



# The St. Helena Government Gazette

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### **ENVIRONMENTAL PROTECTION ORDINANCE, 2016**

#### **MANAGEMENT PLAN FOR MARINE PROTECTED AREA**

In accordance with section 31(7) of the Environment Protection Ordinance, 2016 (hereinafter referred to as the Ordinance), the Governor on the advice of the Executive Council is satisfied that the criteria specified in section 37(3) and (6) of the Ordinance has been met and has adopted the Management Plan for the Marine Protected Area which is attached in the Schedule hereto.

Natasha Bargo  
Secretary to Executive Council

The Castle, St Helena  
8 June 2023



**St Helena  
Government**

# St Helena Marine Management Plan 2023 – 2027

May 2023



## Acknowledgements

This Marine Management Plan has been developed by the St. Helena Government with assistance from the Marine Management Organisation (MMO) and the Centre for Environment, Fisheries and Aquaculture Science (Cefas) within the UK Government's Blue Belt Programme.

**Special thanks to:** Emily Hardman (MMO), Serena Wright (Cefas) for helping to prepare this document.

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# Foreword

***Our marine environment is at the very heart of our community as the island's most valuable asset. In providing a new Marine Management Plan to guide and inform management of our Marine Protected Area, the St Helena Government is continuing to ensure our community is able to use and enjoy the marine environment, today and in the future.***

*Our Marine Protected Area is an important resource that must be carefully and sustainably managed for future generations. We must base our decisions on the best available evidence and scientific data; any knowledge gaps will be addressed through research and monitoring.*

*Our marine environment is owned by our community and shared by both recreational and commercial users. We must ensure a healthy marine environment and all of its users should be committed to sustainability. We must continue to adopt new technologies that do not damage or disturb our marine habitats and species.*

*This Marine Management Plan confirms St Helena Government's commitment and aspirations for our Marine Protected Area where activities will be managed by policies and legislation.*



**Christine Scipio**  
*Minister for Environment,  
Natural Resources and Planning*

## Executive Summary

The St Helena Marine Protected Area (MPA), covering the entire Exclusive Economic Zone (448,411km<sup>2</sup>), was designated in September 2016. The St Helena MPA is a 'Protected area with sustainable use of natural resources' MPA. This means that low-level human use is permitted, as long as it does not undermine the MPA's objectives.

The St Helena Marine Management Plan is the main tool to guide managers, people using the marine environment and other interested parties on how the MPA will be managed between 2023 and 2027. This Plan updates the previous Marine Management Plan published in 2016, taking new evidence into account and reflecting new priorities. We consulted with local and international stakeholders to get their views on MPA management to date. We also conducted a protected area management effectiveness evaluation. These highlighted the progress made so far and identified actions to improve management of the MPA over the next five years. This helped to inform development of this revised Marine Management Plan.

Part 1 of the Marine Management Plan includes detailed information about the St Helena MPA. Part 2 describes how the MPA will be managed over the next 5 years.

### Key values of the MPA

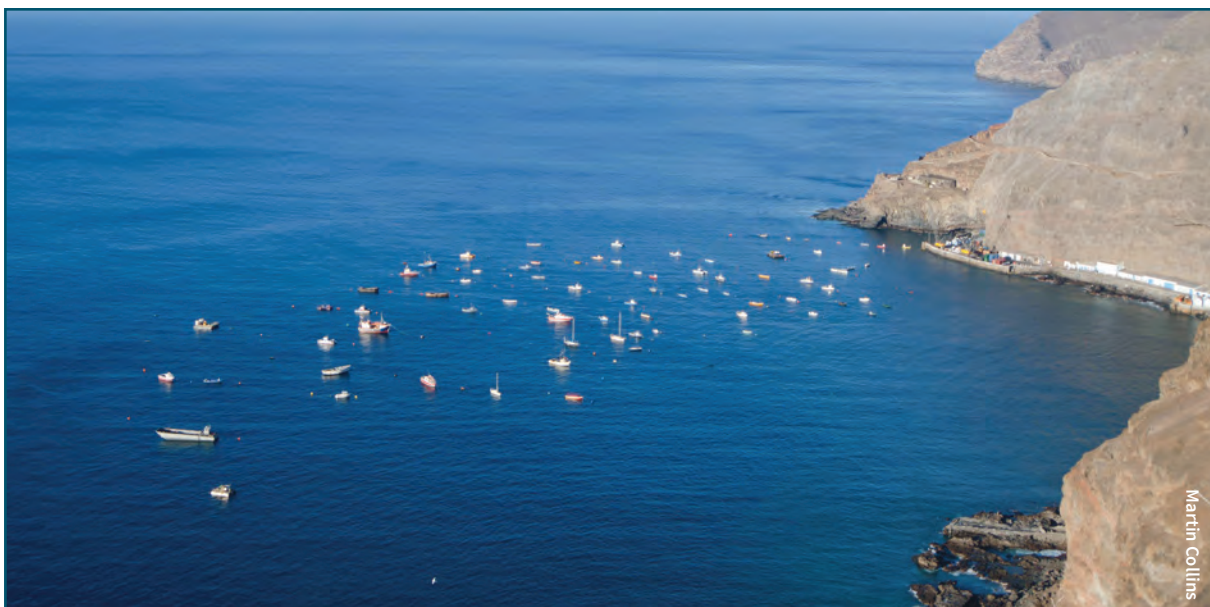
St Helena's marine environment is one of the island's most valuable assets. The marine environment of St Helena is valued for its:

- Natural beauty, diverse and unique ecological environment and its associated flora and fauna which has global importance:** St Helena's remoteness and age has given rise to the development of a unique assemblage of species. For example, as of July 2022, there were 18 marine species that are endemic to St Helena and found nowhere else on Earth.
- Cultural and historical influences:** The sea has influenced our culture and traditions and our coastal and port infrastructure. It also provides a vital lifeline to the island.
- Economic benefits and opportunities derived from the natural environment underpinned by robust evidence and strong environmental consciousness:** The sea provides benefits such as commercial fisheries, tourism and recreation. These provide food and income from both local and export markets, as well as opportunities for relaxation and links to cultural heritage.
- Ability to provide health, wellbeing and spirituality benefits to all:** There is a deep and spiritual connection to the sea that cannot be valued by conventional means. Benefits include relaxation, enjoyment, restfulness, connection with nature and improved mental health.

