



8 November 2017

Nomination of Aldabra Group as National Park and Amirantes to Fortune Bank as Area of Outstanding Natural Beauty

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Section 1: Historical Background

Seychelles Biodiversity hotspot and conventions

Marine and coastal biodiversity has been fundamental to the socio-economic development of the Seychelles since human colonization in the late 18th century (GoS, 2014). To date, tourism and fisheries remain the two main pillars of the economy. As far back as 1969, the Government of Seychelles recognises through the Tourism policy of 1969 that *'the attractions that tourists will seek, and above all to protect the natural beauty of these islands, which from all points of view, including tourism, is probably our greatest asset'*.

Seychelles conservation measures date back to the 1770's

With a high level of endemism at 50-85% for different animal groups and 45% for plants, (GoS, 2011) it is unsurprising that the Seychelles has a long history of conservation measures and management initiatives dating back to the late 1770s with the decrees of De Malavois and initiatives to establish reserves for giant tortoises in the late 1780s. However, area based legislation was only developed in the 1960s, including the National Parks and Nature Conservancy Ordinance of 1969 (Annex I). These were put into context through a Government white paper by Mr. John Procter in 1971 entitled *'Conservation Policy in the Seychelles.'* This paper accompanied the development of the Seychelles Tourism Policy (1969) and the National Parks and Nature Conservancy Ordinance of 1969 and the Town and Country Planning Ordinance of 1970.

Unsurprisingly, environmental concerns are firmly entrenched in the Seychelles' Constitution (1993), where article 38 declares that *"The State recognises 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 realisation of this right the State undertakes to ensure a sustainable socio-economic development of Seychelles by a judicious use and management of the resources of Seychelles"*.

Seychelles was the second country to sign the CBD in June 1992 and became a party that same year. One of the Aichi targets of the CBD is that by the year 2020, at least 10% of coastal and marine areas are effectively conserved (Strategic Goal C, target 11). Although Seychelles was one of the first countries in East Africa and the WIO to establish a network of MPAS in the 1960s, the total area of MPAs in Seychelles remains less than 1% of the EEZ. Additionally, the selection criteria in that period of time was based primarily on aesthetic and hence tourism utility, not biodiversity values and with limited stakeholder consultation.

Seychelles committed to Protect 30% of its marine EEZ in 2010

In the year 2010, the Seychelles' President made a commitment to declare over 50% of Seychelles' terrestrial surface area and 30% of the marine area under biodiversity conservation as a pledge conditional to raise funds for conservation and climate change adaptation (GoS, 2013; NISA, 2011; Statehouse, 2017). This would exceed the 10% target which is set by the Convention on Biodiversity for the National Marine Territory.

The Seychelles Debt for Nature Swap Agreement signed 2016

From the commitment made in 2010, the MSP initiative is now a necessary output of the award winning government-led Debt-for-Climate-Change-Adaptation swap, the negotiation of which was finalised in February 2016. The debt swap is a significant, globally recognised innovation that now holds the Seychelles government accountable to delivering - over the next 3-5 years - a marine spatial plan that will result in approximately 400,000 square kilometres of improved marine resource management. The milestones of the MSP are conditional in the debt swap loan agreement (Annex II). The first milestone (grace period) is the identification of 15% of the Seychelles Exclusive Economic Zone (EEZ) for protection and management by December 2017.

The Seychelles Conservation and Climate Adaptation Trust operational Nov 2016

The MSP is linked to the newly formed Seychelles Conservation and Adaptation Trust (SeyCCAT) which became operational late 2016. The trust will help fund the implementation of the MSP. The financial model has since attracted other interest, such that SeyCCAT will be managing an additional US\$3M of the World Bank supported Sovereign Blue Bond (through the SWIOFish 3 project). Combining Debt-Swap and Blue Bond proceeds, SeyCCAT will be able to disperse \$0.75M p/a, starting 2018.

Integration with other projects, initiatives and agendas

The Seychelles MSP Initiative is aligned and integrates with national legislation, acts, policies and initiatives, as well as voluntary international obligations and commitments. The MSP supports the Government commitment to the UN Convention on Biological Diversity, the UN Sustainable Development Goals and the implementation of the Seychelles Blue Economy agenda. The MSP integrates with numerous Seychelles projects and initiatives including the Mahe Plateau Demersal Fisheries Co-Management Plan, Port Master Plan, a GoS-UNDP-GEF Outer Islands Project and Protected Areas Financing project, BioFin Project, SAPPHE and WIO-LAB, the Mariculture Masterplan, Seychelles Upstream Petroleum Policy, and the Blue Economy Roadmap. In Phase 2, the MSP will integrate with additional projects in nearshore waters such as Ecosystem-based Adaptation for climate change, coral reef restoration, and mangrove restoration.

The MSP Process 2014 to date

The MSP process started in February 2014 and 30 official meetings and workshops have been held with more than 100 stakeholders for information, input, discussion, and review, design and management considerations for proposed new areas for marine biodiversity protection. The Government of Seychelles (GoS) is leading the MSP initiative, with planning, science, and facilitation managed by The Nature Conservancy (TNC) in partnership with GOS-UNDP-GEF Programme Coordinating Unit (PCU), the latter of which are the main funding organisations.

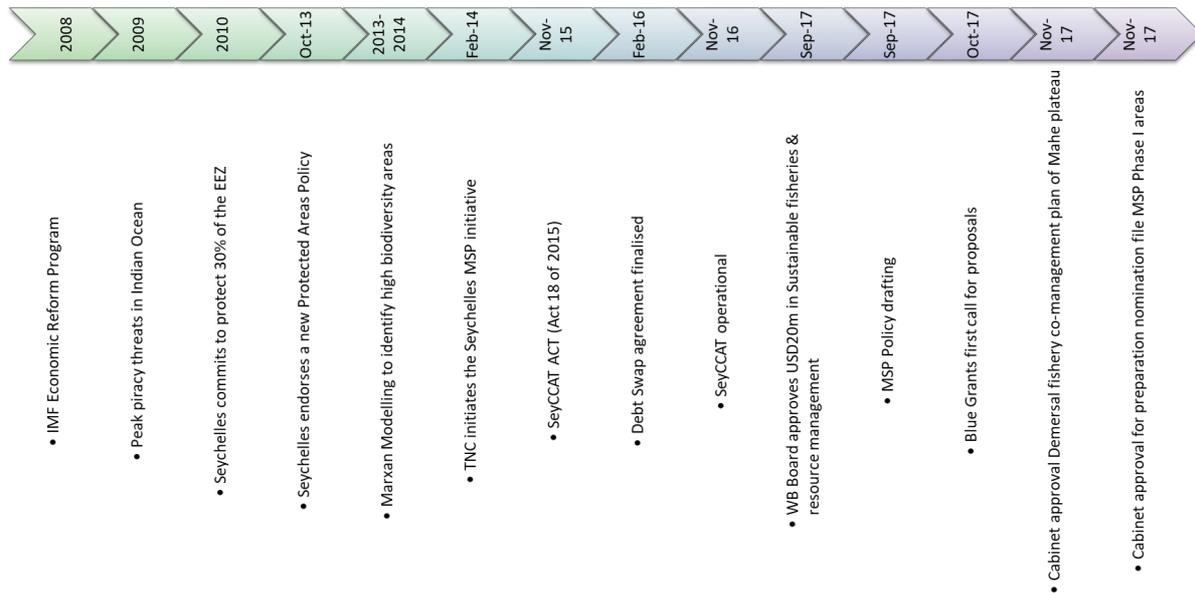
MSP zones developed through stakeholder consultations March 2015

In March 2015, three zone types were proposed through stakeholder input, to simplify the planning objectives of the MSP Initiative in Phase 1 which is, to identify 15% of the EEZ for protection and management (5% in Zone 1 and 10% of the EEZ in Zone 2 by December 2017). See Annex III for description of the zones 1, 2 and 3.

