisheries management plans recommended for development include:

- A tuna fishery management plan (under development).

- An Outer Islands finfish fishery management plan.
- A sport and recreational fishery management plan.

After these fisheries plans are developed, commercial and sport fishing operators are proposed to operate under a permit system. Until the permit system is in place, existing arrangements will remain the same.

3.1	Promote and contribute to the update of the national FAD management plan to ensure that it addresses national priorities.
3.2	Require the use of best practice guidelines for catch and release fishing, including fish with signs of barotrauma.
3.3	All lagoon fly fishing shall be catch and release only.
3.4	All catch and release fly fishing (lagoon) must use single barbless hooks only.
3.5	Establish a national training and accreditation scheme for fly fishing (lagoon) guides, with only accredited guides able to lead fishing charters.
3.6	Establish and implement appropriate catch limits and gear restrictions for sport and recreational fishing.
3.7	Prohibit all fishing in reef passes leading into lagoons between 1 st November and 1 st March.
3.8	Prepare and implement a plan for all industrial fishing vessels to achieve 100% onboard or electronic observer coverage.

Governance objective: To apply integrated governance mechanisms to ensure transparent decision making, equity and effective implementation.

Strategy 4: Establish governance arrangements that are participatory and transparent, that enhances equitable and effective management.

4.1	Establish a single multi-sectoral representative co-management committee to provide strategic decision making and oversee implementation for the three Sustainable Use Areas.
4.2	Establish a complaints and resolution framework that involves an independent body.
4.3	Establish and implement a transparent and equitable permit system that includes a permit allocation mechanism
4.4	Determine capacity limits for allowable activities that may impact marine habitats and species.
4.5	Develop new or review existing Codes of Conduct for allowable activities.
4.6	Establish a financial framework to ensure permit application fees and commercial levies support management and implementation.
4.7	Develop and implement a risk-based Compliance and Enforcement Plan to support implementation and inform co-management agreements.
4.8	Optimise use of surveillance and detection technologies for monitoring and management of illegal activities.
4.9	Develop and implement a financial framework to support management that includes sustainable funding mechanisms.

Strategy 5: Enhance and facilitate research and monitoring to provide the information needed to support evidence-based decision making.

- | | |
|-----|--|
| 5.1 | Establish a scientific committee to provide technical advice, coordinate and facilitate research and monitoring activities, and oversee the research permitting processes. |
| 5.2 | Develop and implement a Research & Monitoring Strategy for marine Sustainable Use Areas. |

Social & Cultural objective: To facilitate equitable access and opportunities for Seychellois to maintain and enhance social benefits and cultural values.

Strategy 6: Improve equity of access to improve social benefits for all stakeholders.

- | | |
|-----|--|
| 6.1 | Implement education and awareness programs to raise awareness of the values of the Area and management measures to protect them. |
| 6.2 | Protect marine sites that have important cultural, archaeological or historic value, and manage them for their potential to support tourism. |
| 6.3 | Increase opportunities for locals to visit the area. |

Economic objective: To optimise environmentally sustainable economic activities and create equitable opportunities.

Strategy 7: Promote sustainability of existing industries and future opportunities for a range of eco-friendly local businesses and livelihoods.

- | | |
|-----|---|
| 7.1 | Undertake a baseline social and economic valuation to inform capacity limits, potential development or expansion of sustainable local businesses, and management decisions. |
|-----|---|

Table 4. Allowable activities in Sustainable Use (Zone 2) Areas and provisional schedule of conditions that relate to management actions for permits, codes of conduct, environmental and social impact assessments (ESIA), and security bonds. Note this is proposed as part of this draft Management Plan and not officially endorsed. Legend: A allowable (no conditions); C allowed with conditions; X prohibited; √ required; - not required. * denotes petroleum exploration activities already covered under existing ESIA and Code of Conduct provisions; AFB stands for Amirantes to Fortune Bank Sustainable Use Area.

Sectors	Marine Activity	Allowable activity	Permit (or license)	Area / site capacity limits	ESIA	Security bond	Code of Conduct	Fee or levy	Responsible Agency
Fisheries	Aquaculture	C	√	√	√	√	√	√	Seychelle Fishing Authority (SFA)
	Aquaculture, coral farming	C	√	√	√	√	√	√	SFA
	Artisanal Fishing (multiple gear types)	C	√	-	-	√	-	√	SFA
	Fly Fishing, blue water	C	√	-	-	-	√	√	SFA
	Fly Fishing, lagoon	C	√	√	-	-	√	√	SFA
	Industrial Pelagic Longline	AFB only	√						SFA
	Industrial Purse Seine (free school)	AFB only	√						SFA
	Industrial Purse Seine (floating objects, dFAD)	AFB only	√						SFA
	Industrial Purse Seine (supply vessel)	C	√						SFA
	Recreational Fishing	C	-	-	-	-	-	-	SFA
	Semi-industrial Hand Gathering	C	√	-	-	-	√	√	SFA
	Semi-industrial Hook & Line	C	√	-	-	-	√	√	SFA
	Semi-industrial Longline	C	√	-	-	-	√	√	SFA
Sport Fishing (multiple activities)	C	√	-	-	-	√	√	SFA	
Subsistence Fishing	C	-	-	-	-	-	-	SFA	
Maritime Infrastructure	Ballast and Bilge Dumping	X							
	Bunkering at sea	C	√	-	-	-	-	-	Seychelles Maritime Safety Authority (SMSA)
	Bunkering at sea, Fishing vessel	X							
	Commercial shipping	C	-	-	-	-	-	-	SMSA
	Desalination, boat-based	A	-	-	-	-	-	-	SMSA
	Desalination, land-based	C	√	√	√	√	-	-	Seychelles Planning Authority (SPA) & MACCE
	Disposal, dumping, dredge spoils	X							
Dredging, coastal	C	√	√	√	√	√	√	MACCE/SPA	

Sectors	Marine Activity	Allowable activity	Permit (or license)	Area / site capacity limits	ESIA	Security bond	Code of Conduct	Fee or levy	Responsible Agency
	Ferries and Transportation	C	√	-	-	-	-	-	SMSA/Tourism Department NISCC MACCE/SPA
	Patrols and Surveillance	A	-	-	-	-	-	-	
	Ports, Marinas, Wharves, Jetties	C	√	√	√	√	-	√	
	Reclamation	X							
	Renewable Energy, deep water thermal	X							
	Renewable Energy, solar (marine)	X							
	Renewable Energy, tidal	C	√	√	√	√	-	√	MACCE
	Renewable Energy, wind (offshore)	C	√	√	√	√	-	√	MACCE
	Renewable Energy, wave	C	√	√	√	√	-	√	MACCE
	Underwater Cables	C	√	√	√	√	-	√	MACCE
Non-renewable & prospecting	Bioprospecting Development	C	√	√	√	√	-	-	PetroSeychelles
	Deep-sea Mining	X							
	Petroleum Geophysical Surveys, Exploration	C	√	√	*	√	-	√	PetroSeychelles
	Petroleum Exploration, Drilling	C	√	√	*	√	-	√	PetroSeychelles
	Petroleum Development, Production, Extraction	C	√	√	*	√	-	√	PetroSeychelles
	Sand Mining	X							
Tourism & Recreation	Anchorage and Mooring Buoys	C	-	-	-	-	√	-	MACCE
	Floating structures	C	√	√	√	√	√	-	MACCE
	Hire craft	C	√	√	-	-	√	√	Tourism Department
	Motorised Activities (Watercraft, Ship)	C	√	√	-	-	√	√	Tourism Department
	Non-Motorised Activities	C	-	-	-	-	√	√	Tourism Department
	Passenger ships	C	√	√	√	-	√	√	SMSA/ Tourism Department
	Tourism Accommodation, marine	C	√	√	√	√	-	√	MACCE
	Tourism Accommodation, terrestrial	C	-	√	√	√	-	√	MACCE
Research	Bioprospecting Research	C	√	√	√	-	-	-	SPS
	Scientific Geophysical Surveys, Research	C	√	√	√	-	-	-	SPS
	Scientific Research and Monitoring	C	√	-	-	-	√	-	SPS
	Hydrographic Surveys	C	√	√	√	-	-	-	SPS

4.3 Enabling policy and regulations

The available existing legislation has been examined and the Nature Reserves and Nature Conservancy Act (2022) (NRNC Act) has been identified as the appropriate legal instrument currently for designation of protected areas. The NRNC Act has objectives to provide for the protection and conservation of landscapes, seascapes, ecological diversity and the sustainable use of biological diversity by achieving an effective and multi-use protected area system that is representative, comprehensive and balanced, thereby maintaining the highest quality examples of ecosystems within the country by engaging all stakeholders.

The Nature Reserves and Nature Conservancy Act (2022) came into force in July 2023. The Amirantes to Fortune Bank '(Marine) Area of Outstanding Natural Beauty' has been re-classified as a Sustainable Use Area. The Nature Reserves and Conservancy (Further Criteria for Classification of Protected Areas) Regulations, 2023, provides the criteria for the classification of different types protected areas in Seychelles. For designation as a Sustainable Use Area, the area shall:

- (a) be expected to hold significant socio-economic and cultural value;
- (b) contain natural resources that can be used sustainably without leading to the long-term decline of the resource and integrity of the biological diversity; and
- (c) promote scientific research and monitoring to inform the sustainable use of natural resources in the area.

Once the area is re-designated as a Sustainable Use Area, legislations will be prepared and will provide the principal legislative framework under which the Amirantes to Fortune Bank (Marine) Area will be managed.

Legal implications

Legislation is needed to gazette SMSP Zone 2 areas in a "sustainable use area" (IUCN VI) category of "protected areas", for a conservation and sustainable uses objective. For Milestone 1, 2 and 3, the SMSP Executive Committee applied the Nature Reserves and Nature Conservancy Act (NRNC Act) for designation. The amended NRNC Act (2022) is now applied to designate the "sustainable use area" category for "protected areas" with the objective for conservation and sustainable uses.

Regulatory implications

For implementation of the SMSP, the concept of an independent Seychelles Ocean Authority is being explored as per agreement by Cabinet in July 2018 and a final report that was submitted December 2018. A new Seychelles MSP Policy was drafted and approved in 2020.

Draft Allowable Activity tables and management considerations for all areas have been developed through stakeholder consultations and public workshops. With assistance from SWIOFish3 and other donors, management plans (including the current plan) and regulations are being developed.

Monitoring, control and surveillance (MCS) is being explored with the Seychelles Fishing Authority (SFA), the Regional Coordination Operations Centre (RCOC), Seychelles Coast Guard, the Islands Development Company (IDC), and National Information Sharing Coordination Centre (NISCC).

5. History and Values of the Area

The Seychelles is a small island nation of about 115 tropical islands (both granitic and coralline) with a population of approximately 98,000 people (United Nations 2022⁶), mostly living on the Inner Islands. Located in the western Indian Ocean northeast of Madagascar, the country is widely known as a large ocean state with an Exclusive Economic Zone (EEZ) of 1.4 million km² and a land area of 459 km². The Amirantes to Fortune Bank Area is in the centre of the Seychelles EEZ and encompasses the Mahé Plateau, the Amirantes Ridge and the Amirantes Basin and covers 217,589 km² or 16.1% of the Seychelles EEZ.

5.1. History of the site

Historically, the Amirantes to Fortune Bank Area has been used extensively for fishing. Before the time of industrial fishing, many islands within the area had fishing camps involved in the fishing and salting of fish for sale on the main islands. The Mahé Plateau in the northern part of the Amirantes to Fortune Bank was and continues to be fished by schooners and whalers from Mahé, Praslin and La Digue. Over the years, fishing for demersal finfish over the Mahé Plateau has expanded away from the granitic islands with advancement in boat engine, navigation equipment and increase in boat size. Latest analysis of VMS data shows that now the whole of the Mahé Plateau is fished. From the early 1980s prospection for industrial tuna fishing started. The Amirantes basin soon became an important fishing ground for industrial tuna purse seiners and industrial longliners. This continues to present day.

Merely 140 km South of Mahé Island, just of the Mahé Plateau is the small Island of Platte, with an area of only 54 ha. In the 19th and 20th century Platte was first used for the extraction of guano deposits and was then transformed into a coconut plantation. A 60-room resort is being built on the island, with opening scheduled for mid-2023.

The island of Coëtivy is found 290 km south of Mahé Island. It is the largest sand cay of the Seychelles with an area of 931 ha. The island was used from very early in its history as a source of timber and for agriculture and animal husbandry. In the early 1990s, the island was used as a land-based black tiger prawn (*Panaeus monodon*) farm. As the venture was not profitable it was closed some years later. In 2022, trials started once again for the aquaculture of the white legged banana prawn (*Litopenaeus vannemi*) and black tiger prawn, as well as intensive agriculture. Most of the native fauna of the island, which included green pigeons, shearwaters, boobies, and tropic birds have been exterminated. The island however remains an important roosting location for up to 2,500 frigate birds and an important rookery for both the hawksbill and green turtles.

African Banks are the most northerly island of the Amirantes, located 220 km west of Mahé. The islands are presently uninhabited. A lighthouse was constructed on the African Banks but is currently not in use. With the construction of airstrips, hotels and guest houses on some of the islands within the Amirantes to Fortune Bank Area, the Area started seeing increasing use by tourism activities. There are now hotels on the island of Descroches, Alphonse and Platte.

5.2 Surrounding features

The Amirantes to Fortune Bank Area is bordered to the West by the Amirantes Trench, which is more than 600 km long and as deep as 5,200 m in certain locations. To the South and Southeast of the Amirantes to Fortune Bank Area, just beyond the Seychelles EEZ, is the Joint Management

⁶ <https://population.un.org/wpp/>

Area (JMA) of approximately 390,000 km² forming part of the Mascarene Ridge between Seychelles and Mauritius. The JMA is an area of extended continental shelf designated under Article 76 of the United Nations Convention on the Law of the Sea (UNCLOS).

Approximately 300 km Southeast of the island of St. Francois, the southernmost island of the Amirantes to Fortune Bank Area, is the island of Providence which is included in the Farquhar Archipelago Sustainable Use Area

The areas around the Amirantes to Fortune Bank boundaries are in the Deepsea and are fish by industrial tuna purse seiners and longliners.

Nested within the Amirantes to Fortune Bank Area, in the middle of the Mahé Plateau, is the Port of Victoria limit area. This area encompasses all the Seychelles granitic islands. These granitic islands are of pre-Cambrian origin at approximately 650 million years old (Braithwaite 1984).

Seychelles is impacted by the Indian Ocean Gyre. Seychelles is mostly influenced by the eastward flowing Equatorial Counter Current and the two westward flowing currents, which are the North Equatorial Current and South Equatorial Current during the Northwest trade wind. During the Southeast monsoon, the Equatorial Counter Current and North Equatorial Current disappear and major currents that drive the circulation within Seychelles region are the South Equatorial Current and the Somali Current (ASCLME 2012).

5.3. Values

5.3.1. Ecological

The Amirantes to Fortune Bank Area is rich in biodiversity. Recent mapping work have shown abundant seagrass meadows in the area (Hanuise 2022) particularly along the banks on the edge of the Mahé Plateau and throughout the Amirantes Bank. Seagrass areas provide important foraging areas for marine turtles, particularly green turtles, and provide habitat for high number of organisms. The islands within the Amirantes to Fortune Bank Area are all sand cays and are surrounded by fringing coral reefs, which supports high level of biodiversity including fish species that are exploited for subsistence, recreation and trade. Deeper reef areas also exist and are important source of demersal fishes that are locally consumed. However, these deeper reef areas have not been extensively documented and described.

Some of the islands which are surround by the Amirantes to Fortune Bank Area are important bird areas (IBAs). These include the islands of the African Banks, Boudeuse Cay, Etoile Cay, D'Arros, Desnoeuf and Marie Louise. However, the majority of these islands are located within in other sub-management units nested within the Amirantes to Fortune Bank Area and will have their own management plans. At many of the islands with the Amirantes to Fortune Bank Area, the population of nesting seabirds have been decimated by over exploitation and predation (e.g. Stoddart & Poore 1970a, 1970b).

Marine mammals are often encountered within the Amirantes to Fortune Bank Area. The areas to the North and South of the Mahé Plateau and the Amirantes are believed to be some of the most important areas for whales and dolphins in Seychelles waters. Overall, 41 different species of cetaceans have been observed in Seychelles waters.

5.3.2. Species of conservation interest

The Amirantes to Fortune Bank Area have a number of species of conservation interest. The Endangered green turtle (*Chelonia mydas*) and Critically Endangered hawksbill turtle (*Eretmochelys imbricata*) nests on all of the islands within the area, with higher proportion of

hawkbill nesting activity observed compared to green turtle nesting. This trend reverses in the Seychelles islands further south in the archipelago where there are higher number of green turtle nesting compared to hawksbill turtles. The area also has regular sightings of a number of whale species including the sperm whale (*Physeter macrocephalus*), humpback whale (*Megaptera novaeangliae*), false killer whale (*Pseudorca crassidens*), as well as the short-finned pilot whales (*Globicephala macrorhynchus*), melon headed whales (*Peponocephala electra*) and Orcas (*Orcinus orca*). Blue whales and other large whales have also been documented from or around the Amirantes to Fortune Bank Area, however, very little is known about their ecology and migration in the area.

