CURIEUSE MARINE NATIONAL PARK
PLAN OF MANAGEMENT

2018 – 2022

Seychelles
National Parks
Authority

Forward by the Chief Executive Officer

The Curieuse Management Plan marks a new beginning for the Seychelles National Parks Authority. It is the first in a series of management plans which will be produced by the Authority and these will guide management of this National Park in a clear, transparent and coordinated manner.

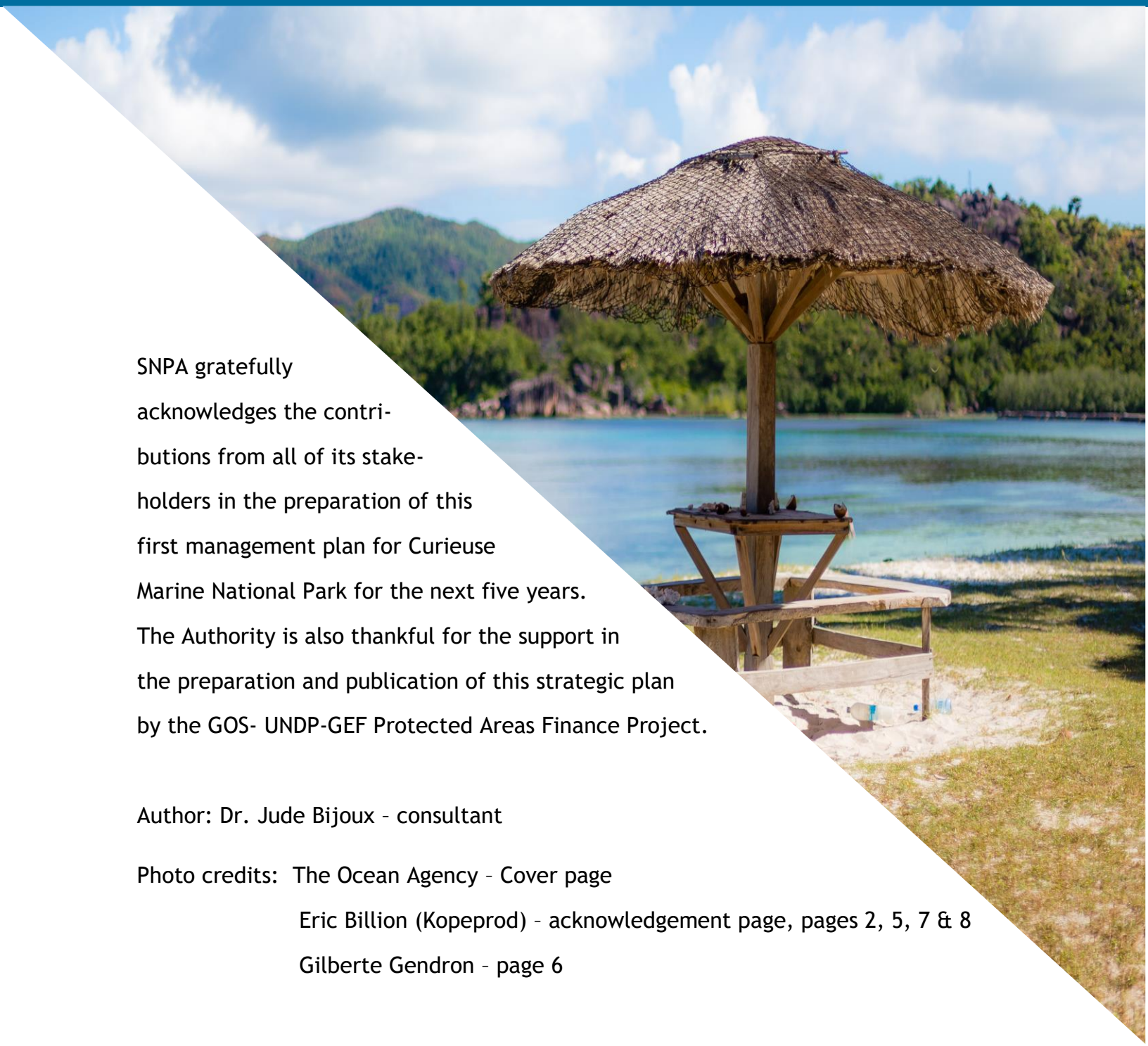
The Seychelles National Parks Authority has made a commitment to have Management Plans for all its sites by 2020, as outlined in its Strategic Plan 2017-2021. Curieuse National Park is the perfect start as it is one of the most visited protected area in Seychelles, includes a mixture of important marine and terrestrial ecosystems and offers ecosystem services from visitor activities to turtle nesting beaches and historical monuments.

This Management Plan was formulated in a consultative process, taking into account concerns from the various users of the Park. It seeks to ensure that long term conservation objectives are achieved, whilst also contributing to the livelihoods of Seychellois. However, better management of the island and its facilities is needed to make sure that the visitors' experience is memorable. Improved services and facilities need to take place if the island is to realise its full potential. The Management Plan addresses these concerns.

Finally, the Plan emphasizes a shift to exploring the terrestrial beauty of Curieuse Island itself, its view points and its history. This Management Plan provides Curieuse with the opportunity to be one of the best managed Protected Area in Seychelles, a protected area which captivates visitors, both local and foreign by the level of professionalism, variety of activities and, most importantly, how well conservation is managed.

Mr. Selby Remie
Chief Executive Officer
Seychelles National Parks Authority

Acknowledgement



SNPA gratefully acknowledges the contributions from all of its stakeholders in the preparation of this first management plan for Curieuse Marine National Park for the next five years. The Authority is also thankful for the support in the preparation and publication of this strategic plan by the GOS- UNDP-GEF Protected Areas Finance Project.

Author: Dr. Jude Bijoux – consultant

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Executive Summary

This is the plan of management for the Curieuse Marine National Park and Curieuse Island. The plan is formulated for a period of 5 years (2018 – 2022) and should be reviewed biannually during its first year of implementation and annually thereafter to monitor performance and progress. SNPA's vision is for *Curieuse Marine National Park to become the best managed protected area in Seychelles with strong emphasis on environmental conservation and community involvement, while offering an appropriate responsible tourism experience*. This vision not only focuses on the conservation of the park's natural assets but also puts strong emphasis on responsible tourism and community involvement, since tourism in the park generates a lot of revenue in the economy of Praslin Island and surrounding islands.

Curieuse remains the most visited Marine Protected Area in the Seychelles. In 2017, more than 50, 000 visitors came to the park. The popularity of Curieuse stems from the fact that it is accessible throughout the year as a result of its sheltered location and proximity from Praslin. The park is open seven days a week and provides facilities for boat charter companies and tour operators to organise barbeques for their clients. Most importantly, the Curieuse Marine National Park provides a relaxed, non-hurried experience to visitors and provides them with an island that is still rustic in nature with few buildings. The attractions of Curieuse MNP are numerous and include reef sites for snorkelling and diving, giant tortoises roaming the island freely, an exciting mangrove ecosystem with easy access to explore on a board walk, Coco-de-Mer forest within easy reach and amazing geological formations with remnants of the old reef from the Cretaceous period dating back to 125 million years ago still visible under granite formations on land. Curieuse also has an exciting history, having been a confinement for leprosy sufferers, a site for agriculture and perhaps the first mariculture experiment in the country's history which prompted the construction of the causeway at Baie Laraie in 1909 for the rearing of Hawksbill turtles.

This management plan highlights the conservation values of the Curieuse MNP and Curieuse Island as well as the issues affecting management and the management goals that SNPA is working towards. The major impacts in the Curieuse Marine National Park are caused by climate change and from damage of natural ecosystems by visitors. The objective of this plan is to ensure that Curieuse can continue to act as a site of interest for visitors while ensuring that the natural environment is protected. The plan ensures that strategies are put in place and priority actions are implemented to

protect the natural environment and to repair damages caused by natural and visitor impacts. To improve the conservation values of the park and limit possible conflicts between users, a zoning plan for the marine and terrestrial areas has been adopted with five management zones in the marine domain and four zones on land.

In the marine domain the *Strict Conservation Zone* has been designated principally for the protection of important turtle nesting ground and for reducing boating activities in an area which is used by poachers to access the Coco-de-Mer forest. The *Restoration Zone* is for the restoration of degraded coral reefs and mangrove areas. The *Restricted Use Zone* covers areas mostly dominated by coral reefs. Its purpose is to ensure that sensitive coral reefs are protected from destructive human activities. The General *Use Zone* covers the largest percentage of the marine area and is the least sensitive of the different zones. The *Specific Use Zone* on the other hand is dedicated for specific activities that often conflicts with other activities undertaken in the park. There are two such zones. One is a mariculture concession area established under the Fisheries Act, where pearl oysters are grown. The other is in front of the Ranger's Station at Baie Laraie, which has been designated as a mooring and anchoring area. As there is a lot of boat movement in that area swimming and snorkelling are not allowed to reduce the risk of accidents.

In the terrestrial domain the *Strict Conservation Zone* covers the largest area of Curieuse Island. Its main purpose is the conserve the extra sensitive Coco-de-Mer forest. The *Restoration Zone* covers most of the coastal plateau and certain mountainous areas. The aim of these zones is to rehabilitate habitats in the area and increase their conservation value. A lot of terrestrial restoration is already on the way on Curieuse Island. The main purpose is to improve the suitability of the area for the introduction of the critically endangered Seychelles paradise flycatcher (*Terpsiphone corvina*). The *Eco-tourism Zone* is designated to provide opportunities for visitors to have access and discover and enjoy the terrestrial environment of Curieuse Island.

This zone only makes up a small area of Curieuse Island. The *Rangers Quarters* are zones designated for park operations and are areas where the workers in the park live and where SNPA has its infrastructure such as stores, offices and generator room.

In order to improve the experience of visitors to the Curieuse Marine National Park, the plan puts a lot of emphasis on improving the quantity and format of information that is given to visitors so that they can better appreciate the significance of what they observe on their visit and have an overall better nature experience.

A costed plan of implementation is provided to facilitate financial planning and the Performance Measurement System (PMS) brings in the SMART (Specific, Measurable, Attainable, Relevant and Timely) element into the plan. The PMS defines specific activities to be implemented as part of every strategy and provides the measure and timeline as part of the target. Performance indicators of how to determine the success of each activity are also provided.

Curieuse Marine National Park – Overview

The Curieuse Marine National Park was designated in 1979 under the National Parks and Nature Conservancy Act (Annex I). The diverse coral reefs that were historically found around the island were one of the main reasons for its designation as a protected area. The marine park has an area of 14.7 km^2 (Figure 1). In the middle of the marine park is Curieuse Island, measuring about 3.5 km in length and 1.6 km at its widest with a total area of 2.86 Km^2. The Marine National Park has a diversity of marine habitats including coral reefs, seagrass beds, macro-algal beds, soft muddy sand flats, rocky shores, sandy bottoms and mangrove forest. The terrestrial ecosystem is dominated by dry mountain slopes, Coco-de-Mer forests, dense coastal plateaux and freshwater wetlands.

Figure 1: Map showing location and delimitation of Curieuse Marine National Park

Curieuse is the most visited marine protected area in the Seychelles with visitor numbers in excess of 50,000 recorded in 2017. Most of the visitors come to the park with the aim of enjoying the quiet and natural environment that it offers. The majority of visitors to the park are brought by local boat charter companies from the nearby island of Praslin. Many people are dependent on the Curieuse Marine National Park for their livelihood and it is estimated that the park contributes at least SCR 400 million per annum in the Seychelles economy.

The Curieuse Marine National Park is managed by the Seychelles National Parks Authority (SNPA), which is mandated to manage the network of terrestrial and marine national parks of the Seychelles. Day to day running of the park is carried out from a small ranger base on the island of Curieuse. Rangers in the park are tasked with ensuring that visitors abide to park regulations and have a minimal impact on the park's natural environment. Curieuse Marine National Park is home to some of Seychelles most iconic animals and plants including Green and Hawksbill turtles, Giant tortoises and the Coco-de-Mer. The island also has a fascinating history.

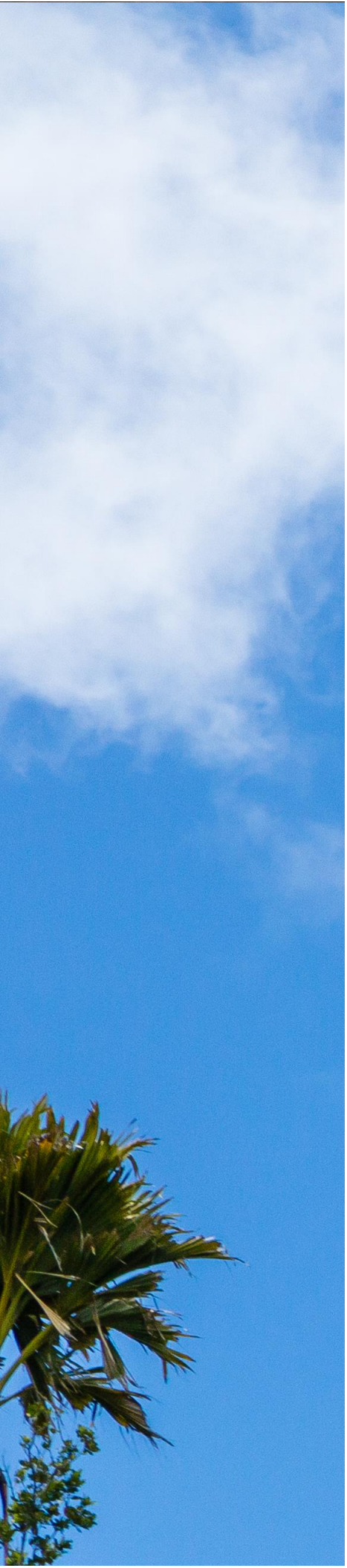
Giant tortoises

Giant tortoises were reintroduced to Curieuse from Aldabra atoll between 1979 and 1982. During that period a total of 245 adult tortoises were released on the island. However, many fell victim to poachers, especially the young ones. The current population of free-ranging tortoises on the island is around 130. However, in the last two years, great strides have been made in protecting baby tortoises from theft and predation by rats. Over a period of less than two years the number of baby Giant tortoises in the nursery has increased to more than 70. Emphasis continues to be placed on protecting and increasing the number of this iconic Seychelles reptile on Curieuse Island.

Marine turtles

The Curieuse Marine National Park is an important nesting site for Hawksbill turtles, and to a lesser extent Green turtles. Recent analysis of turtle nesting activity on the island shows that Grand Anse and Anse Papaie remain the two most important turtle nesting beaches. Jointly, they account for 23% of the total beach length, but hosted 83-93% of each season's total Hawksbill egg clutches. These two beaches were also important for Green turtles, accounting for 96.6% of egg clutches laid. Estimates, based on the number of tracks and the average number of clutches laid per season, puts the average female nesting population at Curieuse at 53.4 for Hawksbill and 3.4 for Green turtles. However, between 2010 and 2014, 88 known individual tagged Hawksbills were encountered on the beaches of Curieuse. Some of these turtles had been previously tagged at other sites in the inner island group, including Bird, Cousin, Cousine, Mahé, Praslin, and St. Anne islands indicating a shared stock and certain degree of infidelity to nesting beaches.

The estimated average of 53.4 Hawksbills nesting annually suggests a 50-100% increase in the nesting population since 1984, when an estimated average of 20-30 individuals nested each season. Higher rates of population increase during the same three decades, however, have been recorded at nearby Hawksbill rookeries where the nesting populations have been better protected over longer periods of time. At Cousin Island there was an eightfold increase documented between 1968 and 2008, and at Aride Island a similar increase was recorded during the same period. This raises the question of why the rate of increase for Curieuse Island is only a fraction of that recorded at Cousin and Aride islands. Likely explanations involve a combination of poaching, human disturbance and habitat limitations. Dense roots of Casuarina and Coconut at nesting beaches make it difficult to dig nests and have led to failed nesting attempts.



Coco-de-Mer

Coco-de-Mer (*Loidocea maldivica*) is the most iconic of Seychelles plants. Growing up to 34 m high with leaves larger than 3 m across and nuts of up to 42 Kg, this palm is endemic to the Seychelles islands. The Coco-de-Mer forest on Curieuse is one of the three most important remaining natural populations of this species, with the other two found on the nearby island of Praslin at Fond Ferdinand and the Vallée de Mai. More than 4,500 Coco-de-Mer plants were surveyed on the island of Curieuse. Total population is believed to be as high as 10,000 plants. Three quarters of Coco-de-Mer plants found in the survey are described as seedlings, juveniles or immature. The numbers of mature male and female plants were around 600 each. Coco-de-Mer on the island of Curieuse is fully protected.

