



29 January 2019

**Nomination file to re-designate two areas,  
'Aldabra Group (Marine) National Park' and  
'Amirantes to Fortune Bank Area of Outstanding Natural Beauty',  
identified under the Seychelles Marine Spatial Plan (MSP) Initiative,  
for Protected Area Status  
under the National Parks and Nature Conservancy Act (1969).**

**Presented by  
The Minister responsible for Environment, Energy and Climate Change**

**Part A: Text and Maps**

## Table of Contents

1. Historical Background.....	1
2. History of Areas for Nomination.....	4
3. Zoning Design Process.....	6
4. Area Descriptions and Scientific Merit.....	7
5. Map of Aldabra Group (MSP Zone 1).....	11
6. Map of Amirantes to Fortune Bank (MSP Zone 2).....	12
7. Coordinates of Areas.....	13
8. Implications of the MSP.....	14
9. Summary of On-going Discussions.....	15
10. References.....	15

### 1. Historical Background

#### *Biodiversity conservation in Seychelles*

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). Tourism and fisheries are the two main pillars of the economy and as far back as 1969, the Government of Seychelles recognised 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’*.

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 on land 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), the National Parks and Nature Conservancy Ordinance of 1969 and the Town and Country Planning Ordinance of 1970.

Use of the ocean and 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 Convention on Biological Diversity (CBD) in June 1992 and became a party that same year. One of the Aichi targets is 10% of coastal and marine areas are effectively conserved by 2020 (Strategic Goal C, target 11). Seychelles was one of the first countries in

East Africa and the Western Indian Ocean to establish a network of marine protected areas in the 1960's yet the total area was less than 1% of the Exclusive Economic Zone (EEZ) until 2018. 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. More recently, Seychelles is a signatory to the UN Sustainable Development Goals (SDG) and SDG14 pertains to "Life Below Water" and a target of 10% marine and coastal protection by 2020.

### *Expanding marine protection*

In the year 2012, at the Rio+20 United Nations Conference on Sustainable Development (UNCSD), 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, 2011). This would exceed the 10% target which is set by the Convention on Biodiversity and UN Sustainable Development goals.

From the commitment made in 2012, the Marine Spatial Plan (MSP) initiative is 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 a marine spatial plan by 2020 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 MSP is linked to the Seychelles Conservation and Adaptation Trust (SeyCCAT) which became operational late 2016. The trust helps to fund the implementation of the MSP and other projects to support marine conservation and socio-economic development. 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 per annum, starting 2018.

### *Seychelles Marine Spatial Plan Initiative*

The SMSMP is using a phased approach to build a comprehensive marine plan and zoning design with three milestones over seven years (Annex II). The process began in February 2014 and will be completed by December 2020, with implementation starting in 2021. Phase 1 was from 2014-2017 and the first milestone of the debt swap was fulfilled after designating and signing into law 15% or 208,000 km<sup>2</sup> in new marine protection zones in Feb 2018. These areas were proposed after extensive consultations, scientific analyses (Annex III) and reaching agreement with all marine sectors – more than 98 meetings in four years, including one-to-one consultations (Annex IV-A). This also delivered on Seychelles' commitment to the United Nations (UN) Sustainable Development Goals (SDG 14.4) and UN Convention on Biological Diversity Goal (10% by 2020). Both areas were designated using the National Parks and Nature Conservancy Act (NPNCA). The MSP Executive Committee took a decision to use the NPNCA and new legislation is needed for a biodiversity and sustainable use category that fits the MSP Zone 2 category for medium protection and sustainable uses (Annex V); the NPNCA is not the intended permanent designation.

Phase 2 is from 2018-2020 and includes two milestones to identify proposals for the remaining 200,000 km<sup>2</sup> for marine protection and sustainable use zones, the second half of the 30% goal. Milestone 2 is 7.5% of Seychelles' waters by Dec 2018 and milestone 3 is the final 7.5% by Dec 2020. The areas

proposed for nomination were identified and discussed from February to November 2018 and included 18 committee meetings, 4 public workshops and 26 one-to-one consultations (Annex IV-B). Comments from meetings are summarised in meeting minutes, posted to the MSP website and shared at stakeholder meetings. These comments, suggestions, advice, and recommendations inform on-going discussions about the MSP including enforcement, monitoring, and management plans (Annex VI). Milestone 3 will include area-specific zoning designs for such areas as the Inner Islands, Bird and Denis Island, Amirantes, Alphonse, Farquhar, Cosmoledo & Astove, and offshore waters; comments have already been received on these areas since 2014 (Annex VI). A record of the zoning revisions is kept (Annex VII) including rationale for why, or why not a change is made following stakeholder consultations.

The SMSPP is an active and iterative planning process and may, when it has the support of the stakeholders, aim to propose areas that are greater at each milestone, to a maximum of 30% by 2020, to advance the biodiversity protection goal. Also, the areas proposed at each milestone may involve a change in the boundary in future proposals, subject to stakeholder agreement and government approval.

The Seychelles MSP Initiative is aligned and integrates with national legislation, 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, Bio-Financing Project, SAPPHIRE and WIO-LAB projects, 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.