The MSP Initiative has been divided into two phases from 2014-2020. Phase 1 is from 2014-2017 and involves the development of planning tools to initiate the process (e.g., spatial data catalogue and zoning framework) and the development of the decision-making process. Phase 1 outputs include proposals to allocate approximately 200,000 square kilometres (half of the 30% goal) for new zones for marine biodiversity protection and sustainable uses in deep water, outside the Territorial Sea. The Territorial Sea is interim Zone 2 for all of the waters of Seychelles except the waters surrounding Aldabra Atoll, which are Zone 1. Aldabra Atoll is already a protected area.

In Phase 1, the MSP zones are coarse scale large areas offshore. The zoning design will be refined in Phase 2 and new areas will also be added to reach the full 30% target.

Summary Timeline of key milestones leading to nomination;



History of the proposed areas

Aldabra Group, Zone 1

Although the outer islands consist of over half the number of islands in the Seychelles and more than 90% of the total reef area of the country, only two marine protected areas are fully gazetted to date in the outer island group. These consist of Aldabra Special Reserve in the nominated zone 1 area and the African Banks Protected Area in the nominated zone 2 area. There also exist two nature reserves (Boudeuse and Etoile) in the outer island group.

The Aldabra Group includes the Aldabra Special Reserve (1981) and World Heritage site (1982). Aldabra special reserve is the most isolated and the largest protected area of Seychelles, and the second largest raised coral atoll in the world by dry land area (Management plan). In 2015, the cabinet of ministers approved for the extension of the boundary of the Aldabra Special Reserve to the 3km depth contour line and the legal procedures for gazetting is still ongoing to date, 2017. This extension would increase the size of the reserve from 346 to 2, 559 km² (SIF, 2016). Since 2001 Aldabra was recognized as an important and endemic bird area by Birdlife International and recognised as an Endemic Bird Area (Birdlife International, 2017). It is additionally listed as a Ramsar wetland of international importance in February 2010 (Ramsar, 2014). Aldabra is listed as an area of avoidance owing to sensitivity on navigational charts. This is primarily to deter oil tankers from coming within 30nm of the Atoll (SIF, 2016).

Restoration and eradication work is underway on Aldabra Atoll including the successful eradication of goats (*Capra hircus*) in 2012 after a 5-year intensive eradication programme, eradication of Madagascar fodies (*Foudia madagascariensis*), red whiskered bulbul (*Pycnonotus jocosus*) and Sisal (*Agave sisalana*). The former two species are also being eradicated on Assumption Island. These efforts are being made to protect the native species of the islands and restore terrestrial ecosystem resilience.

The Aldabra Group also consists of the island of Assumption (excluded in Phase I of the MSP). In 2015 discussions began with India to lease the island of Assumption for island development, which is linked to the launching of a new coastal radar system in Seychelles in February of 2016. This comprised of six radar stations on five islands; Mahe, Alphonse, Farquhar, Astove and two on Assumption.

Amirantes to Platte, Zone 2

The Seychelles archipelago is a recognized biodiversity hotspot and hosts 1690km² of coral reefs spread out within its 1.3million km² of Exclusive Economic Zone (EEZ). Out of this, 40km² are found within the inner islands around Mahé (Jennings *et al.* 2000; Spalding *et al.* 2001; Bijoux *et al.* 2008), and the Mahe Plateau

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(Zone 2). These granitic islands are found on the northern part of the archipelago which forms the northern arc of the Mascarene Ridge. The Seychelles is unique as they are the only oceanic islands of the world of continental origin (GoS, 2014).

The Mahe plateau is the centre of Seychelles artisanal and semi-industrial fisheries (GoS, 2012). However, there is a requirement for increased capacity to manage these resources and for research into the productivity of the area to allow for sustainable fisheries. For the management of pelagic stocks, Seychelles collaborates with the Indian Ocean Tuna Commission. There is a great need to address by-catch issues in semi-industrial and industrial fisheries as well as Fisheries Aggregation Device (FAD) management. The Industrial foreign vessels are excluded from shallow water areas as per Regulation 5 of the Fisheries Act (1987; Cap 82). Seychelles has also banned the use of spear guns and bottom trawling under the Fisheries Act. Other key steps taken by the Seychelles include complete legal protection of all marine mammals in 1979 and all marine turtles in 1994. Seychelles was one of the first countries to develop and begin the implementation of a National Plan of Action for the Conservation and Management of Sharks. The African Banks and surrounding reefs were designated under the Protected Areas Act in 1987.

Although the artisanal fishery has maintained a relatively stable catch over the last 25 years, (4-5,000MT/yr) there has been an increase in effort and change in fishing techniques over this period of time. The pelagic longline fishery started in 1995 with a steady increase in the number of vessels from 7 to 28 to date with total catch increasing from 270mt in 2010-2013 to almost 1,000mt in 2016 (Chassot, 2017). The Seychelles also lies in the heart of the Indian Ocean tuna fishing grounds and has been the regional hub for Industrial fishing (Purse Seine and Longline) since the mid-1980s, with foreign fishing fleets from the EU, Korea, China, Mauritius, and Taiwan. Seychelles also hosts one of the most productive tuna canneries in the World; the Indian Ocean Tuna (IOT) Ltd. Cannery (Chassot, 2017; GoS, 2014).

Pressures on the fishery sector are now reaching unsustainable levels. Through the assistance of a World Bank Project of USD25M, for sustainable fisheries and marine resource conservation, Seychelles can refocus its demersal fishery development around a sustainable Blue Economy. The project focuses on the Mahe plateau area and the Seychelles demersal fishery co-management plan, the first phase of which was approved by the cabinet of Ministers in Nov 2017.

The outer islands including Coetivy and the islands in the Amirantes are managed by the Islands Development Company (IDC) which partners with the Island Conservation Society to undertake conservation work on some islands. Hotel operations in these remote outer islands also support research, conservation and rehabilitation work. The privately owned island of D'Arros located in the Amirantes Group has also set up a foundation to assist with conservation initiatives on the island.