Mangroves

The construction of the causeway by Henri Chenard at Baie Laraie in 1909 created the perfect conditions inside the lagoon for mangroves to thrive. Five of the seven species of mangrove found in the Seychelles grow naturally on Curieuse Island. A high diversity of marine animals can be found in the mangrove swamp and the area is used as a nursery ground for many species of fish, including sharks and rays. A boardwalk has been built through the Curieuse mangroves allowing visitors the opportunity to explore the mangrove area with ease. The boardwalk also forms part of the coastal trail which connects the two landing sites of Baie Laraie and Anse St. José together. The mangrove forest on Curieuse is however under threat. When the causeway was heavily damaged during the tsunami of 2004, the protective barrier that allowed the mangrove forest to flourish was taken away. The higher exposure to wave action which resulted from the breakdown of the causeway has caused a change in oceanographic conditions inside the mangrove swamp causing erosion of the mangrove mud in many areas and its replacement by clean sand in others. This change in sediment type is slowly killing the mangrove forest.

History and heritage

The island of Curieuse is full of history. First discovered in 1744 by the French Marine Lazare Picault, the island was originally named Isle Rouge as a result of its bare red earth eroded mountain side. The island was renamed Curieuse in 1768 by Lieutenant Lamperiaire, of the French East Indies Company after his schooner La Curieuse. When discovered the island was said to be inhabited by Giant tortoises and crocodiles and on land Coco-de-Mer palms were abundant. However, the first settlers cut down most of the original forest on the island and completely destroyed the Giant tortoise and crocodile populations. In 1829, Curieuse started being used as a place of confinement for leprosy sufferers. African slaves, mostly from the island of Mauritius were the first people to be confined to the island. At around the same time, increased emphasis started being given to the conservation of the Coco-de-Mer forest on the island. Curieuse was to remain a site for leprosy sufferers until 1900, when they were moved to Round Island off Praslin. After this, the island was used as plantations for coconut and vanilla, and the raising of livestock. In 1909, Henri Chenard was given a loan to construct the causeway at Baie Laraie to form a lagoon of 16 hectares in area in which he would rear young Hawksbill turtles for their shell. By 1914, the turtle farm was abandoned as the turtles started to develop diseases. In 1937, the lepers returned to Curieuse Island and remained until 1965. The remains of the leper colony can today still be observed along the beach at Anse St. José.

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1. Preliminary

1.1. Name of the plan

This plan is the *Curieuse Marine National Park Management Plan 2018 – 2022*.

1.2. Plan's application

This plan applies to the area defined in the Schedule of the National Parks (Curieuse Marine) (Designation) Order (SI 56 of 1979) inclusive of the Curieuse Island. The area so enclosed is represented on a map held in the Office of the Director of Surveys and filed as ML/ADN/46.

1.3. Intent of the plan

The intent of this plan is guide the management of the Curieuse Marine National Park, inclusive of Curieuse Island, in order to protect and conserve its identified values, while providing for reasonable opportunities to access and make use of the area for eco-tourism, education, recreation and scientific purposes.

1.4. Vision of Curieuse Marine National Park

Curieuse Marine National Park to become the best managed protected area in Seychelles with strong emphasis on environmental conservation and community involvement, while offering an appropriate responsible tourism experience.

In order to achieve this vision the precautionary approach and science-based decision making will be applied. The park will be managed in a professional manner that promotes the effectiveness of conservation activities and ensures its financial sustainability.

1.5. Conservation values

Curieuse Island and the Curieuse Marine National Park have been legally protected since 1979. The area has a number of ecosystems with important marine conservation values which includes coral reefs and associated habitats, mangrove forests, rocky shores, turtle nesting beaches, freshwater wetlands, coastal plateaux, Coco-de-Mer (*Loidocea maldivica*) forests and dry mountain slopes. A number of charismatic species such as Giant tortoises and marine turtles live in the park. Curieuse Island is also home to a number of endemic terrestrial plants such as Bois dur blanc (*Peponidium carinatum*) and Bois Rouge (*Dillenia ferruginea*). Due to these conservation values, the Curieuse Island and Marine National Park also have high socio-economic value as they are used extensively by local boat charters and tour operators for nature-based tourism.

Each section proposing strategies (i.e. Sections 3 to 8) highlights the main values of the habitat, species, processes, services or goods and identifies the main issues threatening the identified values. Strategies are then proposed to mitigate the issues.

1.6. Management issues

The Curieuse Island and Marine National Park have a number of management issues. These are listed below and are addressed through activities proposed in this management plan.

(1) Lack of management planning and organisation of activities towards the achievement of the strategic objectives of the Seychelles National Parks Authority.
(2) Too much emphasis of rangers work on fee collection as opposed to other duties like visitor interaction, environmental monitoring and compliance.
(3) Coral reef degradation caused by climate change induced mass coral bleaching events and phase-shift of reefs from coral to macro-algae and rubble dominated.
(4) Excessive damage to coral reefs caused by indiscriminate anchoring of charter boats and yachts coming into the park.
(5) Poaching of fish and octopus in the Marine Park, and Coco-de-Mer and baby Giant tortoises and nesting turtles on Curieuse Island.
(6) Degradation of the mangrove forest caused by sediment erosion at certain locations and accretion of sand at others.
(7) Lack of terrestrial and marine habitat monitoring and targeted scientific research to follow trends and propose management measures.

(8) High risk of bush fire on Curieuse Island as a result of its dry nature and lack of guidelines concerning the lighting of open fires, management of barbeque activities and smoking.
(9) Predation of Brown rat (*Rattus norvegicus*) on other animals (e.g. tortoises, birds) and eggs.
(10) Marine litter ending up on the beaches and mangrove areas of Curieuse Island.
(11) Lack of information provided to visitors on various interesting aspects of the Curieuse environment and history, and underutilisation of certain habitats.
(12) Lack of utilities such as potable water and stable supply of electricity, and appropriate infrastructure (e.g. accommodation) and equipment (e.g. patrol boats) for the work and comfort of staff working in the park.

1.6. Management goals

The management goals of the Curieuse Marine National Park for the next five years are:

(1) To ensure that prioritised marine and terrestrial habitats and populations of iconic and endangered species within the park remain healthy and are protected, and that degraded habitats are improved through restoration and other mitigation actions.
(2) To offer an environment where appropriate responsible tourism can continue to develop with the involvement of and for the benefit of local communities in a way that is equitable for all.
(3) To promote scientific research and monitoring of species and ecosystems within the park, and to understand and mitigate the influence of external factors.
(4) To positively contribute to the local fishery through spill-over and larval subsidy.
(5) To use the conservation actions being implemented in the park as a vehicle for increasing public education, awareness and activism.
(6) To protect and promote the historical and cultural heritage of Curieuse Island.
(7) To develop infrastructure and facilities for visitors and staff on the island in a manner that respects the sensitive natural environment of the area.

1.6. Management and reporting structure

The park will be managed by the Seychelles National Parks Authority as per mandate provided in Section 4(1) of the Environment Protection (Seychelles National Parks Authority) Order (SI 30 of 2009). Overall responsibility for the implementation of this plan will fall under the Chief Executive Officer (CEO) of the Seychelles National Parks Authority (SNPA) with guidance from the Board of Directors. Responsibility for onsite implementation will fall under the Curieuse Island Park Manager, who will present his progress reports to the Board of Directors through the CEO.

The plan is to be adaptive with biannual review of implementation during the first year and annual reviews thereafter. A *Partnership Committee* is to be set up with representation from organisations directly involved with the implementation of certain components of the plan. Annual report of plan implementation will be integrated into: 1) Biodiversity report (Nature & Conservation) to the Ministry responsible for environment to feed into the CBD/NBSAP progress report and 2) Annual activity report plus financial statement to the Board, which covers all activities done in the year.

1.7. Stakeholders involvement

The park stakeholders (indicative list provided in Annex I) will be involved in park management through regular consultative meetings, to be held every six months. At each of these meetings, progress made towards the implementation of the plan will be presented. Organisation of consultative meetings will be the responsibility of the Curieuse Island Park Manager.

1.8. Management regulations

The management regulations for Curieuse Marine National Park are detailed in the National Parks (Curieuse Marine National Park) Regulation (SI 15 of 1991). The management regulations are supported by SNPA's policies, operational rules, staff manual and Standard Operating Procedures. A copy of the designation order and park regulations can be found in Annex II.

A zoning plan (detailed in Section 2 below) will be implemented to reduce conflicts and better manage activities taking place in different parts of the park.

2. Zoning plan

A zoning plan has been prepared for the island of Curieuse and the Marine National Park (Figure 2). The objective of the zoning plan is to reduce conflicts among different types of activities taking place in the park. The Marine part has five types of zones which are: *General Use Zones, Restricted Use Zones, Specific Use Zones, Strict Conservation Zones and Restoration Zones*. The island has four types of zones which are: *Strict Conservation Zones, Restoration Zones, Eco-tourism Zone*s and *Rangers Quarters*. Tables 1 and 2 provide the conservation objectives, park use objectives, targets, and prohibited and authorised activities for each of the different zones.

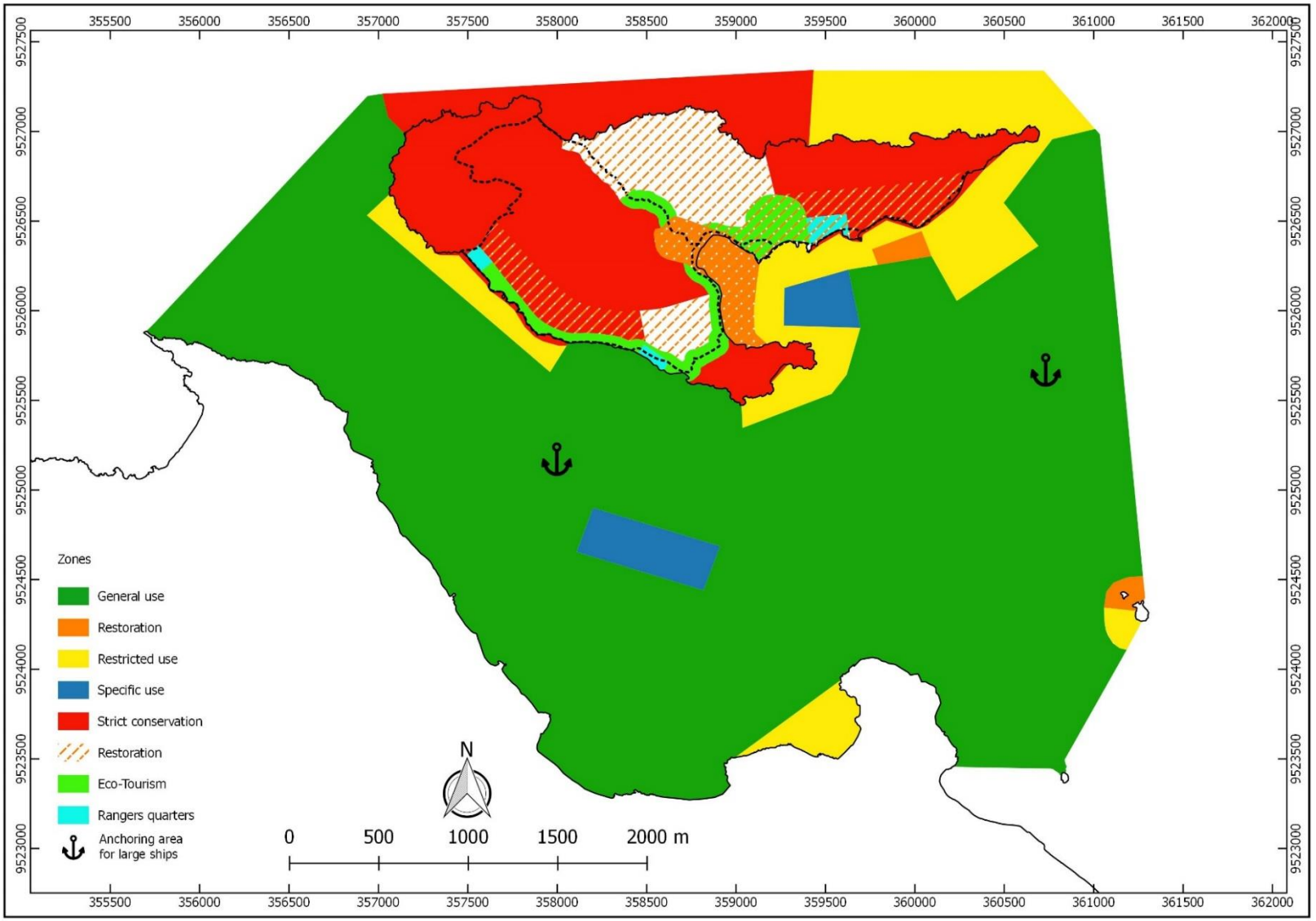


Figure 2: Map of the different marine and terrestrial management zones for the Curieuse Marine National Park

Table 1: The different maritime management zones for the Curieuse Marine National Park with objectives and prohibited and authorised activities

	Maritime Zones				
	Strict Conservation Zones	**Restoration Zones**	**Restricted Use Zones**	**General Use Zones**	**Specific Use Zones**
Conservation Objectives	To ensure the strict protection of rare, sensitive or vulnerable ecosystems, habitats, species.	To ensure specific protection and restoration of rare, sensitive or vulnerable ecosystems, habitats, species (mangroves and corals).	To ensure protection of important, sensitive and significant ecosystems, habitats, species.	To ensure that the structures and functions of marine environment are maintained.	To contain certain activities to mitigate impact on important, sensitive and significant ecosystems, habitats, species.
Park Use Objective	Conservation of extra sensitive habitat and species. Research and monitoring purpose. Education and awareness. Promote scientific research.	Improve the expanse and quality of vulnerable habitats.	To provide a range of educational and recreational activities and opportunities for park users to learn about biodiversity, sustainable use of the marine habitat and conservation. Promote scientific research.	To provide opportunities for park users and visitors to have access to and discover the marine environment and use it in a sustainable manner. Educate Park users and the general public of the importance of maintaining the structure and function of marine environment. Promote research.	To mitigate conflict with other users and/or activities.
Target	Nesting sites of marine turtles (Hawksbill and Green turtles).	Specific mangrove forest and coral reef areas.	Areas with significant areas of coral reefs.	Majority of the area.	Small areas with specific activities.
Prohibited Activities	Landing, all other activities (if not accompanied by ranger).	Mooring, anchoring and all extractive activities.	Anchoring (if not in sandy areas) and all extractive activities.	All extractive activities.	All other activities apart from those specified.
Authorised Activities	Monitoring/scientific research.	Navigation, marine tours, scuba diving, snorkelling, swimming.	Swimming, snorkelling, diving, navigation, mooring.	Navigation, marine tours, mooring, anchoring, scuba diving, snorkelling, swimming.	Navigation (in certain cases), monitoring and scientific research.

Table 2: The different terrestrial management zones for Curieuse Island with objectives and prohibited and authorised activities

	Terrestrial Zones			
	Strict Conservation Zones	**Restoration Zones**	**Eco-tourism Zones**	**Rangers Quarters**
Conservation Objectives	To ensure the strict protection of rare, sensitive or vulnerable ecosystems, habitats, species such as the Coco-de-Mer.	To ensure specific protection and restoration of rare, sensitive or degraded ecosystems and habitats.	To ensure that the structures and functions of terrestrial environment are maintained.	To contain other activities that are essential for the management of the Curieuse Marine National Park (e.g. rangers accommodation, electricity generation).
Park Use Objective	Conservation of extra sensitive habitat and species. Research and monitoring purpose. Education and awareness. Promote scientific research.	Improve the expanse and quality of vulnerable habitats (e.g. mountain slopes).	To provide opportunities for visitors to have access and discover the terrestrial environment and use it in a sustainable manner. Educate Park users and the general public of the importance of maintaining the structure and function of the terrestrial environment. Promote research.	To prevent operational activities of the park from affecting the environmental experience of visitors.
Target	Majority of the area with Coco-de-Mer forest.	Areas of the coastal plateau and degraded mountain slopes.	Small areas at the landing and picnic sites and along the trails.	Small areas at Baie Laraie, Anse St. José and Caiman.
Prohibited Activities	All activities apart from those specified in the *Authorised Activities*, smoking.	All extractive activities apart from the management of invasive species, smoking.	All extractive activities apart from the management of invasive species, smoking, lighting of open fires.	Lighting of open fires.
Authorised Activities	Monitoring, scientific research, management of Coco-de-Mer forest.	Monitoring, scientific research, habitat restoration activities, education and learning.	Exploration, photography, picnic.	All activities required for the management of the Park.

3. Nature conservation

This section addresses conservation related issues of ecologically important ecosystems, habitats and species on Curieuse Island and the Curieuse Marine National Park. It highlights the values (the importance), issues (factors affecting functioning) and proposes strategies (plans of action) for addressing identified issues.