Aggregations of Mobulid rays are known from several sites within the Amirantes to Fortune Bank area, particularly at Marie-Louise and D'Arros island. The whale shark (*Rhincodon typus*) is also known to occur seasonally within the Area, however reef associated species such as the scalloped hammerhead (*Sphyrna lewini*) and great hammerhead (*Sphyrna mokarran*) are more permanent. Species of oceanic sharks such as silky shark (*Carcharhinus falciformis*), blue shark (*Prionace glauca*), oceanic whitetip (*Carcharhinus longimanus*) and threshers sharks (Alopiidae) are also found in the area and often interact with industrial fisheries in the area where they are caught by purse seine and in longlines.

More than 20 species of seabirds forage and nests within the Amirantes to Fortune Bank Sustainable Use Area including the sooty tern (*Onychoprion fuscatus*) and brown noddy (*Anous stolidus*).

5.3.3. Social and cultural (including recreation)

The Amirantes to Fortune Bank Area has important historical and cultural values for the Seychelles. The islands within the area used to be a great source of employment in the past, with many people from the main islands emigrating there to work in industries such as fishing, fish salting, copra production, agriculture and guano extraction. Sooty tern eggs were once exploited on several islands within the Amirantes. These days, most of the islands are focussing on high class tourism and environmental conservation. Visitors to the islands in the area, chose the area for fishing and SCUBA diving. The Mahé Plateau which forms a large part of the Amirantes to Fortune Bank Area, is an important fishing ground, both for commercial and recreational fishers that target a wide array of demersal, semi-pelagic and pelagic species.

5.3.4. Economic

Seychelles has a high-income economy with one of the highest GDP per capita in Africa (World Bank⁷), founded on two marine sectors – fishing and tourism – both of which are important in the Outer Islands, including in the Amirantes to Fortune Bank Area.

Tourism contributed 39.2% of total GDP in the Seychelles in 2019 and 21.9% in 2020 despite the global pandemic (WTTC 2021⁸) and is expected to be a key driver of post-pandemic recovery and to contribute 48% to GDP by 2028. These national trends are expected to be reflected in the Outer Islands and atolls that support nature-based tourism and recreation including marine charters, SCUBA diving, snorkelling, sport fishing, wildlife watching, cruise passenger ships, and other forms of recreation, which are important economic activities.

⁷ <https://www.worldbank.org/en/country/seychelles/overview>

⁸ <https://www.statista.com/statistics/1256977/contribution-of-travel-and-tourism-to-gdp-in-seychelles/>

The Amirantes to Fortune Bank area is important economically. Fishing is by far the most common economic activity taking place in the area. Vessel Monitoring System (VMS) data from the Seychelles Fishing Authority indicates that a large proportion of the Mahé Plateau is fished by artisanal fishers targeting demersal fishes. The charter fishing sector takes tourists out to fish on the Mahé Plateau as well as on the edge of the drop off for deep-sea demersal fishes and pelagic fishes. Further off the drop-off at the edge of the plateau, particularly in the north and south, semi-industrial longliners targets tuna and tuna-like species. The Amirantes basin is fished by industrial purse seiners and longliners. These industrial vessels are foreign owned but some of them are Seychelles flagged. These vessels also fish in other areas within the Seychelles EEZ and in the EEZ of other countries as well as on the High Seas. The industrial purse seiners use Port Victoria as a hub for unloading their fish with annually more than 90% of the purse seine catch unloaded in Seychelles. Most of the catch is transhipped into reefer containers or reefer vessels to other locations throughout the world. Annually about 16% of the purse seine catch is processed by the tuna cannery in Victoria. The cannery output in 2021 accounted for 72% of total volume (49,145 Mt) and 88% of total value (SCR 4,676 million) of Seychelles exports, with a large part of the other export goods such as fish by-catch, fish oil, fish meal, sea cucumbers, fresh and frozen being derived from the fishing industry.

The islands in the Amirantes are being developed mostly for high value tourism. The marine areas are thus used for some fishing excursions. Fly fishing has developed in the Outer Islands over the last decade, particularly at sites like Alphonse and Desroches. Fly fishing visitors pay in the range of USD 12,000 per week to fish in the area.

Licenses for petroleum exploration on the Mahé Plateau are approved by the Cabinet of Ministers and issued by PetroSeychelles, but as yet there has not been any significant find. Tourism activities that take place within the area include excursions, sailing, diving (both from Outer Islands and through liveaboards).

5.3.5 Research and education

The area offers scope for research and education as a result of most of it being subject to medium level of pressures compared to the Inner islands (Zone 3). The area is also closer to the Seychelles Inner Islands where the majority of the population lives, and hence easier to access for research and education purposes.

Research in the area has mostly focussed on the impacts of climate change on the marine environment, exploratory documentation of the marine biodiversity, the impacts of fishing, bioprospecting and on oceanography. Research and education in the area can play two major roles. First of all, long-term monitoring and research can allow for changes in the extent and quality of habitats as well as species health and distribution to be tracked through time and to quantify the impacts of natural and anthropogenic activities through time. Targeted research can also allow for creation of knowledge on specific issues that could affect the management of the area, and hence has the potential to contribute to more effective management of the area. Education has the potential to affect the importance of the area, both in terms of the ecological and economic value but also as a matter of national pride. Diversifying and facilitating research in the area is part of the strategy for this Management Plan. One thing that has affected research in the past is the lack of access to the area.

6. Current Uses

The Amirantes to Fortune Bank Area is being used for multiple economic activities such as industrial, semi-industrial, artisanal, and recreational fishing that makes use of different types of fishing gears including purse seine, pelagic longlines, droplines, hand gathering, handlines, and rods which use a variety of tackles and lures. Tourism activities are also popular and include activities such as nature excursions, snorkelling and SCUBA diving. The different current uses of the area are provided below.

6.1. Commercial fisheries

Different types of commercial fisheries operate in this area including industrial commercial fishery, semi-industrial fishery, and artisanal fishery.

Two types of **industrial fisheries** targeting tuna and tuna-like species takes place in this area. The **purse seine fishery** makes use of large nets to encircle and catch schools of tuna. The fishery started in the early 1980s. In 2021, there were 44 purse seine vessels supported by 13 support vessels that were licenced to fish in Seychelles waters. These vessels operate under various flags but are mostly owned by European companies. In 2021, these vessels made a catch of 412,922 Mt of fish of which 43,000 Mt were taken within the Seychelles EEZ. The fleet mainly targets skipjack (*Katsuwonus pelamis*) and yellowfin tuna (*Thunnus albacares*). Most of the tuna caught in the purse seine fishery are sold as canned tuna.

The **industrial longline fishery** makes use of a long main line with baited hooks attached at intervals via short branch lines. The industrial longline fleet with license to fish in Seychelles waters are mostly foreign-owned by Southeast Asian companies and focusses mainly on the high value frozen tuna for sashimi markets. The fleet operates large ultra-low temperature freezer vessels that mainly target bigeye (*Thunnus obesus*) and yellowfin in the western and central Indian Ocean for the Japanese sashimi market. In 2021, the 188 industrial longliners licensed to fish in Seychelles waters took a catch of 25,340 Mt of fish of which 14,575 Mt were taken in within the Seychelles EEZ.

Three types of **semi-industrial fisheries** operate in the Amirantes to Fortune Bank Sustainable Use Area. These include the semi-industrial longline fishery, dropline fishery and sea cucumber fishery. Vessels operating in these fisheries are owned by Seychellois, but the work force is mainly foreigners (from Sri Lanka longline fishery and from Madagascar for sea cucumber fishery).

The **semi-industrial longline fishery**, targets tuna and tuna-like species throughout the area. The fishery also makes use of upwelling areas to the north and south of the Mahé Plateau, where higher nutrient load in the upwelling waters increases productivity and abundance of tuna. In 2021, there were 41 active semi-industrial vessels that fished the area and made a catch of 1,758 Mt within the Seychelles EEZ that was mainly dominated by yellowfin tuna (89%) and swordfish (6%). Shark fins export data indicates that sharks catch can be important in this fishery. However, this is not reflected in the declared catch from this fishery published by the SFA. The semi-industrial longline fishery continues to expand in terms of the number of vessels and the area that is fished. Most of the catch from this fishery is exported as fresh tuna on ice.

The **dropline fishery** targets deepwater fishes along the edge of the plateau and banks. They target species such as the Crimson jobfish (*Pristipomoides filamentosus*), Deep-water red snapper (*Etelis carbunculus*), other snappers and groupers. The catch from the dropline fishery supplies both local and export markets.

The **sea cucumber fishery** is a closed fishery with 25 non-transferable fishing licenses. The vessels fish the Mahé Plateau the Amirantes Bank and many of the shallow banks within the Amirantes to Fortune Bank Area. The total catch in 2021 was 334,904 pieces from the three species allowed to be retained. Most of the catch from this fishery is dried and exported to Southeast Asia. In 2021, SCR 92 million of dried sea cucumbers were exported.

The **artisanal fishery** mostly includes fishing from small mini-Mahé with outboard engines, and medium size vessels with inboard engines locally known as whalers and schooners. The fishery targets mostly demersal and semi-pelagic fishes. Most of the fishing is done using hook and line, and traditional fish traps, that are now being increasingly made of metal wires. Mackerels and sardines are targeted using active gillnets close to the three main permanently inhabited granitic islands of Mahé, Praslin and La Digue. The most important fish species captured by the artisanal fishery include trevallies, snappers, emperors, and groupers.

Mariculture: Land-based aquaculture of the White legged banana prawn (*Fenneropenaeus merguensis*) started on the island of Coëtivy in late 2022 by the Island Development Company. This follows more than a decade of halt of aquaculture of the Giant Tiger Shrimp (*Penaeus monodon*) on the island. Production is destined mostly for the local market. The IDC is also investigating the possibility of doing other types of land-based aquaculture, such as for sea cucumbers.

6.2. Maritime Infrastructure (and use)

The Amirantes to Fortune Bank area is still relatively undeveloped with regards to maritime infrastructure. None of the islands within this area have a jetty. Merchandise to the islands within the area are delivered using shallow hull beach crafts that are beached on the islands. At Poivre, a channel has been dredged into the reef to facilitate entry of supply vessels.

Mariculture facilities have been set up on the island of Coëtivy. These include pumps that pumps fresh seawater from one side of the island into land-based ponds and discharges the wastewater on the other side.

A few islands have lighthouses, but none of the lighthouse are currently operational. There is intent for IDC to install radars on some of the islands, around which there are issues with poaching and illegal fishing to detect fishing vessels in the area.

6.3. Tourism & Recreation

Tourism and recreation are important socio-economic activities taking place in this area. Important tourism activities taking place in the area include:

Motorised activities which make use of engine powered watercrafts. **Yachting** is one of the most popular motorised activities taking place in the Amirantes to Fortune Bank Sustainable Use Area. There currently over 150 locally licenced yachts in the Seychelles. Many of these yachts visit the islands encompassed by the Amirantes to Fortune Bank Area and visitors gets involved in several other marine activities. All the different types of yachting require permission from the Seychelles Port Authority to leave port and are required to file a travel plan with the authorities. Most of the yachts operating in the area are chartered. There are two categories of rented yachts. **Bare boat**-chartered yachts are skippered by the renter. These vessels tend to be associated with higher impacts as the skipper often do not have any local knowledge in terms of sensitive areas, areas to be avoided and safe anchoring protocols. **Skippered charter yachts** include a local skipper, who would often have experience operating in the area and knows the protocols for limiting impacts on marine habitats.

Super-yachts also make use of the area. These are mostly privately-owned, high-end yachts owned by high worth individuals or cooperation. These yachts have local agents and are usually accompanied by a local skipper while visiting the Outer Islands. These vessels often have multiple high speed pleasure boat on board and jet skis. Some have helicopters and even sea aeroplanes. Sometimes these super yachts also bring and operate **jet skis** and **powerboats** in the area.

Private yachts are usually skippered by the owner, that can be resident, or coming from other countries.

Cruise ships regularly visit the area during the Cruise ship season (October to April). The cruise ship usually pays a landing fee for their visitors to visit islands within the area.

There are two main types of **marine excursions** organised in the Amirantes to Fortune Bank Area. Day excursions are organised by charter companies operating from the inner islands or islands within the Amirantes to Fortune Bank Area and multi-day live aboard excursions organised by companies based in the Inner islands. Excursions are usually organised for exploration and could include activities such as sunset cruise, whales, dolphins, whale sharks, manta rays, and bird watching.

Recreational fishing is popular within the Amirantes to Fortune Bank Area and is done as a recreation by private individuals or as a business by charter fishing companies. There are four main types of recreational fishing taking place in the area. These include: i) **Reef-flat fly fishing** offered by island based private companies with agreement with IDC and private companies from the Inner islands on live abroad. Fishing done mostly in lagoons and shallow reef areas targeting species such as giant trevally (*Caranx ignobilis*), bone fish (*Albula glossodonta*), milkfish (*Chanos chanos*), permits (*Trachinotus spp.*), etc. Guests are usually accompanied by trained guides. ii) **Blue water fishing** done in blue waters (deep areas) targeting pelagic species near the water surface using fly fishing gears with single hook, iii) **Big game fishing** targeting tuna and tuna like species, usually in blue waters using heavy fishing gears, and iv) **Demersal fishing** for semi-pelagic species and associated with the seafloor using hook and like.

Diving in the Amirantes to Fortune Bank Area mostly happens in areas close to the islands organised by the dive centres on the islands of Alphonse and Desroches with dive sites accessed using high power speed boats. The research centre on D'Arros island also organise dives but mostly for environmental monitoring and research.

None of the hotels in the area offer motorised water sports activities, however they offer non-motorised water sport activities such as snorkelling, windsurfing, kayak and paddle board. These activities take place very close to islands within the area.

6.4. Non-renewable /resource extraction

Currently, there are four blocks that have been licensed by Petro Seychelles for petroleum exploration (Figure 4).

- PEC-9: Located to the North-West and West of Mahé Island. The block covers an area of 7,482 km² and encompasses the Seagull Shoals and Reith Bank. The exploration contract is with SSR Seychelles Alpha and was signed in 2018.
- PEC-10: Located due North and East of the islands of Praslin and La Digue. The block has an area of 8,802 km² and surrounds the island of Denis. The exploration contract is with SSR Seychelles Beta and was signed in 2018.
- PEC-11: Contains two blocks. Area A encompasses the Southeast part of the Mahé Plateau and has an area of 6,975 km². Area B is located between the southern limits of the PEC-9

exploration block and Mahé Island. It has an area of 2,728 km². The exploration contract is with Adamantine Energy Ltd and was signed in 2022.

Petro Seychelles license register shows that most of the Mahé Plateau and the Bank of Platte Island and Coëtivy Island and Part of the Amirantes Bank have now been prospected for petroleum. Up to now, no significant wells of petroleum have been detected and there are no extractions. Several statutory mechanisms are in place to minimise impacts from oil and gas surveys or extraction, if such activities are licensed in the future, including vessels not operating within 5 km of the coast, protocols to minimise disturbance to marine species (e.g. marine mammals), full Environmental and Social Impact Assessments (ESIA) before an exploration permit will be granted, and an oil spill contingency plan approved by government (UNDP 2012).

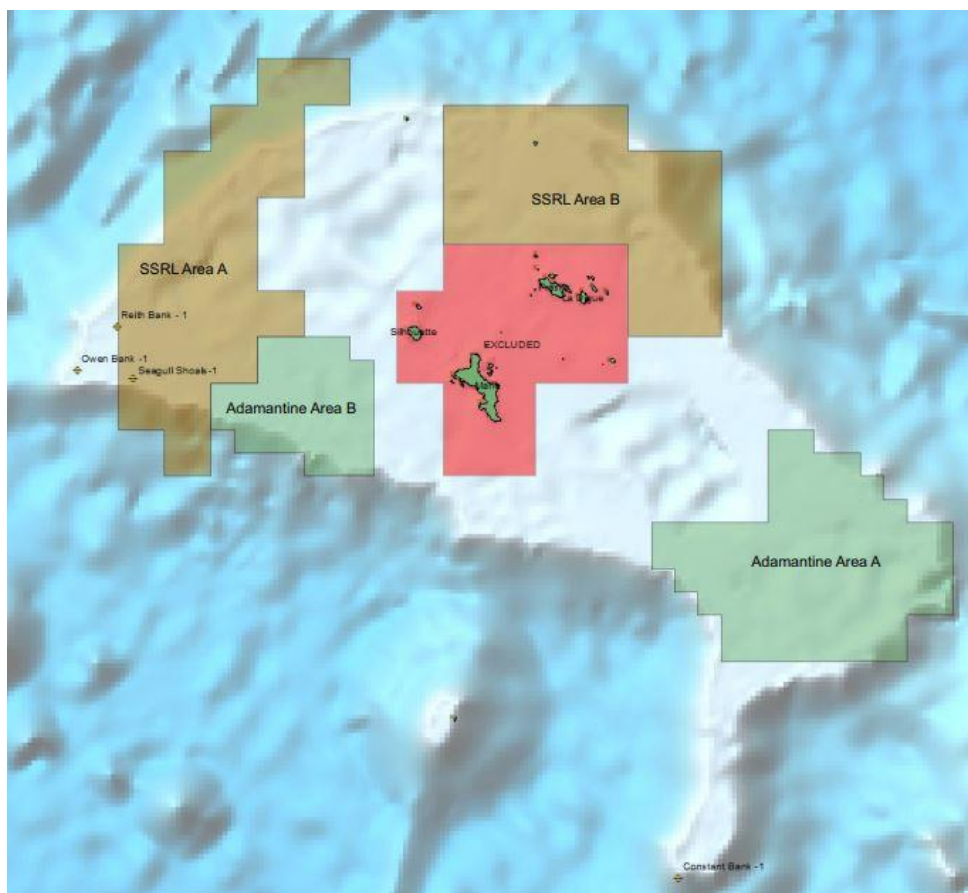


Figure 4. Active hydrocarbon exploration blocks falling within the Amirantes to Fortune Bank Sustainable Use Area. Source: PetroSeychelles (2023).