Coetivy Prawn Farm 1989-2009

In 1989, the Island Development Company (IDC) and the Seychelles Marketing Board (SMB) established a prawn farm on Coetivy to produce black tiger prawns. The location was used because it is the closest coral island to Mahe, which was large enough (Muylder *et al.*, 1996). The non-native giant black tiger prawn (*Penaeus monodon*) was the main species reared (FAO 2000-2007). The island had its own hatchery (Muylder *et al.*, 1996). The only chemicals used on Coetivy were inorganic fertilizers. They were applied at the beginning of the growth cycle to boost plankton growth in the ponds. The elongated shape of the island made it possible to pump seawater from one side of the island and discharge it on the other side. However, there were no settling tanks on the island. The effluent water was drained straight back into the ocean on the eastern side of the island by gravity (Muylder *et al.*, 1996). This water was heavily loaded with organic matter, mostly from uneaten feed and faeces produced by the shrimps (Muylder *et al.*, 1996). With the large volume of water discharged per day, the lagoons on the eastern side of the island were affected. The prawn farm ceased operation in 2009. A minimum security prison facility was then opened in 2010 holding some 75 inmates. The prison has now closed and the island's facilities serve a drug rehabilitation programme. The marine environment is in need of restoration efforts and sound management to ensure rehabilitation of the reef and marine ecosystems.

References Section 1

- Bijoux, J.P., Decomarmond, A., Aumeeruddy, R. (2008a). Status of the Marine Environment Report, Seychelles. UNEP-GEF-WIO-LaB Project: Addressing Land Based Activities in the Western Indian Ocean. Pp92.
- Birdlife International (2017) Important Bird Areas factsheet: Aldabra Special Reserve. Downloaded from <http://www.birdlife.org> on 08/11/2017.
- Chassot, e. (2017). Seychelles Tuna Scoping Report Draft. Prepared for The Nature Conservancy. Pp 45.
- Government of Seychelles (2011) Fourth National Report to the United Nations Convention on Biological Diversity. Environment Department, P.O. Box 445, Botanical Gardens, Mont Fleuri, Victoria, Republic of Seychelles.
- Government of Seychelles (2013) Seychelles' Protected Areas Policy. Ministry of Environment and Energy. Ministry of Environment and Energy, P.O. Box 445, Botanical Gardens, Mont Fleuri, Victoria, Republic of Seychelles.
- <http://www.nation.sc/article.html?id=231100>
- GoS (2014). Seychelles Biodiversity Strategy and Action Plan 2015-2020.
- Statehouse (2017) State House Office of the President of the Republic of Seychelles; Half of Seychelles land territory to be protected. Mon 20 June 2011. Source:
http://www.statehouse.gov.sc/news.php?news_id=1697
Accessed 8 November 2017 at 02.43pm.
- <http://www.seychellesnewsagency.com/articles/4828/New%20coastal%20radar%20system%20means%20better%20safeguards%20for%20Seychelles,%20official%20says>
- Government of Seychelles (2014) Fifth National Report to the United Nations Convention on Biological Diversity. Ministry of Environment and Energy, P.O. Box 445, Botanical Gardens, Mont Fleuri, Victoria, Republic of Seychelles.
- FAO: Food and Agriculture Organization of the United Nations (2000-2007). Fishery and Aquaculture CountryProfile-Seychelles. Source :
http://www.fao.org/fi/website/FIRetrieveAction.do?dom=countrysector&xml=FI-CP_SC.xml&lang=en. Accessed 22nd August 2007 at 12.42pm.
- Muylder E., Gunaskera, U.P.D. and Valabhj, M. (1996). Shrimp farming on Coetivy, an isolated coral island in the Seychelles. Paper presented at the second international conference on the culture of Panaeid prawns and shrimps. May 1996, Iloilo city, Philippines. Source:
www.crustocean.com/coetivy.htm. Accessed 22nd August 2007 at 12.18pm.
- NISA (2011). Seychelles hailed for major contribution to Aichi biodiversity targets. 30 June 2011. Source:
<http://www.nation.sc/article.html?id=231100>
Accessed 8 November 2017 at 02.00pm.
- RAMSAR (2014) RAMSAR Site Information Service: Aldabra. Source: <https://rsis Ramsar.org/ris/1887>
Accessed 8 November 2017 at 02.43pm.
- SIF (2016) Aldabra Atoll management plan 2016. Seychelles Islands Foundation. Range to Reef Environmental. Pp 98.
- Spalding MD, Ravilious C, Green EP (eds) (2001). World atlas of coral reefs. University of California Press, Berkeley, USA. 424 pp.

Annexes Section 1

Annex I: SEYCHELLES' HISTORY OF PROTECTED AREA LEGISLATION

Year	Legislation
1961	Wild Animals and Birds Protection Ordinance
1965	Shells Ordinance
1966	Wild Birds Protection (Nature Reserves) Regulations
1967	Protected Areas Act
1969	The National Parks and Nature Conservancy Ordinance
1971	The National Parks and Nature Conservancy (Procedure for designation of Areas) Regulations
1971	Shells Act
1973	The National Parks (Saint Anne Marine) (Designation) Order
1975	National Parks (Saint Anne Marine) Regulations
1975	The National Parks and Nature Conservancy (Special Reserve Aride Island) (Designation) Order
1979	National Parks (Morne Seychellois) (Designation) Order
	National Parks (Baie Ternay Marine) (Designation) Order
	National Parks (Curieuse marine) (Designation) Order
	National Parks (Port Launay Marine) (Designation) Order
1979	National Parks (Praslin) (Designation) Order
1979	National Parks (Aride Island Special Reserve) Regulations
1979	National Parks (Cousin Island Special Reserve) Regulations
1979	SIF Founded
1981	National Parks (Port Launay Marine) Regulations
1981	National Parks (Special Reserve Aldabra) (Designation) Order.
1981	National Parks (Aldabra Special Reserve) Regulations
1981	The Conservation of Marine Shells Act Repealed the 1971 Act
1984	Seychelles Fishing Authority (Establishment) Act
1987	National Parks (Silhouette Marine) (Designation) Order
1987	Protected Areas (African Banks and surrounding Reefs) Order
1987	Protected Areas (Ile Cocos, Ile la Fouche and Ilot Platte and surrounding areas) Order
1991	National Parks (La Digue Veuve Special Reserve) (Designation) Order
1991	National Parks (La Digue Veuve Special Reserve) Regulations
1991	National Parks (Curieuse Marine National Park) Regulations
1992	Transfer of Statutory Functions (Seychelles national environment Commission) Order.
1997	National Parks (Ile Cocos, Ile la Fouche, Ilot Platte Marine) (Designation) Order
2009	National Parks (Moyenne National Park) (designation) Order
2010	National Parks (Silhouette Terrestrial) (designation) Order.
2013	Seychelles' Protected Areas Policy.