3.1. Coral reefs and associated ecosystems

3.1.1. Values

(1) Coral reefs are known to be one of the most biologically diverse habitats in the world.
(2) The Curieuse Marine National Park has 14 ha of coral reefs.
(3) Coral reef communities within Curieuse are linked to other reefs outside the park through adult and larval movement.
(4) The outstanding status of coral reefs was one of the main considerations for the declaration of Curieuse as a Marine National Park in 1979.
(5) Snorkelling and diving are popular activities which take place in the park.
(6) Coral reefs have important coastal protection values from wave action.

3.1.2. Issues

(1) Coral reefs in the park were extensively damaged by large scale coral death resulting from the 1998 and 2016 mass coral bleaching events, linked to the El Niño phenomenon.
(2) Many shallow reef sites that are used for snorkelling are covered by coral rubble and are not recovering.
(3) At some reef sites, there is a phase-shift from coral to macro-algae and rubble domination.
(4) Break-down of reef structure has led to loss of biodiversity in other reef associated fauna (e.g. fish, gastropods, molluscs).
(5) Boat users continue to anchor indiscriminately on coral reefs due to lack of mooring buoys, zoning plan and enforcement of park regulations.
(6) Most anthropogenic effects on coral reefs within the park are caused by anchor damage.
(7) There is a lack of information on the status of coral reefs inside the park due to limited scope of present coral reef monitoring programmes.

3.1.3. General objectives and strategies

(1) Reduce adverse direct impacts caused by human activities in the park on coral reefs.

Strategies

(1) Increase the number of mooring buoys available in the park and ensure that the mooring buoys maintenance plan is implemented to guarantee the safety of moorings.
(2) Provide anchoring areas for large boats and cruise ships away from coral reefs.
(3) Make use of smarter patrols and new technology such as drones to detect and mitigate incidences of anthropogenic damage to coral reefs.
(4) Directly engage yacht rental companies to jointly find solutions to reduce anchor damage caused by yachts.

(2) Improve understanding of coral reefs and associated habitat.

Strategies

(1) Monitor coral reefs and associated habitats and make use of data to guide management planning.
(2) Increase the number of coral reef focused research projects.
(3) Change park users' behaviour through education, awareness and increased visibility.

(3) Promote recovery of degraded coral reefs through restoration.

Strategies

(1) Restore degraded reefs at socio-economically important sites of Anse Papaie and St. Pierre Island.

3.2. Mangroves

3.2.1. Values

(1) The Curieuse Marine National Park has 12 ha of mangrove habitat.
(2) Healthy mangrove habitat is fundamental to the value of the park and many of its ecological processes. The mangrove habitat remains one of the main visitor attractions to this site with the possibility of exploring large parts of the mangroves on a board walk built on stilts.
(3) Maintaining the mangrove habitat in a healthy state is essential for appreciation by visitors and for the representativeness of the Seychelles network of protected areas.
(4) Mangroves provide important habitat for large numbers of intertidal animals.

3.2.2. Issues

(1) The mangrove area continues to degrade as a result of erosion of muddy substrate and accretion of white sand resulting from the breakdown of the causeway by the Indian Ocean tsunami.
(2) Certain parts of the mangrove forest have been invaded by Coconut (*Cocos nucifera*), Casuarina (*Casuarina equisetifolia*) and certain invasive plants such as Cocoplum (*Chrysobalanus icaco*).
(3) Water circulation in the mangrove forest is not optimal and is affecting the success of restorative activities at certain locations.
(4) The mangrove board walk is damaged at certain locations and is a hazard to visitors.
(5) Marine debris, usually from outside the boundaries of the park frequently gets washed up in the mangrove forest and soils the naturalness of the mangrove environment.
(6) Not enough information is available to visitors on mangrove habitat.

3.2.3. General objectives

(1) Reverse degradation observed in the mangrove forest since the 2004 tsunami event and ensure the functionality of the mangrove ecosystem and protection of biodiversity.

Strategies

(1) Raise funds from multiple sources to repair the causeway.
(2) Rehabilitate the mangrove forest at Baie Laraie in collaboration with local partners.
(3) Ensure the continuation of the mangrove monitoring program and the use of data collected to guide management planning.
(4) Reduce the amount of litter observed in mangrove areas.

(2) Utilise the mangrove ecosystem as an attraction for visitors to come to the Park.

Strategies

(1) Create opportunities for visitors to spend more time in the mangrove forest.
(2) Ensure safety of the mangrove board walk through regular maintenance and use of more durable materials.

3.3. Coastal forest and mountain landscapes

3.3.1. Values

(1) There is dense coastal forest on Curieuse which provides shade and keeps the island cool.
(2) Mountain landscape forms the largest habitat of drought tolerant plants on Curieuse Island.
(3) The mountain vegetation is made up of a lot of endemic plants such as Coco-de-Mer, Bois dur blanc and Café maron (*Erythroxylum sechellarum*).
(4) Much of the mountain vegetation of Curieuse has remained untouched by man for a long time, apart from damage by fire.

3.3.2. Issues

(1) The undergrowth of the coastal forest is largely dominated by non-native plants that create very little favourable habitat for the islands' wildlife.
(2) Due to its steepness and poor soil quality, the mountain slopes of Curieuse are sparsely vegetated and are prone to soil erosion.
(3) As a result of its dry nature, the mountain landscape is prone to fire.

(4) Many visitors smoke on the trail and cause a fire risk.
(5) Habitat restoration on Curieuse is costly as a result of the difficult terrain.

3.3.3. General objectives

(1) Restore degraded coastal and mountain ecosystems.

Strategies

(1) Provide opportunities for NGOs, civil society groups, research institutes, universities and local businesses interested in terrestrial habitat restoration and research to collaborate and participate in restoration activities.
(2) Restore the coastal forest found in the Restoration Zone through removal of unfavourable vegetation such as Cocoplum and Coconut and replacement with native broadleaf coastal species.
(3) Restore the mountain landscape found in the Restoration Zone using native drought tolerant plants.

(2) Protect the island's terrestrial biodiversity.

Strategies

(1) Reduce the risk of bush fires by introducing measures to control the lighting of open fires, barbeque activities and smoking by staff and visitors.

3.4. Freshwater wetlands

3.4.1. Values

(1) Freshwater wetlands are important sources of freshwater for the people, animals and plants living on Curieuse Island.
(2) Limited studies have been undertaken on Curieuse to document the flora and fauna found in the freshwater wetlands.
(3) Freshwater wetlands are important resting habitats for Giant tortoise, *Aldabrachelys gigantea*.
(4) Freshwater wetlands on Curieuse are habitats for rare and endemic species such as Eels (*Anguilla bicolor bicolor*), Gourzon (*Pachypanchax playfairii*) and endemic terrapins (*Pelusios castanoides intergularis*).

3.4.2. Issues

(1) The fauna of the freshwater wetlands on Curieuse have been little studied.
(2) Many of the freshwater wetlands are over-grown by the Mangrove fern (*Acrostichum aureum*) and encroached by the Cocoplum, (*Chrysobalanus icaco*).
(3) Coastal freshwater wetlands are presently not featured as an eco-tourism attraction of Curieuse as they are over-grown by plants and inaccessible.
(4) The clogged up nature of the wetlands limits access to birds, including migrants and waders.
(5) During the rainy season the coastal plateaux of Curieuse Island are flooded and restrict movement of staff and visitors to the island.
(6) Unmanaged wetlands are important breeding grounds for mosquitoes.

3.4.3. General objectives

(1) Increase scientific knowledge and awareness about freshwater wetland ecosystems so that they can be better understood and managed.

Strategies

(1) Collaborate with NGOs, research institutes and universities to study the biodiversity and ecology of Curieuse wetland habitats and to restore degraded wetlands.

(2) Improve functionality of wetlands.

Strategies

(1) Clear wetland areas of invasive species.

(3) Integrate wetlands in the Curieuse eco-tourism experience.

Strategies

(1) Make wetlands at Baie Laraie and Anse St. José more accessible to visitors by improving access and providing space around them for rest and relaxation.

3.5. Marine turtles

3.5.1. Values

(1) Marine turtles are iconic species and a great attraction for eco-tourism.
(2) Hawksbill turtles are considered as Critically Endangered on the IUCN Red List of Threatened Species while Green turtles are considered as Endangered.
(3) Both Hawksbill turtles (*Eretmochelys imbricata*) and Green turtles (*Chelonia mydas*) nest on the beaches of Curieuse.
(4) Grand Anse and Anse Papaie remain the two most important beaches for nesting turtles hosting 83 – 93% of seasonal total egg clutches.
(5) Recent data suggest a 50 -100% increase in nesting population since 1984.
(6) Some turtles nesting on Curieuse are also known to nest on other inner islands.

3.5.2. Issues

(1) People continue to land illegally on turtle nesting beaches of Curieuse.
(2) There is evidence that turtles have been poached from the beaches of Curieuse within the last five years.
(3) Despite the fact that there has been increase in turtle nesting activity on Curieuse over the past 25 years, the rate of increase is much lower compared to neighbouring islands of Cousin and Aride.
(4) The roots of trees such as Coconut (*Cocos nucifera*) and Casuarina (*Casuarina equisetifolia*) are affecting nesting attempts at some nesting beaches.
(5) Fallen trees on nesting beaches are blocking access to nesting habitats.
(6) Beach erosion destroys a number of nests every year and has reduced the amount of suitable beaches for nesting turtles.

3.5.3. General objectives

(1) Improve management of important turtle nesting beaches and increase the number of turtles nesting annually.

Strategies

(1) Increase protection of the main turtle nesting beaches, especially during the Hawksbill turtle nesting season.
(2) Improve ease of nesting at Anse Papaie and Grand Anse.
(3) Reduce vulnerability of nests to beach erosion.
(4) Maintain high level of turtle monitoring and encourage targeted research.

3.6. Giant tortoise

3.6.1. Values

(1) Wild populations of Giant tortoises were found on most inner islands when Seychelles was first discovered.
(2) The original species found on the Inner Islands is believed to be extinct as a result of human consumption.
(3) 250 Giant tortoises (*Aldabrachelys gigantea*) were introduced to Curieuse from Aldabra between 1979 and 1982.
(4) These tortoises have become one of the main tourist attractions on Curieuse Island.
(5) Successful breeding of the population is well documented and there is a nursery for young tortoises.

3.6.2. Issues

(1) The amount of poaching of baby tortoises from the nursery remains very high.
(2) It is believed that baby tortoises are often stolen by people working on Curieuse Island.
(3) In cases where the location of stolen baby tortoises can be obtained it is very difficult to prove that those tortoises actually come from Curieuse.
(4) Rats continue to predate on baby tortoises in the wild with extremely few juveniles found in the wild.
(5) It appears that the only population reproducing and where young tortoises are being recruited in the population is at Baie Laraie with no young tortoises documented from other areas such as Grand Anse.
(6) The influence of tortoises on the Curieuse ecosystem has not been documented.

3.6.3. General objectives

(1) Increase the number of Giant tortoises on Curieuse Island by reducing loss of baby tortoises caused by predation and theft.

Strategies

(1) Secure tortoise nursery area and reduce loss of baby tortoises related to predation and theft to zero.
(2) Increase the number of baby tortoises collected from the wild and transferred to the nursery.

3.7. Coco-de-Mer

3.7.1 Values

(1) Coco-de-Mer (*Loidocea maldivica*) is an endemic species for the Seychelles, which was originally found only on the island of Praslin and Curieuse.
(2) Curieuse Island remains one of the top three most important habitats for Coco-de-Mer in the Seychelles, with more than 4,500 trees surveyed and population believed to be as high as 10,000 trees.
(3) Coco-de-Mer nuts are sought after by visitors to the Seychelles, they are expensive with an average price of about US$ 500.
(4) The Coco-de-Mer forest on Curieuse has had some sort of protection since the early 1830s, when George Harrison saw the benefit of the use of Curieuse as a leper colony as a deterrent for the conservation of this species.

3.7.1 Issues

(1) Knowledge of the biology of the Coco-de-Mer remains limited as a result of its long life span and slow maturity and small number of research projects aimed at this species.
(2) The Coco-de-Mer forest on Curieuse Island is found in dry, mountainous area which is difficult to access.
(3) Coco-de-Mer on Curieuse Island continues to be poached and there is evidence of damage being caused to Coco-de-Mer palms.
(4) The number of Coco-de-Mer that have been planted on Curieuse in the last decade has been minimal.

3.7.3. General objectives

(1) Increase the number of Coco-de-Mer trees in the wild.

Strategies

(1) Establish a long-term Coco-de-Mer planting programme.

(2) Improve understanding of the biology and ecology of Coco-de-Mer.

Strategies

(1) Collaborate with other local and international partners and scientists to monitor and undertake targeted research on the biology of Coco-de-Mer to improve the understanding and conservation of this species.
(2) Make use of new technology such as drones to undertake scientific monitoring of Coco-de-Mer.
(3) Establish a long-term monitoring programme based on a sub-sample of Coco-de-Mer trees.

(3) Improve surveillance of the Coco-de-Mer forest.

Strategies

(1) Make use of new technology such as drones to improve surveillance of Coco-de-Mer forest.
(2) Encourage members of the public to report known or suspected Coco-de-Mer poaching incidences.

4. History and heritage

This section addresses the conservation and showcases of the rich history and heritage of Curieuse Island. Curieuse has been used as a site of confinement for leprosy sufferers, as a plantation and for the rearing of marine turtles. Relics from history form an important part of the Curieuse experience. No other place highlights this

more than the Doctor's House at Anse St. José, which has now been turned into a museum. This section highlights important history and heritage and the issues affecting these values, and strategies which have been put forward to mitigate those issues.

4.1.1. Values

(1) Curieuse Island has a long and interesting history, especially as its role in being a refuge for lepers at various periods between 1829 and 1965.
(2) The plantation-style Doctor's House at Anse St. José was built by Dr. William MacGregor, the medical officer in charge of the leper facilities in 1873. The Doctor's House has recently been restored and is designated as a national monument under the National Monument Act.
(3) The ruins of the houses where the lepers and medical staff used to live, the cemetery and various other facilities are still standing today.
(4) The causeway at Baie Laraie was built in 1909 by Henri Chenard to form a pond to rear turtles for their shells.

4.1.2. Issues

(1) The cultural relics on Curieuse Island, apart from the Doctor's House have not been maintained over the years, leading to their continuing degradation.
(2) The causeway, which was extensively damaged by the 2004 Indian Ocean tsunami has not been repaired and the mangrove forest that it used to protect is being severely degraded by sand accretion at certain locations and erosion at others.
(3) Very little information is being provided on the history of Curieuse to visitors to the island.
(4) A large part of Curieuse history is still not accessible, being confined to old reports in museums.

4.1.3. General objectives and strategies

(1) Ensure that the historical and heritage sites on Curieuse are protected and maintained.

Strategies

(1) Prevent further degradation of historical and heritage sites through upkeep, maintenance and restoration where required.

(2) Better integrate the history of Curieuse Island into the eco-tourism experience.

Strategies

(1) Improve access to all historical and heritage sites on Curieuse Island.
(2) Make information on historical and heritage sites of Curieuse Island more accessible to visitors and the general public.

5. Tourism

Nature-based tourism remains the predominant commercial activity which takes place in the Curieuse Marine National Park. Tourism generates direct revenue for SNPA, which is used to finance management of the park and support the management of other less profitable National Parks. Tourism also generates revenue for many boat charter companies and tour operators which rely heavily on the services offered by the Curieuse Marine National Park for their businesses. As tourism can also create issues that can affect conservation in the park it is important that tourism activity is limited in space and adequately controlled. This section highlights important values that tourism creates for the Curieuse Marine National Park, highlights the conservation issues resulting from tourism and puts forward strategies to reduce the impact of tourism on the natural environment in the Curieuse Marine National Park.

5.1.1. Values

(1) Visitors to Curieuse generate more than SCR 9 million per year as direct revenue to SNPA and a minimum of SCR 190 million as revenue to tourism operators making use of the park.
(2) Curieuse is the second most visited reserve in the country with around 50,000 visitors per year.
(3) Visitors to Curieuse can explore a number of habitats including coral reefs, seagrass beds, mangroves, freshwater wetlands, coastal forest and dry mountainous environments.
(4) Curieuse has lots of beautiful rock formations and visitors can see remnants of old reefs a couple of meters above current sea level, which serves as testament of previous sea level.
(5) Visitors to Curieuse can do a number of nature-based activities such as interaction with Giant tortoises, trail walking, mangrove exploration, swimming, snorkelling, diving and beach barbecue.

5.1.2. Issues

(1) It is claimed by certain stakeholders that there are not enough activities for visitors to do in the park.
(2) Not enough information is given to visitors about the Curieuse Marine National Park about its geology, history, habitats, ecological processes, conservation work being undertaken, etc., which results in visitors seeing things on the island but not realising their significance.
(3) The reception area is not attractive and wrongly located.
(4) There are no looped trails which necessitates visitors to walk the same trails back.
(5) Few visitors get the opportunity to see Coco-de-Mer in the wild as a result of accessibility.