*Key milestones leading to nomination 2008 to present*

<b>Year</b>	<b>Key Event</b>
<b>2008</b>	IMF Economic Reform Program
<b>2009</b>	Peak piracy threats in Indian Ocean
<b>2012</b>	Seychelles commits to protect 30% of the EEZ
<b>Oct-13</b>	Seychelles endorses a new Protected Areas Policy
<b>2013-2014</b>	Marxan Modelling to identify high biodiversity areas
<b>Feb-14</b>	TNC initiates the Seychelles MSP initiative
<b>Nov-15</b>	SeyCCAT ACT (Act 18 of 2015)
<b>Feb-16</b>	Debt Swap agreement finalised
<b>Nov-16</b>	SeyCCAT operational
<b>Sep-17</b>	MSP Policy drafting (Final due 2019)
<b>Nov-17</b>	Cabinet approval for preparation nomination file MSP Phase I areas
<b>Feb-18</b>	15% of EEZ gazetted (Milestone 1 completed)
<b>July-2018</b>	Cabinet approval to develop Governance framework for MSP Independent Authority (Due Dec 18)
<b>March-2018</b>	MSP Phase 2 Inception
<b>March 2018</b>	Socio-Economic Analysis of impact of MSP on Industrial Tuna Fisheries (Due Dec 2018)
<b>Aug-2018</b>	Costing analysis for 30% marine protection areas (due Feb 2019)
<b>Oct-2018</b>	Pilot study of vessel activity in MS draft zones (RCOC)
<b>Nov-2018</b>	Cabinet approval for preparation nomination file MSP Phase 2 milestone 2 areas
<b>Dec-2018</b>	Nomination file submitted to GoS

## 2. History of Areas for Nomination

### *Aldabra Group*

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 Aldabra Group and the African Banks Protected Area in the Amirantes Group. There also exist two nature reserves (Boudeuse and Etoile) in the outer island group.

The Aldabra Group includes the Aldabra Atoll which was designated as a Special Reserve in 1981 and as an UNESCO World Heritage site in 1982 (Annex I). Aldabra Special Reserve is the most isolated protected area of Seychelles, and the second largest raised coral atoll in the world by dry land area (SIF 2016). 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 was finalised in 2018. The extension increases the reserve from 346 to 2,559 km<sup>2</sup> (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, an area of 43,900 hectares (Ramsar, 2014). Surrounding Aldabra is an Area of Avoidance owing to sensitivity of habitats, approved by the International Maritime Organisation (IMO) on navigational charts. This designation is primarily to deter oil tankers from coming within 30 nm 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 Assomption 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 Assomption (included within the boundary of the MSP). There are six radar stations on five islands, not all of them active: Mahe, Alphonse, Farquhar, Astove and two on Assomption.

### *Amirantes to Fortune Bank*

The Seychelles archipelago is a recognized biodiversity hotspot and hosts 2,489 km<sup>2</sup> of coral reefs spread out within its 1.35 million km<sup>2</sup> of Exclusive Economic Zone (EEZ). Out of this, 40 km<sup>2</sup> are found within the inner islands around Mahé (Spalding *et al.* 2001; Bijoux *et al.* 2008), and the Mahe Plateau. The granitic islands are found on the northern part of the archipelago and forms the northern arc of the Mascarene Ridge. The Seychelles is unique as it is 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). There is need for increased capacity to manage these resources and for research into the productivity of the area to ensure sustainable fisheries. For the management of pelagic stocks, Seychelles is a member of the Indian Ocean Tuna Commission. There is an urgent need to address by-catch and incidental mortality issues in semi-industrial and industrial fisheries as well as Fisheries Aggregation Device (FAD) management. The foreign owned fishing vessels are excluded from shallow water areas as per

Regulation 5 of the Fisheries Act (2012; Cap 82). Seychelles has also banned the use of spear guns and bottom trawling under the Fisheries Act.

#### *Other marine protections*

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 (NPOA) for the Conservation and Management of Sharks. The African Banks and surrounding reefs were designated under the Protected Areas Act in 1987 (Annex I).

#### *Marine uses and activities*

The artisanal fishery has maintained a relatively stable catch over the last 25 years (4-5,000 MT/yr) however 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 270 MT in 2010-2013 to almost 1,000 MT 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 using purse seine and pelagic longline gear since the mid-1980s, with foreign fishing fleets from the EU, Korea, China, Mauritius, Taiwan and sometimes Japan. Seychelles also hosts one of the most productive tuna canneries in the World; the Indian Ocean Tuna (IOT) Ltd. Cannery (Chassot, 2017; GoS, 2014).

Concerns about sustainability and ecosystem damage or impacts are of high concern in Seychelles. Through the assistance of a World Bank Project of USD \$25M for sustainable fisheries and marine resource conservation, Seychelles can refocus the 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.

Tourism is very important in Seychelles, with more than US\$961 M in revenues in 2017 (WTTC, 2018). The outer islands, including Coetivy and the islands in the Amirantes, are managed by the Islands Development Company (IDC) that partners with the Island Conservation Society (ICS) to undertake conservation work. Hotel operations on the remote outer islands also support research, conservation and rehabilitation work. For example, the privately owned island of D'Arros located in the Amirantes Group has set up a foundation to assist with conservation initiatives on the island.