### Threats to the MPA

**Habitat damage:** Habitat damage can be caused by activities in both the coastal zone and within the marine environment. Coastal developments are not considered within this Marine Management Plan as they are managed through the Land Planning and Development Control Ordinance, 2013. In the marine environment, boaters, snorkelers, and SCUBA divers that come into direct contact with marine ecosystems can potentially cause damage to sensitive marine species. These activities are currently managed through the 'Marine (Tourism and Interaction with Marine Life) Policy' and the associated marine environment accreditation scheme and environmental best practice guidelines. Marine development activities (including sand extraction, vessel moorings, submarine cables and artificial reefs) could also impact the seabed and associated marine habitats. These activities and potential future activities such as deep-sea mining are managed through the Policy for Managing Development Activities within St Helena's marine environment.

**Overfishing:** Fishing in St Helena is managed through the Fisheries Ordinance, 2021. This minimises the likelihood of overfishing occurring. Management measures include the need for a valid fishing licence and completion of logbooks. There are also species-specific measures such as: minimum landing sizes, closed seasons and Total Allowable Catch limits. Monitoring of the fisheries allows the status of the stock to be reviewed, ensuring fishing pressure is kept at a sustainable level.



Martin Collins

**Bycatch:** Bycatch occurs when fishers catch non-target species and discard them alive or dead. St Helena has imposed “one-by-one” fishing methods in St Helena’s waters. These methods have very limited bycatch. They target schooling fish during feeding frenzies and remove the desired fish species one-by-one.

**Illegal, unreported and unregulated (IUU) fishing:**

Compliance with the St Helena MPA is good to date. A Marine Compliance and Enforcement Strategy has been developed for St Helena and is being implemented by the marine enforcement team on island. This will ensure that we achieve full compliance with relevant legislation within the MPA.

**Disturbance to marine wildlife:** Activities such as snorkelling, sports fishing and SCUBA diving can disturb marine animals. Whale sharks, dolphins, whales, and birds are disturbed by boats and people approaching too close. This can cause stress and injury to animals and can reduce their breeding success. It can also cause animals to avoid the area. These activities are currently managed through the ‘Marine (Tourism and Interaction with Marine Life) Policy’ and the associated marine environment accreditation scheme and environmental best practice guidelines.

**Marine pollution:** Threats include pollution from visiting and transiting ships, including the risk of a major spill from large vessels. This threat is low due to low numbers of vessels in the MPA. St Helena Government is working with partners to meet its international obligations for preventing and responding to maritime pollution. Raw sewerage and wastewater discharges into James Bay also pose a pollution threat. Monthly water quality monitoring has been conducted to assess the level of this threat. Plastic pollution is one of the biggest problems affecting the world’s oceans generally. St Helena is exposed to this threat from both international and local sources. The St Helena National Trust has developed a comprehensive outreach programme to raise awareness of this issue and currently has a collaborative project to look at ways to reduce use of single use plastics on island.

**Marine invasive non-native species (INNS):** St Helena is at low risk for marine INNS due to its isolated geographical location. Six non-native species have been currently recorded within the St Helena MPA. Of these, only the sea-grapes pose a potential threat of impacting the marine environment. New species may be introduced on the hulls or in the ballast water of visiting vessels. The St Helena Government’s Biosecurity Protocol for the Marine Environment aims to minimise this risk.

**Climate change:** Climate change is one of the biggest threats the environment faces during the next century. It is currently unclear what the impacts of climate change may be on habitats and species within the MPA. Changes in ocean currents in the future may affect fisheries and nature-based tourism. Changing temperatures may also enable the introduction of new marine INNS. Increased extreme weather events could impact the island’s economy and local communities. This could occur through impacts to shipping, increased land run-off into the sea, changing water temperatures and damage to coastal infrastructure. The Climate Change Policy for St Helena aims to reduce the quantity of greenhouse gas emissions on island and carry out regular environmental monitoring.



## MPA Management principles

All current human activities within the MPA are managed within a comprehensive policy and legislative framework. This makes sure that these activities do not damage or disturb St Helena’s marine habitats and species.

- Only one-by-one fishing methods are permitted within the St Helena MPA (handlines, pole-and-line, pots, by hand, spear gun).
- Only marine tourism activities that are compatible with the goals and objectives of this St Helena Marine Management Plan are permitted within the MPA.
- Only proposals for marine developments that are compatible with the goals and objectives of this Marine Management Plan are supported within the MPA.

Management of the MPA is guided by the following management principles:

- **Precautionary principle:** Where evidence is inconclusive, St Helena Government will make reasonable efforts to fill evidence gaps. But we will also need to apply precaution within a risk-based approach.
- **Sustainable development approach:** Any activities within the St Helena MPA must have a minimal impact on the marine environment. They must also bring positive social and economic benefits to the island community.
- **Evidence-based:** All management decisions will be based on the best available information. As far as possible, any knowledge gaps will be addressed through research and monitoring.
- **Collaborative:** The support of the local community is vital for effective management of the MPA. Key stakeholders have been involved in the review and revision of the Marine Management Plan. The local community was consulted on the draft Plan. It is crucial that this collaboration continues in the future.



## MPA Management Plan vision

The rich biodiversity and unique natural ecosystems of St Helena's MPA are conserved, protected, and restored, with use of its natural resources managed in line with its IUCN Category VI sustainable use principles now and for future generations.