6.5. Research and education

The area offers scope for research and education as a result of most of it being subject to medium level of pressures compared to the areas around the Inner islands (Zone 3). The area is also closer to the Seychelles Inner Islands where the majority of the population lives, and hence easier to access for research and education purposes.

Research in the area has mostly focussed on the impacts of climate change on the marine environment, exploratory documentation of the marine biodiversity, the impacts of fishing, bioprospecting and on oceanography. Research and education in the area can play two major

roles. First of all, long-term monitoring and research can allow for changes in the extent and quality of habitats as well as species health and distribution to be tracked through time and to quantify the impacts of natural and anthropogenic activities through time. Targeted research can also allow for creation of knowledge on specific issues that could affect the management of the area, and hence has the potential to contribute to more effective management of the area. Education has the potential to affect the importance of the area, both in terms of the ecological and economic value but also as a matter of national pride. Diversifying and facilitating research in the area is part of the strategy for this Management Plan. One thing that has affected research in the past is the lack of access to the area.

7. Implementation and Governance

Effective implementation of this Management Plan will require a single coordinating agency to enable monitoring and evaluation, adaptive management, efficient stakeholder engagement and inter-agency coordination.

The Seychelles Oceans Authority Bill (SOA Bill) sets out the mandate of the Seychelles Ocean Authority (SOA) as an independent, coordinating and strategic management body that is responsible for managing the Areas designated through the SMSP process and to deliver on the overarching SMSP objectives. The key functions of the SOA are review and adaptive management functions, coordination, engagement, and developing relevant policy (see Appendix D). In general, the SOA will have the mandate for the overall SMSP and is empowered to require implementing agencies to report on the implementation on a regular schedule and in a standardised format, for example, agencies such as the Seychelles Coast Guard. The SOA will also provide oversight and expertise in matters of marine governance (e.g. Areas Beyond National Jurisdiction, EEZ boundaries, the Joint Management Area with Madagascar, Port State Measures Agreement, designation of Particularly Sensitive Sea Areas, Oceanographic research and application of the Maritime Zones Act).

The SOA is not an implementing entity and direct 'on ground' implementation of management plans and policy will be undertaken by delegated authorities that manage sectors or areas within the SMSP. Co-management arrangements will enable this function with a range of delegated authorities, for example, the Seychelles Coast Guard, Seychelles National Parks Authority, Seychelles Fishing Authority, Islands Development Company, Seychelles Island Foundation, Island Conservation Society, Nature Seychelles and others, including the private sector, which may assume specific co-management roles.

The SOA will be empowered under the Seychelles Ocean Authority Act to coordinate and oversee adaptive management of the Seychelles Marine Spatial Plan. Presently, the SOA Bill is drafted and needs approval from Cabinet and the National Assembly.

The Seychelles Ocean Agency has been established as an interim agency to progress the SMSP and prepare for the independent SOA.

7.1 Implementation barriers

In addition, there are potential barriers that have been identified as part of the issues prioritisation process with stakeholders that could compromise effective implementation of the Management Plan. These are listed below and linked to priorities issues from Section 3.2.

Accessibility

The Amirantes to Fortune Bank Area's size and remote location poses a logistical challenge to its effective management. Supplies and equipment need to be transported long distances and access by managers and delegated authorities for monitoring, compliance and enforcement also faces similar challenges.

Stakeholder stewardship

Management experiences in other marine protected areas in the Seychelles have proven the importance of engaged stakeholders familiar with the values of the Area and the role they play in the condition of the ecosystem. The Management Plan strives to develop an engaged public constituency through transparent decision making, equitable access and directly engaging them in issues and concerns involving the Area. However, there are limited opportunities to enable local stakeholders to experience the Area, limiting their appreciation and sense of ownership.

Funding and other resources

Effective implementation requires adequate financial and human resources to maintain management. It is proposed that permit fees paid by commercial users (e.g. tourism operators) will be one of the sources of income to support management of the Area.

Awareness and education

Management experiences in other marine protected areas in the Seychelles have proven the importance of aware stakeholders and users familiar with the values and regulations in the Area and their responsibilities. The Management Plan strives to develop an informed public constituency. However, there are limited opportunities to enable local stakeholders to experience the Area, limiting their appreciation and sense of ownership.

7.2 Implementation and governance considerations

Implementation of this Management Plan and ongoing governance recognizes that there are established systems and frameworks in the Seychelles for many of the functions that will be required. ***Existing agreements and instruments*** remain in place for the Amirantes to Fortune Bank Area until SMSP regulations, governance structures and committees, and a national permits system are established. These existing agreements and their management strategies have been considered in the development of this Plan and the strategies align with the management and conservation intent of these instruments.

A co-management approach is essential to effectively implement this Management Plan, and will include relevant agencies to implement through the delegated authorities group, nominally a ***multi-sectoral representative management committee*** and an independent Complaints and Resolution body, both assembled by the Seychelles Oceans Authority (SOA). The establishment of the independent SOA is key to implementation and governance of the SMSP.

The management actions outlined in Section 4 identify that all commercial activities should be managed under a ***transparent and equitable national permit system***. As such, the protected area permit system will need to consider these activities and align with the line agencies issuing permits for these activities (e.g. SBS, SMSA, PetroSeychelles). For example, there is an established system under the SFA for issuing fishing licenses, and rather than having two permit/license systems that increase the bureaucracy for stakeholders, the intent is to design the protected area permit system to incorporate existing systems. Some adjustments may be required to existing systems to account for Sustainable Use objectives and spatial requirements, however, a streamlined single process for applicants is recommended.

The foundation of the design is based on providing a framework for existing license/permit systems that explicitly considers the Sustainable Use (Zone 2) goals and objectives and the allowable activities conditions through a spatial lens. It aims to avoid duplication and deliver a One-Stop-Shop for applicants. Individual agencies remain responsible for assessing permits for their areas of jurisdiction, however, the initial permit application screening and issuing of permits would be administered by a multi-sectoral representative committee assembled by the Seychelles Oceans Authority (SOA). This would ensure that all permit applications are assessed against Sustainable Use (Zone 2) goals and objectives, any permits issued incorporate allowable activities conditions, and permits have a spatial endorsement for activities.

This Management Plan recognises that sustainable fishing is essential to meet the goal and objectives of sustainable use (Zone 2) areas, but acknowledge that fisheries management is primarily the responsibility of the Seychelles Fishing Authority (SFA), with management implemented through Fisheries Regulations, license conditions and fisheries management plans. However, currently there are no fisheries management plans that apply to the Outer Islands, or management plans to address sport fishing and fly fishing. In order to address the issues raised and solutions proposed by stakeholders during the consultative process, ***interim fisheries actions*** have been included that are temporary until such time as fisheries management arrangements are finalised. It is intended that these interim strategies will be reviewed, and responsibility transferred to the management committees responsible for overseeing the implementation of specific fisheries management plans as and when these are developed and come into force.

7.3 Reporting requirements

Seychelles Government agencies responsible for environmental management required to produce annual reports of their activities and reporting requirements are included in the draft legislation for the SOA. This requirement would be met through the reporting framework developed for the Performance Measurement Framework (Section 8.2). In addition, it is recommended that every five years implementation progress and effectiveness of this Management Plan be reported for all Sustainable Use Areas that synthesises the management efforts throughout the region, the status and trends in ecological, social, cultural, and economic values, progress towards achieving management objectives, and future challenges and threats.

8. Performance Measurement Framework

The Performance Measurement Framework (PMF) has been designed to measure performance against the Amirantes to Fortune Bank Sustainable Use Area Management Plan objectives. The Performance Measurement Framework (PMF) will provide managers and decision makers with a systematic process to measure and report on Management Plan progress towards achieving the Goal and Objectives. Importantly, the PMF provides transparency by measuring and publicly reporting on the performance of the Management Plan in ensuring the long-term sustainability of the Amirantes to Fortune Bank Area, which is a community owned resource. The PMF includes indicators to measuring progress of both *management actions* and *key results*, and trigger levels and decision rules that provide guidance about limits of acceptable change, and the actions to be taken when changes exceeding these limits are detected. The PMF will provide a measure of protected area management effectiveness.

Indicators

An indicator is a quantifiable measure that is used to track progress toward an intended result. In the case of this Management Plan, the indicators selected followed the principles of SMART

indicators (Specific, Measurable, Achievable, Relevant, Timebound) to ensure that they are useful in measuring the Management Plan performance, and can detect trends in implementation (*actions*) and changes in the system (*key results*). Collectively, the indicators create an analytical basis for decision-making and help focus on measures that matter most in meeting the management objectives.

Trigger Levels and decision rules

Trigger levels define the value of the performance indicator that relates to some pre-agreed threshold or *limit of acceptable change*. A trigger level represents an undesirable point or state and represents the point at which a management response should occur. The PMF defines trigger levels for each performance indicator selected for the Amirantes to Fortune Bank Sustainable Use Area Management Plan. Once a trigger level is exceeded, a predefined *Decision Rule* provides guidance about the required management action.

8.1 Developing the Performance Measurement Framework

In development of the PMF, consideration was given to the management goal and objectives, the priority issues identified for the Area, the availability of data, , and the strategies identified to address these issues (see Figure 5). A Technical Working Group was formed to provide guidance about selecting the best indicators, data availability, and trigger levels. When selecting indicators, key factors considered included data availability, simplicity and practicality, and the resources available to analyse and publicly report outcomes. An extensive list of indicators has been developed (an indicator 'bank'), but not all indicators are intended to be implemented immediately. Some indicators can be adopted and monitored within one year of the Management Plan commencing (Phase 1 indicators). These are mostly 'action' indicators that measure what management has been implemented. Meanwhile, other indicators should be adopted and implemented within 5 years (Phase 2 indicators), and within ten years (Phase 3 indicators). These Phase 2 and Phase 3 indicators are mostly 'key results' indicators, which measure changes in the system that may require longer time scales for results to become apparent. Importantly, these indicators also tend to be more costly and complex, and thus a longer period is required to establish programs to monitor them.

The process used to develop and apply the PMF for the Amirantes to Fortune Bank Sustainable Use Area Management Plan is outlined in Figure 5, and the details of the indicators are provided in Appendix E.

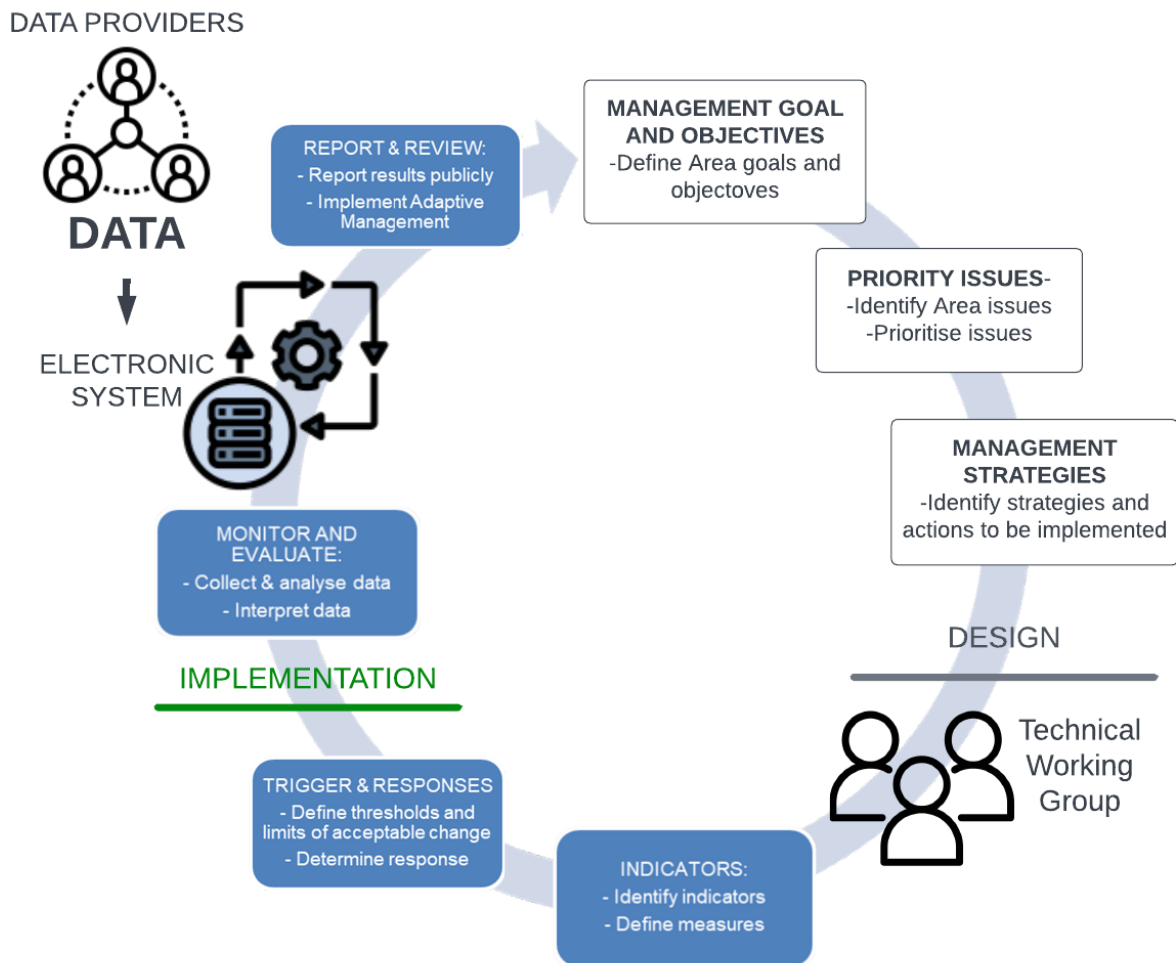


Figure 5. Process for developing the Amirantes to Fortune Bank Sustainable Use Area PMF and applying the system.

8.2 Key indicators and reporting frameworks

The Amirantes to Fortune Bank Sustainable Use Area has 33 indicators across the ecological, social and cultural, economic, and governance dimensions of the Management Plan. Indicators are grouped into different Phases, with Phase 1 indicators being those that can be implemented immediately, and Phase 2 and Phase 3 indicators should be activated over the next 5–10 years.

Trends and patterns in relevant indicators shall be reported on in annual reports by the Seychelles Ocean Authority, and in a five yearly synthesis report about the status and trends across all three Sustainable Use Areas (Amirantes to Fortune Bank, Cosmoledo and Astove Archipelago and Farquhar Archipelago). Annual reports should focus on the *action* indicators that describe the implementation of management activities, while five-year synthesis reports should describe trends and patterns of both action and key results indicators. For both annual and five-yearly reports, any exceedances of trigger levels will be clearly identified and a response to address the exceedance clearly documented.

The annual and five yearly reporting schedule provides transparency about Management Plan implementation by publicly reporting on management actions being implemented and the state

of the Area. Additionally, by including clear trigger levels and decision rules, the PMF provides transparency about the expected actions and outcomes that should occur through this Management Plan, and the corrective actions to be taken if these expectations are not achieved.

9. Compliance and Enforcement

Compliance and enforcement are essential components of effective management. These components help to ensure that the agreed upon rules and regulations about managing a shared resource are adhered to by all resource users. Without adequate compliance and enforcement, adherence to agreed rules may rapidly deteriorate (Ostrom 2008). Fisheries management plans are often complemented by Monitoring, Control, and Surveillance (MCS) programs that help to ensure fishers comply with fishing regulations. Spatial management plans, however, tend to include a much broader suite of activities and user groups, and thus commonly have Compliance and Enforcement Plans that accommodate a broader spectrum of user groups, uses, and risks⁹. To ensure the effectiveness of this Management Plan, there needs to be an adequate compliance and enforcement effort. Compliance and enforcement are two separate processes that work in combination to ensure that resource users follow the rules.

Compliance activities are actions that assist or induce users of a shared resource to comply with the rules about how the shared resource can be accessed and/or used. These actions can include education programs to ensure people know what the rules and requirements are, programs and initiatives that help people follow the rules (e.g. marking special areas on digital charts; creating knowledge networks to share information about rule changes or demonstrate that people breaking the rules have been appropriately penalised), or management systems such as permit systems that provide access privileges that are conditional upon certain standards and behaviours, and where non-compliance can result in the loss of these privileges.