5.1.3. General objectives and strategies

(1) Use tourism in the park as a source of sustainable financing to support the conservation of Curieuse Island and its Marine National Park.

Strategies

(1) Work with the Seychelles Tourism Board, Destination Management Companies and other local businesses to advertise Curieuse as a site for responsible tourism.
(2) Offer services, facilities and merchandise in the park that can increase revenue generation.

(2) Provide the best nature experience to visitors while keeping their impact on natural ecosystems to a minimum.

Strategies

(1) Enhance the learning experience and improve satisfaction of visitors to Curieuse.
(2) Improve facilities for visitors while keeping the island in its rustic state.
(3) Improve access of visitors to Curieuse to Coco-de-Mer in the wild.
(4) Improve management of park visitors and reduce visitor impact to natural ecosystems.

5.1.5. Additional measures to reduce the impact of tourism

In order to reduce the impact of tourism on the ecology of Curieuse the following measures will also be implemented:

(1) Construction of tourist facilities will only be allowed in locations identified as Rangers Quarters in the zoning plan.
(2) All initial landing on Curieuse Island will have to be done at Baie Laraie.
(3) Tourists are to keep to the terrestrial areas which have been labelled as Eco-tourism Zone on the terrestrial zoning plan.
(4) There is to be strict *No access* to the Strict Conservation Zone, apart from being accompanied by staff of SNPA or one of its authorised partners.
(5) Smoking on Curieuse Island is to be allowed only around Anse St. José and the Baie Laraie Rangers Quarters.
(6) Playing of loud music anywhere on the island is strictly prohibited.
(7) Anchors are to be used only in General Use Zones and designated Specific Use Zones and within these zones only in sandy areas.
(8) No standing on corals is allowed.
(9) All yachts and ships in the park should make use of their sewage holding tank and there should be no direct discharge of sewage in the park.
(10) No disturbance of nesting turtles is allowed.
(11) Sitting on the back of Giant tortoises is strictly prohibited.

6. Scientific research and monitoring

Scientific research and monitoring is an important part in the management of any protected area. In such sensitive areas, management is ultimately targeted at reducing the impacts of park operation on the natural environment and enhancing the quality of impacted ecosystems, habitats and species. In order to evaluate the extent to which management interventions have had the desired impact, it is important that the biology and ecology of different components of ecosystems are well understood. Targeted scientific research and long-term monitoring are important tools in improving our understanding. This section addresses the role of scientific research and monitoring in the management of the Curieuse Marine National Park. It highlights the values of scientific research and monitoring for the sites and explores issues related to this topic. Strategies are proposed on how scientific research and monitoring can be strengthened in support of science-based decision making.

6.1.1. Values

(1) The effective management of Curieuse Marine National Park will depend in part on the knowledge and understanding gained from scientific research and monitoring.
(2) Curieuse is a natural laboratory that offers opportunities for undertaking long-term research studies and environmental monitoring.
(3) There are a number of long-term research projects that are being undertaken in the park in collaboration with SNPA partners.
(4) Curieuse has visitor accommodation that often hosts local and international researchers and students undertaking scientific research.

6.1.2. Issues

(1) SNPA has low capacity and level of staffing to undertake research and habitat monitoring.
(2) The research being undertaken in the park is often dictated by external sources.
(3) There are not enough monitoring programmes focussing on the main habitats that need to be managed within the park.
(4) Results of scientific research are often not used to guide management planning within the park.
(5) Researchers often do not make research data and recommendations available to park management in a time frame that they could be of use.
(6) Rangers are not involved enough in scientific research and monitoring.
(7) Research data is scattered and there is no clear management of scientific research data.
(8) There is no database or server for the easy archiving and retrieval of research data.

6.1.3. General objectives

(1) Use data from research and monitoring to support the science-based decision making.

Strategies

(1) Make use of data from environmental research and monitoring to guide conservation efforts.
(2) Improve management of research and scientific data from the park.

(3) Build capacity of SNPA staff to undertake environmental and socio-economic research.

7. Park administration

The administration section based at the Head Office on Mahé provides support to the operation of the Curieuse Marine National Park. The administration section deals with all administrative and human resources issues. Effective administration will often translate into an empowered workforce that is able to portray the right image of SNPA. The organisational structure of the MPA can be found in Annex III. Fifteen staff are dedicated to operation of the Curieuse Marine National Park.

7.1.1. Values

(1) The staff that are working in the field in the Curieuse Marine National Park are supported in the background by an administrative team, which is based on Mahé Island.
(2) Effective administration would often translate into effective operation in the park.
(3) Strong corporate image portrays an image of professionalism and effectiveness.

7.1.2. Issues

(1) The level of staffing is not adequate to allow for a smooth running of the operation.
(2) There is high level of ranger staff turn-over.
(3) Staff often do not have the motivation to enforce the legislation of the park and feel that there is a lack of follow-up by the head office on compliance issues.
(4) There is a general feeling that SNPA is more interested in staff discipline than staff welfare.
(5) There is a lack of Standard Operating Procedure for staff to follow.
(6) SNPA staff are sometime not recognisable as they fail to wear uniforms while on duty and have no identification badges.
(7) At present SNPA does not have a good corporate image and there is a general lack of respect for the organisation by certain stakeholders.
(8) SNPA sites, assets, documents and staff cannot always be clearly identified and linked due to a lack of a consistently applied corporate image.

7.1.3. General objectives

(1) Operate the park in a professional and cost effective manner.

Strategies

(1) Ensure that the park has appropriate quality and quantity of staff to fully implement the management plan.
(2) Re-orientate rangers work towards conservation action, environmental monitoring, visitor interaction, patrol and enforcement.
(3) Improve SNPA's professionalism and appearance of frontline staff.

8. Training and capacity building

Training is the process of transferring particular skills or type of behaviour onto others. Capacity building on the other hand is the process of building abilities, relationships and values that will enable organisations, groups and individuals to improve their performance and achieve their development objectives. Training and capacity building contributes to improved effectiveness at organisational level. As staff turn-over in the National Parks is high it is important that there is a continuous programme for training and capacity building so that duties can be executed in the most effective and professional manner. Such effectiveness and professionalism will contribute to the portraying of a good image by SNPA.

8.1.1. Values

(1) Training is one of the basic ways in which people gather and make use of new knowledge.
(2) An appropriate training programme will provide staff with required skills and improve service delivery and effectiveness.
(3) Providing appropriate training and their application during work usually gives beneficiaries a sense of fulfilment and can be used as a staff retention strategy.
(4) Most training programmes can be delivered on a part-time basis and does not rely on staff being absent from work for continuous long periods.

8.1.2. Issues

(1) Rangers joining SNPA are presently not going through any formal training.

(2) The annual training programme is not targeted at the operational needs of staff.
(3) Much training in which rangers are participating is not in their priority requirement.
(4) Capacity which is available locally to deliver staff training is not being adequately utilised.
(5) Staff have little knowledge in environmental conservation.

8.1.3. General objectives

(1) To have a workforce which has the capacity to fully implement the management plan.

Strategies

(1) Develop competencies of staff in various core areas such as scientific monitoring, visitor interaction, enforcement, infrastructure maintenance.

9. Equipment, infrastructure and utilities

In addition to having the right conservation strategies in place and having highly trained staff it is important that the staff working in the Curieuse Marine National Park have the necessary equipment and infrastructure to do their job. Being a Marine National Park, it is imperative that the staff on Curieuse have the right quantity and quality of boats to perform transportation and surveillance duties. It is also important that the right infrastructure and utilities are put in place for the comfort of the staff. In building infrastructure SNPA should be mindful of the sensitivity of the area and not to extend the footprint of development too widely. Having appropriate utilities such as potable water and 24 hour electricity is a must as their absence could have strong repercussions on the management of the site. Low carbon options of electricity generation should be adopted.

9.1.1. Values

(1) Having appropriate equipment can make the difference between having effective or non-effective operations.
(2) Boats and engines are some of the most important equipment that the Curieuse Marine National Park has.
(3) Curieuse is a relatively undeveloped island with limited physical infrastructure.

(4) Electricity and access to potable water are seen as some of the basic requirements for comfortable living.
(5) Water and electricity make it possible to run the operation on Curieuse Island and are essential components in maintaining a high level of hygiene.

9.1.2. Issues

(1) There are not enough boats and engines for patrol and operation within the Curieuse Marine National Park.
(2) Many of the boats are old and require regular repair.
(3) Current accommodation infrastructure is in a dilapidated state with poor facilities.
(4) The ranger's quarters are wrongly located and are in the middle of the most visited site on the island.
(5) The reception area is not welcoming to visitors.
(6) There are no facilities for visitors to buy water, coffee and souvenirs on the island.
(7) The back of house area containing the stores is not large enough for current use.
(8) There is no electricity connection from Praslin to Curieuse and all electricity has to be produced on the island.
(9) The turning on and off of electricity affects the preservation of frozen food and poses a health risk to staff.
(10) There is no potable water on Curieuse and sometimes staff drink untreated water.

9.1.3. General objectives

(1) To ensure that management actions in the park are not affected by unavailability of proper equipment and that staff and visitors have a certain level of comfort.

Strategies

(1) Procure and make appropriate equipment available for staff to implement their duties.
(2) Improve the condition of visitor and staff infrastructure on Curieuse Island.
(3) Ensure that green electricity and local potable water is available on Curieuse Island at all times.

10. Performance Evaluation

Performance evaluation of this pan will be based on the Performance Measurement System (PMS) detailed in Section 13. The PMS lists the target(s) in terms of deliverables and timeline for each activity and the indicator which should be used to assess performance. Performance evaluation will be undertaken annually during the first quarter of each year and a report on its performance will be prepared for submission to the SNPA's Board of Directors by April of the following year. Ideally the evaluator should be someone independent of SNPA.

11. Review of the Plan

The plan will be reviewed annually (biannually during the first year) based on the performance evaluation with the objective of ensuring that lessons learnt are integrated in the way that the plan is implemented. By January 2022, the process should start to completely review the performance of this plan and to draft a new management plan for the Curieuse Marine National Park for the next implementation period.

12. Costed plan of implementation

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
Management of coral reefs and associated habitats						
3.1.3.(1)(1): Increase the number of mooring buoys available in the park and ensure that the mooring buoys maintenance plan is implemented to guarantee the safety of moorings.	- Preparation of mooring buoys action plan.	1,500				
	- Installation of mooring buoys.	200,000	100,000			
	- Maintenance of mooring buoys.	52,500	52,500	55,000	58,000	61,000
3.1.3.(1)(2): Provide anchoring areas for large boats and cruise ships away from coral reefs.	- Identify and designate anchoring sites for large boats and cruise ships.	2,000				
	- Communicate anchoring locations to local operators and United Kingdom Hydrographic Office (UKHO) for inclusion on navigation charts.	1,000				
3.1.3.(1)(3): Make use of smarter patrols and new technology such as drones to detect and mitigate incidences of anthropogenic damages to coral reefs.	- Drafting and approval of annual park surveillance plan.	2,000	2,000	2,000	2,000	2,000
	- Design a patrol report form with section of non-compliance to reef conservation measures.	500				
	- Regular patrols according to surveillance plan	182,500	192,000	202,000	211,000	222,000
	- Surveillance using new technology (e.g. drones).		20,000	2,000	22,000	2,000

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
	- Enforcement of 100% anchoring in sandy areas rule.	60,000	63,000	66,000	69,000	73,000
	- Introduce fix penalty for anchoring on coral reefs.		10,000			
3.1.3.(1)(4): Directly engage yacht rental companies to jointly find solutions to reduce anchor damage caused by yachts.	- Directly engage yacht rental companies and develop joint actions to limit anchor damage.	5,000	6,000	7,000	7,500	8,000
	- Preparation of new guidelines for yacht mooring and anchoring in the park.	4,000				
	- Preparation of awareness materials on mooring and anchoring procedures for yachts.	10,000				
	- Training on delivering environmental briefings to yacht operators and skippers.		20,000		25,000	
3.1.3.(2)(1): Monitor coral reefs and associated habitats and make use data to guide management planning.	- Implement coral reef and associated habitats monitoring programme.	30,000	31,500	33,000	35,000	36,500
	- Prepare an annual state of coral reefs around Curieuse MNP report.		7,400	7,700	8,100	8,500
3.1.3.(2)(2): Increase the number of coral reef focused research projects.	- Identify coral reef related research need of Curieuse MNP and communicate to interested parties.	4,000				
	- Advertise Curieuse as a site for undertaking coral reef focussed research	12,000	12,600	13,200	13,900	14,600

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
	- Compare the number of research projects under implementation in 2022 relative to 2017.					2,000
3.1.3.(2)(3): Change park users' behaviour through education, awareness and increased visibility.	- Prepare an education, awareness and visibility plan for Curieuse MNP.	10,000				
	- Implement the education, awareness and visibility plan.	180,000	189,000	198,000	208,000	219,000
3.1.3.(3)(1): Restore degraded reefs at socio-economically important sites of Anse Papaie and St. Pierre Island.	- Coral reef restoration and trial of different restorative techniques.	500,000	525,000	551,000	580,000	608,000
Management of mangrove areas						
3.2.3.(1)(1): Raise funds from multiple sources to repair the causeway.	- Set up a *Fund Raising Committee* to raise funds for reparation of the mangrove causeway.	4,000				
	- Prepare a fund raising strategy and implementation plan.	2,000				
	- Make use of SNPA trust fund for saving money raised by Fund Raising Committee for repair of causeway.	500				
	- Present causeway repair project to Government for financial support.	1,000				
	- Repair mangrove causeway.	1,500,000	1,500,000	1,000,000		

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
3.2.3.(1)(2): Rehabilitate the mangrove forest at Baie Laraie in collaboration with local partners.	- Prepare a Science Plan for mangrove rehabilitation.		2,000			
	- Drafting of agreement for signature with project partners.		1,000			
	- Mangrove replanting.	225,000	225,000	225,000	225,000	225,000
	- Removal of invasive species in mangrove forest.		40,000	35,000		
	- Improvement of water flow in the mangrove forest.		35,000	35,000		
3.2.3.(1)(3): Ensure the continuation of the mangrove monitoring program and the use of data collected to guide management planning.	- Biannual mangrove monitoring.	5,000	5,300	5,500	5,800	6,100
	- Analysis of mangrove monitoring data and preparation of annual report.		1,100	1,200	1,300	1,500
3.2.3.(1)(4): Reduce the amount of litter observed in mangrove areas.	- Prepare and install "*No littering*" signs at the start points along the mangrove trail.	15,000				
	- Install litter bins at the start of the mangrove trail.	3,000				
	- Fortnightly mangrove clean-ups.	7,500	7,900	8,300	8,700	9,100
	- Prepare section on littering to include in visitor briefing.		1,000			

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
3.2.3.(2)(1): Create opportunities for visitors to spend more time in the mangrove forest.	- Prepare and install information boards on interesting aspects of mangrove along the trail.		30,000			
3.2.3.(2)(2): Ensure safety of the mangrove board walk through regular maintenance and use of more durable materials.	- Drafting and approval of a costed Mangrove boardwalk maintenance plan	1,000				
	- Monthly mangrove boardwalk maintenance	10,000	10,500	11,000	11,500	12,100
Management of coastal forest and mountain landscapes						
3.3.3(1)(1) Provide opportunities for NGOs, civil society groups, research institutes, universities and local businesses interested in terrestrial habitat restoration and research to collaborate and participate in restoration activities.	- Approach partners on a one on one basis to reach agreement on collaboration regarding terrestrial restoration.	2,000				
	- Advertise Curieuse as a site where civil society groups can get involve in habitat restoration.	2,000	2,100	2,200	2,300	2,400
3.3.3(1)(2) Restore the coastal forest found in the *Restoration zone* through removal of unfavourable vegetation such as Cocoplum and coconut and replacement with native	- Production of native coastal broad-leaf seedlings in nursery.	100,000	105,000	110,000	116,000	122,000
	- Removal of unfavourable vegetation in identified sections of Restoration zones.	60,000	65,000	72,000	77,000	
	- Planting of new seedlings.	90,000	95,000	99,000	104,000	109,000