## MPA Management Goals and Objectives

In order to achieve this long-term vision, the goals and objectives of the St Helena MPA are:

- Goal 1:** The islands marine environment and natural ecosystems are protected, conserved, and (where necessary) restored, with appropriate monitoring to track short and long-term changes.
  - **Objective 1.1:** The existing management framework is implemented within current resources to manage and protect the marine environment.
  - **Objective 1.2:** A monitoring strategy is in place to understand baselines and track changes to the marine environment.
  - **Objective 1.3:** Current and future threats to the marine environment are understood and risk assessed to enable a proactive approach to risk management.
- Goal 2:** Use of natural resources is managed sustainably, using evidence-based decisions for appropriate management of human activities, aimed at securing economic, food and cultural security for St Helena.
  - **Objective 2.1:** Fishing practices are sustainable, with management of target species informed by scientific evidence and local knowledge.
  - **Objective 2.2:** Development activities in the marine environment are effectively managed to prevent, minimise and mitigate adverse impacts, whilst supporting sustainable economic development.
  - **Objective 2.3:** Marine tourism activities minimise impacts on the marine environment and species, including large marine species, whilst supporting economic development.
  - **Objective 2.4:** A suitable level of prevention preparedness and response to a marine pollution incident is developed, established and maintained.
  - **Objective 2.5:** Activities within the marine environment are regulated and enforced, with clear and transparent information provided to all users.

- Goal 3:** St Helena's marine environment, its importance, and management methods are better understood by both the local and international community, with all provided the opportunity to input into securing its future.
  - **Objective 3.1:** Users of the marine environment and stakeholders are able to participate in management decisions and activities to protect and enhance the MPA.
  - **Objective 3.2:** An education and awareness campaign is in place to provide information about, and promotion of, St Helena's MPA to local and international audiences.

In order to achieve the MPA goals, a number of different management actions are proposed under each of the objectives.

## Monitoring and Review

Annual reviews will be conducted by staff within the ENRP Portfolio in collaboration with key stakeholders in St Helena. The Marine Management Plan will undergo a comprehensive review and evaluation every five years. This will be completed through a consultation process with stakeholders and other interested parties.



# Glossary

## Abyssal plain

An underwater plain on the deep ocean floor, usually found at depths between 3,000 metres and 6,000 metres.

## Aesthetic

Concerned with beauty or the appreciation of beauty.

## Aggregate extraction

Removal of sand and gravel from the seabed for use in construction or other areas.

## Algal blooms

A rapid increase or accumulation in the population of algae that creates discolouration in the water, usually green.

## Anthropogenic

Relating to or resulting from the influence of human beings on nature.

## Antifouling

Treatment of a boat's hull with a paint or similar substance designed to prevent fouling.

## Bathymetry

The measurement of depth of water in oceans, seas, or lakes.

## Benthic

Anything associated with or occurring on the bottom of the ocean.

## Bioaccumulation

The gradual accumulation of substances, such as pesticides or other chemicals, in an organism.

## Biodiversity

The variety of plant and animal life in the world or in a particular habitat.

## Biota

The plant and animal life of a region, habitat, or geographical period.

## Buoyancy control

The ability to control diver movement underwater so as not to make contact with any substrate or habitat.

## Careless finning

Lack of concern when undertaking the action of swimming with diving fins.

## Category VI

(protected areas with sustainable use of natural resources) Meaning to conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems.

## Chlorophyll-a

A specific form of chlorophyll used in oxygenic photosynthesis.

## Circumtropical

Surrounding or distributed throughout the tropic (south of the equator).

## Climatological

Relating to the climate.

## Commercial

Making or intended to make a profit.

## Continental shelf

The area of seabed around a large land mass where the sea is relatively shallow compared with the open ocean. The continental shelf is geologically part of the continental crust.

## Cosmopolitan

Plant or animal found all over the world.

## CTD

An instrument used in a marine environment which measures conductivity, temperature and depth.

## Demersal fish

Fish living close to the floor of the sea.

## Detrimental

Tending to cause harm.

## Dredging

To pull up a lot of sand, mud or other things from the bottom of an area of water.

## Droppers

A fishing line with a series of hooks used to catch bait species or inshore fish species.

## Ecological

Relating to or concerned with the relation of living organisms to one another and to their physical surroundings.

## Economic

Considered in relation to trade, industry, and the creation of wealth.

## Ecosystems

A biological community of interacting organisms and their physical environment.

## Exclusive Economic Zone

The Exclusive Economic Zone extends 200 nautical miles from the nearest points on the baseline from which the breadth of St Helena's territorial waters are measured as set out in the St Helena Legal Notice No. 16 of 2017, deposited with the Secretary-General of the United Nations Convention on the Law of the Sea on 26 November 2019.

## Extraction

The action of removing something, especially using effort or force.

## Fauna

The animals of a particular region or habitat.

## Feeding frenzies

A group attack on prey by predatory animals.

## Flora

The plants of a particular region or habitat.

## Green-sticking

A technique for fishing for tuna by trolling synthetic squid from a fiberglass pole that sits around 30 feet above the water surface.

## Grey water

The relatively clean wastewater from baths, sinks, washing machines, and other kitchen appliances generated from household and commercial sources.

## Habitats

The natural home or environment of an animal, plant, or other organism.

## Hermatypic

Reef building.

## ICCAT

The International Commission for the Conservation of Atlantic Tunas which is a Regional Fisheries Management Organisation responsible for the conservation of tunas and tuna-like species in the Atlantic Ocean and its adjacent seas.

## Indigenous

(Native) originating or occurring naturally in a particular place.

## Inshore

The fishery within 30 nm from the Island.

## Intergovernmental

Related to or conducted between two or more governments.

## Littoral areas

Part of a sea, lake, or river that is close to the shore.

## Leachate

High concentrations of organic contaminants, heavy metals, toxic materials, ammonia and inorganic materials that have percolated through a solid and leached out some of the constituents.



**Longlining**

A deep-sea fishing line from which baited hooks are suspended from many short lines.

**Maerl**

A purple-pink hard seaweed that forms spiky underwater 'carpets' on the seabed.

**Marine Tour Operator**

An individual, or company who provides expertise and guided service by sea or coast to a paying client for the purpose of using the marine environment for recreational activities.