Enforcement activities are actions to detect, apprehend, and sanction users who are breaking the rules. Enforcement activities align with fisheries MCS systems in that they monitor use of the resource, exert control over use by deterring non-compliance, and conduct surveillance to detect illegal activities. However, enforcement is a broader concept than just fisheries monitoring, control and surveillance as it needs to cover all the different users of the shared resource and linked systems (for example Environmental Impact Management Plans for marine infrastructure) and may even extend to working with the judiciary in prosecuting offenders.

These two components work together to ensure that users follow the agreed rules as shown in the Compliance pyramid (Figure 6). The Pyramid shows that resource users can have a range of attitudes towards compliance. Typically, most users are willing to comply, indicated by the broad base of the pyramid. To ensure that resource users do the 'right thing', authorities should focus on helping these users to comply with the rules (education, support, and monitoring). Where users are non-compliant, regulatory responses should escalate with prosecution and legal proceedings implemented for repeat offenders, high-impact breaches, or where mandated by law. An effective compliance and enforcement plan ensures that all users are aware of the rules and regulations, are supported and even rewarded for complying with the rules, and where non-compliance is quickly detected and acted upon to ensure offenders change their behaviour. Prompt corrective action also acts as a deterrent for others considering non-compliance. As enforcement efforts and legal prosecutions are very costly, it is preferable to ensure that most

⁹ For example, the Tubbatata Reefs World Heritage Area Compliance and Enforcement Plan (www.tubbatahareefs.org)

users comply with the rules and regulations, which further highlights the importance of compliance activities.

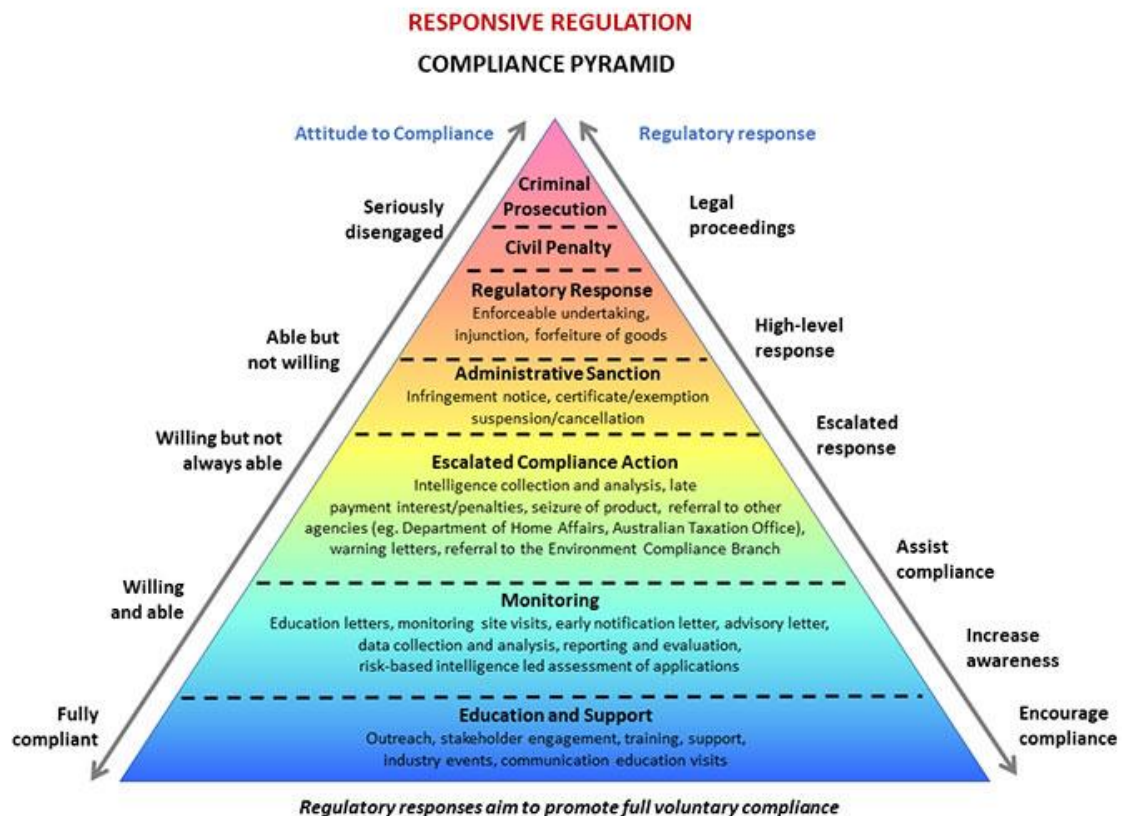


Figure 6. Compliance pyramid showing the range of potential user attitudes towards rules and regulations, the recommended management response, and the range of regulatory enforcement responses to drive compliance. Source: Australian Government Department of Climate Change, the Environment and Water (2023).

Compliance and enforcement are complex tasks that will require comprehensive coordination across all delegated authorities responsible for implementing this Management Plan. This Management Plan includes numerous actions to facilitate and effective compliance and enforcement program. Strategy 4 of the Management Plan includes actions to establish governance arrangements that would support inter-agency and stakeholder coordination and reporting. Strategy 4 of this Management Plan also contains specific actions to develop and implement a risk-based compliance and enforcement plan, as well as exploring monitoring and surveillance technologies to monitor usage patterns and user compliance. Strategy 6 includes an action to help users understand the values of the area and education that will improve compliance. Implementing the Performance Measurement Framework will document what management actions have been implemented and the results of these actions.

9.1 Monitoring and surveillance

Monitoring and surveillance are crucial elements of enforcement, but can be challenging to implement across large areas of ocean. A scoping study has been completed to explore the options available for monitoring and surveillance of the Sustainable Use (Zone 2) Areas such as the Amirantes to Fortune Bank Area. These areas are vast open ocean that present significant challenges to traditional monitoring and surveillance platforms such as patrol vessels and aircraft. Alternatively, remote platforms such as satellites provide a more cost-effective means for

monitoring and surveillance over these large areas. Numerous satellites platforms are available (each with unique benefits and drawbacks), but satellites are capable of generating a lot of data on the way an area is being used, and about compliance/non-compliance patterns. Advances in machine learning and artificial intelligence (AI) can significantly improve data processing. For example, analysing vessel movements against known 'signatures' to automatically code a vessels' activity and assess its compliance. Importantly, while satellites can provide non-stop surveillance, they cannot be detected from the surface and thus vessel crews may need to assume they are always under surveillance, providing a potential deterrent effect. Meanwhile, unmanned aerial vehicles and radar systems may also be effective for shorter range, targeted monitoring and surveillance. While detection range remains a limiting factor for these technologies, advances in design warrant further investigation, and these platforms could be effective assets in targeted shorter-range roles (e.g. scouting for a patrol vessel, collecting video evidence to support a prosecution).

Meanwhile, the Seychelles Government already has legislation and systems in place – vessel monitoring system for fishing vessels and the National Information Sharing and Coordination Centre (NISCC) – that provide a firm foundation for developing an effective compliance and enforcement program. The scoping study recommends a dedicated effort to combine and integrate multiple data streams including satellites, sensors, and AI, through the NISCC to monitor usage patterns for a year to conduct a strategic threat analysis and understand current use patterns and signatures. Further exploration of targeted surveillance platforms such as unmanned aerial vehicles is also recommended.

Nevertheless, monitoring and surveillance need to be integrated into an overall compliance and enforcement plan so that once illegal activity is detected, an enforcement response can be implemented to intercept and cease the illegal activity, and that sufficient sanctions and penalties are imposed by the judicial system to provide a deterrent to subsequent non-compliance.

10. Management Plan Review Process

This Management Plan identifies strategies and actions over a five-year period from 2024–2028. This is a living Management Plan with proposed annual progress reviews of the implementation of strategies and actions coinciding with budgeting the following year. The annual review will identify issues affecting implementation, resourcing and expenditure, emerging threats and issues of concern, and exceedance of trigger levels arising from the PMF indicators (see Section 8). This will inform adaptive and responsive management. Annual work and monitoring plans will be prepared by the delegated authorities and budgeted as noted above.

This 5-year Management Plan will be reviewed at the halfway point (late 2026) and evaluated and updated at the end of the 5-year period (2028). This 2028 five-year review will include feedback to stakeholders and consultation with stakeholders regarding Management Plan implementation. Status of the key performance measurement indicators for the Area and efficacy of management strategies will be reviewed and assessed as part of the 5-year evaluation.

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Appendix A: International obligations

International obligations relevant to the management and conservation of ocean resources

As a signatory to various international conventions, the Seychelles is committed to sustainably managing their marine and coastal ecosystems, including protecting 30% of their marine EEZ. The most relevant international obligations include:

- The 1994 **UN Convention on the Law of the Sea** (UNCLOS) which aims to regulate all marine activities in any area of the sea and “provides legal basis upon which to pursue the protection and sustainable development of the marine environment and its coastal resources”. Signatories to the convention are obligated to conserve and manage the living marine resources under their jurisdiction.
- Convention of Wetlands of International Importance, Especially as Waterfowl Habitat (**Ramsar Convention**) of 1971 aims to stem the loss of wetlands worldwide especially those that are important for migratory waterfowl. It defines wetlands as fresh, brackish, and saltwater marshes, including marine waters up to 6 meters in depth at low tide and any deeper marine waters contained within the wetland area. The Seychelles became a signatory to the Convention on Wetlands (RAMSAR) in March 2005. The first Ramsar site to be designated in Seychelles was the Port Launay Mangrove on Mahé in November 2004, and there are two other Ramsar site – Aldabra and Mare Aux Cochons on Mahé.
- Seychelles was the second country to sign the **Convention on Biological Diversity** (CBD) in June 1992 and became a party that same year. One of the CBD Aichi targets is “10% of coastal and marine areas are effectively conserved by 2020” (Strategic Goal C, target 11). It provides for the establishment of protected areas where special measures are to be taken to conserve biological diversity and the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings.
- Seychelles is a signatory to the **United Nations 2030 Agenda for Sustainable Development** founded on 17 Sustainable Development Goals (SDGs). The SDGs (or Global Goals for Sustainable Development) are a collection of 17 goals set by the United Nations in 2015. The goals are broad and interdependent, yet each has a separate list of 169 targets to achieve. The SDGs of relevance include SDG12 Responsible Consumption and Production, SDG13 Climate Action, and SDG14 Life Below Water. SDG14 has a target of 10% marine and coastal protection by 2020.
- Seychelles was the first country in the Western Indian Ocean to declare commitment to a Blue Economy with the signing of the **Abu Dhabi Declaration** (January 2014).
- FAO Agreement on Port State Measures (PSMA) (2016), first binding international agreement to specifically target illegal, unreported and unregulated (IUU) fishing. Its objective is to prevent, deter and eliminate IUU fishing by preventing vessels engaged in IUU fishing from using ports and landing their catches.

Appendix B: Draft Allowable Activities, codes and definitions

The 'Master List of Uses and Activities' is a list of uses, activities and terms with their descriptions in support of the Seychelles Marine Spatial Plan as it pertains to Allowable Activities tables, Management Considerations, and other outputs of the SMSP. The list and definitions began in 2014 with the launch of the SMSP and have been updated on an on-going basis as other SMSP outputs were developed and revised. The list of definitions has been developed with all stakeholders including SMSP committees, technical working groups and topic experts. The descriptions are not intended to define thresholds or acceptable intensity of use because this varies from place to place and is, or may be, determined by management plans and/or regulations. Wherever possible, a published or authoritative description or definition is used; those without a source are a local or general description of the use or activity.

Table A1. SMSP Zoning Design DRAFT Allowable Activities Table: Sustainable Use (Zone 2) areas. Legend: A – Allowable; C – Conditional; X – Prohibited. See Code Table A2 for superscript numbers.

Sectors	Marine Activity	Zone 2 Nov 2022	Notes
Fisheries	<i>Aquaculture</i>	C 1,5	
	<i>Aquaculture Coral Farming</i>	C 1,5	
	<i>Artisanal Fishing (multiple gear types)</i>	C 1,5	
	<i>Fly Fishing, blue water</i>	C 1,5,7,12	
	<i>Fly Fishing, lagoon</i>	C 1,5,7,12	
	<i>Industrial Pelagic Longline</i>	C 1,5,13,17	
	<i>Industrial Purse Seine (free school)</i>	C 1,5,13,17	
	<i>Industrial Purse Seine (floating objects, DFAD)</i>	C 1,5,13,17	
	<i>Industrial Purse Seine (supply vessel)</i>	C 1,5,13,14,17	
	<i>Recreational Fishing</i>	C 1,5	
	<i>Semi-industrial Hand Gathering</i>	C 1,5,17	
	<i>Semi-industrial Hook & Line</i>	C 1,5,17	
	<i>Semi-industrial Longline</i>	C 1,5,17	
	<i>Sport Fishing (multiple activities)</i>	C 1,5,7,12	
	<i>Subsistence Fishing</i>	C 1,2,5	
Maritime Infrastructure	<i>Ballast and Bilge Dumping</i>	X	
	<i>Bunkering at sea</i>	C	
	<i>Bunkering at sea, Fishing vessel</i>	X	
	<i>Commercial shipping</i>	C 5,8	
	<i>Desalination, boat-based</i>	A	
	<i>Desalination, land-based</i>	C 1,3,5	
	<i>Disposal, dumping, dredge spoils</i>	X	
	<i>Dredging, coastal</i>	C 1,3,5,19	
	<i>Ferries and Transportation</i>	C 2,19	
	<i>Patrols and Surveillance</i>	A ¹⁵	
	<i>Ports, Marinas, Wharves, Jetties</i>	C 1,3,5,19	
	<i>Reclamation</i>	X	
	<i>Renewable Energy, deep water thermal</i>	X	
	<i>Renewable Energy, solar (marine)</i>	X	
	<i>Renewable Energy, tidal</i>	C 1,3,5,19	
	<i>Renewable Energy, wind (offshore)</i>	C 1,3,5,19	
	<i>Renewable Energy, wave</i>	C 1,3,5,19	
<i>Underwater Cables</i>	C 1,3,5		
Non-renewable & prospecting	<i>Bioprospecting Development</i>	C 1,3,5	
	<i>Deep-sea Mining</i>	X	
	<i>Petroleum Geophysical Surveys, Exploration</i>	C 1,3,5,8,10	
	<i>Petroleum Exploration, Drilling</i>	C 1,3,5,8,10	
	<i>Petroleum Development, Production, Extraction</i>	C 1,3,5,8,10	
	<i>Sand Mining</i>	X	
T o t a l	<i>Anchorage and Mooring Buoys</i>	C 1,2,4,5,19	

Sectors	Marine Activity	Zone 2 Nov 2022	Notes
	<i>Floating structures</i>	C 1,3,4,5	
	<i>Hire craft</i>	C 1,5,16,20	
	<i>Motorised Activities (Watercraft, Ship)</i>	C 1,5,11,16,20	OIP jet skis - X
	<i>Non-Motorised Activities</i>	C 1,5,19	
	<i>Passenger ships</i>	C 1,3,4,5,20	
	<i>Tourism Accommodation, marine</i>	C 1,3,5	
	<i>Tourism Accommodation, terrestrial</i>	C 1,3,5	
Research	<i>Bioprospecting Research</i>	C 5,6	
	<i>Scientific Geophysical Surveys, Research</i>	C 1,3,5,6,8	
	<i>Scientific Research and Monitoring</i>	C 5,6,8,9,20	
	<i>Hydrographic Surveys</i>	C 1,3,5,6,8,9	

Table A2. SMSP Zoning codes for allowable activities (updated 22 November 2022 with comments from SC23 and TWG16). The codes in this table apply to the numbers in the Allowable Activities in Table 4 for the SMSP Zone 2 areas. Coding comes from regulations, scientific studies, government reports, unpublished studies, expert advice and/or best available information. Stakeholders have been involved in the development and refinement of the restrictions and codes since 2015.