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
broadleaf coastal species.	- Construction of anti-tortoise barriers.	10,000	12,000	15,000	19,000	24,000
3.3.3.(1)(3) Restore the mountain landscape found in the *Restoration zone* using native drought tolerant plants.	- Production of native drought-tolerant seedlings in nursery.	100,000	105,000	110,000	116,000	122,000
	- Patch clearing of unfavorable vegetation.		60,000	65,000	72,000	77,000
	- Planting of drought tolerant plants seedlings.		99,000	104,000	109,000	115,000
3.3.3.(2)(1) Reduce the risk of bush fires by introducing measures to control the lighting of open fires, barbeque activities and smoking by staff and visitors.	- Prepare a fire preparedness plan for Curieuse Island.		35,000			
	- Ban smoking on the island apart from Baie Laraie and Anse St. Jose.		5,000			
	- Prepare and install "*No smoking*" signs at landing sites and starting points of trails.		6,000			
	- Introduce a policy of "*No open fire*" on Curieuse.	5,000				
	- Introduce policy to allow BBQ only at designated locations.	5,000				
Management of freshwater wetlands						
3.4.3.(1)(1) Collaborate with NGOs, research institutes and universities to study the biodiversity and ecology of Curieuse	- Prepare a strategy for wetland restoration that promotes the involvement of SNPA partners	1,500				
	- Approach partners on a one on one basis to reach agreement on			3,000	3,000	3,000

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
wetland habitats.	collaboration regarding freshwater wetlands restoration.					
	- Work with civil society groups to develop joint habitat restoration projects for funding.			5,000	5,000	5,000
	- Undertake detailed biological survey of all wetlands on Curieuse.		140,000	110,000	110,000	
3.4.3.(2)(1) Clear wetland areas of invasive species.	- Remove excess mangrove fern clogging up the wetland.		30,000	20,000		
	- Remove invasive Cocoplum around the edges of wetlands.		20,000	15,000		
3.4.3.(3)(1) Make wetlands at Baie Laraie and Anse Jose more accessible to visitors by improving access and providing space around them for rest and relaxation.	- Clear trails leading to wetlands, making them more accessible to visitors.		2,000			
	- Prepare information on freshwater wetlands to include in information materials produced.		4,000	4,000		
	- Prepare and install information boards to provide visitors information on wetlands			35,000		
	- Construct a wetland platform for visitors			50,000		
	- Construct benches along the sides of some freshwater wetlands where visitors can sit.		15,000			

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
Marine turtles						
3.5.3.(1)(1) Increase protection of the main turtle nesting beaches, especially during the Hawksbill turtle nesting season.	- Strict enforcement of "*No access to unauthorised persons*" on important turtle nesting beaches.	5,200	5,400	5,600	5,800	6,200
	- Maintain high presence of SNPA's staff and partners at turtle nesting beaches during the Hawksbill turtle nesting season.	5,200	5,400	5,600	5,800	6,200
3.5.3.(1)(2) Improve ease of nesting at Anse Papaie and Grand Anse.	- Gradual removal of unfavourable beach vegetation (e.g. casuarina, coconut) and replacement with nesting friendly coastal plants (e.g. *Scaevola taccada, Hernandia nymphiifolia, Tournefortia argentea, Ochrosia oppositifolia, Cordia subcordata*).	45,000	47,500	49,500		
	- Remove fallen trees on turtle nesting beaches within a week of first observation.	8,000	8,400	8,800	9,300	9,700
3.5.3.(1)(3) Reduce vulnerability of nests to beach erosion.	- Vulnerability mapping of different sections of important turtle nesting beaches.	2,000				
	- Relocate turtle nests facing high risk of destruction through coastal erosion.		4,700	5,000	5,200	5,600
3.5.3.(1)(4) Maintain high	- Monitor turtle nesting and nest success.	18,000	19,000	20,000	21,000	22,000

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
level of turtle monitoring and encourage targeted research.	- Targeted research on nesting turtles.	10,000	10,500	11,000	12,000	13,000
	- Prepare annual status of turtle nesting report.	7,000	7,400	7,700	8,100	8,500
Giant tortoises						
3.6.3.1.1: Secure tortoise nursery area and reduce loss of baby tortoise related to predation and theft to zero.	- Restrict accessibility of keys to the tortoise nursery.	500	500	500	500	500
	- Daily inspection of wire fencing around the tortoise nursery and repair of damages.	10,400	10,900	11,500	12,000	12,600
	- Install security lights and motion activated camera around the tortoise nursery.	20,000				
	- PIT tag all baby tortoises in the nursery.	1,400	1,500	1,550	1,600	1,700
	- Implement continuous rat eradication program around the Ranger's station.	25,000	25,000	25,000	20,000	20,000
3.6.3.1.2: Increase the number of baby tortoises collected from the wild and transferred to the nursery.	- Implement a program for early identification of tortoise nests	10,400	10,900	11,500	12,000	12,600
	- Undertake patrols in other areas (e.g. Grand Anse and Badamier) where tortoise can be nesting to detect and collect baby tortoises when hatchlings starts being recorded at Baie Laraie.	9,000	9,500	9,900	10,400	10,900
	- Raise awareness of visitors for them to collect baby tortoises they observe in	15,000	10,000	10,000	5,000	5,000

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
	the wild and bring to ranger stations					
	- Put in place a system of incentive for staff to encourage them to look out for baby tortoises in the wild.	10,000	10,000	10,000	10,000	10,000
Coco-de-mer						
3.7.3.(1)(1) Establish a long-term Coco-de-mer planting programme.	- Establish a section in the Curieuse nursery for the germination of Coco-de-mer seeds.	6,000				
	- Annual planting of Coco-de-mer seeds.		60,000	65,000	72,000	77,000
3.7.3.(2)(1) Collaborate with other local and international partners and scientists to monitor and undertake targeted research on the biology of Coco-de-mer to improve the understanding and conservation of this species.	- Sign agreements and prepare action plans for collaboration with local and international partners on Coco-de-mer research.	3,000	3,000	4,000	4,000	4,500
	- Implementation of research projects targeted at understanding the biology and ecology of Coco-de-mer.	40,000	50,000	60,000	60,000	75,000
3.7.3.(2)(2) Make use of new technology such as drones to undertake scientific monitoring of Coco-de-mer.	- Prepare new protocol for monitoring of Coco-de-mer based on new technologies.	2,000	2,000			
	- Monitoring of Coco-de-mer based on use of new technologies.			25,000	25,000	30,000
3.7.3.(2)(3) Establish a	- Preparation of protocol for long-term monitoring of Coco-de-mer.	2,000				

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
long-term monitoring programme based on a sub-sample of Coco-de-mer trees.	- Monitoring of Coco-de-mer.	25,000	25,000	30,000	30,000	35,000
3.7.3.(3)(1) Make use of new technology such as drones to improve surveillance of Coco-de-mer forest.	- Purchase drones for surveillance missions.		30,000			
	- Prepare a plan for use of drones for surveillance.		10,000			
	- Organise training for rangers on the use of drones for park surveillance.		8,000			
3.7.3.(3)(2) Encourage members of the public to report known or suspected Coco-de-mer poaching incidences.	- Organise a media campaign, making use of various media forms to raise the awareness of the general public on the need to report known or suspected Coco-de-mer poaching incidences.	20,000	35,000			
History and heritage						
4.1.3.(1)(1): Prevent further degradation of historical and heritage sites through upkeep, maintenance and restoration where required in partnership with NHF.	- Development of indicators to assess level of upkeep of historical and heritage sites.		5,000			
	- Maintenance of all cultural and heritage sites.		12,000	12,600	13,200	13,900
4.1.3.(2)(1): Improve access to all historical and	- Clear vegetation and make all historical and heritage sites accessible to visitors.		10,000			

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
heritage sites on Curieuse Island.	- Maintain the grounds around all historical and heritage sites.		25,000	5,000	7,000	9,000
	- Provide directions along trails to historical and heritage sites.		5,000			
4.1.3.(2)(2): Make information on historical and heritage sites of Curieuse Island more accessible to visitors and the general public.	- Hire a consultant to collate and write up previously unknown history of Curieuse Island.		50,000			
	- Prepare short articles and or scripts on the history of Curieuse Island for inclusion in awareness and visibility products to be prepared by SNPA.		8,000	4,000		
	- Prepare and install information boards at historical and heritage sites to provide background information to visitors		45,000	45,000		
Nature tourism						
5.1.3.(1)(1): Work with the Seychelles Tourism Board (STB), Destination Management Companies (DMCs) and other local businesses to advertise Curieuse as a site for responsible tourism.	- Participate in tourism advertising campaigns and contribute to promotional materials commissioned by STB.	20,000	20,000	30,000	30,000	35,000
	- Prepare business card like advertising materials for Curieuse and place in hotels and guest houses on Praslin.	20,000				
	- Improve link of STB and local DMCs websites to that of Curieuse.	3,000	3,000			
5.1.3.(1)(2): Offer	- Prepare a list of services and facilities	1,000				

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
services, facilities and merchandise in the park that can increase revenue generation.	which can easily be offered to visitors at Curieuse for a fee.					
	- Actively encourage small businesses to prepare merchandises targeted at Curieuse.	10,000				
5.1.3.(2)(1): Enhance the learning experience and improve satisfaction of visitors to Curieuse.	- Produce an informative documentary covering all aspects of the Curieuse experience.		60,000			
	- Daily showing of Curieuse documentary at set times in the Doctor's House.		73,000	77,000	80,000	85,000
	- Prepare guidelines and accreditation system for private guides working on Curieuse Island.		40,000			
	- Re-develop interpretation in key languages for trails relating to flora, fauna, and places of interest, particularly at view-points and natural stopping points.		40,000	40,000	30,000	
	- Assess visitor experience and satisfaction in 2018 and 2022.	4,000				4,000
5.1.3.(2)(2): Improve facility for visitors while keeping the island in its rustic state.	- Re-plan and develop the BBQ and picnic facilities at Baie Laraie and Anse St José.	300,000	200,000	150,000		
	- Construct smaller picnic benches for lunch under the trees.		30,000			

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
	- Construct kiosks along trails where visitors can rest.			160,000	80,000	
5.1.3.(2)(1): Improve access of visitors to Curieuse to Coco-de-mer in the wild.	- Open up of new trail to the top of Pointe Figaro.			40,000		
5.1.3.(2)(4) Improve management of park visitors and reduce visitor impact to natural ecosystems.	- Develop offsite and online payment methods and high visibility bracelets to improve verification.	60,000	40,000			
	- Introduce a policy for all yachts in the park to make use of holding tank.	4,000				
	- Introduce a policy for all yachts in the park to make use of holding tank.		2,000			
	- Design plan for monitoring use of holding tanks by yachts in the park.		40,000			
	- Prepare and install information boards with Dos and Don'ts while in the park.		2,000			
Scientific research and monitoring						
6.1.3.(1)(1) Make use of data from environmental research and monitoring to guide conservation efforts.	- Prepare a prioritised research plan for Curieuse MNP.	10,000				
	- Implement home-grown priority research projects with the involvement of rangers.	240,000	250,000	265,000	278,000	292,000
	- Establish and implement a monitoring programme for the main habitats	65,000	68,000	72,000	75,000	79,000

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
	under management.					
	- Set up *Advisory Scientific Committee* to advise the CEO on scientific matters.	2,000				
	- Undertake annual review of scientific research carried out in the park.	7,000	7,400	7,700	8,100	8,500
6.1.3.(1)(2): Improve management of research and scientific data from the park.	- SNPA's legal person draft a research agreement for undertaking of research in the Marine National Parks.	20,000				
	- Signing of research agreement with all external partners working in the park.	1,000	1,000	1,000	1,000	1,500
	- Prepare guidelines for the management of scientific data.	5,000				
	- Purchase and set-up ICT infrastructure to manage scientific data.	20,000	50,000			
6.1.3.(1)(3): Build capacity of SNPA staff to undertake environmental and socio-economic research.	- Partner with local NGOs, universities and international research institutes and regional bodies to build scientific research capacity.	100,000	100,000	125,000	125,000	125,000
	- Organise short courses in marine and terrestrial habitat monitoring.	75,000	75,000	80,000	80,000	80,000
Park administration						
7.1.3.(1)(1): Ensure that the park has appropriate	- Assess the workforce requirement for implementation of the Curieuse management plan	10,000				

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
quality and quantity of staff to fully implement the management plan.	- Initiate work with DPA to increase the amount of rangers on SNPA's nominal role	3,000				
	- Recruit a Project Officer level staff to oversee implementation of projects on Curieuse		192,000	195,000	198,000	201,00
7.1.3.(1)(2): Re-orientate rangers work towards conservation action, environmental monitoring, visitor interaction, patrol and enforcement.	- Put in place a system to remove revenue collection as a main component of rangers work.	25,000				
	- Integrate rangers in all activities taking place in the National Park.		12,000	13,500	15,000	18,000
7.1.3.1.3: Improve SNPA's professionalism and appearance of frontline staff.	- Prepare an employee handbook to communicate company values, policies, perks, procedures, etc.. to all staff.	25,000				
	- Prepare Standard Operating Procedure for Curieuse MNP.		40,000			
	- Prepare guidelines for staff appearance in relation to the corporate image.	10,000				
	- Issue all rangers with uniform and identification badge upon joining SNPA.	25,000	3,000	5,000	4,000	7,000
	- Undertake regular spot checks to ensure that staff are abiding to SNPA policies.	12,000	12,000	12,000	12,000	12,000

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
	- Brand all SNPA boats, vehicles, equipment, templates and clothing in line with the corporate image.	240,000	50,000	50,000	50,000	50,000
Training and capacity building						
8.1.3.(1)(1): Develop competencies of staff in various core areas such as scientific monitoring, visitor interaction, enforcement, infrastructure maintenance.	- Prioritize training needs and prepare annual training plans.	4,000	4,500	5,000	6,000	7,500
	- Design training programme for different level of competencies among rangers.			80,000		
	- Implement training programme for different level of competencies among rangers.			25,000	27,000	30,000
	- Prepare an induction training manual for rangers.		30,000			
	- Organize annual refresher training courses for all rangers.		40,000	42,000	44,000	46,000
	- Organize full induction training course for all rangers joining SNPA.		40,000	42,000	44,000	46,000
8.1.3.1.2: Collaborate with other local park management organisations with similar capacity building requirements to organise joint trainings.	- Organise annual inter-organisation meeting to agree on trainings that can be conducted jointly and agree on timeline and contribution.		1,000	1,000	1,000	1,000
	- Organise joint training sessions with other MPA management organisations.		70,000	60,000	30,000	30,000
Equipment, infrastructure and utilities						

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
9.1.3.(1)(1): Procure and make appropriate equipment available for staff to implement their duties.	- Prepare a policy for boat and engine maintenance with a costed plan for updating SNPA's boat fleet.	2,000				
	- Replace old SNPA boats and engines being used at Curieuse	900,000	650,000	240,000		
	- Implement a pro-active maintenance plan for boats and engines.	90,000	30,000	40,000	42,000	44,000
	- Purchase essential working equipment and issue to staff.	60,000	30,000	66,000	32,000	73,000
9.1.3.(1)(2): Improve the condition of visitor and staff infrastructure on Curieuse Island.	- Contract draught man project manager to do a master plan for the infrastructural re-development of the high use areas on Curieuse Island	75,000				
	- Re-locate the ranger's quarters to the area where the current visitor's house is located.			4,000,000	3,500,000	
	- Construct a new reception area, cafeteria and souvenir shop at Baie Laraie.		4,000,000			
	- Construct new back of house area.	1,100,000	1,1000,000			
	- Build common area for rangers				1,500,000	
	- Repair existing rangers' accommodation and turn it into accommodation for short-term visitors (first floor) and as an administrative					500,000

Strategies	Activities	Implementation period				
		2018	2019	2020	2021	2022
	block (ground floor).					
	- Extend the mangrove board walk on its southern end so that it can link to the causeway as it did originally.					600,000
	- Put in place a cost-recovery strategy for barbeque related infrastructure on Curieuse.		5,000			
	- Undertake a study to look at the feasibility for installing a pontoon on the beach at Baie Laraie.	15,000				
9.1.3.(1)(3): Ensure that green electricity and local potable water is available on Curieuse Island at all times.	- Setup photovoltaic system that meets all energy requirements of the island.	2,000,000	1,000,000			
	- Install diesel generators as back-up to photovoltaic system.			120,000		
	- Connect an undersea water pipe between Praslin and Curieuse.			1,500,000		
	- Improve freshwater collection and distribution facilities.			60,000		
TOTAL (SCR)		**9,230,500**	**12,126,800**	**10,722,050**	**8,844,600**	**4,631,300**

13. Budget summary

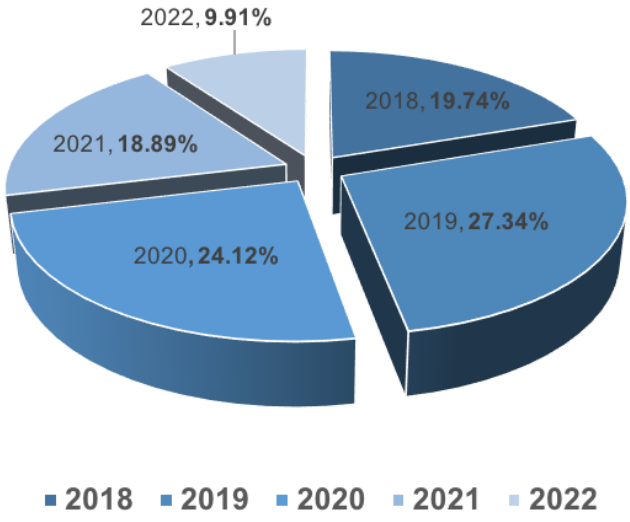
The total budget for the implementation of this management plan is calculated at **SCR 46,950,350** for the 2018 to 2022 period. Table 1 summarises the budget by heading whereas Figure 3 illustrate the expected annual repartition.