Annex II: MSP timeline and milestones

STEP	ORIGINAL MILESTONE DUE DATE	RESULT OF FAILURE/DELAY	FALLBACK MILESTONE #1 DUE DATE	FALLBACK MILESTONE #2 DUE DATE	CONSERVATION PAYMENT / RISKS
Step 1: 15% of EEZ in MPA Status (5% high biodiversity; 10% medium biodiversity)	December 31, 2016 ¹	12 month grace period ² , after which the failure must be remedied (fallback milestone #1); if not, after another 6 months (fallback milestone #2), TNC and SeyCCAT can insist that GoS make a Conservation Payment ³ (US\$ 5.8M at this stage)	December 31, 2017	June 30, 2018	GoS FINANCIAL RISK (DEPENDING ON DATE OF PROCESS) > UP TO US\$ 11.4M. NATIONAL MSP PROCESS DESTABILISED AND DISENGAGED STAKEHOLDERS NATIONAL AND INTERNATIONAL REPUTATIONAL RISK TO GoS, TNC, SeyCCAT.
Step 2: MSP signed into law and in full force and effect	February 25, 2017	12 month grace period, after which the failure must be remedied (fallback milestone #1); if not, after another 6 months (fallback milestone #2), TNC and SeyCCAT can insist that GoS make a Conservation Payment (US\$ 5.8M at this stage).	February 25, 2018	August 25, 2018	
Anniversaries: High ranking GoS official delivers conservation report ⁴ to TNC	February 25, 2017 (and on each anniversary thereafter)	TNC and SeyCCAT must notify GoS of failure to deliver report within 20 days of due date; if report not then delivered, TNC and SeyCCAT can insist that GoS make a Conservation Payment (up to US\$ 11.4M, depending on the anniversary date).			
Step 3: Additional 7.5% of EEZ in MPA Status (5% high biodiversity; 2.5% medium biodiversity)	December 31, 2018	12 month grace period, after which the failure must be remedied (fallback milestone #1); if not, after another 6 months (fallback milestone #2), TNC and SeyCCAT can insist that GoS make a Conservation Payment (US\$ 8.5M at this stage).	December 31, 2019	June 30, 2020	
Step 4: Additional 7.5% of EEZ in MPA Status (5% high biodiversity; 2.5% medium biodiversity)	December 31, 2020	12 month grace period, after which the failure must be remedied (fallback milestone #1); if not, after another 6 months (fallback milestone #2), TNC and SeyCCAT can insist that GoS make a Conservation Payment (US\$ 9.9M at this stage).	December 31, 2021	June 30, 2022	

¹ Oddly, this date by which 15% of EEZ must be in MPA status precedes the February 25, 2017 date by which the MPA must be signed into law.

² The 12-month grace period results from the fact that the original Dec. 31, 2016 date is referred to as the “Milestone Date.” If the target (step) has not been achieved by the Milestone Date, there is a “Fallback Milestone Date” 12 months later, by which the failure must be remedied. And then, only if (A) the failure has not been remedied by the Fallback Milestone Date, and (B) the parties don’t then agree to a new set of milestone dates within six months of the Fallback Milestone Date, can TNC and SeyCCAT insist that GoS make a Conservation Payment. This same approach and grace period applies to the steps required by December 31, 2018 and 2020.

³ This is payment to SeyCCAT of an amount equal to the amount GoS would otherwise have had to pay its previous bilateral creditors but for the debt buyback transaction. Section 8 of the New Facilities Agreement details how the amount is calculated and how it is to be held and applied by SeyCCAT.

⁴ This Conservation Report is required to include (i) confirmation that the government remains committed to achieving the conservation outcomes in the MSP; (ii) confirmation as to whether those conservation outcomes have been achieved to date; and (iii) a summary of any deficiencies in achieving those outcomes and steps being taken to remedy those deficiencies.

Annex III. Proposed zones categories for the Seychelles Marine Spatial Plan which were developed in 2015.

Table 1. Seychelles MSP zoning framework with zone categories, name, objectives and description, version 4.0. These areas are identified using local knowledge, experts, and scientific information.

Zone Category	Zone Name	Spatial Objectives	Zone Description
Zone 1	High Biodiversity Protection Zone	To allocate 15% of the EEZ and Territorial Sea for high marine conservation and biodiversity goals, for representative habitats and species.	High biodiversity protection zones conserve and protect the top priority areas for marine and coastal biodiversity in Seychelles. These zones are designated for habitats and species that may be rare, endangered, unique or with narrow distribution ranges. This zone includes breeding or spawning areas, key foraging habitat, fragile or sensitive species and habitats, and internationally significant areas. When combined, these zones provide habitats and species with long-term protection, and are sufficiently large to ensure ecological resilience and climate change adaptation. This zone category is not suitable for extraction or sea bed alteration.
Zone 2	Medium Biodiversity Protection and Sustainable Use Zone	To allocate 15% of the EEZ and Territorial Waters for medium marine conservation and biodiversity goals, for representative habitats and species. Sustainable uses are compatible with the biodiversity objectives in these areas.	Medium biodiversity protection and sustainable use zones are proposed to conserve areas that are suitable for medium levels of biodiversity protection and are also compatible with some sustainable uses. These zones include habitats and species that have some tolerance to disturbance and human activities. These zones also include regionally and nationally significant areas. This zone category is suitable for some level of extraction and sea bed alteration, with appropriate management and direction, depending on the objective of each designated area.
Zone 3	Multiple Use Zone	To allocate 70% of the EEZ and Territorial Waters to maximise uses and activities in Seychelles, with development aligned with long-term sustainability of the natural resources.	Areas are identified for multiple uses and economic activity. These include high value and/or high priority areas for the marine sectors that use Seychelles waters for economic, social and cultural benefits.

Section 3: Map of proposed designation for the Amirantes to Fortune Bank



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Section 4: Coordinates for the two areas

A. In the waters surrounding the Aldabra Group –

Area name: **Aldabra Group (Marine) National Park**

Comprising an area around the Aldabra Group, with the boundary as follows -

Starting at the southwest corner at the boundary of the EEZ, at coordinates (38S, 554642.81, 8794475.77), move in a northerly direction up to (38S, 554994.86, 9032750.44), then easterly over to (38S, 830110.08, 9031471.35), then southerly to coordinates (38S, 828928.74, 8893091.15), then easterly to (39S, 335588.96, 8894213.74), then south to (39S, 335702.87, 8869602.02), then southwesterly to (39S, 328431.15, 8862842.06), then southwesterly to (39S, 225219.20, 8780563.75), then west-northwesterly to (38S, 709055.59, 8822044.50), then southwesterly to (38S, 583807.45, 8768462.93), then northwesterly back to the point of commencement (38S, 554642.81, 8794475.77).

This area excludes;

1. Aldabra Special Reserve and the proposed extension of Aldabra Special Reserve

Comprising an area around Aldabra Atoll that with the boundary as follows –

Starting from southwest corner at coordinates (38S, 618873.19, 8939000.39), then northerly to (38S, 618999.96, 8980000.05), then easterly to (38S, 681998.89, 8979758.49), then south to (38S, 681804.94, 8938749.48), then westerly back to the point of commencement (38S, 618873.19, 8939000.39), and including the lagoon herein.