There is a short history of aquaculture in Seychelles. In 1989, the 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 that was large enough to support the prawn farm (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 prion has now closed, and the island's facilities serve a drug rehabilitation programme. The marine environment needs restoration efforts and sound management to ensure rehabilitation of the reef and marine ecosystems.

### 3. Zoning Design Process

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 options are developed using all best available data, are 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 protection areas are proposed below, identified using an iterative process (Annex III) and multiple revisions based on stakeholder comments (Annex VI and VII). The Seychelles MSP Initiative has been involved with stakeholders, local experts, and others since 2014 for the identification of new marine protection areas for this first milestone of 15% of the EEZ, and stakeholder advice has been summarised (Annex VI). 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 protection areas and allowable uses. In August 2015, it was agreed that except for Aldabra and Assomption, 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 protection 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.

#### **4. Area Descriptions and Scientific Merit**

##### **Aldabra Group ‘Marine National Park’**

Size: 177,447 km<sup>2</sup>

Percent of Seychelles ocean: 13.1%

MSP category: Zone 1 - High Biodiversity Protection

##### **Purpose**

To increase the level and expand the area of protection for the marine waters and sea bed surrounding Aldabra Archipelago.

##### **Rationale for Proposal**

This area was proposed for milestone 2 based on stakeholder consultations in March 2018 where agreement was reached to include this as a high priority and expand to the north and east of the area that was gazetted in milestone 1. It was also agreed that in exchange for expanding this area, to remove an area in the central pelagic waters that contained 3% of the annual total catch for industrial purse seine. Consultations with industrial longline in October resulted in a revision to reduce the north expansion to avoid a high catch area and instead expand westward to the EEZ boundary and simultaneously reduce overlap with an area proposed for high protection in milestone 3. This proposal does contain an Area of Interest for petroleum exploration that PetroSeychelles is willing to forego for future development because of greater interest in Farquhar and on the Mahe Plateau. Stakeholders in Oct-Nov agreed that geological surveys were allowable in this area, understanding the importance for the determination of the continental shelf and EEZ boundary. In November, the Steering Committee and Executive Committee supported this proposal for Zone 1 including members from domestic fisheries, tourism, oil & gas, maritime safety and security, and 3 of 4 industrial purse seine representatives. Reports of illegal fishing (IUU) and concerns of overfishing in this area as well as threats of piracy contributed to rationale for increasing protection.

##### **Stakeholder concerns**

Using fisheries data from 2012-2016, this area overlaps with the 13% of industrial longline and 4% of purse seine total catch in Seychelles EEZ. One company from Taiwan (longline) and one company from Spain (purse seine) are concerned about potential economic impacts after implementation.

Stakeholders are concerned about Fish Aggregating Devices (FADs) in this area as well as monitoring and enforcement of illegal fishing activities. Concerns about commercial shipping near Aldabra Atoll were raised including ships carrying petroleum products.

##### **Geographic Description**



This area extends from the western boundary of the EEZ (with Tanzania), south to the boundary of EEZ with Comoro Islands and Glorioso Islands, and eastward from Cosmoledo and Astove to the boundary of the EEZ with Madagascar. This area includes Assomption Atoll. See Section 7 – Coordinates.

### **Exclusions**

This area does not include Aldabra Atoll, Cosmoledo and Astove Atoll. Excludes existing protected areas Aldabra UNESCO World Heritage Site (1982), a RAMSAR site (2010) and Aldabra Atoll “Special Reserve” (NPNC Act 1981; IUCN 1b). Does not include the foreign fishing prohibited areas around Cosmoledo and Astove.

### **Existing Protections and Zones**

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). Fishing by Foreign Vessels prohibited #8 (Cosmoledo and Astove; 5,344 km<sup>2</sup>) and #9 (Aldabra and Assomption; 6,934 km<sup>2</sup>) (Fisheries Act Reg 5, 2012). Areas to be Avoided by International Maritime Organisation (IMO).

### **Biodiversity Features**

This area contains 56 biodiversity features including 13 cetaceans, 9 seabirds, 12 deep water and 6 shallow water habitats, a BirdLife Marine Important Bird Area, a WIOMER Ecologically and Biologically Significant Area (EBSA), seagrasses, sea turtle and seabird foraging habitats (Annex VIII). Includes “Giraud” and “Tchernia” seamounts as well as numerous deepwater canyons. Marine species include demersal and pelagic fish, whale sharks (*Rhincodon typus*), and sharks. Atolls in the Aldabra Group contain globally significant seabird colonies and lagoons contain nurseries for six species of sharks, which are important species for healthy ecosystem function. National Geographic Pristine Seas Expedition (2016) also documented extensive healthy coral reefs around the atolls and the importance to increase protection for top predators like sharks for this archipelago.