Budget will come from various sources including:

1. The SNPA's recurrent and capital budget provided by the Government of Seychelles at the start of each fiscal year;
2. A new agreement to be signed between SNPA and the Seychelles Government for SNPA to keep part of the budget that it raises as part of its operation (mostly from park entry fees) for improving the infrastructure in the Curieuse Marine National Park;
3. Funds from the new coral reef restoration project entitled "*Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future*" which is expected to be funded by the Global Environment Facility (GEF) in 2018.
4. Various donor funded projects which are currently being implemented or are expected to be implemented within the Curieuse Marine National Park during the next five years (e.g. EDGE funded terrestrial restoration project, EbA South Project, etc.).

Table 3: Estimated budget (SCR) for the implementation of the Curieuse Marine National Park management plan (2018- 2022) by headings.

Headings	Budget (2018 - 2022) (SCR)
Management of coral reefs and associated habitats	6,021,000
Management of mangrove areas	5,459,900
Management of coastal forest and mountain landscapes	2,692,000
Management of freshwater wetlands	580,500
Marine turtles	460,300
Giant tortoises	404,750
Coco-de-mer	917,500
History and heritage	269,700.00
Nature tourism	1,813,000
Scientific research and monitoring	2,800,200
Park administration	1,300,500
Training and capacity building	757,000
Equipment, infrastructure and utilities	23,374,000
GRAND TOTAL	**46,950,350**



Year	Budget (SCR)
2018	9,269,600.00
2019	12,835,400.00
2020	11,325,050.00
2021	8,867,100.00
2022	4,653,200.00
TOTAL	**46,950,350.00**

Figure 3: Annual budget repatriation for the implementation of the Curieuse Marine National Park management plan (2018- 2022).

14. Performance Measurement System (PMS)

Headings	Strategies	Activities	Target	Performance Indicator
Management of coral reef habitats	3.1.3(1)(1) Increase the number of mooring buoys available in the park and ensure that the maintenance plan is implemented to guarantee the safety of moorings.	Drafting and approval of a costed *Mooring buoys action plan* (inclusive of maintenance plan)	Mooring buoys action plan approved by June 2018.	Approved *Mooring buoys action plan* in use
		Installation of mooring buoys.	Total of 30 mooring buoys installed and in use by December 2018.	Percentage of mooring buoys installed and in use relative to target
		Maintenance of mooring buoys.	Biannual maintenance of all mooring buoys.	Percentage of buoys maintained in each 6 months
	3.1.3(1)(2) Provide anchoring areas for large boats and cruise ships away from coral reefs.	Identify and designate anchoring sites for large boats and cruise ships.	GPS positions for the 2 anchoring locations identified by August 2018.	Report to CEO with recommendations for the 2 anchoring locations.
		Communicate anchoring locations to local operators and United Kingdom Hydrographic Office (UKHO) for inclusion on navigation charts.	Communication sent to UKHO by December 2018.	GPS positions of identified anchoring locations communicated and confirmation of receipt received.
	3.1.3(1)(3) Make use of smarter patrols and new technology to detect and mitigate incidences of anthropogenic damages to coral reefs.	Drafting and approval of annual park surveillance plan.	Plan submitted by October and approved by December of the previous year.	Plan being submitted and approved by target months
		Design a patrol report form with section of non-compliance to reef conservation measures.	Patrol report form drafted by September 2018.	Patrol report form with reef conservation section drafted by target date
		Regular boat patrols according to surveillance plan.	100% of planned patrols hours undertaken according to surveillance plan executed.	Percentage of actual patrol hours undertaken against planned patrol hours

Headings	Strategies	Activities	Target	Performance Indicator
		Surveillance using new technology (e.g. drones).	At least one new technology-based surveillance system tested and in use by December 2019.	Number of technology-based surveillance system
		Enforcement of 100% anchoring in sandy areas rule.	100% of anchors in sandy areas by last quarter of 2019.	Percentage of anchors dropped in sandy areas
		Introduce fix penalty for anchoring on coral reefs.	New regulations gazetted by December 2019.	Whether new regulations have been gazetted or not.
	3.1.3(1)(4) Directly engage yacht rental companies to jointly find solutions to reduce anchor damage caused by yachts.	Directly engage yacht rental companies and develop joint actions to limit anchor damage	At least two group meetings per year starting in 2018.	Percentage of number of meetings held relative to target
		Preparation of new guidelines for yacht mooring and anchoring in the park.	Guidelines prepared, discussed with stakeholders and approved by December 2018.	Approved guidelines
		Preparation of awareness materials on mooring and anchoring procedures for yachts.	Laminated leaflet on all rented yachts providing clear procedures for using mooring buoys and anchoring in the park	Whether the leaflet was produced or not.
		Training on delivering environmental briefings to yacht operators and skippers.	Two trainings organised in 2019 and 2021.	Whether annual training undertaken or not, Briefing manual.
	3.1.3.(2)(1) Monitor coral reefs and associated habitats and make use data to guide management planning.	Implement coral reef and associated habitats monitoring programme.	At least 10 sites (within and around the park) being monitored annually by 2020.	Percentage of sites being monitored annually relative to target.
		Prepare an annual state of coral reefs around Curieuse MNP report	State of Curieuse coral reef report prepared annually by April starting 2021.	Availability of state of coral reef report by target date.
	3.1.3.(2)(2) Increase the	Identify coral reef related	Research need of Curieuse	Research need compilation

Headings	Strategies	Activities	Target	Performance Indicator
	number of coral reef focused research projects.	research need of Curieuse MNP and communicate to interested parties.	identified and communicated to interested parties by December 2018	and evidence of communication to interested parties.
		Advertise Curieuse as a site for undertaking coral reef focussed research	Advertisement using at least one media.	Number of advertisements made.
		Compare the number of research projects under implementation in 2022 relative to 2017	Double the number of coral reef research projects by 2022.	Percentage increase in the number of coral reef focused research project over 2017 level.
	3.1.3(2)(3) Change park users' behaviour through education, awareness and increased visibility.	Prepare an education, awareness and visibility plan for Curieuse MNP.	*Education, awareness and visibility plan* to be approved and start implementation by December 2018	Plan approved and starting implementation by target date.
		Implement the education, awareness and visibility plan.	At least 4 Curieuse specific education, awareness and visibility activities organised per year.	Number of activities organised per year relative to target.
	3.1.3.(3)(1) Restore degraded reefs at socio-economically important sites of Anse Papaie and St. Pierre Island.	Coral reef restoration and trial of different restorative techniques.	Two sites restored by 2022.	Number of sites and reef area restored by target date.
Management of mangrove areas	3.2.3.(1)(1) Raise funds from multiple sources to repair the causeway.	Set up a *Fund Raising Committee* to raise funds for reparation of the mangrove causeway.	Fund Raising Committee set-up and having first meeting by June 2018.	Whether meeting of the Committee was held, Committee's Terms of Reference.
		Prepare a fund raising strategy and implementation plan.	Fund raising strategy and implementation plan prepared by December 2018.	Availability of fund raising strategy and implementation plan by target date.

Headings	Strategies	Activities	Target	Performance Indicator
		Make use of SNPA trust fund for saving money raised by Fund Raising Committee for repair of causeway.	First contribution raised and banked by December 2018.	Account statement/
		Present causeway repair project to Government for financial support.	Presentation to Government by August 2018.	Government decision to project concept
		Repair mangrove causeway.	Causeway repaired by December 2022.	
	3.2.3.(1)(2) Rehabilitate the mangrove forest at Baie Laraie in collaboration with local partners.	Prepare a Science Plan for mangrove rehabilitation.	Science plan drafted and approved by June 2019	Approved Science Plan
		Drafting of agreement for signature with project partners.	Draft agreement available by June 2019	Draft agreement
		Mangrove replanting.	300 seedlings surviving 1st year of planting annually from 2020	Number of seedlings surviving 1st year of planting in relation to target
		Removal of invasive species in mangrove forest.	80% of mangrove area covered by invasive plant species cleared by 2020.	Percentage of area covered by invasive plant species cleared in relation to target
		Improvement of water flow in the mangrove forest.	4 trenches dug at key locations in the mangrove to improve water flow by 2020.	Number of trenches dug in relation to target
	3.2.3.(1)(3) Ensure the continuation of the mangrove monitoring program and the use of data collected to guide management planning.	Biannual mangrove monitoring.	100% monitoring of all survey plots biannually from 2018.	Percentage of survey plots monitored biannually
		Analysis of mangrove monitoring data and preparation of annual report.	Yearly data analysis and report from 2019.	Number of years for which report is available

Headings	Strategies	Activities	Target	Performance Indicator
	3.2.3.(1)(4) Reduce the amount of litter observed in mangrove areas.	Prepare and install "*No littering*" signs at the start points along the mangrove trail.	Two information boards erected prompting visitors not to litter at the start of the mangrove trail by the end of 2018.	Number of information board erected in relation to target
		Install litter bins at the start of the mangrove trail.	Two litter bins installed at the start of the mangrove trail by the end of 2018.	Number of litter bins installed in relation to target
		Fortnightly mangrove clean-ups.	Two mangrove clean-ups organized per month starting June 2018.	Number of mangrove clean-ups organised in relation to target, fortnightly weight of litter collected from mangrove.
		Prepare section on littering to include in visitor briefing.	Guidelines of contents to include in briefing to visitors landing of Curieuse.	Section in the guidelines prompting visitors not to litter
	3.2.3.(2)(1) Create opportunities for visitors to spend more time in the mangrove forest.	Prepare and install information boards on interesting aspects of mangrove along the trail	At least 10 information boards erected along the mangrove trail by 2019	Number of information board erected in relation to target
	3.2.3.(2)(2) Ensure safety of the mangrove board walk through regular maintenance.	Drafting and approval of a costed *Mangrove boardwalk maintenance plan*.	*Mangrove boardwalk maintenance plan* approved by June 2018	Approved *Mangrove boardwalk maintenance plan* in use
		Monthly mangrove boardwalk maintenance.	100% of planks on the boardwalk in place and safe to walk on	Log of monthly repair activities

Headings	Strategies	Activities	Target	Performance Indicator
Management of coastal forest and mountain landscapes	3.3.3(1)(1) Provide opportunities for NGOs, civil society groups, research institutes, universities and local businesses interested in terrestrial habitat restoration and research to collaborate and participate in restoration activities.	Approach partners on a one on one basis to reach agreement on collaboration regarding terrestrial restoration.	At least 3 agreements reached with partners by December 2020.	Number of agreements signed by December 2020 in relation to target.
		Advertise Curieuse as a site where civil society groups can get involve in habitat restoration	At least one targeted advert per year between 2019 and 2022.	Number of targeted adverts made against target within the four years.
	3.3.3(1)(2) Restore the coastal forest found in the *Restoration zone* through removal of unfavourable vegetation such as Cocoplum and coconut and replacement with native broadleaf coastal species.	Production of native coastal broad-leaf seedlings in nursery.	500 seedling produced per year starting 2018.	Number of seedlings produced per year in relation to target.
		Removal of unfavourable vegetation in identified sections of Restoration zones.	100% removal of unfavorable vegetation in identified sections of Restoration zones by 2021.	Percentage of unfavourable vegetation removed in identified sections against target.
		Planting of new seedlings.	500 seedlings planted per year starting	Number of seedlings planted per year in relation to target.
		Construction of anti-tortoise barriers.	All seedlings planted protected from tortoise grazing	Number of seedlings planted protected by anti-tortoise barriers against target.
	3.3.3.(1)(3) Restore the mountain landscape found in the *Restoration zone* using native drought tolerant plants.	Production of native drought-tolerant seedlings in nursery.	500 seedling produced per year as from 2018.	Number of seedlings planted per year in relation to target.
		Patch clearing of unfavorable vegetation.	500 patches cleared per year as from 2019	Number of patches with unfavourable vegetation cleared per year in relation to target.
		Planting of drought tolerant plants seedlings.	500 seedlings planted per year as from 2019	Number of drought tolerant seedlings planted per year in relation to target.

Headings	Strategies	Activities	Target	Performance Indicator
	3.3.3.(2)(1) Reduce the risk of bush fires by introducing measures to control the lighting of open fires, barbeque activities and smoking by staff and visitors.	Prepare a fire preparedness plan for Curieuse Island.	Fire preparedness plan approved by June 2019.	Plan approved by target date.
		Ban smoking on the island apart from Baie Laraie and Anse St. Jose	Regulation to ban smoking in designated areas on Curieuse gazette by June 2019	Whether regulation to ban smoking was gazette by June 2019
		Prepare and install "*No smoking*" signs at landing sites and starting points of trails	Four information boards providing information on the smoking ban erected at Anse St. Jose and Baie Laraie by June 2019	Number of information board erected at the two landing sites and at the start of the mangrove trail by June 2019
		Introduce a policy of "*No open fire*" on Curieuse	Policy introduced by December 2018	Policy introduced by target date
		Introduce policy to allow BBQ only at designated locations	Policy introduced by December 2018	Policy introduced by target date
Management of freshwater wetlands	3.4.3.(1)(1) Collaborate with NGOs, research institutes and universities to study the biodiversity and ecology of Curieuse wetland habitats.	Prepare a strategy for wetland restoration that promotes the involvement of SNPA partners.	Strategy prepared by September 2018.	Strategy completed by targeted time frame.
		Approach partners on a one on one basis to reach agreement on collaboration regarding freshwater wetlands restoration.	At least 3 partnership agreements signed by December 2021.	Number of partnership agreements signed and implemented.
		Work with civil society groups to develop joint habitat restoration projects for funding.	At least one joint project developed and funded per year from 2020.	Number of joint projects funded per year.
		Undertake detailed biological survey of all wetlands on Curieuse.	Detailed biological survey of main wetland at Baie Laraie and Anse St. Jose undertaken	Availability of survey report.