**Marine tourism**

The provision of tourism activities in the coastal and marine environment with the intent of making a profit. This excludes sports fishing operations which are managed under the Fishing Licence Policy for St Helena.

**Maritime**

Connected with the sea, especially in relation to seaborne trade or naval matters.

**Microbiological**

Relating to microbiology (the study of very small living things such as bacteria).

**Micro-plastic**

Small plastic pieces less than five millimetres long which can be harmful to the ocean and aquatic life.

**Ocean nostalgia**

A sentimental longing or wistful affection for the ocean in a period of the past.

**Offshore**

The fishery between 30 and 200 nm from the Island.

**Overfishing**

Deplete the stock of fish by excessive fishing to below a limit reference point set by scientific data, whereby the ability of the stock to replenish itself has been hindered.

**Pelagic fish**

Fish that live in the open ocean.

**Principles**

The guidelines, or general approach, that we will use when making decisions on which fisheries management actions need to be taken.

**Purse seining**

A large seine (fishing net) which may be drawn into the shape of a bag, used for catching shoal fish.

**Putative**

Commonly accepted or supposed.

**Quota**

A share in a TAC (total allowable catch) and is expressed as metric tonnes or kilogrammes.

**Raw sewerage**

Sewerage that has not yet been processed or treated to separate and remove contaminants.

**Recreational**

Relating to things people do in their spare time to relax.

**Regime**

The form or system of government.

**RFMO**

Regional fisheries management organization.

**Sediment plumes**

When mixtures of aggregates and water dredged from the seabed are discharged at the surface into the adjacent water from a barge, coarse sediments sink immediately and fine sediments are suspended forming a plume.

**Single-horn bryozoan**

An invasive species of small aquatic animals that form encrusting or branching colonies, native to Japan.

**Socio-economic**

Relating to or concerned with the interaction of social and economic factors.

**Sediment**

Soft mud, silt, and sand.

**Sport fishing**

Fishing done with a rod and reel for sport or recreation.

**Stakeholder**

Any individual or group with an interest in the outcome of an activity, process or service. This can include government departments, non-government organisations, businesses and members of the public. An applicant cannot also act as a stakeholder.

**Substrate**

Rock or sediment surface where organisms live, species grow or obtain its nourishment.

**Sustainable**

Describes activities carried out in a manner which does not adversely impact on future generations, taking full account of the current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and local communities.

**Sustainable development**

Is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.

**Territorial sea**

The territorial sea is the part of the sea that extends 12 nautical miles from the baseline, which is the low-water line along the coast of all islands.

**Topography**

The arrangement of the natural and artificial physical features of an area.

**Traditional rock fishing**

The use of a pole and line, rod and reel or hand line to catch fish from the shore for personal consumption only.

**Windward**

Refers to the southerly (wind exposed) side of St Helena from between coastal points South West Point to Barn Long Point, counter-clockwise.



# Part 1:

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## The St Helena Marine Protected Area





# 1 Introduction

The St Helena Marine Protected Area (MPA), encompassing the entire Exclusive Economic Zone (EEZ) and the territorial sea of St Helena (448,411km<sup>2</sup>), was designated by St Helena Government in September 2016 under the Environmental Protection Ordinance, 2016. The St Helena MPA is considered to be an International Union for Conservation of Nature (IUCN) Category VI 'Protected area with sustainable use of natural resources' MPA. This means that low-level human use of marine resources is permitted as long as it does not undermine the MPA's objectives. As such, only one-by-one fishing methods are permitted within the St Helena MPA (handlines, pole-and-line, pots, by hand, spear gun) and other human activities (marine tourism and marine development activities) will only be permitted if they are compatible with the goals and objectives of the St Helena Marine Management Plan.

As part of the requirements under the Environmental Protection Ordinance, 2016 for designating an MPA, a Marine Management Plan was developed and published by St Helena Government in September 2016, setting out the strategies for effective management of the MPA. The Marine Management Plan 2016 notes that the provisions of the MPA and the Marine Management Plan will be reviewed within 5 years of it coming into force. As part of this review process, St Helena Government consulted with a range of local and international stakeholders to obtain their views on MPA management activities since designation. A protected area management effectiveness evaluation was also conducted using the Management Effectiveness Tracking Tool (METT-4)<sup>1</sup> to highlight progress to date and to identify actions that are required to improve management of the MPA over the next five years.

The METT-4 was completed by staff from St Helena Government's Marine Section facilitated by the Blue Belt Programme. Responses were informed by stakeholder feedback gathered through questionnaires and a stakeholder workshop, combined with scientific evidence and expert opinion of the St Helena Government Marine Section staff. The process highlighted the following key successes to date: the MPA has been formally designated; adjacent land/sea use planning fully recognises the MPA and contributes to achievement of its objectives; the MPA design is appropriate for protection of the habitats, species and ecological processes of key concern and the boundaries of the MPA are known to stakeholders; there is a comprehensive programme of survey and research work which is relevant to management needs; there is open communication and trust between local communities and MPA managers and the education and outreach work undertaken means that local communities actively support the MPA; and the conservation status of habitats and key indicator species is desirable. The METT-4 provided recommendations on actions to improve

management in the future which included: ensuring that an established schedule and process for periodic review of the Marine Management Plan is established with clear indicators for success and a process for evaluating management activities; consideration of options for sustainable finance mechanisms for future MPA management; improved liaison across St Helena Government Portfolios to raise the profile of the MPA and its wider benefits and integrate it into sustainable development policies; undertaking research and monitoring to better understand potential impacts of climate change on St Helena's marine environment and how to mitigate these; improved management of wastewater / sewage to minimise impacts to the MPA; and establishment of a socio-economic monitoring programme to assess the cultural, social and economic values of the MPA and assess trends over time. These recommendations together with feedback from the stakeholder consultation have informed development of this new Marine Management Plan.