2. Cosmoledo and Astove Islands.

Comprising an area around Cosmoledo and Astove Islands with the boundary as follows –

From Point 11 (38S, 784775.23, 8860262.34) to Point 12 (38S, 745079.90, 8932483.40) to Point 13 (38S, 781899.29, 8961737.17) to Point 14 (38S, 809212.81, 8941233.95) to Point 15 (39S, 175032.61, 8859912.95) and back to Point 11, the point of commencement.

B. In the offshore waters surrounding the Amirantes and African Banks to Mahe Plateau and Fortune Bank -

Area name: Amirantes (Marine) to Fortune Bank (Marine) Area of Outstanding Natural Beauty

Comprising an area from the Amirantes Group to Fortune bank with the boundary as follows -

Starting at the southwest corner and moving in a clockwise direction from coordinates (39S, 665781.69, 9253632.51), move in a northerly direction to coordinates (39S, 666464.25, 9294411.63), then north-northeasterly to (39S, 677044.77, 9319949.22), then southeasterly to (39S, 732213.28, 9275511.10), then northeasterly to coordinate (39S, 823067.46, 9363606.47), then in a north-northwesterly direction to point (39S, 787713.90, 9481807.57), then westerly to (39S, 745902.64, 9481950.96), then northeasterly to (39S, 754795.46, 9502203.08), then east-northeast to (40S, 278033.48, 9602429.63), then southerly to (40S, 278139.13, 9556467.47), then easterly to (40S, 374766.41, 9556650.56), then northerly to coordinates (40S, 374807.17, 9599419.68), then east-southeasterly to (40S, 401717.97, 9594669.08), then southeasterly to (40S, 555379.80, 9389615.40), then southerly to (40S, 555136.15, 9115221.95), then westerly to (40S, 361982.62, 9115217.81), then northerly to (40S, 361783.73, 9281353.13), then westerly to (39S, 804166.72, 9280697.02), then southerly to (39S, 804013.39, 9253029.60), then westerly back to point of commencement (39S, 665781.69, 9253632.51).

This area excludes;

1. Inner Islands, Port of Victoria

Seychelles Ports Authority (Extension of Port Victoria) (Declaration) Order, 2012.

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Comprising the waters surrounding the Inner Islands and Port of Victoria, in UTM Zone 40, with the boundary as follows -

From southern point, at coordinates (335519.24, 9460050.57), then northwesterly to (292934.33, 9483907.25), then northerly to (292840.07, 9520772.40), then east-northeasterly to (337214.53, 9535612.97), then easterly to coordinates (385316.68, 9535689.85), southerly to (394622.35, 9491480.72) and then southeasterly to the point of commencement (335519.25, 9460050.57)

2. *Bird and Denis Islands*

Comprising an area around Bird and Denis Islands, in UTM Zone 40, with the boundary as follows -

Starting at the southwest corner and moving in a clockwise direction from coordinates (278139.13, 9556467.47), move in a northerly direction to point (278033.48, 9602429.63), then in a northeasterly direction to (298195.18, 9612943.93), then in an east-southeasterly direction to point (374807.17, 9599419.68), then in a southerly direction to (374766.41, 9556650.56), then in a westerly direction back to the point of commencement (278139.13, 9556467.47).

3. *Platte*

Comprising an area around Platte Island, in UTM Zone 40, with the boundary as follows -

From Point 20 (40S, 297111.06, 9324843.23) to Point 21 (296946.11, 9375165.08) to Point 22 (344213.45, 9375296.69) to Point 23 (344339.96, 9324985.29) and back to Point 20, the point of commencement.

4. *Coetivy*

Comprising an area around Coetivy Island, in UTM Zone 40, with the boundary as follows-

From Point 24 (382277.62, 9183733.80) to Point 25 (400565.63, 9239054.61) to Point 26 (453967.08, 9239128.15) to Point 27. (435623.09, 9183832.51) and back to Point 24, the point of commencement.

5. *Amirantes Group and African Banks*

Comprising an area around the Amirantes Islands, in UTM Zone 39, with the boundary as follow:-

From Point 4 (732213.28, 9275511.10) to Point 3 (677044.77, 9319949.22) to Point 7 (745902.64, 9481950.96) to Point 6 (787713.90, 9481807.57) to Point 5 (823067.46, 9363606.47) and back to Point 4, the point of commencement.

Section 5: Description and Scientific Merit

Introduction

The Government of Seychelles has set a target for 30% marine protection, with half of this in “no take” areas to protect marine biodiversity resources. Also, in response to climate change threats (e.g., warmer ocean temperatures, sea level rise) and uncertainty surrounding the effects that these events will have on the marine ecosystem, the government has adopted the precautionary principle and is making management decisions that are conservative for the water surrounding Seychelles. This approach is supported by the scientific community, including recent studies that show the importance of large, effectively managed marine reserves to support climate change resilience of the oceans to increasing threats including ocean acidification, decreased productivity and oxygen availability and cumulative effects from human activities (Roberts et al 2017). The 30% goal is both by area and by representation for species and habitats, and because of the large size of Seychelles’ EEZ, the waters were stratified by planning units in deep water (> 200 m) and shallow water (\leq 200 m).

The objective for new marine protections in deep water will be different than in shallow waters because the biodiversity is different, the sensitivity to human disturbance is different, and the status and condition is different. In shallow waters, for example, protections for coral reefs not only contribute to the long-term health of these ecosystems and support fishing and tourism activities, it also supports coastal protection functions such as during high winds and tides. In deep water, there are many benthic features that only occur at these depths including seamounts, mountains, guyots, canyons and plains. Pelagic ecosystems typically function at much larger scales than shallow and nearshore ecosystems, and marine organisms may travel hundreds or thousands of kilometers to forage and during migrations. The zoning design was developed using all best available data, is incorporating information on surface currents, archipelagic ecosystems, fish life history, and gradients of biodiversity to propose areas for pelagic marine reserves that avoid high priority areas for socio-economic activity yet are close enough to source populations that they can be seeded by currents and replenished (e.g., Andrello et al. 2016).

Two marine protected areas are proposed below, identified using an iterative process (Annex 1). The Seychelles MSP Initiative has been involved with stakeholders, local experts, and others since 2014 for the identification of new marine protected areas for this first milestone of 15% of the EEZ, and stakeholder advice has been summarised (Annex 2). It is important to note that:

- The Territorial Sea waters are some of the most well used waters within Seychelles, and has the most complexity with respect to identifying new marine protected areas and allowable uses. In August 2015, it was agreed that except for Aldabra and Assumption, the Territorial Sea waters would not be discussed in Phase 1, and would be Interim Zone 2.
- Interim Zone 2 is the term given to those areas that are within the Territorial Sea waters (12 nautical miles) that will be discussed in Phase 2. By 2020, the Interim Zone 2 areas will have 15% in Zone 1 High Biodiversity and 15% in Zone 2 Medium Biodiversity-Sustainable Use.
- Existing agreements will be in place through 2020 so as to phase in increased marine protection and sustainable uses. There are several existing agreements in Seychelles and these are taken in to account in the zoning design.
- The Seychelles Marine Spatial plan will contain complete information about the process for identifying marine protected areas for 30% of the EEZ, and the implementation of these areas and improved management for the entire EEZ and Territorial Sea, including management plans for climate change adaptation.