Headings	Strategies	Activities	Target	Performance Indicator
			by December 2020.	
	3.4.3.(2)(1) Clear wetland areas of invasive species.	Remove excess mangrove fern clogging up the wetland.	Remove 50% of mangrove fern from wetland area by 2021	Percentage of mangrove fern removed in relation to target
		Remove invasive Cocoplum around the edges of wetlands.	Remove 100% of Cocoplum around the edge of wetlands by end of 2021	Percentage of Cocoplum removed in relation to target
	3.4.3.(3)(1) Make wetlands at Baie Laraie and Anse Jose more accessible to visitors by improving access and providing space around them for rest and relaxation.	Clear trails leading to wetlands, making them more accessible to visitors.	Trails leading to main wetlands at Baie Laraie and Anse Jose cleared by December 2018	Number of freshwater wetlands easily accessible
		Prepare information on freshwater wetlands to include in information materials produced.	At least three information and awareness materials produced containing information on wetlands by December 2020	Number of information and awareness materials produced with information on wetlands in relation to target
		Prepare and install information boards to provide visitors information on wetlands.	At least two information boards with information on wetland ecology erected by December 2020	Number of information boards erected around the edge of wetlands in relation to target
		Construct a wetland platform for visitors.	At least one wetland platform constructed by December 2020	Number of wetland platform constructed in relation to target
		Construct benches along the sides of some freshwater wetlands where visitors can sit.	At least three benches constructed around the edge of wetlands by December 2020	Number of benches constructed in relation to target
Marine turtles	3.5.3.(1)(1) Increase protection of the main turtle nesting beaches, especially during the Hawksbill turtle nesting season.	Strict enforcement of "*No access to unauthorised person*" on important turtle nesting beaches.	100% compliance with "*No access to unauthorised person*" on turtle nesting beaches at Anse Papaie, Badamier and Grand Anse by December 2019	Number of unauthorized persons recorded on the on turtle nesting beaches at Anse Papaie and Grand Anse

Headings	Strategies	Activities	Target	Performance Indicator
		Maintain high presence of SNPA's staff and partners at turtle nesting beaches during the Hawksbill turtle nesting season.	Presence of rangers, scientists and volunteers on the turtle nesting beaches at least 5 days per week by December 2019	Number of days of SNPA presence on turtle nesting beaches in relation to target
	3.5.3.(1)(2) Improve ease of nesting at Anse Papaie and Grand Anse.	Gradual removal of unfavourable beach vegetation (e.g. casuarina, coconut) and replacement with nesting friendly coastal plants (e.g. *Scaevola taccada, Hernandia nymphiifolia, Tournefortia argentea, Ochrosia oppositifolia, Cordia subcordata*).	80% of casuarina and coconut trees removed on the beaches at Anse Papaie and Grand Anse by December 2020 200 turtle friendly coastal plants planted at Anse Papaie and Grand Anse by December 2020	Percentage of casuarina and coconut trees removed in relation to target Number of turtle friendly coastal plants planted
		Remove fallen trees on turtle nesting beaches within a week of first observation.	100% removal of fallen trees within one week of observation by June 2019	Percentage of fallen trees on the turtle nesting beaches removed within one week of first observation
	3.5.3.(1)(3) Reduce vulnerability of nests to beach erosion.	Vulnerability mapping of different sections of important turtle nesting beaches.	Vulnerability map for the beach of Anse Papaie and Grand Anse produced by June 2019	Map of vulnerability index produced by target date
		Relocate turtle nests facing high risk of destruction through coastal erosion.	80% of nests in vulnerable locations relocated by 2021	Percentage of vulnerable nests relocated in relation to target
	3.5.3.(1)(4) Maintain high level of turtle monitoring and encourage targeted research.	Monitor turtle nesting and nest success.	Data collected on 80% of turtle nesting attempts by 2018	Percentage of nesting attempts on which data is collected relative to target level
		Targeted research on nesting turtles.	At least 2 targeted research on nesting turtles undertaken by	Number of targeted research projects undertaken relative

Headings	Strategies	Activities	Target	Performance Indicator
			2022	to target level
		Prepare annual status of turtle nesting report.	Annual report of nesting activity as from 2018	Annual reports produced
Giant tortoises	3.6.3.(1)(1) Secure tortoise nursery area and reduce loss of baby tortoise related to predation and theft to zero.	Restrict accessibility of keys to the tortoise nursery.	Restricted accessibility implemented by January 2018	Accessibility of keys restricted by target date
		Undertake weekly census of baby tortoises in the nursery	52 weekly censuses of tortoises in the nursery undertaken annually starting from 2018	Number of weekly censuses undertaken in relation to target
		Daily inspection of wire fencing around the tortoise nursery and repair of damages.	Daily inspection of baby tortoise nursery undertaken starting from 2018	Number of inspections undertaken relative to target level
		Install security lights and motion activated camera around the tortoise nursery.	A security light and motion activated camera installed by December 2018	Installation completed by December 2018
		PIT tag all baby tortoises in the nursery.	100% of baby tortoises in nursery PIT tagged by January 2018	Percentage of baby tortoises PIT tagged in relation to target
		Implement continuous rat eradication program around the Ranger's station.	25 bait stations in continuous operation by June 2018	Number of bait stations deployed and in active use
	3.6.3.(1)(2) Increase the number of baby tortoises collected from the wild and transferred to the nursery.	Implement a program for early identification of tortoise nests.	Programme in operation by June 2018	Number of tortoise nest identified in 2018
		Undertake patrols in other areas (e.g. Grand Anse) where tortoise can be nesting to detect and collect baby tortoises when hatchlings starts being recorded at Baie Laraie.	Two patrols undertaken per week during hatching period by January 2019.	Number of patrols undertaken per week against target.

Headings	Strategies	Activities	Target	Performance Indicator
		Raise awareness of visitors for them to collect baby tortoises they observe in the wild and bring to ranger stations.	At least 4 awareness materials produced for Curieuse containing information about baby tortoises in the wild that encourage visitors to collect them and hand them over at the ranger stations by 2019.	Number of awareness materials produced with such information against tarhet by December 2019.
		Put in place a system of incentive for staff to encourage them to look out for baby tortoises in the wild.	Agreed incentive for collection of baby tortoises in the wild approved by SNPA CEO by December 2018.	Incentive agreed by target date and being implemented.
Coco-de-mer	3.7.3.(1)(1) Establish a long-term Coco-de-mer planting programme.	Establish a section in the Curieuse nursery for the germination of Coco-de-mer seeds.	Nursery establish with the capacity of germinating 60 Coco-de-mer seeds per year by June 2019	Holding capacity of Coco-de-mer section of the nursery against target.
		Annual planting of Coco-de-mer seeds.	20% of all Coco-de-mer seeds collected planted per year starting 2019.	Percentage of Coco-de-mer seeds planted per year against target.
	3.7.3.(2)(1) Collaborate with other local and international partners and scientists to monitor and undertake targeted research on the biology of Coco-de-mer to improve the understanding and conservation of this species.	Sign agreements and prepare action plans for collaboration with local and international partners on Coco-de-mer research.	At least two research agreements signed by December 2020.	Number of research agreements signed against target.
		Implementation of research projects targeted at understanding the biology and ecology of Coco-de-mer.	At least one Coco-de-mer dedicated research project under implementation per year starting 2018.	Number of Coco-de-mer targeted research projects implemented per year.
	3.7.3.(2)(2) Make use of new technology such as drones to undertake scientific	Prepare new protocol for monitoring of Coco-de-mer based on new technologies.	At least one protocol for monitoring of Coco-de-mer using new technology prepared, tested and approved by	Monitoring protocol approved by target date.

Headings	Strategies	Activities	Target	Performance Indicator
	monitoring of Coco-de-mer.		December 2019.	
		Monitoring of Coco-de-mer based on use of new technologies.	At least one Coco-de-mer monitoring programme based on the use of new technology in place and operational by December 2020.	Number of monitoring programme(s) based on new technology operational.
	3.7.3.(2)(3) Establish a long-term monitoring programme based on a sub-sample of Coco-de-mer trees.	Preparation of protocol for long-term monitoring of Coco-de-mer.	Monitoring protocol prepared, tested and approved by December 2018.	Monitoring protocol approved by target date.
		Monitoring of Coco-de-mer	At least one monitoring session organised annually	Number of Coco-de-mer monitoring session organised annually
	3.7.3.(3)(1) Make use of new technology such as drones to improve surveillance of Coco-de-mer forest.	Purchase drones for surveillance missions.	Two drones and associated equipment with battery life of at least 1 hour purchased for surveillance activities by June 2019.	Number of drones purchased and available on site by target date.
		Prepare a plan for use of drones for surveillance.	Surveillance plan prepared by September 2019.	Availability of surveillance planned by September 2019.
		Organise training for rangers on the use of drones for park surveillance	Training organised for at least 6 rangers on the use of drones for Coco-de-mer surveillance by August 2019.	Number of rangers trained in the use of drones for surveillance against target.
	3.7.3.(3)(2) Encourage members of the public to report known or suspected Coco-de-mer poaching incidences.	Organise a media campaign, making use of various media forms to raise the awareness of the general public on the need to report known or suspected Coco-de-mer poaching incidences.	At least 4 articles and 4 TV, radio or social media clips produced by December 2019.	Number of media items produced by target date.

Headings	Strategies	Activities	Target	Performance Indicator
History and heritage	4.1.3.(1)(1) Prevent further degradation of historical and heritage sites through upkeep, maintenance and restoration where required.	Develop indicators to assess level of upkeep of historical and heritage sites	Indicators developed by December 2019	Indicators developed by target date.
		Maintenance of all historical and heritage sites.	Maintenance of all historical and heritage sites by 2019	Number of historical and heritage sites maintained per year
	4.1.3.(2)(1): Improve access to all historical and heritage sites on Curieuse Island.	Clear vegetation and make all historical and heritage sites accessible to visitors.	All historical and heritage sites accessible to visitors by August 2019.	All sites accessible by targeted date
		Maintain the grounds around all historical and heritage sites.	Ground at all sites maintained year-round from 2019	Number of grounds maintained per year
		Provide directions along trails to historical and heritage sites.	At least 4 signs giving directions to historical and heritage sites installed by December 2019.	Number of signs installed by target date
	4.1.3.(2)(2): Make information on historical and heritage sites of Curieuse Island more accessible to visitors and the general public.	Hire a consultant to collate and write up previously unknown history of Curieuse Island.	Report prepared by June 2020.	Synthesis of previously unknown history of Curieuse Island produced by target date.
		Prepare short articles and or scripts on the history of Curieuse Island for inclusion in awareness and visibility products to be prepared by SNPA.	At least 3 articles and or scripts completed by December 2020.	Number of articles and or scripts on the history of Curieuse completed by target date.
		Prepare and install information boards at historical and heritage sites to provide background information to visitors.	At least 2 information boards installed by December 2020.	Number of information boards installed by target date.

Headings	Strategies	Activities	Target	Performance Indicator
Nature tourism				
Tourism	5.1.3.(1)(1): Work with the Seychelles Tourism Board (STB), Destination Management Companies (DMCs) and other local businesses to advertise Curieuse as a site for responsible tourism.	Participate in tourism advertising campaigns and contribute to promotional materials commissioned by STB.	Feature in at least one new advertising campaign or promotional materials commissioned by STB per year for the next 5 years	Number of advertising campaign or promotional materials in which Curieuse had featured per year between 2018 and 2022.
		Prepare business card like advertising materials for Curieuse and place in hotels and guest houses on Praslin.	Business cards prepared and placed in at least 50 tourism establishment on Praslin by September 2018.	Number of establishment in which business cards have been placed by target date.
		Improve link of STB and local DMCs websites to that of Curieuse.	Link to page on Curieuse on the SNPA website linked to STB website and at least 3 DMC websites by December 2019.	Number of websites linked to Curieuse page on the SNPA websites by target date.
	5.1.3.(1)(2): Offer services, facilities and merchandise in the park that can increase revenue generation.	Prepare a list of services and facilities which can easily be offered to visitors at Curieuse for a fee.	List of services and facilities prepared by December 2018.	List of services and facilities prepared by target date.
		Actively encourage small businesses to prepare merchandises targeted at Curieuse.	At least 10 different Curieuse specific merchandises available for purchase on Curieuse Island by December 2018.	Number of Curieuse specific merchandises available for purchase on Curieuse Island by target date.
	5.1.3.(2)(1): Enhance the learning experience and improve satisfaction of visitors to Curieuse	Produce an informative documentary covering all aspects of the Curieuse experience.	Documentary to be completed by December 2019.	Documentary completed by target date.
		Daily showing of Curieuse documentary at set times in the Doctor's House.	Daily showing of Curieuse documentary starting June 2019.	Number of daily showing of documentary by target date
		Prepare guidelines and	Guidelines and accreditation	Guidelines and accreditation

Headings	Strategies	Activities	Target	Performance Indicator
		accreditation system for private guides working on Curieuse Island.	system produced by December 2019.	system available by target date
		Re-develop interpretation in key languages for trails relating to flora, fauna, and places of interest, particularly at view-points and natural stopping points.	At least 9 information boards installed in key languages by December 2019.	Number of information boards in key languages 2019 installed along the trails.
		Assess visitor experience and satisfaction in 2018 and 2022.	Survey of 50 visitors using standard questionnaire undertaken in 2018 and 2022.	Number of visitor survey undertaken in 2018 and 2022 relative to target.
	5.1.3.(2)(2) Improve facility for visitors while keeping the island in its rustic state	Re-plan and develop the BBQ and picnic facilities at Baie Laraie and Anse St José.	BBQ and picnic facilities re-developed by the end of 2020.	BBQ and picnic facilities re-developed by target date.
		Construct smaller picnic benches for lunch under the trees.	At least 8 picnic benches installed under trees at Baie Laraie and Anse St José.	Number of picnic benches installed under trees relative to target.
		Build a new reception area with cafeteria and souvenir shop at Baie Laraie.	Cafeteria and souvenir shop built by December 2020.	Completion of construction of cafeteria and souvenir shop by target date.
		Construct kiosks along trails where visitors can rest.	At least 4 kiosks constructed along the trails by 2021.	Number of kiosks constructed relative to target.
	5.1.3.(2)(3) Improve access of visitors to Curieuse to Coco-de-mer in the wild	Open up of new trail to the top of Pointe Figaro	New trail open by December 2020	Trail open by target date
	5.1.3.(2)(1)(4) Improve management of park visitors	Develop offsite and online payment methods and high visibility bracelets to improve	Offsite and online payment methods developed and identification bracelets in use	Whether offsite and online payment methods have been developed and identification

Headings	Strategies	Activities	Target	Performance Indicator
	and reduce visitor impact to natural habitats	verification.	by June 2019.	bracelets in use by June 2019.
		Introduce a policy for all yachts in the park to make use of holding tank.	All yachts in the park to be making use of holding tank by December 2019	Policy for yachts to use holding tanks while in the park implemented by target date
		Design plan for monitoring use of holding tanks by yachts in the park.	Plan for monitoring the use of holding tanks by yachts being implemented by December 2019	Percentage of yachts making use of holding tanks while in the park by target date
		Prepare and install information boards of Do's and Don'ts while in the park.	At least 2 boards with Do's and Don'ts installed by December 2019	Number of boards installed by target date
Scientific research and monitoring	6.1.3.(1)(1) Make use of data from environmental research and monitoring to guide conservation efforts.	Prepare a prioritised research plan for Curieuse MNP.	Prioritized research plan prepared by December 2018	Research plan prepared by target date
		Implement home-grown priority research projects with the involvement of rangers.	At least 4 home-grown priority research projects implemented by 2022	Number of home-grown research projects being implemented with rangers involvement relative to target
		Establish and implement a monitoring programme for the main habitats under management.	At least 3 habitat monitoring programs under implementation by 2020	Number of habitat monitoring programs under implementation relative to target
		Set up *Scientific Advisory Committee* to advise the CEO on scientific matters.	*Scientific Advisory Committee* established by December 2018	Committee established and active by target date
		Undertake annual review of scientific research carried out in the park.	Annual review of scientific research undertaken in the park prepared starting from 2018	Number of annual reviews prepared

Headings	Strategies	Activities	Target	Performance Indicator
	6.1.3.(1)(2) Improve management of research and scientific data from the park.	SNPA's legal person draft a research agreement for undertaking of research in the Marine National Parks.	Agreement available for signature by December 2018.	Final agreement template available by target date
		Signing of research agreement with all external partners working in the park.	All external partners signing research agreement by December 2019.	Percentage of external partners signing research agreement by target date
		Prepare guidelines for the management of scientific data.	Guidelines for the management of scientific data drafted and approved by December 2018.	Guidelines approved by target date
		Purchase and set-up ICT infrastructure to manage scientific data.	ICT system up and running by December 2019.	ICT system up and running by target date
	6.1.3.(1)(3) Build capacity of SNPA staff to undertake environmental and socio-economic research.	Partner with local NGOs, universities and international research institutes and regional bodies to build scientific research capacity.	At least 5 scientific staff and 8 rangers attending workshops and training on scientific research methods by December 2020.	Number of scientific research trainings and workshop attended by SNPA scientists and rangers.
		Organise short courses in marine and terrestrial habitat monitoring.	Organise at least 2 short courses and refresher courses in habitat monitoring per year over the next 5 years	Number of habitat monitoring short courses organised and number of SNPA staff attending.
Park administration	7.1.3.(1)(1): Ensure that the park has appropriate quality and quantity of staff to fully implement the management plan.	Assess the workforce requirement for implementation of the Curieuse management plan	Assessment completed by June 2018	Assessment completed by target date
		Initiate work with DPA to increase the amount of rangers	Increase of at least 10 ranger staff on the nominal role by	Increase in the number of rangers on the nominal role

Headings	Strategies	Activities	Target	Performance Indicator
		on SNPA's nominal role	December 2018	relative to target
		Contract a Project Officer level staff to oversee implementation of projects on Curieuse	Project Officer based on Curieuse contracted by December 2019	Project Officer contracted and working by target date
	7.1.3.(1)(2): Re-orientate rangers work towards conservation action, environmental monitoring, visitor interaction, patrol and enforcement.	Put in place a system to remove revenue collection as a main component of rangers work.	System in place by December 2018	System in place and working by target date
		Integrate rangers in all activities taking place in the National Park.	Rangers integrated in all activities taking place in the park by December 2019	Number of park activities implemented in park with rangers involvement relative to target.
	7.1.3.(1)(3) Improve SNPA's professionalism and appearance of and appearance of frontline staff.	Prepare an employee handbook to communicate company values, policies, perks, procedures, etc.. to all staff.	Handbook prepared by December 2018	Handbook available by target date
		Prepare Standard Operating Procedure for Curieuse MNP	SOP prepared by December 2019	SOP available by target date
		Prepare guidelines for staff appearance in relation to the corporate image.	Guidelines produced by December 2018	Guidelines produced by target date
		Issue all rangers with uniform and identification badge upon joining SNPA.	All staff joining SNPA issued with identification badge and uniform by January 2019	Percentage of ranger staff issued with identification badges and uniform upon joining SNPA.
		Undertake regular spot checks to ensure that staff are abiding	At least one spot check undertaken per month	Average number of spot

Headings	Strategies	Activities	Target	Performance Indicator
		to SNPA policies.	starting June 2018	checks undertaken per month.
		Brand all SNPA boats, vehicles, equipment, and clothing in line with the corporate image.	New SNPA corporate image applied across the board by December 2019.	Percentage of items requiring branding branded by target date.
Training and capacity building	8.1.3.(1)(1): Develop competencies of staff in various core areas such as scientific monitoring, visitor interaction, enforcement, infrastructure maintenance.	Prioritize training needs and prepare annual training plans.	Annual training plan prepared from 2018	Annual training plans.
		Design and implement a programme for different level of competencies among rangers.	Programme designed by December 2020	Program design by target date
		Implement training programme for different level of competencies among rangers.	Implementation of training programme started by 2020.	Start of implementation of training programme by target date.
		Prepare an induction training manual for rangers.	Manual prepared by December 2019.	Manual completed by target date.
		Organize annual refresher training courses for all rangers.	Annual refresher training organized from 2019.	Number of annual refresher training organised from 2019.
		Organize full induction training course for all rangers joining SNPA.	Annual induction training organized from 2019	Number of annual induction training organised from 2019.
	8.1.3.(1)(2): Collaborate with other local park management organisations with similar capacity building requirements to organise joint trainings.	Organise annual inter-organisation meeting to agree on trainings that can be conducted jointly and agree on timeline and contribution.	Annual planning meeting with MPA management organisations (ICS, Nature Seychelles, SIF, MEECC) starting 2018.	Whether annual meeting was organised or not.
		Organise joint training sessions with other MPA management	At least one training session with other MPA management organisation organised every	Number of joint training sessions organised.