### **Marine Uses and Activities**

Industrial purse seine and longline fisheries use these waters and total annual catch is highly variable. Annual catch 2012-2016 for purse seine ranged from 390 – 6,400 MT (5-yr total 11,360 MT) and is 4% of their catch in the EEZ. Total catch for industrial longline was 524 – 1,970 MT (5-yr total 6,580 MT) and is 13% of their catch in the EEZ (Annex IX). There is no recorded semi-industrial catch in this area. Seychelles Island Foundation has a permanent, year-round presence on Aldabra, conducting monitoring and scientific research. Subsistence fishing occurs on Aldabra for permanent residents. A radar station is on Assomption and Astove. Marine charters occur but are not common due to the distance from Mahe. The atolls provide shelter for semi-industrial fishing vessels in bad weather. Commercial shipping transits this area west of Aldabra, sometimes within 12 nautical miles. An International Maritime Organisation “Particularly Sensitive Sea Area” is being proposed by Republic of Seychelles. There are a number of cruise ships that visit this island group annually.

### **Draft Management Considerations and Allowable Activities**

General management considerations, area-based management considerations and allowable activities tables are being drafted for all the areas designated during the MSP process. These planning tools form the basis from which to begin to develop management plans and review all existing regulations for gaps. The general management considerations apply to all areas and include considerations related

application of existing laws and regulations, existing agreements, and vision for sustainable uses (Annex X). The area-based management considerations for Aldabra Group include guidance for resource extraction, tourism activities, and possible future activities (Annex XI). The allowable activities are being drafted for each area and they are living documents. They are not legal with the signing in to law of the area boundaries (gazette). The allowable activities tables are developed using extensive consultations with stakeholders and provide the management direction to government and marine sectors about what is allowable in this area (Annex XII-A). For Aldabra Group, the discussions are for very few allowable activities so as to avoid or minimise disturbance and harvest. Tourism and recreational activities are conditionally allowable as well as several other uses and activities.

### **Amirantes to Fortune Bank ‘Area of Outstanding Natural Beauty’**

Size: 173,468 km<sup>2</sup>

Percent of EEZ: 12.8 %

MSP Category: Zone 2 - Medium Biodiversity and Sustainable Use Zone

#### **Purpose**

To expand marine biodiversity protection and provide economic opportunities for sustainable uses near the Inner Islands.

#### **Rationale**

Stakeholder consultations in May-June 2018 resulted in a proposal to extend the boundary for “Amirantes to Fortune Bank” southward to improve design for monitoring and enforcement and include more of the waters used by domestic fisheries and tourism. This expanded protection for key habitats in the Amirantes Basin and captured new areas including Le Vasseur Seamount. In October and November, Technical Working Groups, Steering Committee and Executive Committee supported this proposal for Milestone 2 including artisanal and semi-industrial fishing, tourism, oil & gas, maritime safety and security, purse seine and industrial longline representatives. The fishing boat owner’s association supported this proposal and commented that they can see their suggestions and recommendations have been taken in to account from previous consultations.

#### **Stakeholder concerns**

The use of FADs for industrial tuna fishing have been raised as a concern as well as overall FAD management in the EEZ, illegal fishing activities on the Mahe Plateau including driftnet, as well as overfishing. Enforcement is needed for commercial ships entering and leaving Port of Victoria to use the channel designated by the “Areas to be Avoided”. Concerns were raised for the use of the NPNCA for this area because oil & gas exploration and fisheries are conditionally allowable - the MSP needs a sustainable use category to use (see Outstanding Issues). Concerns also for the uncertainty related to future regulations in this area and finalising new applications for oil & gas exploration (39-year lease).

#### **Geographic Description**

This area includes the Mahe Plateau and Amirantes Basin including the dropoff and deepwater habitats such as seamounts and canyons. This area includes “Fred” seamount, Fortune Bank, Constance Bank.

#### **Exclusions**

This area does not include the Amirantes Group and African Banks, Platte, Coetivy, Bird or Denis Islands, the Inner Islands of the Mahe Plateau, and any waters inside the Port of Victoria Boundary. All Territorial Sea waters are Interim Zone 2 and will be designated in Milestone 3. All existing protected areas are outside the area proposed for re-designation.

### **Existing Protections and Zones**

Foreign fishing vessel prohibited Areas: #2 (Platte: 2,402 km<sup>2</sup>), #3 (Coetivy Island: 2,998 km<sup>2</sup>); #4 (Fortune Bank) 2,448 km<sup>2</sup>; and #5 (Amirantes: 17,396 km<sup>2</sup>) (Source: Seychelles Fisheries Act 2012).

### **Proposed Protections:**

By GOS-UNDP-GEF Outer Islands Project: Desroches Atoll and Poivre – 1 km from reef flat (IUCN VI). Previously proposed “No Take” area in waters surrounding D’Arros and St. Joseph (private islands).

### **Biodiversity Features**

This area contains 70 biodiversity features including 11 cetaceans, 10 seabirds, 16 deep water and 17 shallow water habitats, BirdLife Marine Important Bird Areas, WIOMER Ecologically and Biologically Significant Areas (EBSA), seagrass, sea turtle and seabird foraging habitats (Annex VIII). This area represents nearly one fifth of the seamount goal for the MSP – very significant – and contributes 100% or more to meet the goal for 33 of 89 features. The 200 m dropoff and upwelling areas are used by whales, sharks, seabirds, pelagic fishes. The area overlaps with medium to high climate change threat to coral reefs (Maina et al 2016).