PROPOSED MARINE PROTECTED AREAS

Name: Aldabra Group

Proposed designation under NPNCA: Marine National Park

MSP Zoning Framework Category: Zone 1 - High biodiversity protection

Size: 74,400 square kilometers

Percent of Seychelles' ocean: 5.4%

General Location

This proposed marine protected area is located in the western portion of Seychelles' archipelago, approximately 1,000 km from Mahe, and includes the UNESCO World Heritage Site of Aldabra Atoll and pelagic waters surrounding Aldabra, Assumption, Cosmoledo and Astove. In Phase 1, the area includes the 17 islands and islets of Aldabra Atoll and Assumption Atoll, the lagoon waters and territorial sea surrounding these waters, the expanded boundary of Aldabra Atoll, and does not include the waters surrounding the 17 islets of Cosmoledo Atoll or Astove Atoll as they are Interim Zone 2 and will be categorised in Phase 2.

Objective of protected status

The objective of this new marine protected area is to expand the area and increase the level of protection for the deep, marine waters and seabed surrounding the Aldabra Group, conserving unique biodiversity features in these waters of the Seychelles archipelago, improving management for large marine predators and highly migratory species, and protecting the seabed from any alteration.

Area Description and Rationale for Designation

This area contains one of the most internationally recognised biodiversity hotspots in the Indian Ocean, Aldabra Atoll. Aldabra is an outstanding example of biological evolution and is the only habitat where a number of animals of Outstanding Universal Value survive. Marine species inside and outside the existing marine protected area include demersal and pelagic fish, whale sharks (*Rhincodon typus*), sea turtles, sharks, rays, cetaceans and seabirds. Aldabra is world's second largest raised coral atoll, atolls that have been uplifted and are composed of significant deposits of limestone (Annex 3, Table 4). In Seychelles the raised atolls include Aldabra, Cosmoledo and Astove, all of which have significant lagoons. Aldabra Atoll has the second largest breeding colony for frigatebirds in the world (both great and lesser frigatebirds; *Fregata minor* and *F. ariel*) and is the only oceanic colony for caspian terns (*Hydroprogne caspia*). Extensive mangroves in the lagoons of Aldabra Atoll provide important nesting and foraging habitats for seabirds, as well as nursery grounds for reef fish and up to six species of sharks. Aldabra Atoll is a designated UNESCO World Heritage Site because of the high rates of terrestrial endemism and a rich, marine ecosystem including a fringing reef system and coral habitats, their intactness and sheer abundance and size of species was rarely paralleled in similar ecosystems (UNESCO 1982). A small population of Dugong (*Dugong dugong*) are found near Aldabra, the most endangered animal in Western Indian Ocean. The pelagic waters are breeding habitat for humpback whales (*Megaptera novaeangliae*).

The rationale for increasing and expanding protection here is because of the global importance for many species that are pelagic and travel many hundreds of kilometers to forage from the nesting sites on Aldabra Atoll or the other islands in this archipelago group. This area has been identified by BirdLife International and Nature Seychelles as an Important Bird Area (2015), and is regionally identified as significant by the Western Indian Ocean Marine Ecoregional analysis (WWF 2015). There are globally significant populations of endangered green turtle (*Chelonia mydas*) and critically endangered hawksbill turtle (*Eretmochelys imbricata*). The deep water habitats include "Giraud" and "Tchernia" seamounts as well as canyons, slope, hills and plains.

Restricting the number of allowable activities in this area is being done to remove disturbances to ecosystem function and address threats from climate change, chronic pollution from shipping and potential for oil spills or leaks if there were to be oil development. Aldabra is listed as an "Area to be Avoided" on navigational

charts due to the risk of grounding on Aldabra Atoll; this is primarily to deter oil tankers from coming within 30 nm of the Atoll (SIF, 2016). Additional reasons for increasing the protections to the highest level – the equivalent of IUCN 1b, no take – are that the area is far from Mahe and difficult to enforce with traditional security and surveillance methods. If the allowable activities in this area are restricted to vessel passage and non-extractive tourism activities, then patrols and at-sea surveillance and monitoring may be supplemented by other technologies that can identify when vessels are fishing (e.g., by vessel speed and vessel track) or doing other activities not allowed, and thus determinations made quickly on whether enforcement is needed.

Existing Protections and Zones

Aldabra Atoll is a UNESCO World Heritage Site (1982) and the wetlands are a RAMSAR site (2010). Aldabra Atoll is designated in Seychelles as a “Special Reserve” (NPNC Act 1981; IUCN 1b). The waters are designated as an Indian Ocean Whale Sanctuary (GOS 1979) and protected by several statutes: Protection of Marine Mammals (SFA 1987); Wild Animals (Turtle) Protection Regulations (DOE 1994); Wild Animals (Whale Shark) Protection Regulations (DOE 2003). The nesting seabirds, giant tortoises and sea turtles, are protected by the Seychelles Wild Animals and Birds Protection Act of 1961 through the Wild Birds Protection Regulations of 1966, Wild Animals (Giant Tortoises) protection regulations of 1974 and Wild Animals (turtles) protection regulation of 1994 respectively. This area contains two fishing zones in the Seychelles Fisheries Act: Fishing by Foreign Vessels prohibited zone #8 (Cosmoledo and Astove; 5,344 km²; Fisheries Act Reg 5, 2012) and #9 (Aldabra and Assumption; 6,934 km²)(Fisheries Act Reg 5, 2012). Combined, these two zones are approximately 0.9 percent of the expanded area.

Marine Biodiversity Analyses

Habitat

The Aldabra Group contains 10 deep water seafloor features, with most of the area occurring in waters deeper than 200 m (Annex 3, Table 1). This area contains 67% of the deep water habitat types and contains several seamounts (Annex 3, Figure 1). The area contains nearly a quarter of the shallow water habitat features, with the primary feature being the platform reef surrounding Aldabra, the raised coral feature that makes this a famous place. The raised platform reef is a unique feature for this area of Seychelles and the entire 30% goal is captured.