Headings	Strategies	Activities	Target	Performance Indicator
		organisations.	two years starting 2019.	
Equipment, infrastructure and utilities	9.1.3.(1)(1): Procure and make appropriate equipment available for staff to implement their duties.	Prepare a policy for boat and engine maintenance with a costed plan for updating SNPA's boat fleet.	Plan prepared by June 2018	Plan completed by target date.
		Replace old SNPA boats and engines being used at Curieuse	Three new boats and required engines purchased by December 2020.	Number of boats with engines purchased against target.
		Implement a pro-active maintenance plan for boats and engines.	Maintenance plan prepared and implemented by June 2018	Program implementation started by target date.
		Purchase essential working equipment and issue to staff.	100% of identified essential equipment purchased and issued by December 2018.	Percentage of required essential equipment purchase by target date.
	9.1.3.(1)(2): Improve the condition of visitor and staff infrastructure on Curieuse Island.	Contract an architect or a construction project manager to do a master plan for the infrastructural re-development of the high use areas on Curieuse Island.	Contract signed by June 2018 and Master plan delivered by December 2018.	Contract signature and delivery of master plan by target date.
		Re-locate the ranger's quarters to the area where the current visitor's house is located.	Rangers quarters completed by December 2021	Completion of work by target date
		Construct a new reception area, cafeteria and souvenir shop at Baie Laraie.	Reception area, cafeteria and souvenir shop completed by December 2019	Completion of work by target date
		Construct new back of house area	Back of house area completed by December	Completion of work by target date

Headings	Strategies	Activities	Target	Performance Indicator
			2019	
		Build common area for rangers	Common area for rangers completed by December 2021	Completion of work by target date
		Repair existing rangers' accommodation and turn it into accommodation for short-term visitors (first floor) and as an administrative block (ground floor).	Reparation completed by December 2022.	Completion of work by target date
		Extend the mangrove board walk on its southern end so that it can link to the causeway as it did originally.	Mangrove boardwalk extended by December 2022.	Completion of work by target date
		Undertake a study to look at the feasibility for installing a pontoon on the beach at Baie Laraie.	Study completed by December 2020.	Completion of study by target date
		Put in place a cost-recovery strategy for barbeque related infrastructure on Curieuse.	Cost-recovery system for use of barbeque area in place by June 2019.	Cost-recovery system in place and working well by June 2019
		Undertake a study to look at the feasibility for installing a pontoon on the beach at Baie Laraie.	Feasibility study completed by December 2018.	Feasibility study completed by target date or not.
	9.1.3.(1)(3): Ensure that electricity and potable water is available on Curieuse Island at all times.	Setup photovoltaic system that meets all energy requirements of the island.	Photovoltaic system operational by December 2020.	System operational by target date
		Install diesel generators as	Two back-up diesel generators	Back-up generators installed

Headings	Strategies	Activities	Target	Performance Indicator
		back-up to photovoltaic system.	installed by December 2020.	and operational by target date
		Connect an undersea water pipe between Praslin and Curieuse.	Undersea pipe connected by December 2020.	Undersea water pipe installed and in use by target date
		Improve freshwater collection and distribution facilities.	Facilities built by December 2020	Facilities built and operational by target date.

Annex I – Indicative list of Curieuse Marine National Parks stakeholders

- Ministry of Environment, Energy and Climate Change (MEECC)
- Seychelles Ports Authority (SPA)
- Seychelles Maritime Safety Administration (SMSA)
- Residents of Praslin island
- Boat charter companies
- Dive operators
- Taxi boat operators
- Destination Management Companies
- Yacht rental companies
- Cruise ship agents
- Hotels and guesthouses on the park boundaries
- Private nature guides
- Environmental NGOs working on Curieuse
- Global Vision International (GVI)
- National Heritage Foundation (NHF)

Annex II - National Parks (Curieuse Marine) National Park) Designation Order (SI 55 of 1979) and Regulation (SI 15 of 1991).

National Parks (Curieuse Marine) (Designation) Order

SI. 55 of 1979

[11th June, 1979]

1 This Order may be cited as the National Parks (Curieuse Marine) (Designation) Order.

2 The area described in the Schedule is hereby designated as a National Park.

SCHEDULE

The area comprised within the following boundaries - Starting at A (355760 E 9526150 N), the northernmost tip of Pointe Chevalier the boundary proceeds in a northeasterly direction to B (357070 E 9527500 N), a point 200 metres North-West of Roche Canon, off Curieuse Island, thence to C (357950 E 9527670 N), a point of 200 metres North of the northernmost point of Curieuse Island, thence to D (360740 E 9527500N), a point 200 metres North of Rouge Point, thence to E (360970 E 9527250 N), a point 200 metres East of Rouge Point, thence to F (361360 E 9524580 N), the easternmost point of St. Pierre Islet, thence to G (360880 E 9523770 N), the northernmost point of Chauve Souris Island, thence in a westerly direction of H (360300 E 9523760 N), a point on the Praslin mainland, on the eastern coast of Pointe Zanquilles promontory, thence westwards along the coast of Pointe Zanquilles, Anse Petit Cour, Anse Possession, Baie Pasquiere, Anse Takamaka, Anse Boudin to the starting point.

All Co-ordinates are expressed to the nearest 5 metres on U.T.M. Zone 40.

The area so enclosed is represented on a map held in the Office of the Director of Surveys and filed as ML/ADN/46.

NATIONAL PARKS (CURIEUSE MARINE NATIONAL PARK) REGULATIONS

SI. 15 of 1991

1. These Regulations may be cited as the National Parks (Curieuse Marine National Park) Regulations.

2. In these Regulations, unless the context otherwise requires -

"Commission" means the Seychelles National Environment Commission established under the provisions of section 3 of the National Parks and Nature Conservancy Act.

"Director" means the Director of Conservation and National Parks in the Department of Environment.

"Reserve" means Curieuse Marine National Park as defined by the National Parks (Curieuse Marine) (Designation) Order.

"Warden" means any officer of the Commission appointed under paragraph 6 of the Schedule to the National Parks and Nature Conservancy Act.

3. Subject to regulation 12, any person who, within the Reserve:

(a) kills, captures, takes or willfully injures, has in his possession, disturbs or destroys by any means whatsoever any animal, or the eggs, spawn, nests or shells thereof, whether vertebrate or invertebrate and whether living or dead; or

(b) distrubs, removes or destroys for any purpose any plant or the fruit or seeds of any plant; or

(c) removes or willfully distrubs any humus, soil, sand mud, gravel, or rock for any purpose whatsoever,

is guilty of an offence and liable to a fine of R 2,000 and to imprisonment for twelve months.

4. Subject to regulation 12, any person who willfully introduces into the National Park any living creature, or egg of any living creature, or any plant, seed or other part of any plant, is guilty of an offence and liable to a fine of R 2,000 and to imprisonment for six months.

5. Subject to regulation 12, any person who, other than in receptacles provided for that purpose, throws down, drops, discards, or otherwise deposits anything whatsoever, in such circumstances as to cause, contribute to or tend to lead to the defacement by litter or the pollution by chemicals or other noxious substances or domestic effluent of any part of the National Park, is guilty of an offence and liable to a fine of R 2.000 and to imprisonment for six months.

6. Subject to regulation 12, any person who introduces into weapon or has in his possession in the National Park any weapon or device designed for or capable of being used for the capture, injury or killing of wildlife, or any explosive, explosive device or firework or any poisonous substance, is guilty of an offence and liable to a fine of R 2,000 and to imprisonment for six months.

7. Subject to regulation 12, any person who lights a fire or does anything likely to cause a fire in the National Park, is guilty of an offence and liable to a fine of R 2,000 and imprisonment for six months.

8. Any person who removes, defaces, damages or obscures any notice marker, notice, structure, or equipment belonging to or placed by the Commission is guilty of an offence and liable to a fine of R 2,000 and to imprisonment for six months.

9. (1) The Minister, in consultation with the Director, may designate, by notice in the Gazette, areas set aside for the mooring and anchoring of vessels.

(2) The designated areas shall be demarcated by the Director in such manner as will conveniently draw thereto the attention of the public utilizing such area, and the Director may also provide mooring facilities in such area.

(3) Where the Minister has designated an area under sub- regulation (1), any person who, in the National Park, moors or anchors a vessel or causes or permits any vessel to be moored or anchored other than in the area so designated, is guilty of an offence and liable to a fine of R2,000 and to imprisonment for six months.

(4) Where mooring facilities have been provided by the Director within the National Park, any person who uses any anchor or causes or allows an anchor to be used without reasonable cause or lawful excuse, is guilty of an offence and liable to a fine of R 2,000 and to imprisonment for six months.

(5) Notwithstanding regulation (3), in the event that no area has been designated under sub-regulation (1), it shall be lawful to secure a vessel by an anchor to the sea floor in the National Park:

Provided that any person who uses or causes or allows to be used any anchor within the National Park in such a way as to disturb or damage any coral is guilty of an offence and liable to a fine of R 2,000 and to imprisonment for six months.

(6) Subject to the proviso to sub-regulation (5), it shall be lawful, for exceptional reasons in an emergency, to moor a vessel in the National Park other than in an area designated under sub- regulation (1), or use an anchor in an area designated under sub- regulation (1), notwithstanding that there are mooring facilities provided in the area.

(7) The Minister, acting upon the advice of the Director, may amend or vary, by notice in the Gazette, the designated areas set aside for the mooring and anchoring of vessels.

10. Any person who uses or permits to be used any surfboard or water-ski in the National Park is guilty of an offence and liable to a fine of R2,000 and to imprisonment for six months.

11. Any person who, in the National Park, without reasonable cause, uses or permits to be used any pleasure boat or any other boat craft in a reckless manner, or at a speed or in a manner which is dangerous to the public or without due care and attention is guilty of an offence and liable to a fine of R 2,000 and to imprisonment for six months.

12. (1) Subject to sub-regulation (2), the Director may, with the agreement of the Commission, authorize, subject to such conditions as he may think fit, any act which otherwise is prohibited by regulations 3, 4, 5, 6, 7, 8, 9, 10 and 11.

(2) Any authorization referred to in sub-regulation (1) shall be confined to lawful acts related to the management of the National Park or to scientific research or an aquaculture concession granted under the Fisheries Act within the National Park and to the securing of the objectives of these Regulations and the Act.

(3) Any person who fails to comply with any conditions of authorization granted by the Director under sub-regulation (1) is guilty of an offence and liable to a fine of R 2,000 and to imprisonment for six months.

13. The Director may, with the agreement of the Commission -

(a) close any part or parts of the National Park to public access;

(b) indicate days or times when the public may be allowed access to the National Park;

(c) impose such other restrictions on public access as may be in the interest of good wildlife management.

14. (1) A warden or police officer may, without warrant, arrest any person whom he shall find committing any offence under these Regulations or the Act.

(2) A warden or police officer may, at any time within or in the vicinity of the National Park, without a warrant, stop and search any vehicle, vessel or craft where he has reasonable belief that the vehicle, vessel or craft is or has been used in connection with the commission of an offence under these Regulations.

15. (1) The Director may, with the agreement of the Commission, impose a fee or charge of a maximum of R100 for -

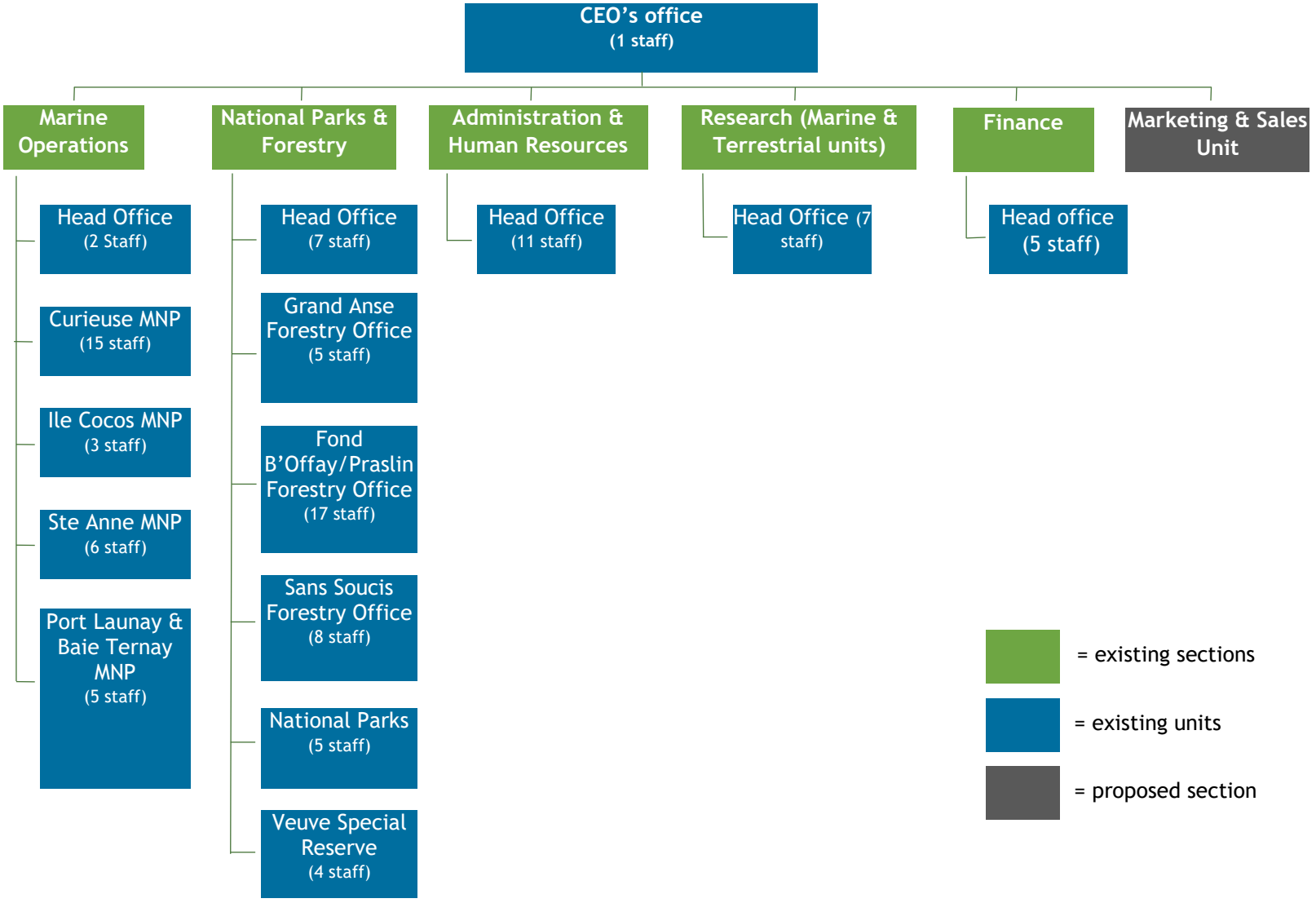
(a) entry into the National Park;

(b) the performance of acts in the National Park; or

(c) services provided in relation to the National Park.

(2) The Director shall give notice in the Gazette of fees or charges imposed under sub-regulation (1).

Annex III – Organisational structure of SNPA



For further information please contact:

Seychelles National Parks Authority

Address: P.O Box 1240, Orion Mall, Victoria

Tel: (+248) 4225114

Fax: (+248) 4224388