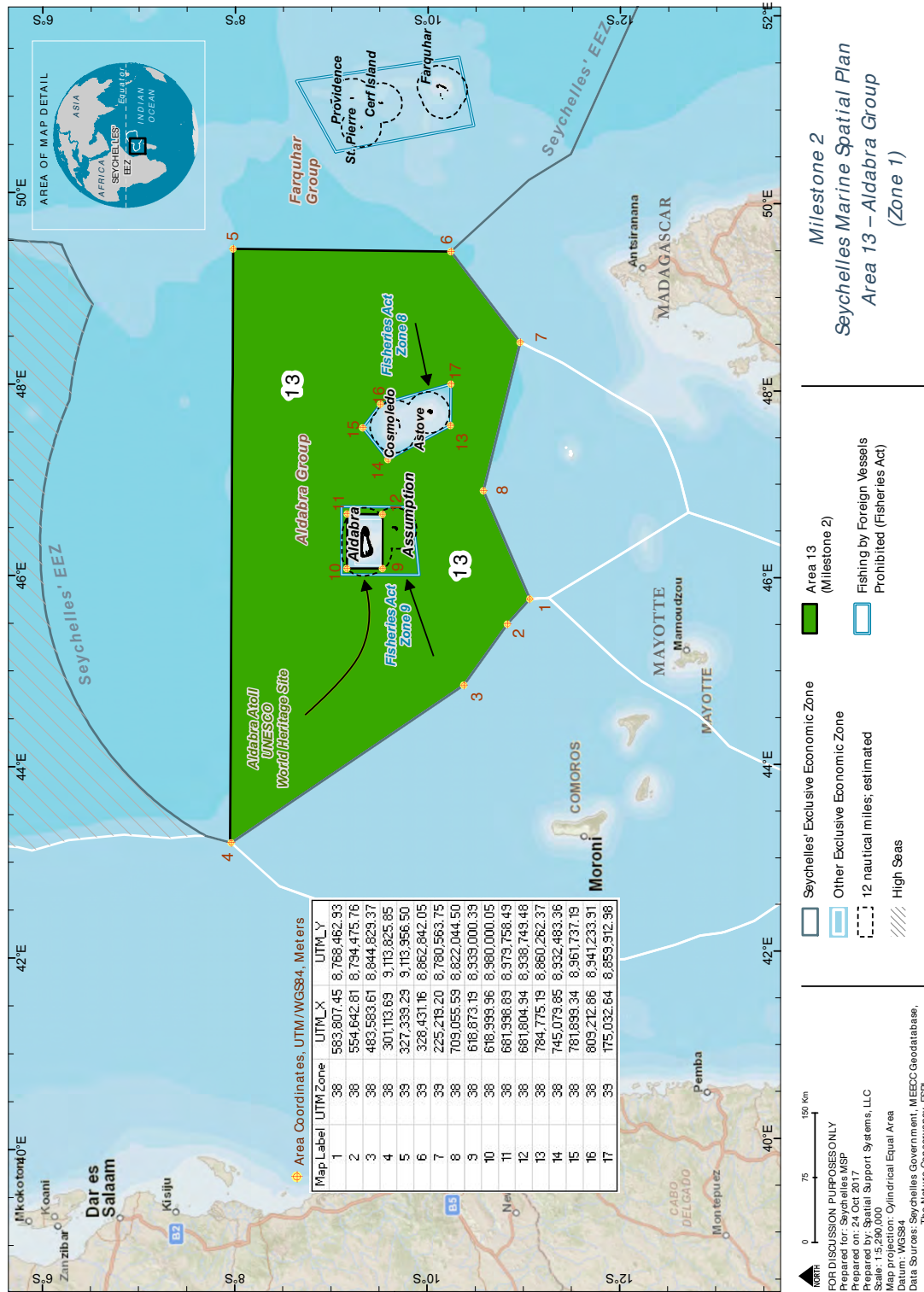
### **Marine Uses and Activities**

This area is important for artisanal, semi-industrial and industrial fishing for tuna and other pelagics; total annual catch is highly variable. Annual catch 2012-2016 for purse seine ranged from 2,480 – 14,690 MT (5-yr total 35,930 MT) and is 12% of their catch in the EEZ. Annual catch for industrial longline was 260 – 1,290 MT (5-yr total 3,130 MT) and was 6% of their catch in the EEZ. Annual catch for semi-industrial longline was 16 – 486 MT (5-yr total 730 MT), with a 10x increase from 2015 to 2016 and representing 45% of their catch in the EEZ (Annex IX). The area is used for sport fishing charters, tournaments and recreation fishing from Mahe and Praslin. Commercial ships transit and enter the Port of Victoria with traffic in both north/south and east/west directions. Petroleum licensed applications occur in this area and it is an Area of Interest for petroleum development.