Species

Aldabra is an internationally significant location for seabirds including one of the world’s largest colonies for great and lesser frigatebirds, with at least a quarter of the waters identified as frigatebird foraging habitat (Annex 3, Table 5). The waters surrounding Cosmoledo are important foraging habitat for the *Sula* species that nest on the island. Cosmoledo is the most important unprotected breeding site for seabirds in Seychelles and holds the nations largest colonies for red-footed and masked boobies, as well as remaining pairs of brown boobies (Skerrett and Disley 2011). Aldabra is recognised as an IBA by Birdlife International (BirdLife International 2017). The Abbotts Booby (*Papadusa abbotti*) is a listed IUCN Endangered Species that used to occur on Aldabra Atoll and is now regionally extinct. This proposed area protects nesting and foraging habitats should this species recolonise the Indian Ocean from the Pacific. This is the only location in Seychelles for the Dugong (*Dugong dugon*), so the full 30% protection goal is met in this area. Ten species of sharks have been recorded at Aldabra Atoll (Stevens 1984). The blacktip reef shark (*Carcharhinus melanopterus*) and lemon shark (*Negaprion acutidens*) were the most common species in the 1980s and silver tip shark (*Carcharhinus albimarginatus*) was the most common outside the reef. Shark data were not available for the GOS-UNDP-GEF Marxan analysis, however the National Geographic Pristine Seas expedition in 2015 noted that the highest number of shark species were found at Aldabra Atoll (Annex 3, Figure 1). The pelagic waters contain numerous marine species including breeding habitats for humpback and blue whale, as well as foraging habitat for 10 other cetaceans (Annex 3, Table 5). About 11 percent of the area overlaps with a BirdLife Marine Important Bird Area, and almost 50% of the area was identified for regional significance by experts (WIOMER 2012).

Current Uses

Seychelles Island Foundation has a permanent, year round presence on Aldabra, conducting monitoring and scientific research. A radar station is on Astove and Assumption, and there is a proposal for a permanent

military base or presence on Astove. There are year-round residents on Assumption Island, and tourism activities on Cosmoledo. Industrial purse seine and longline fisheries by foreign vessels for tuna use the surrounding waters and there is a limited amount of fishing by semi-industrial longline. The mean total catch by purse seine has been 1,011 MT per year (SFA 2003-2012), representing about 1.5% of the total catch by purse seine in the EEZ (Annex 3, Table 7). The atolls provide shelter for semi-industrial fishing vessels in bad weather and there have virtually been no occurrences in this area for this fishery. Subsistence harvesting occurs on Aldabra for permanent residents, which is managed by the Seychelles Island Foundation. International commercial shipping crosses this zone, sometimes very close to Aldabra Atoll. Marine charters for eco-tourism, diving, and deep sea fishing occur but are not common, due to the distance from Mahe and high price for excursions (Annex 3, Table 6). Cruise ships visit Aldabra Atoll and guests go ashore to experience the island's unique fauna and flora. Tourists may only visit as part of a day trip and must have permission. Scuba diving occurs in the waters surrounding Aldabra and drift diving through the channels of the atoll's lagoon is an important attraction of the area for experienced SCUBA divers. Illegal fishing from domestic and foreign fishing vessels occurs in this area, as well as ongoing threats of piracy. Illegal fishing activity is a threat to the sustainable harvest of marine species, contributes to bycatch of non-target organisms and is being seen as a threat to national security in recent years. Improving marine protection in this area is important for addressing the illegal fishing and protecting the area from piracy.

Social and cultural values

Aldabra is an iconic location in Seychelles, and children learn about this archipelago group from an early age. Accessibility is very difficult but there is great interest in this area due to the numerous and unique terrestrial species. A UNESCO World Heritage site is a source of inspiration for young people and this status helps to motivate people to learn more about the location and appreciate nature. The status also inspires people from around the world to appreciate the importance of Aldabra, and to support financially the efforts to maintain and manage the ecosystem.

Current scientific research and facilities

A permanent research facility is on Aldabra Atoll and there is a radar station on Astove and two on Assumption. Recently completed or ongoing scientific work on Aldabra include mapping and ecological modelling of the lagoon, ecological studies of the Giant tortoise population, turtle monitoring and tagging using satellite transmitters, coral and reef fish monitoring programmes, and at-sea foraging habitats of seabirds using telemetry. The National Geographic Pristine Seas Expedition spent one week studying the marine waters surrounding Aldabra, Assumption, Cosmoledo and Astove. This research contributed to the available knowledge about shark distribution and abundance as well as reef fish communities (Annex 3, Figure 3). Island Conservation Seychelles has eradicated rats from Cosmoledo Island and it is important to prevent re-introductions with strict protocols for vessels in this area.

Allowable Activities and Management Considerations

Allowable activities for this marine protected area have been identified using the stakeholder consultation process of the MSP Initiative. All marine uses and activities will comply with general management considerations (Annex 4) and there are also area-specific management considerations for Aldabra Group (Annex 5). The allowable activities table contains 53 marine activities and a great deal of discussion was needed to arrive at the restrictions and conditions for each activity (Annex 7, Table 8). Generally speaking, there are no extractive fisheries (except subsistence fishing) and other economic activities are either prohibited or restricted with multiple conditions. The general consensus was that equity was important for allowable activities so if one extractive activity was not allowed, this would apply to all extractive activities, no matter how large or small.

Name: Amirantes to Fortune Bank

Proposed designation under NPNCA: Area of Outstanding Natural Beauty

MSP Zoning Framework Category: Zone 2 - Medium Biodiversity Protection & Sustainable Use

Size: 136,169 square kilometers

Percent of Seychelles ocean: 10.8 %

General Location

This area includes the waters surrounding atolls in the Amirantes, Coëtivy Island and Fortune Bank. It includes the following islets/islands: Boudeuse, Coetivy, Desnoufs, Etoile, Marie-Louise, Platte, Sand Cay.

This area does not include St Joseph, Desroches, and Remire Atolls, or Darros and Poivre Islands in the Amirantes. The area does not include Bird or Denis Islands, the Inner Islands of Mahe Plateau, and any waters or islands inside the Port of Victoria Boundary. All Territorial Sea waters in this Zone are Interim Zone 2. This area does not include any of the marine or terrestrial protected areas associated with the aforementioned exclusions.

Objective of protected status

The purpose of this zone is to expand marine protection for marine biodiversity, benthic habitats and the important upwelling ecosystem that occurs in these waters of Seychelles, and to improve sustainable management of compatible uses of coral reef and bank habitats found outside of the Inner Islands and off the Plateau.

Area Description and Rationale for Designation

This area includes some of the Amirantes Group and African Banks, the Mahe Plateau drop-off areas and shelf habitats, Platte and Coetivy Islands, Constance and Fortune Bank. It contains numerous benthic habitat features that are representative of this area in the Seychelles archipelago such as seamounts, guyots, canyons, plains, mountains, and slope. The area contains ecologically productive and diverse drop-off habitat along the Mahe Plateau that provide nutrients to adjacent pelagic and demersal habitats, and contains significant pelagic features and convergent zones offshore that support tuna and other pelagic predator populations because of surface currents and nutrient replenishment. This area includes some relatively shallow habitat features surrounding Coëtivy, Platte, Fortune Bank and Constance Bank, as well as areas of low gravity on the Plateau with potential oil seeps. Eleven different shallow water habitat types occur in this area, as well as “Fred” seamount. Species associations with marine habitats include demersal fish, invertebrates, cetaceans, turtles, sharks, rays, and at least nine seabird species. The 200 m drop-off and upwelling areas are used by pelagic marine life (whales, sharks, seabirds, pelagic fishes). Thirteen species of whales use these waters including blue whale breeding habitat. This area has been identified by BirdLife International and Nature Seychelles as an Important Bird Area (2015), and is regionally identified as significant by the Western Indian Ocean Marine Ecoregional analysis (WWF 2015).