Code #	Codes for Allowable Activities
1	See General Management Considerations. Approved management plans needed including Environment Impact Assessment (EIA)/Environmental and Social Impact Assessment (ESIA), where applicable.
2	See definition of Subsistence Fishing. Subsistence fishing is intended to serve staff at facilities or with essential infrastructure for the zone, including enforcement. Need quotas and monitoring of any species harvesting. Subsistence is intended to apply only to island residents and non-commercial activities, and does not apply to hotel guests, commercial activities including fishing vessels, paying guests. Needs management plans in some cases. In Zone 1, if there is a private residence or research and commercial, subsistence fishing is not allowable.
3	Development proposals require a transparent and participatory process with all stakeholders. May or may not require an environmental impact assessment (EIA)/ Environmental and Social Impact Assessment (ESIA). See #1.
4	Permanent mooring buoys recommended, where practical. Anchor in designated areas.
5	Restrictions may apply to avoid or minimise disturbance on key species and ecological functions.
6	Government approved permit required for research and monitoring activities.
7	Restrictions or prohibitions on gear or technique may apply. Catch and release may be required, depending on species targeted. Some techniques may be prohibited, such as popping.
8	All vessels conducting seismic surveys must have necessary functioning acoustic equipment and adequately trained operators to detect the presence of cetaceans to avoid and minimise detrimental effects at all times during operation in accordance with strict, international published scientific guidelines for minimising disturbance to cetaceans (e.g. JNCC Guidelines for Marine Mammals 2017).
9	Allowable in Zone 1 only for scientific surveys (e.g., data collection and bathymetry, not extraction).
10	Exploration and development phases must adhere to strict standards for the sector incl. health, safety and environment
11	Jet skis are prohibited in Marine National Parks (Zone 1) and in Desroches, Poivre, Alphonse and Farquhar Archipelago Zone 2 (see Outer Islands Project).
12	In accordance with bag limits, catch limits, rod limits and other gear, catch or fishing effort restrictions found in regulations, policies, management plans, or international conventions and agreements. Reporting requirements and catch & release best practices (e.g. NOAA catch & release).
13	Foreign-owned fishing vessels must adhere to Seychelles Fisheries Act, Part IV Fisheries Management, Reg. 5, First Schedule: <i>Zones where Fishing by Foreign Vessels is prohibited</i> . The area of the zones described in this Schedule are shown in red lines on charts ML/ADN/73B deposited in the office of the Director of Surveys. These zones are indicated on the MSP maps as double blue lines.
14	No setting or deployment of drifting Fish Aggregating Devices (dFAD). To pick up DFADs so as to avoid or prevent them grounding or landing on islands, atolls, offshore rocks. To recover grounded dFAD.
15	Maritime safety and security in accordance with Seychelles Maritime Safety Authority (SMSA), Seychelles Defense Forces (SDF) and other relevant delegated authorities.
16	The number of activities offered by hire craft may be limited, depending on the area's objectives.
17	Fisheries observers, electronic monitoring systems (EMS), vessel monitoring systems (VMS), and FAD management required; no FAD deployment for purse seine or longline in Zone 1. <u>Note:</u> A FAD management plan (2022) includes impacts and FAD vs free school sets (SFA)
18	Automatic Identification System (AIS) needed for navigation. Note: Direction to use or not use AIS may change in relation to piracy or other security and safety threats in Seychelles.

19	To provide essential access and/or infrastructure for the zone, including enforcement. In consideration when the impacts to marine environment may be less than the impacts to the terrestrial environment. Includes jet skis and other watercraft.
20	Jet skis and other motorised devices such as underwater scooters and motorised paddleboards are prohibited except where authorised for research or essential services (see #19)

Table A3. Seychelles MSP Initiative (2022) Master List of Definitions for Allowable Activities Tables – Uses and Activities. DRAFT. Seychelles Marine Spatial Plan.

Marine Activity	Description of the Use or Activity in Allowable Activities Tables <i>(with source, where noted)</i>
Part A. Fisheries	
Aquaculture	The cultivation, propagation, or farming of fish, and includes cultivation, propagation or farming from eggs, spawn, spat or seed, or by rearing fish taken from the wild or imported into Seychelles, or by similar process, and the collecting and holding of live fish, and includes both inland aquaculture & mariculture in the marine environment. (draft revision Fisheries Act 2022)
Aquaculture, coral planting	
Artisanal Fishing (multiple gear types)	These fisheries use small, motorised boats. Targets fish on the sea floor (demersal), semi-pelagic species and numerous invertebrates at different times of the year using a variety of gear and vessel types: handline, trap, harpoon and net for lobster, mackerel, octopus, shark, demersal fish, and semi-demersal fish.
Fly fishing	A sport fishing method in which artificial fly is cast by use of a fly rod, a reel, and a relatively heavy oiled or treated line. (SFA common fisheries terms). The weight of the line is used to cast a very lightweight fly that would not be heavy enough to be cast with a conventional spinning or casting rod.
Fly fishing, blue water	Fly fishing that occurs in blue water or open sea, also called offshore fly fishing. Fishers generally target big game or pelagic species using special teasing technics to land fish similar to the conventional fishermen’s landing while Big Game Fishing (M. Cosson).
Fly Fishing, lagoon	Fly fishing in a shallow body of water separated from the ocean by sandbars, barrier island, or coral reefs (National Geographic). Fly fishing on the beach, lagoon, and ocean flats, reef flats, inner flats, pancake, finger flats. It is done on foot or from a boat with or without the use of an engine or a push pole. This method is highly dependent on the depth of the water and species being targeted (M. Cosson).
Industrial Pelagic Longline	The use of fishing gear in which short lines (branch lines or droppers) carrying hooks are attached to a longer main line at regular intervals. Pelagic longlines are suspended horizontally at a predetermined depth with the help of surface floats. The main lines can be as long as 100 km and have several thousand hooks. Droppers on demersal longlines (set at the seabed with weights) are usually more closely spaced (IOTC). Pelagic longline refers to a drifting longline consisting of a mainline kept near the surface or at a certain depth by means of regularly spaced floats with relatively long snoods with baited hooks evenly spaced on it (SFA common fisheries terms).
Industrial Purse Seine (free school)	Industrial purse seining is a method of fishing targeting tuna schools using purse seine nets. Purse seine nets are a long wall of netting framed with a lead line and a float line. A purse line threaded through purse rings spaced along the bottom of the net is drawn tight (pursed) to stop the school of fish escaping downwards under the net. Usually undertaken by fleets from foreign origin. (SFA common fisheries terms). Free school means fishing on a free-swimming school of tuna without the use or association with FADs (atuna.com)
Industrial Purse Seine (floating objects, drifting FAD)	An industrial purse seine fishery using floating objects or FADs (fish aggregating devices) fishes on anchored, drifting, floating, swimming or submerged objects or group of objects, of any size, that has or has not been deployed, that is living or non-living, including but not limited to buoys, floats, netting, webbing, plastics, bamboo, logs, whales and whale sharks that fish may associate with (IOTC).
Industrial Purse Seine Supply Vessel	Also known as support vessels or auxiliary vessels, these vessels are not equipped with any fishing gear but assist one or several purse seiners in the detection of tuna schools and the management of the stock of artificial fish aggregating devices (FADs) and buoys used to locate both natural floating objects (LOGs) and FADs. Activities of support vessels related to fishing include the building and deployment of FADs, the visit of LOGs and FADs, the transfer of buoys, and the retrieval of FADs and buoys. In addition, support vessels also contribute to increasing the fishing time of the purse seiners they assist through the transport of persons and materials and repairing operations (Assan et al. 2015)

Marine Activity	Description of the Use or Activity in Allowable Activities Tables <i>(with source, where noted)</i>
Recreational Fishing	Fishing of aquatic animals that does not constitute an individual's primary resource to meet basic nutritional needs and are not generally sold or otherwise traded on export, domestic or black markets (FAO 2012 Technical Guidelines for Responsible Fisheries No. 13). Catching fish as a sport (UK sports fishing definitions). In the Seychelles, the recreational fishery sub-sector is active mostly on weekends and in the evenings. These recreational fishers utilize mostly handline fishing techniques, targeting demersal species such as groupers, snappers and lethrinids, and semi-demersal species such as carangids and sphyraenids (FAO fishery Country Profile).
Semi-industrial fishing (hand gathering, hook & line, longline)	The semi-industrial longline is a local fishery targeting tunas, swordfish and other pelagic fish using monofilament longline (SFA). Semi-industrial longline vessels in Seychelles voluntarily fish off the Mahé Plateau. The fishery extends to the Outer Islands as far as the Aldabra Group.
Sport fishing (multiple activities)	<p>Any fishery undertaken for sport or recreation which involves the hiring, chartering or leasing of a vessel not exceeding 40 metres in length overall but which does not result in the trading, offering for sale or selling of fish (SFA common fisheries terms).</p> <p>A form of fishing practiced inshore, offshore and onshore. This fishing activity may be practiced as either part of a tournament for prizes or for recreational purposes. When part of a competition the fishery might have an array of rules such as catch and release stipulations or type of bait (Matthieu Cosson).</p>
Subsistence Fishing	<p>Fishing where the fish caught are shared and consumed directly by the community, families and kin of the fishers but which does not result in the trading, offering for sale or selling of fish (SFA common fisheries terms; approved July 2022 by MSP).</p> <p>Subsistence fishing occurs throughout Seychelles. Subsistence fishing is fishing for personal consumption or traditional/ceremonial purposes (Source: OECD 2001).</p> <p>Subsistence fishing refers to fishing, other than sport fishing, that is carried out primarily to feed the family and relatives of the person doing the fishing. Generally it also implies the use of low tech or artisanal fishing techniques and is carried out by people who are very poor. Subsistence fishing can catch a large variety of species but generally only those relatively close to shore or in fresh water. Issues with subsistence fishing include problems of contamination in the food and struggles to access the resource. Very rarely is there a problem of a subsistence fishery threatening a fish stock. In some parts of the world, there are a variety of issues related to the definition and competition between different resource users (World Fisheries Trust 2008).</p> <p>A study on Perception of Subsistence and Informal Fishers in South Africa Regarding the Management of Living Marine Resources had these key elements of subsistence: dependence on fishing to survive, not relying on other sources of income, living close to the resource, and harvesting fish to eat or sell in order to meet basic food requirements, using low technology gear (as part of a cultural or traditional practice) and relying on the harvest to meet nutritional needs (Source: Rudman and Nieman, Duke University 2022).</p>
Part B. Maritime Infrastructure	
Ballast and Bilge Dumping	Ballast water is used to improve ship's stability, and the sea water is exchanged while at sea, and sometimes at port. Ballast water transport micro-organisms, including viruses and bacteria, and may contain invasive and non-native species such as tunicates and sponges. Bilge dumping occurs when the contents of a ship's bilge are emptied or flushed into the sea. Bilge water may contain oil and other toxins, as well as invasive species depending on the origins of the bilge's contents.
Bunkering at Sea	Supplying fuel to ships for their own use. Involves the transfer of fuel from one vessel to another. Bunkering may be needed for Petroleum activities and Scientific Geophysical surveys. Bunkering is not allowable within Seychelles EEZ for commercial fishing vessels (Fisheries Act 2014; not in Revised Draft Fisheries Act 2022).
Bunkering at Sea (fishing vessel)	

Marine Activity	Description of the Use or Activity in Allowable Activities Tables <i>(with source, where noted)</i>
Commercial Shipping	The use of maritime vessels to carry goods (The Mary Conlin Company). The International Maritime Organisation (IMO) specifies traffic regulations. In the Seychelles, there are no traffic separation schemes but there are dedicated North and South Approaches as laid down by the IMO and clearly marked on British Admiralty charts No. 740 and 742. Also, there are North and South Reporting Points, Areas to Be Avoided, and Designated Anchorages both inside and outside the Port Limit that have been adopted by the IMO (Seychelles Port Authority). Includes transportation of petroleum during extraction in Seychelles.
Desalination, boat-based	<p>A water purification process that removes salt and other minerals from sea water. Desalination is a common solution to overcome water scarcity that uses different technologies including membrane technology, distillation process (thermal technologies) and chemical approaches. Membrane technologies are the most common and use either pressure driven or electrical driven technology. Pressure driven membrane technologies include reverse osmosis, nanofiltration, ultrafiltration and microfiltration. Reverse osmosis is considered most effective in salt removal. Desalination requires energy and for seawater, pumps may need to generate up to 1200 psi and is a substantial energy use (Source: Journal of Contemporary Water Research and Education 2005).</p> <p>Desalination systems for boats include portable and built in units. Sometimes branded as 'watermakers', desalination systems are used for drinking water, showers, and vessel maintenance like deck washing. The seawater is run through a series of pre-filters and then a high pressure pump moves the water through one or more membrane housing. The brine or wastewater is discharged overboard and the desalinated water is pumped into holding tanks (Cruising World 2019).</p>
Desalination, land-based	Desalination, see above. On land.
Disposal, Dumping, Dredge spoils	Disposal of dredged materials at sea, at designated sites. Or dumping of approved (or not approved) materials into the ocean. Includes dumping of oil, hydrocarbon or plant based.
Dredging, coastal	The removal of mud or sand from the seabed, often done at or near a port to increase the depth of water or to restore it to its previous depth. Dredging is used in Seychelles to improve access to atolls in the Outer Islands through lagoons. Dredging may be necessary or essential in marine protected areas to secure access for research, management, monitoring and enforcement. Dredging may occur for an activity or use in consideration when the impacts to the marine environment may be less than the impacts to the terrestrial environment.
Ferries and Transportation	Passenger carrying vessels that operate between two points of land. In the Seychelles, there are ferries between Mahé, Praslin and La Digue islands. Private ferries also operate within the Inner Islands.
Patrols and Surveillance	In Seychelles this refers to the government fisheries patrol vessels for monitoring, control and surveillance of activities regulated by the Fisheries Act and fisheries management plans.
Ports, Marinas, Wharves, Jetties	Ports and marinas are facilities designed to attract and accommodate commercial vessels or ships, industrial vessels, community, public or private vessels and uses. Includes docks, wharves, piers, ramps, breakwaters, and related structures in harbours, marinas and ferry terminals, and associated marine services (e.g., ways, repairs, food services, pump-out sites, fuel). Structures may be affixed to the foreshore and seabed by pilings or floats, or involve foreshore fill. Includes commercial ports. Includes the marine area that defines a port boundary and also marine transportation areas. Wharves are places that boats tie up to unload and load cargo or people. The wharf typically has front and rear loading docks (aprons) (Global Marina Institute). Jetty is a structure projecting out from the shore; a jetty may protect a harbour entrance (Global Marina Institute). In Seychelles, harbour is Port of Victoria and any bay, roadstead or place within three nautical miles from any coast within the Republic of Seychelles (Seychelles Harbour Act and Seychelles Fisheries Bill).
Reclamation	The process of creating new land from oceans and other aquatic habitats. In the Seychelles, the first reclamation projects began in the 1960s on the east coast of Mahé for the port and airport expansion. Between 1973-1999, four more reclamation projects brought reclaimed land area to 750 ha. A reclamation project completed in 1999 created another 350 ha (East Coast III).

Marine Activity	Description of the Use or Activity in Allowable Activities Tables <i>(with source, where noted)</i>
Renewal Energy, deep water thermal	A set of technologies that use the temperature differential between warm seawater at the surface of the ocean and cold seawater at between 800 – 1000 meter depths to produce electricity (IRENA). Ocean Thermal Energy Coupling, or OTEC, development could be located along edge of a plateau or shelf drop (needs a vertical drop of ~1,000 m) and may be suitable for atolls with steep dropoffs. OTEC is expensive to develop and uses a floating platform with transmission lines (up to 200 MW). Another technology is the DOWA – Deep Ocean Water Application. DOWA uses a system to pipe cold deep water located at depth to a shore-based facility. The water passes through a series of heat exchangers to cool down a closed freshwater circuit network that is connected to infrastructure such as air conditioning for target buildings. The DOWA technology is aimed to achieve a net energy savings as compared to creating energy for cooling from electricity. A DOWA Project was prepared for Port Louis in Mauritius in 2013 to bring 0°-5°C seawater from a depth of 1,000 m from a distance of 7.5 km offshore and through 5.5 km of closed freshwater circuit (Source: AFDB 2013).
Renewable Energy, solar (marine)	The harnessing of solar energy and subsequent conversion into electricity (IEA-ETSAP/IRENA). In the marine context, this includes floating or anchored solar panel farms or arrays. This activity is in shallow water; deep water solar panel arrays were not considered a future activity.
Renewable Energy, tidal	The harvesting of energy created by tidal flows due to flood and ebb currents (IRENA). In Seychelles, tidal energy generation is a potential for the larger atolls only as water moves through the channels in and out of the lagoons.
Renewable Energy, wind (offshore)	The use of ocean-based turbines to harness wind energy and turn it into electricity (IRENA). There is an 8-turbine wind farm on two artificial islands off the east coast of Mahé, installed. The marine context includes anchored offshore wind and projects involving reclamation of land or development of artificial islands.
Renewable Energy, wave	Wave energy converters capture the energy contained in ocean waves and use it to generate electricity (IRENA). The marine context includes floating or anchored wave energy farms or arrays.
Underwater Cables	Underwater lines and structures including, but not limited to those used for flow, transit, distribution or broadcast of water, electricity and telecommunication services for public and/or private purposes. Generally on or under the seabed or anchored to the seabed but may also be suspended in the water column. Includes associated infrastructure and rights of way and/or dredging restriction areas or zones; underwater cables are mapped with exclusion buffers. Underwater cables may require dredging and disturbance of the seabed. There is an underwater cable for fibre optics from Tanzania to Beau Vallon on Mahé.
Part C. Non-renewable Resources & Bioprospecting	
Bioprospecting Development	<p>In relation to activities under the scope of the Fisheries Act (revised, draft Nov 2022) means the systematic search for and development of new sources of chemical compounds, genes, micro-organisms, macro-organisms, and other valuable products from fish and entails the search for economically valuable genetic and biochemical resources from fish. (Fisheries Act, draft revised November 2022).</p> <p>The systematic search for biochemical and genetic information in natural sources that can be developed into commercially valuable products for pharmaceutical, agricultural, and other applications (UNDP).</p> <p>This activity includes the search or exploration phase as well as development. If bioprospecting is for scientific, social or cultural research purposes only, see definition for Bioprospecting Research. It is carried out by a wide range of established industries such as pharmaceuticals, manufacturing and agriculture as well as a wide range of comparatively new ones such as aquaculture, bioremediation, biomining, biomimetic engineering and nanotechnology. The benefits include an unexpected variety of products that include chemicals, genes, metabolic pathways, structures, materials and behaviours. These may provide physical blueprints or inspiration for new designs. Criticism aimed at bioprospecting has been addressed, in part, by international treaties and legal agreements aimed at stopping biopiracy and many activities are now funded by agencies that require capacity-building and economic benefits in host countries. Contemporary bioprospecting has multiple goals including the conservation of biodiversity, the sustainable management of natural resources and economic development.</p> <p>See also Bioprospecting Research, non-commercial uses.</p>