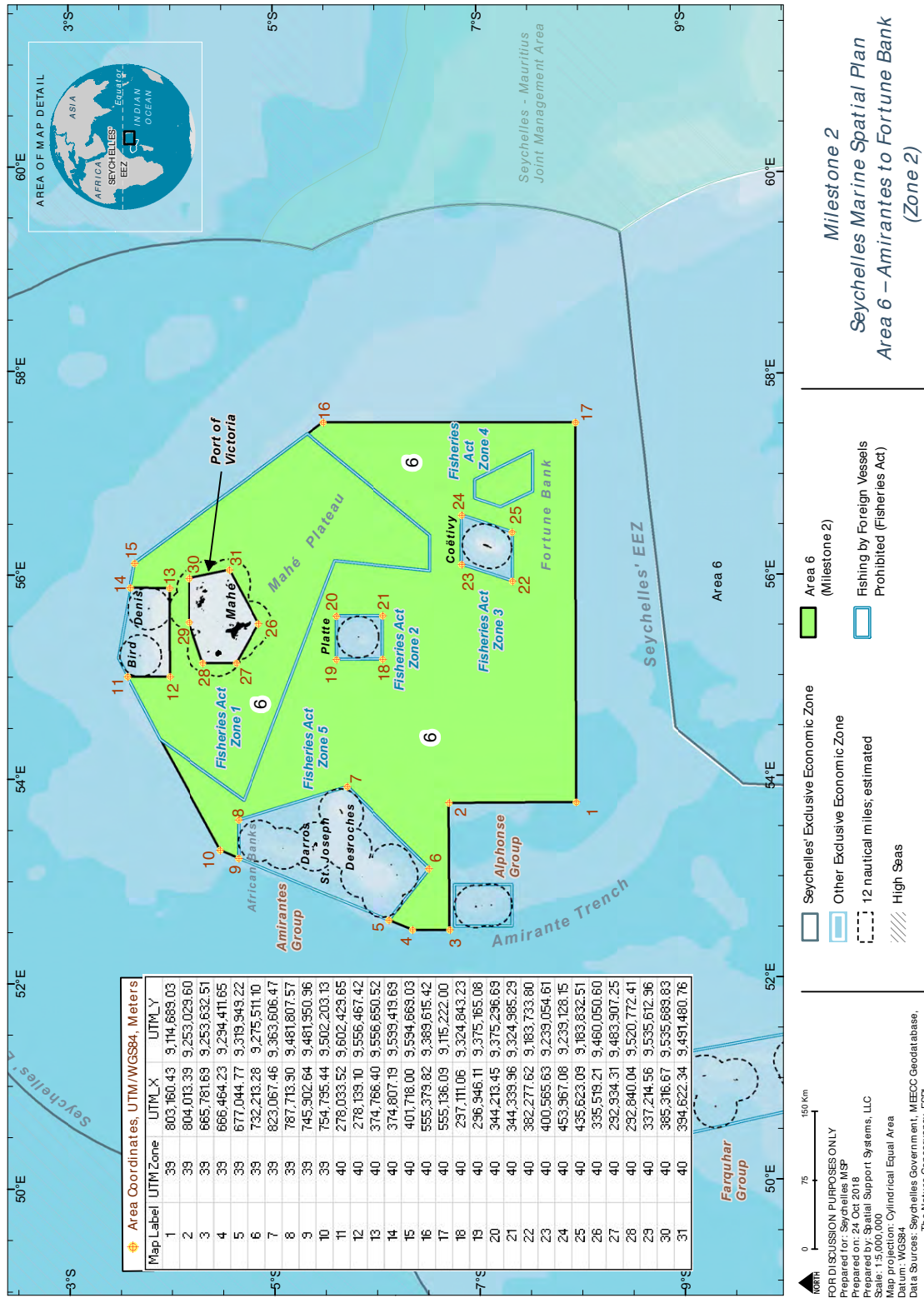
### **Draft Management Considerations and Allowable Activities**

The area-based management considerations for Amirantes to Fortune Bank include guidance for fishing vessels, sustainability, and temporal closures for species (Annex XI). Amirantes to Fortune Bank is a biodiversity and sustainable use area so the draft allowable activities are more numerous than Aldabra Group (Annex XII-B). Fisheries are conditionally allowable as for development for infrastructure, non-renewable resource extraction, tourism and recreational activities. This area is intended to provide marine resources for a number of sustainable activities and the criteria for sustainability is being developing through 2020.

## 5. Map of Aldabra Group (MSP Zone 1)



## 6. Map of Amirantes to Fortune Bank (MSP Zone 2)



## 7. Coordinates of Areas

Area coordinates are in UTM South WGS84. See each area for UTM Zones

### **Aldabra Group Marine 'National Park' (NPNCA)**

Comprising an area around the Aldabra Group, including the island of Assomption, with the boundary as follows -

Starting at the southwest corner Point 1 (UTM38, 583,807.45; 8,768,462.93), northwest to Point 2 (UTM38, 554,642.81; 8,794,475.76), northwest to Point 3 (UTM38, 483,583.61; 8,844.829.37), north to Point 4 (UTM38, 301,113.69; 9,113,825.85), east to Point 5 (UTM39, 327,339.29; 9,113,956.50, south to Point 6 (UTM39, 328,431.16; 8,862,842.06), southwest to Point 7 (UTM39, 225,219.20; 8,780,563.75), west-northwest to Point 8 (UTM38, 709,055.59; 8,822,044.50), then southwest back to Point 1, the point of commencement.

*Excluding the following:*

1. *Aldabra Special Reserve and extension, with the boundary as follows –*

Starting at southwest corner Point 9 (UTM38, 618,873.19; 8,939,000.39), north to Point 10 (UTM38, 618,999.96, 8,980,000.05), east to Point 11 (UTM38, 681,998.89, 8,979,758.49), south to Point 12 (UTM38, 681,804.94, 8,938,749.48), and west back to Point 9, the point of commencement.