Existing Protections and Zones

African Banks Protected Area (MLUH 1987); Etoile Nature Reserve (DOE 1966); Boudeuse Island Nature Reserve (DOE 1966). Fishing by Foreign Vessels prohibited zone 1 (Mahe and Seychelles Bank: 64,340 km²); zone #2 (Platte: 2,402 km²), #3 (Coetivy Island: 2,998 km²); #4 (Fortune Bank: 2,448 km²); and #5 (Amirantes: 17,396 km²) (Fisheries Act Reg 5, 2012). Combined, these existing fishing prohibited zones are 6.6 percent of the EEZ, meaning that only 4.2 percent of this area is not affected by these fisheries regulations.

Marine Biodiversity Analyses***Habitat***

The Amirantes to Fortune Bank contains 14 deep water seafloor features, 93% of the habitat features featured in the biodiversity database (Annex 3, Table 1). This area is very rich in habitat and species diversity, which is why this area also has high economic value for fisheries and tourism and the proposal is for medium biodiversity protection and sustainable uses. This marine protected areas was proposed in this

location because it includes plateau, shelf, slope and deep water habitat types, and is very dynamic owing to an extensive network of surface currents moving in this area and the dropoff from the Plateau. During the SE monsoon in particular, clockwise and counter clockwise gyres bring nutrient rich waters from the shelf habitats of Mahe Plateau, African Banks and Amirantes (Annex 3, Figure 2).

Species

This area contains 32, or 84%, of the species biodiversity featured in the spatial database. This is an important area for several seabird species, as well as for seagrasses and sea turtles (Annex 3, Table 5). The Amirantes to Fortune Bank are well known for their fisheries values, including sea cucumber, however the MSP spatial database does not contain these distribution and abundance layers. This area was repeatedly selected by the spatial planning tools (Marxan, Marxan with Zones) to meet the 30% goal by area and representation and contains several “hotspots” where the area was selected 100% of the time by the spatial planning tool.

Current uses

This area is very important for artisanal, semi-industrial and industrial fishing activities for tuna, billfish, demersals and other fishes. The area is very important for sport fishing charters and recreational fishing for big game fish in deep waters and along the drop-off. Commercial ships use this area to enter the Port of Victoria and to transit through Seychelles to other ports, with high traffic routes in both north/south and east/west directions. The Amirantes Group is very important for tourism and charters in Seychelles. A medium security prison is located on Coëtivy Island and maximum-security prison on Marie-Louise (closing 2018). The entire Mahe Plateau is an Area of Interest for PetroSeychelles, and a licensed block is active on the west Mahe Plateau (JOGMEC). The Amirantes are also an area of interest for PetroSeychelles however through discussions over the last 12 months, they have indicated that Mahe, Farquhar and north of Aldabra are more important. Seismic surveys and test wells are among some of the petroleum exploration activity in this area, and there is recent interest on the plateau and two potential applications for licensed blocks. High priority areas for artisanal fishing overlap 32% of this area, and for semi-industrial the overlap is 13% (Annex, Table 6). For the industrial tuna purse seine fishery, this area has supported mean total catch of approximately 5,740 MT per year, or about 8.6% of the total catch in Seychelles EEZ (Annex, Table 7). Possible future activities in this zone include Ocean Thermal Energy Conversion (OTEC), using the exchange of cold deep water and warm surface waters for energy production. This, and other possible future activities are included in the Allowable Activities Tables.

Social and cultural values

This area has high social and cultural value because it is close to Mahe and supports many marine sectors in the Blue Economy – commercial fishing, sport fishing, recreation, and tourism.

Current scientific research and facilities

Scientific research is conducted by Island Conservation Seychelles and on some of the private islands. There are limited research facilities in this area at present however this is a lot of interest by stakeholders for marine conservation for monitoring.

Allowable Activities and Management Considerations

Allowable activities for this marine protected area have been identified using the stakeholder consultation process of the MSP Initiative. All marine uses and activities will comply with general management considerations (Annex 4) and there are also area-specific management considerations for Amirantes to Fortune Bank (Annex 6). The allowable activities table contains 53 marine activities and a great deal of discussion was needed to arrive at the restrictions and conditions for each activity (Annex 7, Table 8). Generally speaking, the intent is for all uses to be sustainable and they must be compatible with a medium biodiversity protection objective for the species and habitats that occur in this area. Agreement was reached to allow for existing uses up to 2020, while developing management plans and methodology to improve sustainability.

References for Section 5

- Andrello, M., F. Guilhaumon, C. Albouy, V. Parravicini, J. Scholtens, P. Verley, M. Barange, U. R. Sumaila, S. Manel and D. Mouillot. 2016. Global mismatch between fishing dependency and larval supply from marine reserves. Nature Communications. DOI: 10.1038/ncomms16039
- BirdLife International. 2017. Important Bird Areas factsheet: Aldabra Special Reserve. Downloaded from <http://www.birdlife.org> on 09/11/2017.
- Harris, P.T., Macmillan-Lawler, M., Rupp, J., Baker, E.K., 2014. Geomorphology of the oceans. Marine Geology 352, 4-24
- IOTC. 2016. Yellowfin tuna update. December 2016. <http://www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc>. Accessed 8 Oct 2017
- Klaus, R. 2015. Strengthening Seychelles' protected area system through NGO management modalities. GOS-UNDP-GEF project. Final report.
- Law of Seychelles. 2012. Fisheries Act. Chapter 82. (31st March, 1987) Regulation 5. Page 25-27.
- Laws of Seychelles. 2012. Seychelles Port Authority Act. Section 20. Seychelles Port Authority (Extension of Port Victoria)(Declaration) Order, 2012. Page 10-11.
- Roberts, C.M. et al. 2017. Marine reserves can mitigate and promote adaptation to climate change. PNAS.
- Skerritt, A., and T. Disley. 2011. Birds of Seychelles. Christopher Helm, London. 176 pp
- Stevens, J.D. 1984. Life history and ecology of sharks at Aldabra Atoll, Indian Ocean. Proc. R. Soc. London B. 222: 79-106
- The Nature Conservancy. 2016. Seychelles marine spatial plan: biodiversity representation values from Marxan analyses conducted by Klaus 2015. Unpublished.
- UNESCO. 1982. Assessing potential World Heritage marine sites in the Western Indian Ocean. http://www.vliz.be/projects/marineworldheritage/casestudies/Aldabra_Atoll.php?item=Main%20activities. Accessed 7 Nov 2017.