The review process highlighted that management measures, including policies and legislation, are currently sufficient to address and minimise threats to the key values of the MPA. Current restrictions include: fishing gear restrictions, minimum landing size limits, fishing quotas, seasonal restrictions and spatial restrictions (protected zones around wrecks). The Fisheries Ordinance, 2021 also enables the Chief Fisheries Officer to immediately implement a moratorium on any fishery if significant concern over the stock status is evidenced. In addition, due to prevailing unfavourable sea conditions, island topography and limited coastal access, the windward side of the island acts as a natural protected area limiting fishing, tourism and development pressure. Additional spatial restrictions (e.g. no take zones) or other additional management measures will be considered if and when scientific data indicates their requirement. This will be continuously reviewed; if evidence suggests that additional restrictions to enhance protection to key habitats or species are required, they will be implemented.

The St Helena Marine Management Plan describes a comprehensive management regime to achieve the vision and goals of the MPA and to address priority management needs over the period of 2023 to 2027. The Marine Management Plan will act as the main tool to guide managers, resource users and other interested parties on how the MPA will be managed today and in the future. It will inform the identification of adequate resourcing, including staff capacity and sustainable financing mechanisms and monitoring to track performance and inform adaptive management. The vision and goals provide the longer-term direction for management of the St Helena MPA. The objectives and associated indicators of success reflect an outcome-based approach from which the effectiveness of management measures can be assessed.

<sup>1</sup> Explore the World's Protected Areas ([protectedplanet.net](https://protectedplanet.net))



## 2 Background

### Overview

St Helena is an isolated oceanic island in the south Atlantic located at 15.96°S, 5.70°W, and is 930 km east of the mid-Atlantic ridge (Figure 1). At its highest point, St Helena is

820 m above sea-level. St Helena has an area of approximately 122 km<sup>2</sup> (17 km by 10 km), and in 2021 had a resident population of 4,439 (St Helena Government 2021).

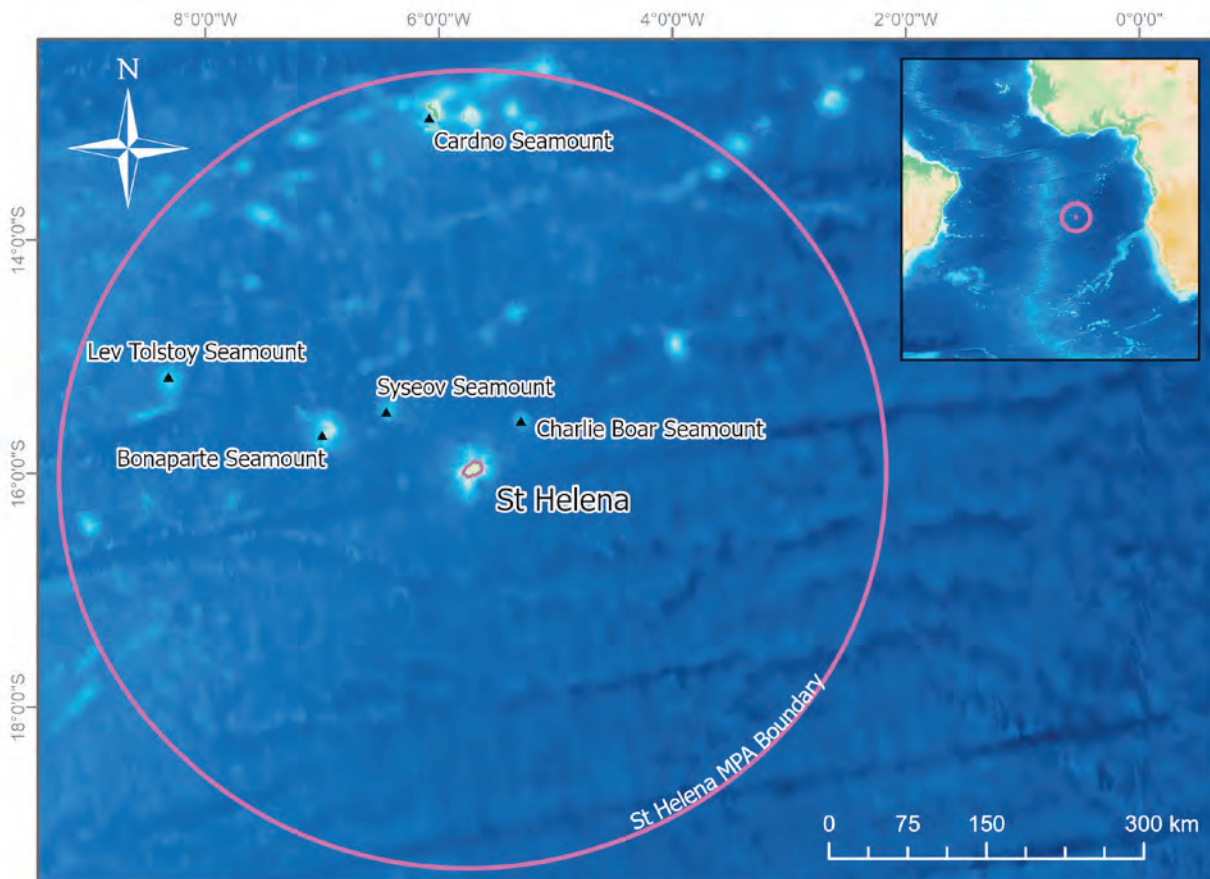


Figure 1. The St Helena MPA which has been declared a Category VI Marine Protected Area. Bathymetry from GEBCO (ca. 1 km grid size).



### Physical Features

The island has a shelf area of 185 km<sup>2</sup> and the 200-mile maritime zone is 448,411 km<sup>2</sup>. Within St Helena's MPA there are a number of seamounts (Figure 2), including two that rise to within 100 m of the sea surface: Bonaparte and Cardno (Figures 2 and 3). Bonaparte is 130 km west of St Helena. Cardno straddles the northern 200 nm boundary of the St Helena MPA and is comprised of three seamounts in close proximity to each other.