2. *Cosmoledo and Astove Islands, with the boundary as follows –*

Starting at southwest corner Point 13 (UTM38, 784,775.23; 8,860,262.37), northwest to Point 14 (UTM38, 745,079.85; 8,932,483.36), northeast to Point 15 (UTM38, 781,899.34; 8,961,737.19), southeast to Point 16 (UTM38, 809,212.81; 8,941,233.91), south to Point 17 (UTM39, 175,032.64; 8,859,912.98) and west back to Point 13, the point of commencement.

### **Amirantes to Fortune Bank "Area of Outstanding Natural Beauty" (NPNCA)**

Comprising an area around the Amirantes Group, across the Mahe Plateau to Fortune Bank, with the boundary as follows –

Starting at the southwest corner at Point 1, (UTM39, 803,160.43; 9,114,689.03), north to Point 2 (UTM 39, 804,013.99; 9,253,029.60), west to Point 3 (UTM39, 665,781.69; 9,253,632.51), north to Point 4 (UTM39, 666,464.23; 9,294,411.65), northeast to Point 5 (UTM39, 677,044.77, 9,319,949.22), southeast to Point 6 (UTM39, 732,213.28, 9,275,511.10), northeast to Point 7 (UTM39, 823,067.46, 9,363,606.47), northwest to Point 8 (UTM39, 787,713.90, 9,481,807.57), west to Point 9 (UTM39, 745,902.64, 9,481,950.96), northeast to Point 10 (UTM39, 754,795.44, 9,502,203.13), northeast to Point 11(UTM40, 278,033.52; 9,602,429.65), south to Point 12 (UTM40, 278,139.10, 9,556,467.42), east to Point 13 (UTM40, 374,766.40; 9,556,650.52), north to Point 14 (UTM40, 374,807.19; 9,599,419.69), east to Point 15 (UTM40, 401,717.97; 9,594,669.08), southeast to Point 16 (UTM40, 555,379.80, 9,389,615.40), south to Point 17 (UTM40, 555,136.15, 9,115,221.95), and west back to Point 1, the point of commencement.

*Excluding the following:*

1. *Amirantes Group and African Banks, with the boundary created by Points 5-9 as above.*
2. *Bird and Denis Islands, with the boundary created by Points 11-14 as above.*
3. *Platte Island, with the boundary as follows –*

Starting at southwest corner at Point 18 (UTM40, 297,111.06; 9,324,843.23) north to Point 19 (UTM40, 296,946.11; 9,375,165.08), east to Point 20 (UTM40, 344,213.45; 9,375,296.69), south to Point 21 (UTM40, 344,339.96; 9,324,985.29) and west back to Point 18, the point of commencement.

4. *Coetivy Island, with the boundary as follows –*

Starting at southwest corner at Point 22 (UTM40, 382,277.62; 9,183,733.80), north to Point 23 (UTM40, 400,565.63; 9,239,054.61), east to Point 24 (UTM40, 453,967.08; 9,239,128.15), south to Point 25 (UTM40, 435,623.09; 9,183,832.51) and west back to Point 22, the point of commencement.

5. *Inner Islands, Port of Victoria (Seychelles Ports Authority, Extension of Port Victoria, Declaration, Order, 2012), with the boundary as follows -*

Starting at the southern tip at Point 26 (UTM40, 335,519.24; 9,460,050.57), northwest to Point 27 (UTM40, 292,934.33, 9,483,907.25), north to Point 28 (UTM40, 292,840.07; 9,520,772.40), northeast to Point 29 (UTM40, 337,214.53; 9,535,612.97), east to Point 30 (UTM40, 385,316.68; 9,535,689.85), south to Point 31 (UTM40, 394,622.35; 9,491,480.72), and southwest back to Point 26, the point of commencement.

## **8. Implications of the MSP**

*From Cabinet Memo submitted 14 November 2018*

Financial, legal, and regulatory implications of the 30% marine protection and marine spatial plan are being considered and addressed. First, to guide implementation of the marine spatial plan, a new MSP Policy has been drafted and will be finalized in 2019. Secondly, to implement the MSP in 2021, the concept of an independent authority is being explored as per agreement by Cabinet in July 2018 and is due December 2018. Thirdly, to understand costs to implement the 400,000 km<sup>2</sup> of new marine protections, the MSP, Seychelles Conservation and Climate Adaptation Trust (SeyCCAT) and GoS-UNDP-GEF Protected Areas Finance project are developing three financing options and a report is due February 2019. Fourth, to estimate the socio-economic impact of the MSP on industrial fisheries (Seychelles-flagged and foreign flagged) and Seychelles economy, an independent analysis is considering both the direct and indirect revenue from fisheries to the Seychelles' economy and three potential scenarios with the designation of 15% of the EEZ in high biodiversity protection status. A second socio-economic impact analysis will be conducted in 2019-2020 including domestic fisheries and tourism. Fifth, the preparation of regulations to support the MSP are required and will include the Allowable Activity tables that were developed through stakeholder consultations. Finally, the implications to maritime security and safety include identifying options for enforcement and gaps in existing infrastructure and capacity. A pilot study with the Regional Coordination Operations Centre (RCOC) to examine vessel activity in MSP draft zones is underway as well as on-going discussions with National Information Sharing Coordination Centre (NISCC).