Marine Activity	Description of the Use or Activity in Allowable Activities Tables <i>(with source, where noted)</i>
Deep-sea Mining	Marine operations associated with extracting minerals and aggregates (including sand and gravel) from offshore areas, as well as related facilities and infrastructure used during mining operations at-sea. Includes mining for polymetallic nodules (e.g., ferromanganese nodules), rock concretions that lie on the seabed sediment (ISA).
Petroleum Geophysical Surveys, Exploration	The search for oil and gas resources using seismic, electrical, gravity, or magnetic data to evaluate the Earth's subsurface (Schlumberger). In Seychelles, licensed concessions are present on and off the Mahé Plateau. Including Methane.
Petroleum Exploration, Drilling	The creation of wells in the ocean floor to locate subsurface oil and gas deposits (Source: Schlumberger)
Petroleum Development, Production, Extraction	Development refers to the phase of petroleum operations that occurs after exploration has proven successful, and before full-scale production. The newly discovered oil or gas field is assessed during an appraisal phase, a plan to fully and efficiently exploit it is created, and additional wells are usually drilled. Production refers to the volume of petroleum produced (Schlumberger). Includes Petroleum shipping, the movement of hydrocarbons on ships. Including Methane.
Sand Mining	The extraction of sand from the ocean floor, typically used to make building materials and for beach nourishment to protect coastlines (World Ocean Review). Sand mining has taken place off the north and west coasts of Mahé.
Part 5. Tourism & Recreation	
Anchorage and Mooring Buoys	Includes anchoring sites and mooring buoys for recreational and small artisanal fishing vessels. Includes temporary vessel anchoring at designated sites, mooring buoys. Does not include docks, wharves, piers, or related facilities in marinas and harbours. Commercial moorings are large, permanent moorings for large commercial vessels, typically associated with a commercial port. They are used by commercial vessels or ships prior to entering a port's shoreside facility. In Seychelles, commercial moorings are heavily used all year round.
Passenger Ships	Passenger ship that is carrying or capable of carrying more than twelve passenger (Merchant Shipping Act 1994). Passenger ship intended to provide passengers with a full tourist experience. All passengers have cabins. Facilities for entertainment aboard are included (OECD).
Floating Structures	As different from tourism accommodation, marine. Floating structures to support residential accommodation, commercial, and non-profit uses including the service industry. Includes floating homes, restaurants, visitor centres, and entertainment; temporary or permanent. Future floating structures may include vessels or buildings with pontoons. Floating structures do not include those supporting renewable energy infrastructure – see renewable energy.
Hire craft	A boat let out for hire for fishing as a sport or for pleasure purposes only and includes the hiring of any craft (Control of Hirecraft Act). Renting or chartering a sailboat or motor yacht and travelling to various coastal or island destinations, or for other marine recreational activities such as fishing. Refers to marine charters, licensed hire craft.
Motorised Activities (watercraft, ships)	Recreational activities aboard any vessel equipped with an engine. Includes recreational vessels such as motorboats, jetskis and sailboats with motors, hovercraft, and submersibles. If the recreational activity needs support from a motorised vessel for it to take place, example SCUBA diving at an offshore reef, it is a motorised activity. See also Watercraft, Hirecraft. For recreational activities involving Fishing see Fishing activities.
Non-Motorised Activities	Recreational activities that don't use an engine or motor. Includes sailboats without an auxiliary motor (electric or fuel), stand up paddle boards, kayaks, snorkeling. If motorised, see "Motorised Activities"
Passenger ships	Means any boat, ship, hovercraft or other water going craft that takes passengers, and refers to vessels used or intended to be used for fishing or related activities (revised Draft Fisheries Act 2022).
Tourism Accommodation, marine	Undersea resorts and hotels that are accessible only via SCUBA (Luck, Encyclopaedia of Tourism and Recreation in Marine Environments). See also Floating Structures.
Tourism Accommodation, terrestrial	Resorts and hotels located on land for tourism activities are included here for any activity that may affect marine species, habitats or ecosystems. May have a coastal or marine component for guest activities, and the marine component falls under the MSP. The law does not allow building below the high water mark. Activities that need to be managed and monitored include sewage discharge, lighting, generator operations, moving fuel containers or fueling.
Part 6: Research	

Marine Activity	Description of the Use or Activity in Allowable Activities Tables <i>(with source, where noted)</i>
Bioprospecting Research	Bioprospecting is the search for product/compounds derived from plants, animals, and microorganisms that exhibit useful properties (e.g., plant-based pharmaceuticals, agriculturally important compounds from fungi, natural products such as latex). Many of these products or compounds are mediated by the organism's stress response. An organism's ability to respond to stress enormously influences its survival. There are several approaches to bioprospecting revolving around collection of samples, sample processing/analysis via extraction of compounds or genetic information, and analysis of products for bioactivity or other applications. When working with plants, bioprospectors are extracting RNA, lipids, proteins, and metabolites to unravel the molecular signatures of a plant's response to stress. Plastics researchers may isolate microbes from various environmental sources and test for the ability of the plants or animals to degrade plastic. A new area of research is the combination of these two topics for the study of plastics in the rhizosphere. (source: University Texas). Bioprospecting includes surveying, collection, characterisation, inventories, taxonomic identification, bioassay and genetic sequencing to identify genetic resources and information. It also includes gathering information on associated Traditional Knowledge for the purpose of discovering its commercial value.
Scientific Geophysical Surveys	The use of seismic, electrical, gravity, or magnetic techniques to evaluate the Earth's subsurface (Schlumberger)
Scientific Research and Monitoring	Activities designed to establish or expand knowledge of the marine environment and undertaken by educational institutions, research institutions, surveyors, research companies or consultants. Also includes citizen science, non-profit activities and locally based research and monitoring activities.
Hydrographic Surveys	Scientific research technique used to measure the depth and bottom configuration of water bodies. Vessels primarily use side scan and multibeam sonar (NOAA)

Appendix C: Management actions explanatory text

Summary table of proposed management actions, and the explanatory text for each action. The explanatory text details the rationale for the inclusion of the action and the intent behind it.

A. ECOLOGICAL AND BIODIVERSITY OBJECTIVE

Action no.	Proposed management action	Explanatory notes
1.1	Designate preferred anchorage areas (and if feasible provide moorings) to reduce damage to coral reef and seagrass habitats	Damage to important and sensitive habitats was identified as a priority issue by stakeholders, particularly as climate change pressures accelerate. This action aims to protect coral reef and seagrass habitats that are important habitats for many species and are easily damaged by careless anchoring. The location of preferred anchorage areas will avoid sensitive coral reef habitats, will be situated where they provide shelter under different prevailing winds weather conditions, and will be mapped for all users of the Area. Noting that in some areas where there is extensive seagrass cover, the preferred anchorage may be within ephemeral meadows. While not mandatory, it is recommended that all vessels anchor in these preferred anchorage areas whenever possible, especially for overnight anchoring. In emergency situations, vessel may anchor wherever necessary. The provision of public moorings will depend on need, available resources, and feasibility. High resolution habitat maps for shallow marine areas around many islands already exist and will inform this action to the extent possible.
1.2	Identify and implement fishing limits for high-risk species, or during vulnerable life history stages for key species (e.g. during spawning aggregation and at nursery grounds)	This action is intended to prioritise species for management that are likely to need it most. High risk species may include species assessed as being overfished or are experiencing levels of fishing that may compromise populations (e.g. certain shark species), or species with life history characteristics that make them more susceptible to over-exploitation (e.g. low productivity species). Populations can also be at risk due to certain characteristics of their life cycle that make them more susceptible to over-exploitation. Examples are when a species aggregates together at the same time and place for spawning; when a species traverses through a known migration route; or a species juvenile stage is concentrated in accessible mangrove or lagoon areas and can be heavily exploited. Uncontrolled fishing of high-risk species, especially during vulnerable life history stages could cause species to become rare and could lead to reproductive collapse, a situation when the stock is no longer able to rebuild itself due to various demographic factors including larval limitation and dispersal. This action aims to identify and protect high risk species and vulnerable life history stages. The action requires the development of criteria and a standardised process for identifying relevant species and/or life-history stages and its implementation. Fishing limits might differ among species and could include size limits, bag limits, boat limit, possession limits, gear restrictions, spatial closures, temporal closures, fishing bans, etc. Incorporated in the

		process would be the identification of research needs for these species and undertaking of research (through the Scientific Committee). The process should be science-based and include the participation of stakeholders. Fishing limits for tuna and tuna like species are being addressed as part of the Seychelles Tuna Fisheries Management Plan.
1.3	Establish no discharge zones for wastewater and ballast water within 2 km of islands and atolls by vessels more than 15 m in length	The impacts of wastewater from boats can be significant at local scales if discharged close to sensitive habitats (e.g. coral reefs) and ballast water can introduce non-native pest species into Seychelles waters. The action aims to minimise incidents of wastewater impacts and introduction of new species through ballast water around islands and atolls, where shallow water sensitive habitats are found. The distance from islands and atolls follows international best practice, to ensure effective protection of sensitive habitats, and the nominated vessel length means the action only applies to larger vessels with more passengers that have holding tanks and can comply with the rules.
1.4	Implement programs to reduce impacts of debris and pollution on marine wildlife (e.g. beach clean-ups, awareness campaigns).	Debris and pollution in the marine environment have negative impacts on marine species and habitats. Documented impacts include entanglement and death of marine wildlife, physical damage to sensitive habitats such as coral reefs, changing species behaviour, and limiting access to beach habitats for nesting. Dispersal simulations indicate that most of the debris that reach the coasts of Seychelles, of terrestrial or marine origin originates principally from Southeast Asia and from shipping and fishing vessels, particularly those involved in industrial fishing. This action will help to reduce the risk of debris and pollution to marine wildlife, including marine turtles and seabirds, through organised clean ups (removing the threat) and raising awareness of measures on land and in the water that can be implemented to reduce local sources of debris and pollution.
2.1	Investigate options for management of aggregation sites and ecological corridors for megafauna, threatened and endangered species	Many species of marine mega-fauna gather at specific locations or use specific habitat corridors during certain periods of the year for migration, feeding, breeding, calving, or nursing their offspring (e.g. mobulid rays and whale sharks feeding areas, cetacean nursery areas). These aggregation sites and habitat corridors have unique physical characteristics that create favourable conditions for these species. As such, these sites are extremely important in the life history of these wide-ranging mega-fauna, many of which are ecologically important and in low densities. This action is designed to identify and document important aggregation sites and habitat corridors in sustainable use (Zone 2) areas and, where relevant, develop and implement actions to reduce impacts. Implementing this action would require a process to identify these sites and their timing and assess management options suitable to minimise impacts. The very recent release of tracking research results demonstrating the location of hawksbill turtle foraging areas (e.g. Fortune Banks) represents an excellent local case study, whereby the research outcomes could be assessed under this action (once implemented) to determine appropriate management measures. At the IOTC level there are a number of conservation and management measures in place that obligates fishing vessels to take actions to prevent impacts of fishing on megafauna such as cetaceans, whale shark, other species of sharks, marine turtles and seabirds.

2.2	Retrieve drifting FADs of high risk to habitats and species	<p>The stranding of drifting FADs (DFADs) from the industrial tuna fishery onto coral reef habitats, lagoons and beaches of islands have been associated with damage of habitats and the entanglement and death of marine species (e.g. sharks, turtles). This action forms part of a suite of measures to reduce the negative impacts of DFADs on marine biodiversity. The action proposes to make use of satellite-based real time data to ensure tracking and accountability for all DFADs and to intercept and retrieve DFADs considered as a high risk of stranding onto shallow marine habitats and on islands or entangling marine wildlife. Its implementation should help to reduce the number of DFADs that are stranded and their impact on marine biodiversity. The implementation of this action will require the development and implementation of a program for FAD retrieval or the reorganisation of FAD-Watch program. The adopted program should consider a range of factors including options to improve surveillance, defining and identifying risk levels to inform retrieval decisions, retrieval options, financing options, and cost-effectiveness of options. For example, definition of a 'High-risk' DFAD may be one that is drifting towards a reef and/or located near turtle nesting beaches or feeding sites of ETP species. The program should be delivered through an updated national DFAD management plan. It must be noted that the FAD-Watch Program has been operational since 2016 and is a collaboration involving the Island Conservation Society (ICS), the Seychelles Fishing Authority (SFA), the Island Development Company (IDC) and the Spanish tuna boat owners' associations of tuna freezer vessels (OPAGAC). Its objective is to intercept DFADs before they are washed up on the beaches, especially around the Seychelles Outer Islands. At the end of July 2023, the SFA, the Sustainable Indian Ocean Tuna Initiative (SIOTI) and the Spanish-based association of tuna vessels, '<i>Asociacion de Grandes Atuneros Congeladores</i>' (AGAC) signed a memorandum of understanding to concretise their collaboration on a project designed to intercept DFADs. This was reported in the national newspaper as an update to the FAD-Watch initiative. This action should align and complement identified actions identified in the newly signed MOU.</p>
2.3	Remove stranded FADs of high risk to habitats and species	<p>Numerous DFADs are stranded on coral reefs, in lagoons and on beaches throughout the Seychelles outer islands. These stranded DFADs continue to have negative impacts through physical alteration and destruction of habitats and entanglement of certain species. This action is targeted at removing already stranded DFADs to eliminate their continuing destructive impacts. The implementation of this action will require the development and implementation of a program for FAD retrieval (as part of the updated national DFAD management plan) and should consider a range of factors including mapping the location of stranded FADs, defining and identifying risk levels to inform retrieval decisions, retrieval options, options for re-use or safe disposal, financing options, and cost-effectiveness of options. It is expected to be an integral part of the new proposed program for FAD retrieval or the reorganisation of FAD-Watch. Its implementation would require collaboration and cooperation between the purse seine fishing sector, the government of Seychelles and other Seychellois entities.</p>