Other notable seamounts within St Helena's MPA, include the Sysoev Seamount that lies to the east of Bonaparte Seamount and the Akademik Kurchakov Seamount, which lies to the west of Bonaparte and rises 410 m below the sea surface. The seamounts which lie within the St Helena MPA comprise 0.15% of the world's seamounts.

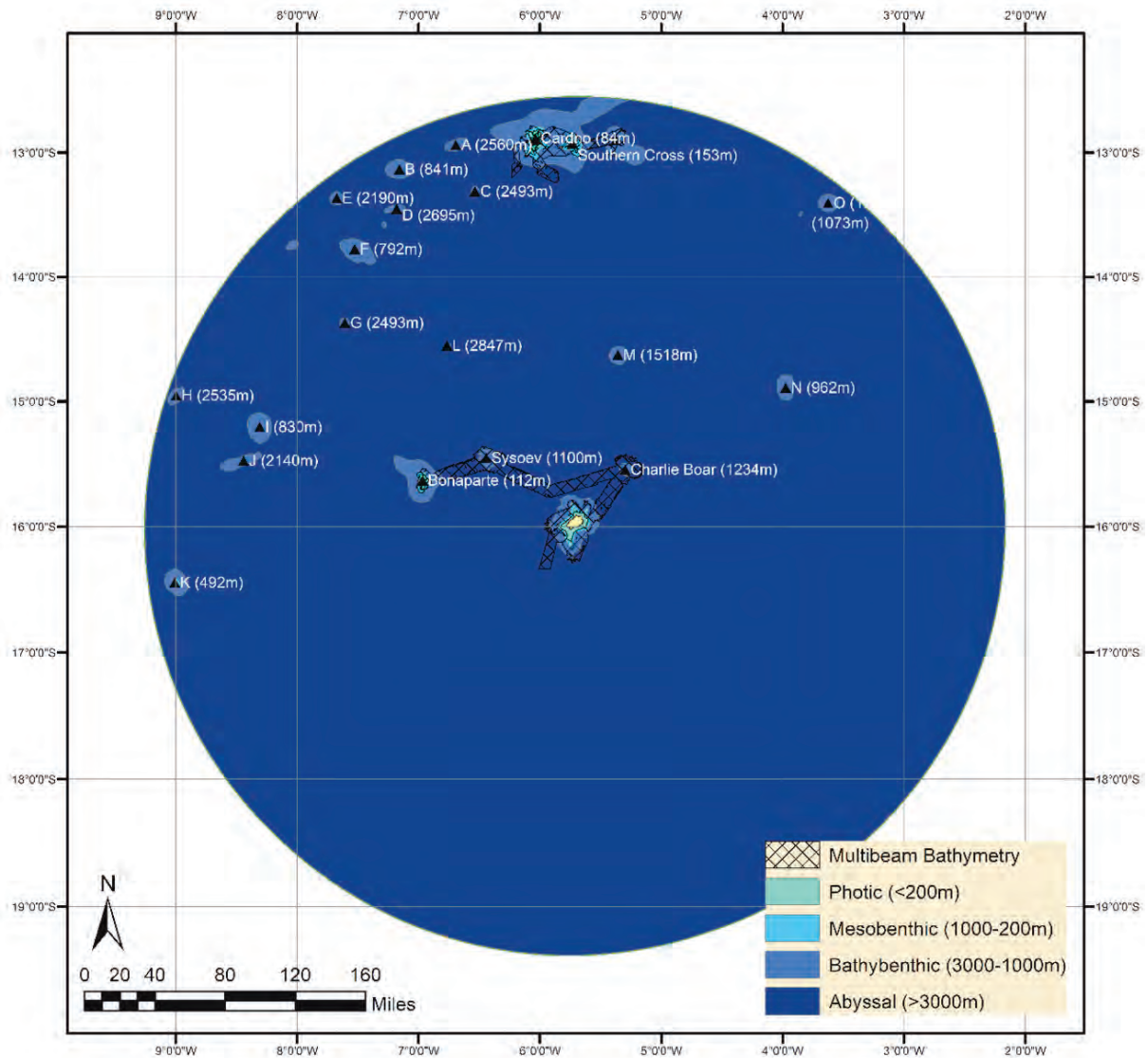


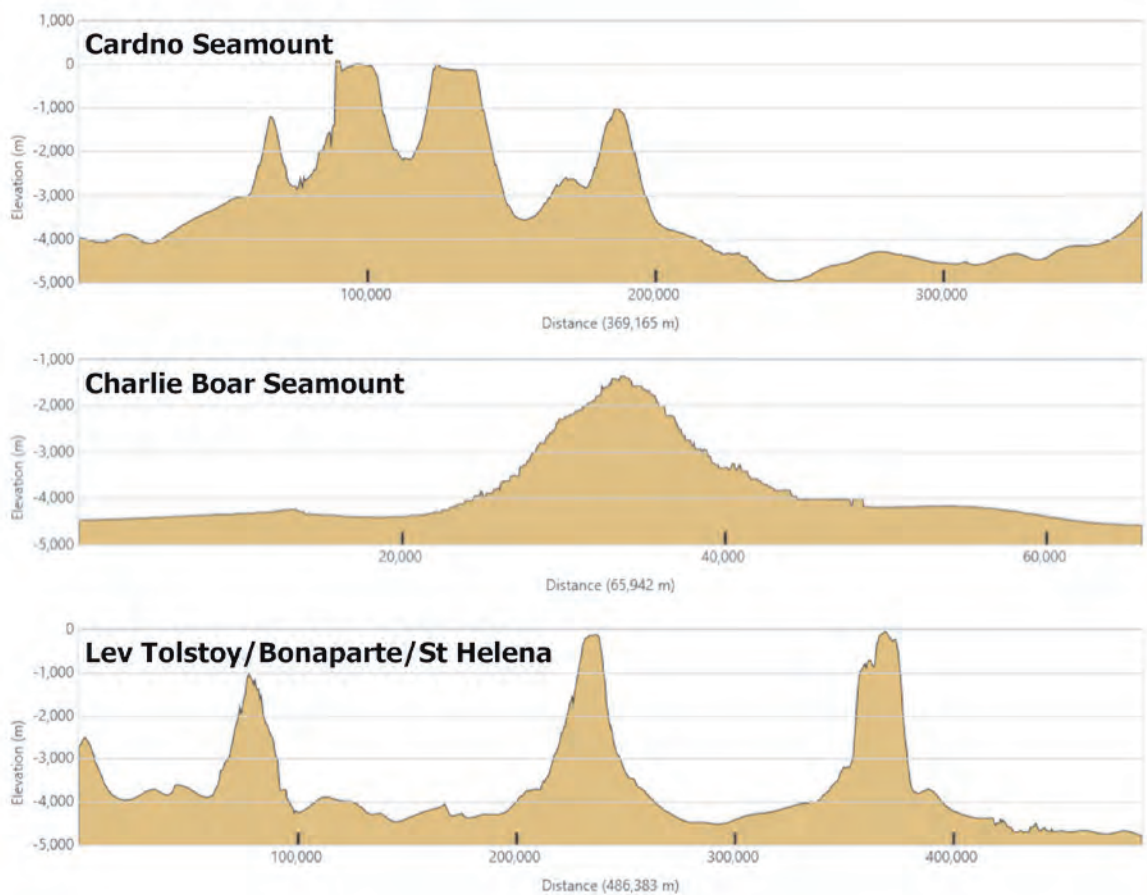
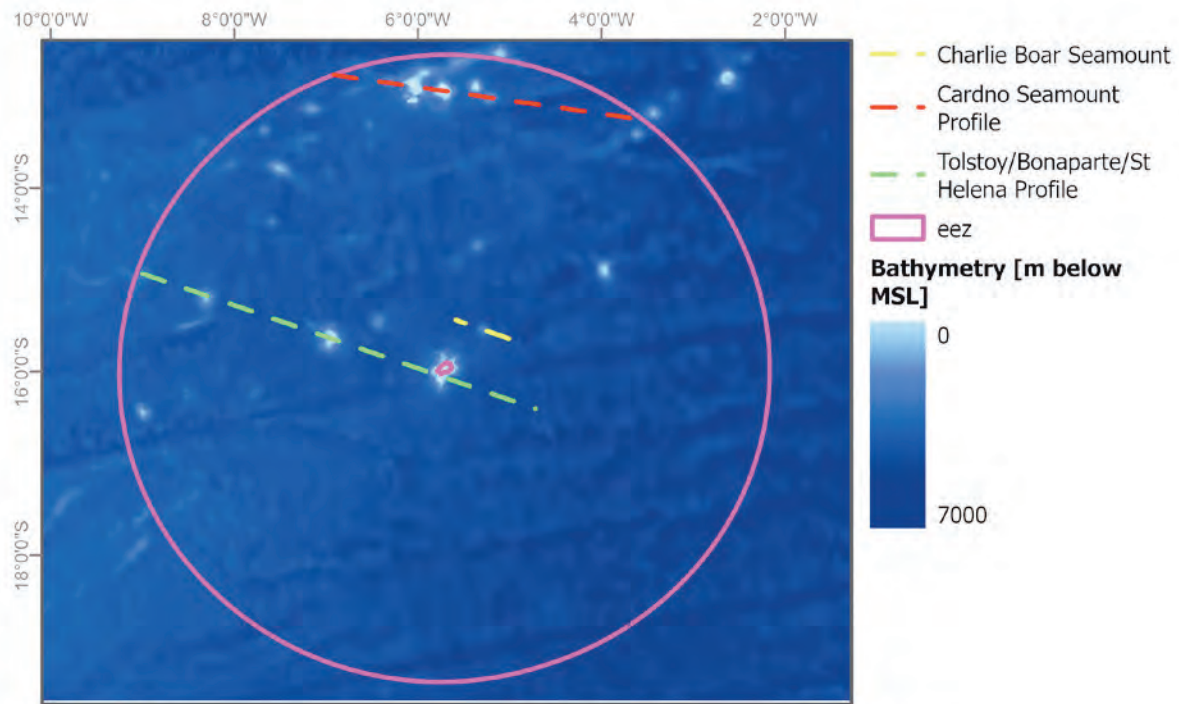
Figure 2. Locations of seamounts with water depths shallower than 3000 m within the St Helena MPA. Hatched area = areas for which there is ship survey data. N.B. Summit depths of un-surveyed seamounts are highly uncertain (vertical errors may exceed 500m in places).

The bathymetry of St Helena has a rapid drop-off in bottom depth resulting in a narrow continental shelf, with depths of 100 m occurring within 1 to 4 km of the shore and 500 m within 2 to 4 km (Figure 3). This narrow continental shelf also results in oceanic species such as migratory whales and

pelagic fish being found very close inshore. At the southern end of St Helena, the continental shelf broadens out, and around Speery Ledge at 8.2 km from the coast there are depths of 100 m, whilst at 13 km there from the island are depths of around 500 m.







**Figure 3.** Cross sections of the topography of the St Helena MPA. Section A includes the Cardno Seamount in the north of the zone. Section B shows a section that includes the Kutuzev and Bonaparte seamounts and the island of St Helena. The cross section transect locations are shown on the upper part of the figure.

Due to the steep nature of the St Helena cliffs as they enter the sea, there is limited littoral habitat with only three areas where people can swim directly off the beach (Sandy Bay, Rupert’s Bay and James Bay). The tidal range is also small ranging from 0.5 m during neap tides to 1.25 m during spring tides (Colman 1946). Large rock pools are present at Lot’s Wife’s Ponds, with much smaller pools at Lemon Valley,

Sandy Bay, Rupert’s Bay, Birddown, Sharks Valley, and some other much less accessible areas.

St Helena lies in the centre of the South Atlantic gyre which is an anti-clockwise circulation of waters connecting the west coast of Africa and east coast of South America (Figure 4).