## 9. Summary of On-going Discussions

*This is a high-level summary of on-going discussions that will be continued in Milestone 3. These points are in addition to the discussions for specific areas as summarised in Annex VI.*

1. Stakeholder priorities for the areas to discuss for zone 1 and 2 areas. There are nine areas proposed for Milestone 3 and 4% of the marine protection goal remaining.
2. Socio-economic assessment of industrial fisheries. Final report due December 2018.
  - Industrial longline concerned about socio-economic impact of Zone 1 area
  - One purse seine company concerned about Zone 1 area in western EEZ
  - Preliminary indication is minimal impact of MSP to all fisheries and to Seychelles' overall economy.
3. Costing analysis: marine protection, governance arrangement
4. Fisheries management: FADs, sport fishing, foreign fishing
5. Decision-matrix for vulnerable habitats and petroleum
6. Need legislation for “sustainable use” zones in 2019; allowable activities in MSP zone 2 not consistent with NPNCA’s “Area of outstanding natural beauty” designation
7. Need official Territorial Sea boundary in 2019
8. Clarification from SFA for Foreign Fishing Restricted Areas: (i) Seychelles-flagged or owned industrial vessels in Foreign Fishing zones (ii) Purse seine supply vessels
9. Clarification regarding the requirement to gazette areas beyond territorial sea using the Maritime Zones Act (1977).

## 10. References

- 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
- Bijoux, J.P., Decomarmond, A., Aumeeruddy, R. 2008. Status of the Marine Environment Report, Seychelles. UNEP-GEF-WIO-LaB Project: Addressing Land Based Activities in the Western Indian Ocean. Pp 92.
- BirdLife International. 2017. Important Bird Areas factsheet: Aldabra Special Reserve. Downloaded from <http://www.birdlife.org> on 09/11/2017.
- Chassot, E. 2017. Seychelles Tuna Scoping Report Draft. Prepared for The Nature Conservancy. Pp 45.
- Ehler, C., and Douvère, F. 2009. Marine Spatial Planning: a step-by-step approach toward ecosystem-based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. IOC Manual and Guides No. 53. ICAM Dossier, 6. Paris.
- FAO: Food and Agriculture Organization of the United Nations (2000-2007). Fishery and Aquaculture Country Profile-Seychelles. Source : [http://www.fao.org/fi/website/FIRetrieveAction.do?dom=countrysector&xml=FI-CP\\_SC.xml&lang=en](http://www.fao.org/fi/website/FIRetrieveAction.do?dom=countrysector&xml=FI-CP_SC.xml&lang=en). Accessed 22nd August 2007 at 12.42pm.
- Government of Seychelles (GoS). 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 (GoS). 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.
- Government of Seychelles (GoS). 2014. Seychelles National Biodiversity Strategy and Action Plan 2015-2020.
- Government of Seychelles (GoS). 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.
- 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. (31<sup>st</sup> March, 1987) Regulation 5. Page 25-27.
- Law of Seychelles. 2012. Seychelles Port Authority Act. Section 20. Seychelles Port Authority (Extension of Port Victoria)(Declaration) Order, 2012. Page 10-11.
- Maina, J., T.R. McClanahan, V. Venus, M. Ateweberhan, and J. Madin. 2011. Global gradients of coral exposure to environmental stresses and implications for local management. *PLoS one*. 6(8): e23064
- 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.crustoccean.com/coetivy.htm](http://www.crustoccean.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.
- Roberts, C.M. et al. 2017. Marine reserves can mitigate and promote adaptation to climate change. *PNAS*.
- Seychelles News Agency. 2016. New coastal radar system means better safeguard for Seychelles, official says. March 22, 2016. <http://www.seychellesnewsagency.com/articles/4828/New%20coastal%20radar%20system%20means%20better%20safeguards%20for%20Seychelles,%20official%20says>
- Seychelles Island Foundation (SIF). 2016. Aldabra Atoll management plan 2016. Seychelles Islands Foundation. Range to Reef Environmental. 98 pp.
- Skerritt, A., and T. Disley. 2011. *Birds of Seychelles*. Christopher Helm, London. 176 pp
- Spalding M.D., Ravilious C, Green EP (eds) 2001. *World atlas of coral reefs*. University of California Press, Berkeley, USA. 424 pp.
- Statehouse 2011. Half of Seychelles land territory to be protected. Mon 20 Jun 2011. Source: State House, Office of the President of the Republic of Seychelles; [http://www.statehouse.gov.sc/news.php?news\\_id=1697](http://www.statehouse.gov.sc/news.php?news_id=1697) Accessed 8 Nov 2017 at 14:43 .
- 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](http://www.vliz.be/projects/marineworldheritage/casestudies/Aldabra_Atoll.php?item=Main%20activities). Accessed 7 Nov 2017.
- WWF – WIOMER report. 2016. Western Indian Ocean Islands Marine Ecoregion (WIOMER). A regional strategy and action plan for conserving marine ecosystems and fisheries. Unpublished report. 63 pp.