3.1	Promote and contribute to the update of the national FAD management plan to ensure that it addresses national priorities	The Seychelles FAD management plan (2022 – 2023) is a roll-over of the 2020-2022 plan. Some stakeholders are of the opinion that the 2020 – 2022 FAD management plan only covered the minimal conditions of the IOTC and is not ambitious enough in implementing measures to reduce the impact of drifting and stranded FADs on marine habitats and marine biodiversity. This action promotes and supports the updated of the Seychelles DFAD management plan to address the multiple concerns that were raised by stakeholders on the ecological impacts of DFADs on targeted and non-targeted species as well as on habitats resulting from stranding. As part of Resolution 19/02 Procedures on a Fish Aggregating Devices (FADs) Management Plan, Seychelles is required to on an annual basis, review Management Plans for the use of FADs. The SFA would be responsible for leading the annual update, as required, of the DFAD management plan. Stakeholders requested for the processes to update the DFAD management plan to be inclusive and transparent and identified this action as a high priority for implementation.
3.2	Require the use of best practice guidelines for catch and release fishing, including fish with signs of barotrauma	This action aims to promote international best-practices in catch and release fishing and for species with specific catch limits with the purpose of maximising the survival of released fish. The action would feed into the Code of Conduct for the concerned fisheries that provides best practice methods for minimising fish stress and injury during the capture, landing, handling and release process, including recognising the signs of barotrauma and understanding swim bladder correction methods for fish release. The action will draw on relevant local and internationally developed materials. Its implementation will require training of fishing guides, charter fishing operators and local commercial fishermen in techniques for handling fishes that are to be released, including relieving symptoms of stress and barotrauma, release methods, and the selection and use of fishing gears that result in less injury during fish catching and handling. This approach recognises that most species are vulnerable to barotrauma under certain conditions and that post-release survival can be maximised through appropriate training and adherence to well-developed Codes of Conduct. The Codes of Conduct should also promote the transition of sport fishing towards a predominantly catch and release fishery. This action encourages managing authorities to work with the relevant fisheries sectors (recreational, charter and commercial fisheries) to promote catch and release fishing in recreational fisheries and the release of high-risk species in commercial fisheries. This action is based on awareness, and compliance does not prevent the fisher keeping caught fish, apart from those that might be controlled in current and future fisheries management plans. It is noted that the purse seine fishery has developed best practices for the release of sensitive species and has a routine data collection to monitor their use and enhance the training of fishers. The experience of the purse seine fishery should be considered in the implementation of this action.
3.3	All lagoon fly fishing shall be catch and release only	Lagoon fishing includes all forms of fly fishing that occurs within the shallow waters of an atoll or island lagoon (see Appendix D of the Management Plan). This is a high value activity of great importance to the Seychelles. Most fly fishers selectively target a few iconic species which are photographed and then released. This action will

		make this common practice mandatory, so that anyone participating in lagoon fly fishing activities must release all fish that they catch, helping to ensure the sustainability and value of the fishery.
3.4	All catch and release fly fishing (lagoon) must use single barbless hooks only	The type of gears that are used for catching fish are important factors in determining the level of stress and injury that a fish suffers during the catching, landing, handling and release process. Certain gears are known to cause physical injuries to fish that reduces their post release survival. As lagoon fly fishing is a predominantly catch and release recreational fishing activity, that relies on having healthy and diverse fish population, it is important to maintain high biomass of the targeted stocks. High biomass would contribute to higher and more diverse catch per unit effort and could contribute to greater customer satisfaction and higher participation. To ensure that fish are released in good condition and have the best chances of surviving to be 'caught again another day', this action makes it mandatory for all forms of fly fishing in the Sustainable Use Zones to be conducted using only one single barbless hook.
3.5	Establish a national training and accreditation scheme for fly fishing (lagoon) guides, with only accredited guides able to lead fishing charters	The Seychelles is internationally recognised as a high quality and sustainable fly-fishing destination. Lagoon fly fishing is a specialised form of fly fishing that is popular in the Seychelles. It usually takes place in shallow, environmentally sensitive habitats such as seagrass meadows. Many of the fish species targeted occur in low numbers and as such needs to be handled appropriately to ensure their survival and continued contribution to the industry. Fly fishers coming to the Seychelles seek high quality experiences and are generally willing to pay higher prices compared to other well-known fly-fishing destinations. The local fly-fishing industry is focused on having smaller, more sustainable numbers of high value fly fishers visiting the Area. This action aims to safeguard that reputation and contribute to ensuring the sustainability of the industry by making it mandatory for only guides that are properly trained and accredited to lead fly fishing charters and/or groups. This action requires the managing authorities to work with an accredited education provider (e.g. the Seychelles Maritime Academy) and the Seychelles Qualification Authority to establish the training program and an accreditation scheme. The implementation of this action could create education opportunities and career pathways for Seychellois and could be instrumental in maintaining the country's high ranking as a lagoon fly fishing destination.
3.6	Establish and implement appropriate catch limits and gear restrictions for sport and recreational fishing	This action aims to promote sustainable fishing practices though managing how much is caught and what methods and gears are used for fishing to avoid negative impacts. This action is a fisheries management measure and applies to local commercial fishing, sport, fly, and recreational fishing. Therefore, it would be expected that the Seychelles Fishing Authority would play a significant role in the development of specific measures under this proposed action, and that management measures may also be included in relevant fisheries management plans (e.g. the Outer Islands fisheries management plan). It is also expected that implementing this action would involve stakeholder participation. Once established, specific bag limits and/or equipment restrictions will be permit conditions for local commercial fishers, sport, fly, and recreational fishing. Definitions of sport fishing, fly fishing and recreational fishing are as per the Fisheries Regulations. Implementation of this action will require a

		process including steps such as: identifying sectors and species that may require specific management; identifying appropriate catch limits and gear restrictions; etc.
3.7	Prohibit all fishing in reef passes leading into lagoons between 1st November and 1st March.	The Outer Islands have spawning aggregation sites that are used by one or multiple species, particularly groupers, during their reproductive periods. Fishing on spawning aggregation sites can be extremely efficient and can easily wipe out the reproducing population and threaten entire stocks. Most of the known spawning aggregation sites in the Outer Islands are found along reef passes leading into lagoons. For the main species of aggregating groupers, research has shown that spawning aggregations usually form in the months from November to March. The aim of this action is to protect spawning aggregation sites without having to reveal their specific locations. Implementation of this action would require further work to clearly define and document areas that are considered as a "reef pass", as well as identifying candidate species, with recommendations for research as required to inform implementation.
3.8	Prepare and implement a plan for all industrial fishing vessels to achieve 100% onboard or electronic observer coverage.	Observer data provide unique and independent information collected at sea that is important for the effective management of marine resources. Observer data can be used to verify catch and other scientific data related to the fisheries for tuna and tuna-like species in the IOTC area of competence. The data can be used in various ways to support sustainable fisheries and reduce impacts of ETP species. This action is to prepare and implement a plan for all industrial fishing vessels to move towards 100% onboard or electronic observer coverage while operating within the Amirantes to Fortune Bank Sustainable Use Zone. The SFA will be responsible for leading the implementation of this action. In its current form the action is not time-bound, however new time limits for achieving 100% observer coverage would need to be discussed and communicated to stakeholders as part of the plan's preparation process.

B. GOVERNANCE OBJECTIVE

Action no.	Proposed management action	Explanatory notes
4.1	Establish a single multi-sectoral representative management committee to provide strategic decision making and oversee implementation	This action provides for a multi-sectoral co-management committee of diverse representatives to be established to provide strategic guidance and advice for decision making regarding the management of this site. To maximise coordination and efficiency, it is recommended that a single multi-sectoral co-management committee is established for all Sustainable Use (Zone 2) Areas and that it includes representation from a range of stakeholders with interest in these areas. The establishment of the co-management committee should take into account lessons learned from the current co-management approach and committee that oversees implementation of the Mahe Plateau trap and line fishery co-management plan 2019. Note that

		<p>this committee is a separate entity from the SOA Management Committee that provides advice regarding the implementation of the overarching SMSP with a mandate and membership specified under the SOA Bill 2020.</p>
4.2	<p>Establish a complaints and resolution framework that involves an independent body</p>	<p>This action requires the establishment of an independent formal complaints and resolution mechanism (either new or building on an existing framework) for stakeholders to access if they have a grievance related to Sustainable Use Area management or implementation. This mechanism should be administered by an independent body that is not involved in the use or management of Sustainable Use Areas. Stakeholders are considered as Seychellois citizens, and all users of the area and people with interest in the area.</p>
4.3	<p>Establish and implement a transparent and equitable permit system that includes a permit allocation mechanism.</p>	<p>This action proposes to establish a fair, equitable, and transparent permit system, along with a permit allocation mechanism. Under the proposed system, any user who wishes to conduct an allowable activity (Table 4) for commercial purposes will need to apply for a permit. The permit system is intended to be implemented through the Seychelles Ocean Authority which will coordinate permits amongst all implementing line agencies (including recognising and integrating existing licencing/permit systems), creating a single 'one-stop shop' for managing those permits relevant to the Sustainable Use Area. Permit applications would be assessed using a standard assessment process that is clear, equitable, and documented for all stakeholders. The development and implementation of the permit system should also include (1) mandatory compliance with relevant codes of conduct and license conditions; (2) a process to establish capacity limits for allowable activities that may impact marine habitats and species; (3) a fair process for allocating permits amongst stakeholders; (4) the requirement for an Environmental and Social Impact Assessment (ESIA) as part of the application process for new commercial sector activities considered 'high risk' to the environment and other users; (5) a fee structure and guidelines for activity permit applications and ESIA's; and (6) payment of a security bond for large maritime infrastructure and commercial projects (those requiring a Class I ESIA) that can be used to remove discarded materials or rehabilitate sites if there is non-compliance with ESIA conditions. This action will also develop a process to determine how the permits issued for an activity will be allocated amongst permit applicants and will include consideration of existing access arrangements, business viability, and equitable sharing of benefits. The allocation process will be led by MACCE in consultation with key stakeholders and managing authorities. Relevant components of the permit system and its establishment are provided through several other proposed actions. These types of arrangements have been in place for many years in many marine parks around the world such as the Great Barrier Reef Marine Park, and will also help to address priority issues including damage to habitats, unsustainable fishing practices, and coastal development.</p>

4.4	Determine capacity limits for allowable activities that may impact marine habitats and species	This action will initiate a process to determine appropriate limits for the number of permits issued for activities where overuse can impact marine habitats and species. These activities may include aquaculture, fly fishing tourism, industrial and semi-industrial fishing, sport fishing tourism operators, dredging, ferries and transportation, ports/marinas/wharves/jetties, renewable energy, bioprospecting, mining, petroleum, passenger ships, hire craft, floating structures and yacht tourism. Establishing capacity limits will also help to manage potential future increases in use and visitation to minimise conflict and ensure that the experiences and values provided to users and visitors are maximised and maintained. The process to establish capacity limits will be led by MACCE in consultation with key stakeholders and managing authorities. Capacity limits for species under the IOTC management mandates will continue to be determined by the IOTC and will be addressed as part of the Seychelles Tuna Fisheries Management Plan.
4.5	Develop new or review existing Codes of Conduct for allowable activities	The Seychelles Marine Spatial Planning Initiative identified a list of Allowable Activities for each of its three defined categories of zone through a participatory consultation process. Numerous stakeholders have also proposed that Codes of Conduct (including existing codes of conduct and best practices) should be considered in the management plans. To help limit the environmental impacts of the Allowable Activities and optimise the effectiveness of existing codes of conduct, a risk-based process will be initiated to identify which activities require Codes of Conduct, whether Codes of Conduct should be voluntary or mandatory for each activity, and to review existing, or develop new Codes of Conduct as required. These Codes of Conduct will set the norms, rules, responsibilities and behaviours while undertaking the different allowable activities, and will help to ensure that there is no ambiguity among operators about expected standards and behaviours. Codes of conduct that are deemed voluntary will be communicated to all users to encourage them to adopt these standards. Codes of Conduct that are deemed mandatory will be included as permit conditions for permit holders. The development of Codes of Conduct will be led by the government agency responsible for the allowable activity concerned and will be coordinated by the SOA. Stakeholders should be consulted as part of the development of the Codes of Conduct to ensure the operational and technical feasibility.
4.6	Establish a financial framework to ensure permit application fees and commercial levies support MPA management and implementation	This action adopts the 'user-pays' approach where all users accessing the Areas through the permit system and those obtaining commercial benefit from using the Areas should contribute to the costs of its management. This action requires the SOA to work with stakeholders to develop a framework that establishes fee and levy structures and guides the allocation of fees and levies for administration and implementation costs (e.g. management, compliance and enforcement, research and monitoring). The framework will also guide the determination and management of ESIA costs, including bonds which will be held in trust as 'insurance' to ensure that sufficient funds are available to clean up or repair any environmental damage resulting from an activity. The framework should ensure that the fees and levies are

		not prohibitively high that it will keep people away from this Area while also ensuring that certain proportion of the funds collected through levies and fees is directed to the management, and compliance and enforcement of the Area. It also serves to provide a mechanism for the transparent reporting of funds used for the management of this area. This action requires managing authorities to explore mechanisms to recover costs and fairly distribute the funds raised through this mechanism to the relevant managing agencies, and report on funding and expenditure. This type of cost recovery mechanism is common in marine parks around the world and has already been implemented for tourists visiting the existing marine parks in the Seychelles. Decision on this action should consider the new Seychelles' Tourism Environmental Sustainability Levy that became effective on the 1 st August 2023.
4.7	Develop and implement a risk-based Compliance and Enforcement Plan to support implementation and inform co-management agreements	The Seychelles had an IUU fishing index of 2.34 for the year 2021 and was ranked 54 out of 152 countries globally, and 10 th out of 24 countries in the Western Indian Ocean. Issues affecting monitoring, control and surveillance (MCS) include the lack of capacity and resources as well as the high cost of MCS. This action aims to develop a risk-based plan for compliance and enforcement that addresses these issues, and supports effective implementation of sustainable use area management plans. The challenge is that the Outer Islands are remote locations that are difficult to monitor and conduct surveillance, and therefore this action requires co-managing authorities to develop a single risk-based compliance and enforcement plan that is coordinated among all relevant agencies to ensure that the rules and requirements of Sustainable Use Areas are adequately enforced. The Compliance and Enforcement Plan should align with, integrate or be integrated in both the proposed Seychelles Fishing Authority MCS Strategy and the Draft Strategy and Delivery Plan for the Zone 1 and Zone 2 MPAs established under the Seychelles Marine Spatial Plan (SMSP) that was drafted by NLA International. A risk-based approach aligns with global best practice and requires ongoing collection of compliance data to direct enforcement efforts to where it is most likely to reduce the highest risks (including where and when to deploy surveillance). A risk-based approach also serves to ensure limited enforcement capacity is used where its most needed. The compliance and enforcement plan should include a review of options to support the cost-effectiveness of the plan, including: making use of existing surveillance infrastructure and systems, identifying and assessing existing technology, and identify new and emerging technologies to monitor these areas. The plan should also incorporate processes for identifying options for regional coordination and diplomacy to address IUU originating from overseas countries. A Monitoring Control and Surveillance (MCS) Strategy and Delivery plan is already being developed through the SWIOFish3 programme and will provide a comprehensive overview of the current compliance and enforcement risks and options for addressing them at a national scale as well as for sustainable use areas.
4.8	Optimise use of surveillance and detection technologies for	Poaching of wildlife and Illegal, Unreported and Unregulated (IUU) fishing are both high priority issues that urgently need to be addressed in sustainable use (Zone 2) areas. The challenge is that these activities occur in remote locations that are difficult to monitor and conduct effective and timely surveillance. This action

	monitoring and management of illegal activities	directs the managing authorities to examine existing technology and identify new and emerging technologies to monitor activities, and optimise the way these technologies are deployed to enhance surveillance and detection of illegal activity. This action will help to optimise the success of the compliance and enforcement plan, and address poaching and IUU fishing. The MCS Strategy and Delivery plan is being developed and several remote surveillance and detection options have been identified to effectively monitor the large ocean area of the Seychelles EEZ.
4.9	Develop and implement a financial framework to support management that includes sustainable funding mechanisms	Lack of funding and resources is a key barrier to effective management. The implementation of sustainable use management plans will be below standard if there are not enough resources to implement effective compliance and enforcement. This action aims to identify and secure funding and resources to ensure that sustainable use area management and compliance and enforcement can be effectively implemented, and will include strategies for obtaining funding and guiding the allocation of funding across the different implementation components. One of the proposed sources of financing is through the permit application fees and commercial levies (Action 4.7). However, funding from fees and levies will not be enough and will need to be supplemented through other sources. This action is to identify these different possible sources and to put a plan together and execute it so that the Area can be successfully managed.
5.1	Establish a scientific committee to provide technical advice, coordinate and facilitate research and monitoring activities, and oversee the research permitting processes	Management needs to understand the state of the ecosystem, the biological processes that sustain it, and the way sustainable use areas are accessed and used to implement strategies that protect biodiversity and allow for sustainable use. This action requires that a Scientific Committee made up of suitably qualified individuals is established (aligned with existing relevant bodies) to provide strategic guidance and coordination of research efforts, oversight of research access and research permit processes for all Sustainable Use (Zone 2) Areas. Membership of this committee should include experts working in different sectors that are making use of the Seychelles marine environment. To maximise coordination and efficiency, a single Scientific Committee is recommended for all Sustainable Use (Zone 2) Areas. The oversight of coordinated research and integration of findings will ensure that management of sustainable use areas remains adaptive. Establishing this Scientific Committee aligns with the governance structure described in the Draft Seychelles Oceans Authority Bill and is intended to build on existing national scientific advisory groups.
5.2	Develop and implement a Research & Monitoring Strategy for marine Sustainable Use Areas	This action aims to develop a National Research and Monitoring Strategy for marine sustainable use (Zone 2) areas to guide activities that ensures management is based on the best available science that addresses key knowledge gaps. The National Research and Monitoring Strategy will be developed through a consultative approach to identify key information needs, the priority research that needs to be undertaken, and the approaches to ensure that research is collaborative, multi-institutional and multi-disciplinary. Research priorities for the sustainable use areas need to form an integral part of a National Research and

		Monitoring Strategy with site specific as well as national scale priorities and monitoring specific to support the Performance Management Framework for sustainable use areas. Once developed, the Research Strategy will be managed by the Scientific Committee (see related action) that will be responsible for providing technical advice, coordinating, and facilitating research and monitoring activities, and providing oversight of research permitting processes.
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C. SOCIAL AND CULTURAL OBJECTIVE

Action no.	Proposed management action	Explanatory notes
6.1	Implement education and awareness programs to raise awareness of the values of the Area and management measures to protect them	This action aims to develop and implement a strategy and programs to help users and Seychellois understand biodiversity, social and cultural values, threats and the need for management of sustainable use areas, how people are using these areas, and the rules that apply to the sustainable use areas, including educating people of the rationale for rules. This increased awareness and understanding is important for increasing compliance with management plan rules. A critical part of education and awareness is developing programs that are specifically targeted to different stakeholders and user groups, and to provide for easy access to information as it becomes available (e.g. new research findings).
6.2	Protect marine sites that have important cultural, archaeological or historic value, and manage them for their potential to support tourism	Lack of local awareness about the values (including cultural, archaeological or historic) of Sustainable Use (Zone 2) Areas was identified as a priority issue by stakeholders. Such values in sustainable use (Zone 2) areas include ship and airplane wrecks, lighthouses, and other structures. Many artefacts of historic value in sustainable use (Zone 2) areas have not been located or identified and are therefore not being preserved. The appropriate documentation and preservation of these artefacts of historic value, and when possible, identifying opportunities to generate revenue from them will contribute to their preservation.
6.3	Increase opportunities for locals to visit the area	. This action aims to develop opportunities for Seychellois citizens to visit and experience their marine environment, particularly the Outer Islands. Increasing opportunities and visitation will allow Seychellois to experience the area, and increase community appreciation of biodiversity, social and cultural values.

D. ECONOMIC OBJECTIVE

Action no.	Proposed management action	Explanatory notes
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7.1	Undertake a baseline social and economic valuation to inform capacity limits, potential development or expansion of environmentally sustainable local businesses, and management decisions	Information on the economic and social values of each Sustainable Use (Zone 2) Area is important in understanding how the sustainable use areas are used, how management can balance biodiversity conservation with sustainable use, the potential for user pays, and where economic and social activities can be optimised in a sustainable manner. This action will conduct a study to document the economic and social values of the sustainable use areas in the Seychelles MSP. Implementing this action would require a national approach that could potentially be extended to other marine zones, and a collaborative process involving: identification of new and/or expanded opportunities; an evaluation of these opportunities for their economic feasibility (e.g. profitability, local interest, etc); and the willingness for a user pays approach in sustainable use areas. Results from the study should feed into Activity 4.4 on determining capacity limits for allowable activities that may impact marine habitats and species.
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Appendix D: Mandate of the Seychelles Oceans Authority

The mandate of the SOA is the administration, coordination, oversight, monitoring and evaluation, review and adaptive management of the Seychelles Marine Spatial Plan. Responsibilities for the SOA include:

- Governance of spatial planning – the Seychelles Ocean Authority Act (SOAA) will explicitly incorporate the power of marine spatial planning to the Authority (i.e. marine protected or management areas up to the high water mark).
- Monitoring, evaluation, mid-term review and 5-yearly consultative revision of the SMSP.
- Holding regular meetings of the Board to guide the strategic implementation of the SMSP. The SOAA will specify the Board meet at least quarterly.
- Hold regular meetings of the Management and Scientific committees respectively.
- Ensure pertinent international obligations (i.e. MEAs - UNFCCC, CBD, PSMA etc...) are appropriately incorporated into the SMSP management cycle, reported upon as required and provide advice/information to Government (GoS) on pertinent international relations.
- Give guidance to, coordinate the SMSP activities of and promote compliance from MSP implementation agencies – the SOAA will require line agencies to report on SMSP implementation as per the SMSP and its schedules and formats.
- Oversee the practical issues of Zone and Protected Area management in line with their designation, including the establishment of parameters and criteria for SMSP development management – e.g. allowable activities for each zone and their realisation.
- Oversight, coordination and, where appropriate, implementation of:
 - Develop standard formats for Protected Area (PA) management plans and reporting.
 - Develop and review PA draft management plans with clear measures to support area and SMSP objectives.
 - Realisation of efficiencies, synergies and optimal use of capacities.
 - Monitoring of management plan implementation.
- Develop SMSP scientific practices (through the function of the stakeholder Scientific Committee in liaison with NISTI):
 - Identify data requirements to support SMSP and Area management plan objectives.
 - Identify data requirements to support priority, area-specific management objectives.
 - Establish criteria for SMSP datasets to facilitate analysis and utility.
 - Undertake independent peer review of all datasets.
 - Identify strategic, crosscutting and key knowledge and data gaps (including those pertaining to climate change) for SMSP management, and develop and promote the implementation of, a prioritised research agenda.
 - Develop prioritised management-oriented research agenda (incl. Oceanography).
 - Develop and review model data sharing agreement(s).
- Identify, inform stakeholders of and pursue, as appropriate, funding options and mechanisms to support the sustainable implementation of the SMSP.
- Explore and develop in partnership with the GoS means of raising and generating revenue/funds to support SOA operations.
- Public education, stakeholder communication and outreach.

Appendix E: Amirantes to Fortune Bank Sustainable Use Area PMF Indicators

Indicator numbers refer to the numbers in the D4 Technical Report.

Management objective	Priority issue(s) being addressed (refer to Table 3)	Indicator No.	Ecological and biodiversity indicator	Indicator metric	Trigger level
To maintain and enhance biodiversity and ecological values for resilient marine ecosystems.	Inadequate monitoring, research, and conservation (EB4); Climate change impacts (EB6); Anchor damage (EB7); Effect of tourism activities on species/ecology (EB8); Inadequate knowledge about AFB Area resources (E6).	EB1	Coral reef status & trends	Benthic cover (%) by category	Decrease in 30 % live hard coral cover over a five-year period; a measurable decrease in live coral life form diversity (late, branching, encrusting using reef check criteria) over five years
	Inadequate monitoring, research, and conservation (EB4); Climate change impacts (EB6); Anchor damage (EB7); Effect of tourism activities on species/ecology (EB8); Inadequate knowledge about AFB Area resources (E6).	EB2	Seagrass status & trends	Seagrass area; seagrass community composition	Decrease in 30 % seagrass extent over a five-year period.
	Poaching/IUU (EB1; G1); Inadequate monitoring, research, and conservation (EB4); Effect of tourism activities on species/ecology (EB8)	EB4	Marine turtle population status & trends	No. nesting marine turtles	Decrease of 30% in the number of nests at monitored sites over 5 years
	Poaching/IUU (EB1; G1); Inadequate monitoring, research, and conservation (EB4); Climate change impacts (EB6); Anchor damage (EB7); Effect of tourism activities on species/ecology (EB8); Inadequate knowledge about AFB Area resources (E6).	EB5	Fish population structure indices (to be identified through SeyCCAT grant 279)	Potential indices may include catch composition, catch per unit effort, lengths of key grouper species	Unknown - requires identification of these species and review of existing data to establish baselines
	FAD management ineffective (EB3); Inadequate FAD management (G4); Lack of resources for effective response (G7);	EB7	Risk posed by stranded FADs.	Number of stranded FADs removed	No. of stranded FADs removed over a 12-month period; <50 stranded FADs recovered over a five-year period
	Ineffective mechanism to retrieve drifting FADs (G5); Lack of resources for effective	EB8	Risk posed by drifting FADs.	Number of drifting FADs observed by FAD Watch and number retrieved	Sustained increase in the number of drifting FADs that were detected but not recovered over a three-year period

	response (G7); Insufficient monitoring of fishing activities (G9).				
	Inadequate monitoring, research, and conservation (EB4); Climate change impacts (EB6); Anchor damage (EB7); Effect of tourism activities on species/ecology (EB8); Insufficient monitoring of fishing activities (G9); Inadequate knowledge about AFB Area resources (E6).	EB9	Status of five key fly-fishing species.	Catch rates and size of key fly fishing species (bone fish, permit, giant trevally, trigger fish, milk fish)	15% consistent decrease in CPUE observed over a period of 5 years; or a 40%+ decrease from one year to the next of 5 key target species.
	Anchor damage (EB7); Effect of tourism activities on species/ecology (EB8); Different types of conflicts among users of the area (G2); Lack of knowledge and awareness /ocean literacy (SC1); Lack of information on responsibility of different users in the area (SC6); Lack of control of local operators (E2).	EB10	Number of designated anchorages established and indicated on navigation charts	Number of designated anchorages established; narrative of whether users and being made aware of these anchorages	No designated anchorages established during the five-year management plan period.
	Anchor damage (EB7); Effect of tourism activities on species/ecology (EB8); Lack of information on activities taking place within the area (SC7); Lack of control of local operators (E2).	EB11	Usage patterns of designated anchorages	The number of boats anchored within the designated anchorages or using moorings, and number anchored outside these areas.	Less than 75% of vessels are using the designated anchorages and/or any moorings for long term anchorage (e.g. more than four hours).
	FAD management ineffective (EB3); Different types of conflicts among users of the area (G2); Inadequate FAD management (G4); Ineffective mechanism to retrieve drifting FADs (G5); Lack of knowledge and awareness /ocean literacy (SC1); Lack of information on activities taking place within the area (SC7).	EB12	Activities undertaken to reduce entanglement risks to marine wildlife	Narrative account of the number and types of programs implemented to reduce entanglement risks	No activities undertaken during a 12-month period.
Management objective	Priority issue(s) being addressed	Indicator No.	Social & cultural indicator	Indicator metric	Trigger level

To facilitate equitable access and opportunities for Seychellois to maintain and enhance social benefits and cultural values.	Different types of conflicts among users of the area (G2); Lack of access for Seychellois citizens (SC2).	SC1	Number of visitors; nationality of visitors to Outer Islands.	Visitor numbers and their nationalities (IDC data as well as data reported by permit holders that take visitors to the islands).	25% decline in number of visitors to the Outer Islands from one year to the next.
	Lack of knowledge and awareness /ocean literacy (SC1); Lack of recognition of cultural values (SC3); Little cultural value placed on deep ocean habitats (SC4); Inadequate knowledge about AFB Area resources (E6).	SC2	Understanding ecological and cultural value of the islands.	Survey data on understanding and awareness of values.	Level of understanding of and appreciation for the Area remains the same or decreases.
	Lack of knowledge and awareness /ocean literacy (SC1); Lack of recognition of cultural values (SC3); Little cultural value placed on deep ocean habitats (SC4); Lack of information on responsibility of different users in the area (SC6); Lack of information on activities taking place within the area (SC7); Different types of conflicts among users of the area (G2); Lack of valuation information (E1); Lack of information on opportunities (E3); Inadequate knowledge about AFB Area resources (E6).	SC3	Education and awareness investment.	Number of education and awareness projects; budget allocated to education and awareness.	No funding allocated in education and awareness raising OR budget allocation unspent over a 12-month period.
	Lack of knowledge and awareness /ocean literacy (SC1); Lack of recognition of cultural values (SC3); Little cultural value placed on deep ocean habitats (SC4); Lack of information on responsibility of different users in the area (SC6); Lack of information on activities taking place within the area (SC7); Different types of conflicts among users of the area (G2).	SC4	Social & cultural research & monitoring investment.	Number of research and monitoring projects; budget allocated to research and monitoring.	No social and/or cultural research programs underway during a 12-month period.
	Lack of recognition of cultural values (SC3); Little cultural value placed on deep ocean habitats (SC4).	SC5	Number of culturally and/or historically significant sites mapped and protected.	Number of sites mapped and protected.	At the end of the five-year management plan duration - no culturally/historically important sites mapped; >50% of mapped sites remain unprotected

	Insufficient monitoring of fishing activities (G9); Lack of information on activities taking place within the area (SC7); Lack of valuation information (E1); Lack of information on opportunities (E3); Inadequate knowledge about AFB Area resources (E6).	SC6	Fisher average satisfaction of fly-fishing experience in the outer islands.	Trends in fly fisher satisfaction.	25% decrease in fly fisher satisfaction from one year to the next.
Management objective	Priority issue(s) being addressed	Indicator No.	Governance indicator	Indicator metric	Trigger level
To apply integrated governance mechanisms to ensure transparent decision making, equity and effective implementation.	Low capacity for enforcement (G6); Lack of resources for effective response (G7); Lack of financial resources (E5).	G1	Investment in SU Area management.	Annual budget for management authority; allocation for future years.	No budget allocated to managing authority after the first year of the management plan; Management Authority budget decreases in relation to inflation over a five-year period.
	Different types of conflicts among users of the area (G2).	G2	Multi-sectoral Management Committee Operational.	Number of Management Committee meetings held over 12 months.	At least 3 Co-Management Committee meetings in a 12-month period.
	Inadequate monitoring, research, and conservation (EB4); Failure to include results of scientific research in area management (EB9).	G3	Scientific committee operational.	Number of Scientific Committee meetings over 12 months.	>2 Management Committee meetings in a 12-month period.
	Low capacity for enforcement (G6); Lack of resources for effective response (G7).	G4	Percentage of required positions that are continually filled - action indicator.	Number of positions filled, Number of positions vacant	The number of vacant positions in the Management Authority exceed 25% of the nominal workforce
	Different types of conflicts among users of the area (G2); Lack of access for Seychellois citizens (SC2); Lack of information on activities taking place in the area (SC6); Lack of control of local operators (E2).	G6	Permit system for allowable activities operational	System established Yes/No	Permit System not operational within three years of the management plan being implemented
	Inadequate monitoring, research, and conservation (EB4); Failure to include results of scientific research in area management (EB9).	G7	Research and Monitoring Strategy established	Strategy completed Yes/No	Research and monitoring strategy not completed within two years of the commencement of the management plan

	Low capacity for enforcement (G6); Lack of resources for effective response (G7); Lack of information on responsibility of different users in the area (SC6).	G9	Compliance and Enforcement plan (C&E Plan) developed and adopted.	Narrative description of whether the Compliance and Enforcement Plan has been developed and adopted by managing agencies.	Compliance and Enforcement Plan not completed within two years of the commencement of the management plan.
	Poaching/IUU (EB1; G1); Marine pollution/illegal dumping (EB2); Anchor damage (EB7); Low capacity for enforcement (G6); Lack of resources for effective response (G7); Insufficient monitoring of fishing activities (G9); Lack of information on activities taking place within the area (SC7); Lack of control of local operators (E2).	G10	Number of days of active compliance patrol (C&E plan implemented).	Number of days in field spent on surveillance by aerial and maritime or island-based patrols (NOT radar).	Number of compliance patrol days < target set in the Compliance and Enforcement Plan.
	Poaching/IUU (EB1; G1); Marine pollution/illegal dumping (EB2); Anchor damage (EB7); Low capacity for enforcement (G6); Lack of resources for effective response (G7); Insufficient monitoring of fishing activities (G9); Lack of information on activities taking place within the area (SC7); Lack of control of local operators (E2).	G11	Number of successful detections and intercepts (C&E plan implemented).	Ratio of the number of intercepts to the number of detections of suspicious activities; trend in number of detections.	Over a 12-month period: <20% of suspect activities detected are intercepted; OR an >50% increase in detections of suspicious activities.
	Poaching/IUU (EB1; G1); Lack of information on activities taking place within the area (SC7).	G13	Number of IUU fishing incidents reported by source (including a public reporting system if this system is established).	Number of reported incidents by source.	Number of public reporting system established 2 years after the commencement of the management plan.
	Lack of information on best practices for different types of ongoing activities (G8); Lack of information on responsibility of different users in the area (SC6).	G14	Awareness of users of the area regarding legal requirements and obligations, best practices, and codes of conduct.	Analysis of survey data on awareness; data on number of views and download of selected information on Management Authority website, social media engagement.	Compliance awareness surveys not implemented within four years of the management plan commencement; >25% of survey respondents show inadequate understanding of compliance requirements.
Management objective	Priority issue(s) being addressed	Indicator No.	Economic indicator	Indicator metric	Trigger level

To optimise sustainable economic activities and create equitable opportunities.	Lack of valuation information (E1); Lack of information on opportunities (E3).	E2	Social and economic valuation conducted for the Area.	Study conducted Yes/No.	Social and economic valuation not completed within 3 years of management plan commencement.
	Lack of resources for effective response (G7); Lack of financial resources (E5).	E3	Permit and licencing fee mechanisms established to ensure commercial users contribute to management.	Mechanisms established yes/no.	Mechanisms not established within a 12-month period of the Permit System becoming operational.
	Inadequate monitoring, research, and conservation (EB4); Lack of data on by-catch (EB5).	E4	Number of active fishing days by semi-industrial fishers from VMS data and logbook data.	Number of active fishing days in the Area.	An unexpected/unexplained change in fishing days of >20% over a 12-month period.
	Inadequate monitoring, research, and conservation (EB4); Lack of data on by-catch (EB5).	E5	Industrial fishing activity within the Amirantes to Fortune Bank Sustainable Use Area.	Number of active fishing days in Amirantes to fortune bank area by industrial tuna fishers; results of EMS data review and audits.	An unexpected/unexplained change in fishing days of >20% over a 12-month Period.
	Effect of tourism activities on species/ecology (EB8); Insufficient monitoring of fishing activities (G9); Lack of information on activities taking place within the area (SC7).	E7	Number of fly-fishing days per area.	Number of fly-fishing days per that have occurred the Area.	An increase in fishing days of >20% over a 12-month period.
	Different types of conflicts among users of the area (G2); Lack of access for Seychellois citizens (SC2); Lack of control of local operators (E2).	E8	Number of tourism permits allocated per island per year to each operator.	Number of permits allocated in the Area per year.	>50% of the permits allocated belong to a single operator.

Annexes

i. IMPLEMENTATION & GOVERNANCE PLAN

To be developed once the Amirantes to Fortune Bank Sustainable Use management plan is finalised.

ii. FINANCING PLAN

In development

iii. REGULATIONS & MCS PLAN

To be developed once the Amirantes to Fortune Bank Sustainable Use management plan is finalised.

iv. STAKEHOLDER ANALYSIS

The stakeholders that participated in the Amirantes to Fortune Bank Archipelago management plan development and have an interest in the future management of the Area have been recorded and the full analysis is pending.