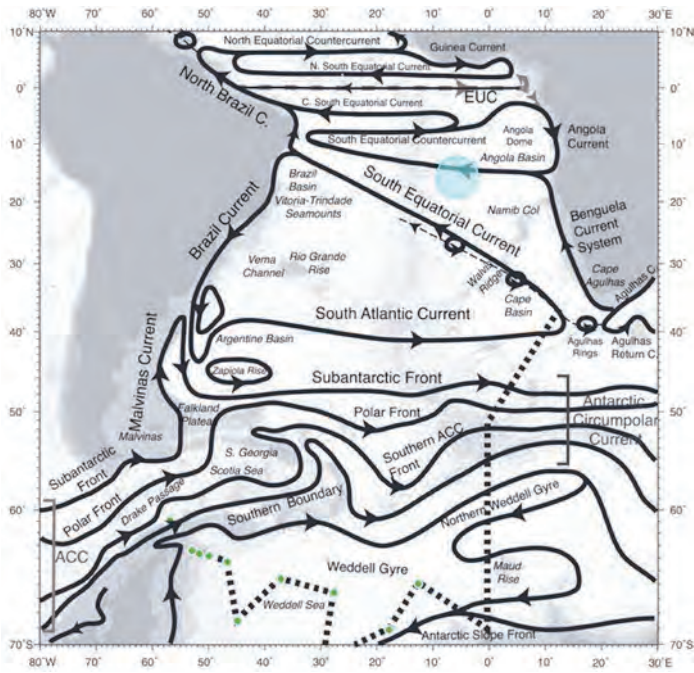


Figure 4. South Atlantic surface ocean circulation from (Talley et al. 2011). St Helena’s MPA is located at 15.9°S, 5.7°W (denoted by the blue circle). Bathymetry is shaded.

The movement of both the surface and subsurface currents over many years has resulted in a mixed marine fauna in the waters of St Helena including western Atlantic, eastern Atlantic and circumtropical species. Sea surface temperatures are warmest in March (median = 25.6 °C) and coolest in October (median = 20.2 °C), with large-scale temperature changes across the EEZ over the course of a year and warmest temperatures in the north of the EEZ (Figure 5). For further details of St Helena’s oceanography see DPLUS 070 report (Thorpe et al.2020).

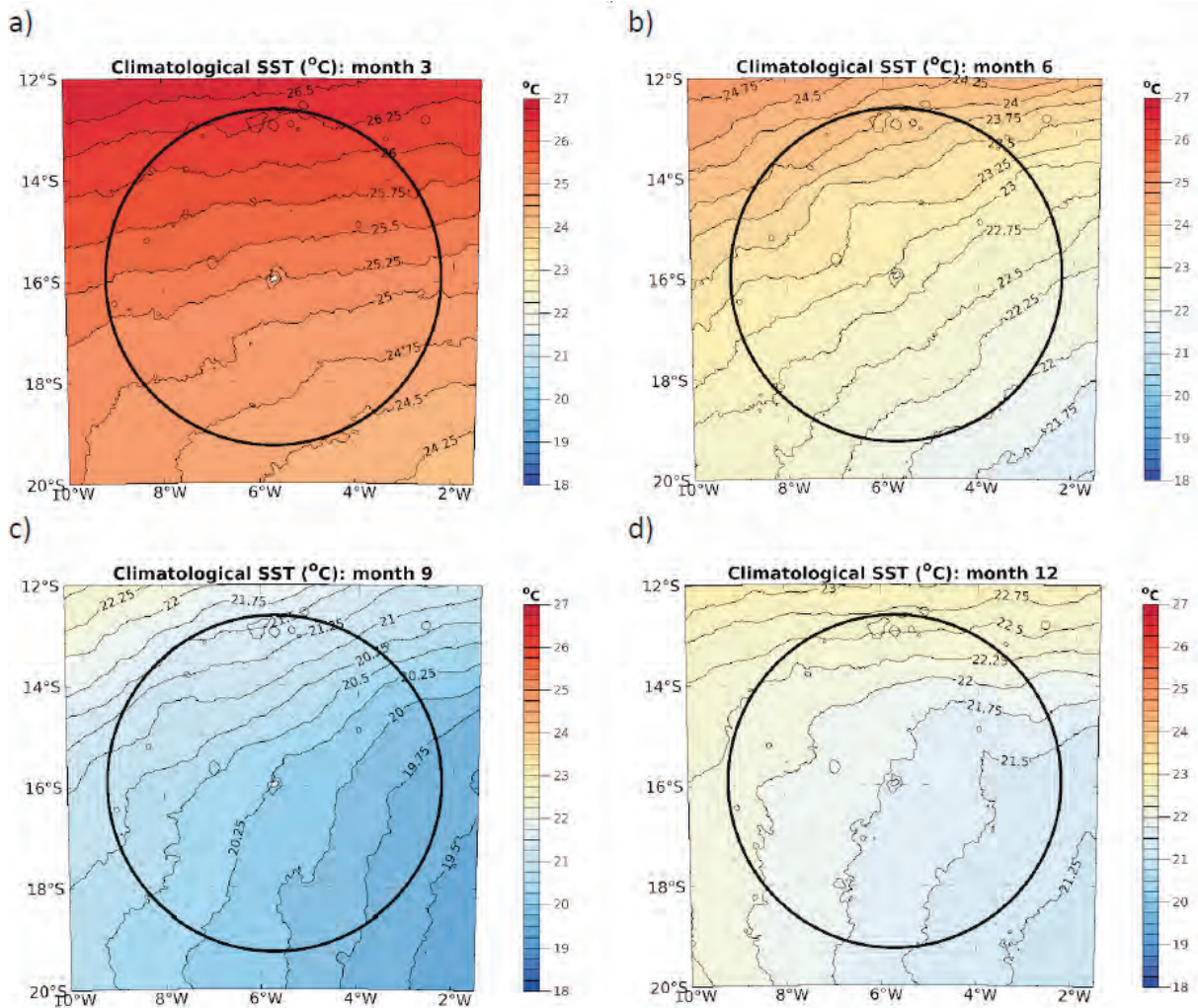
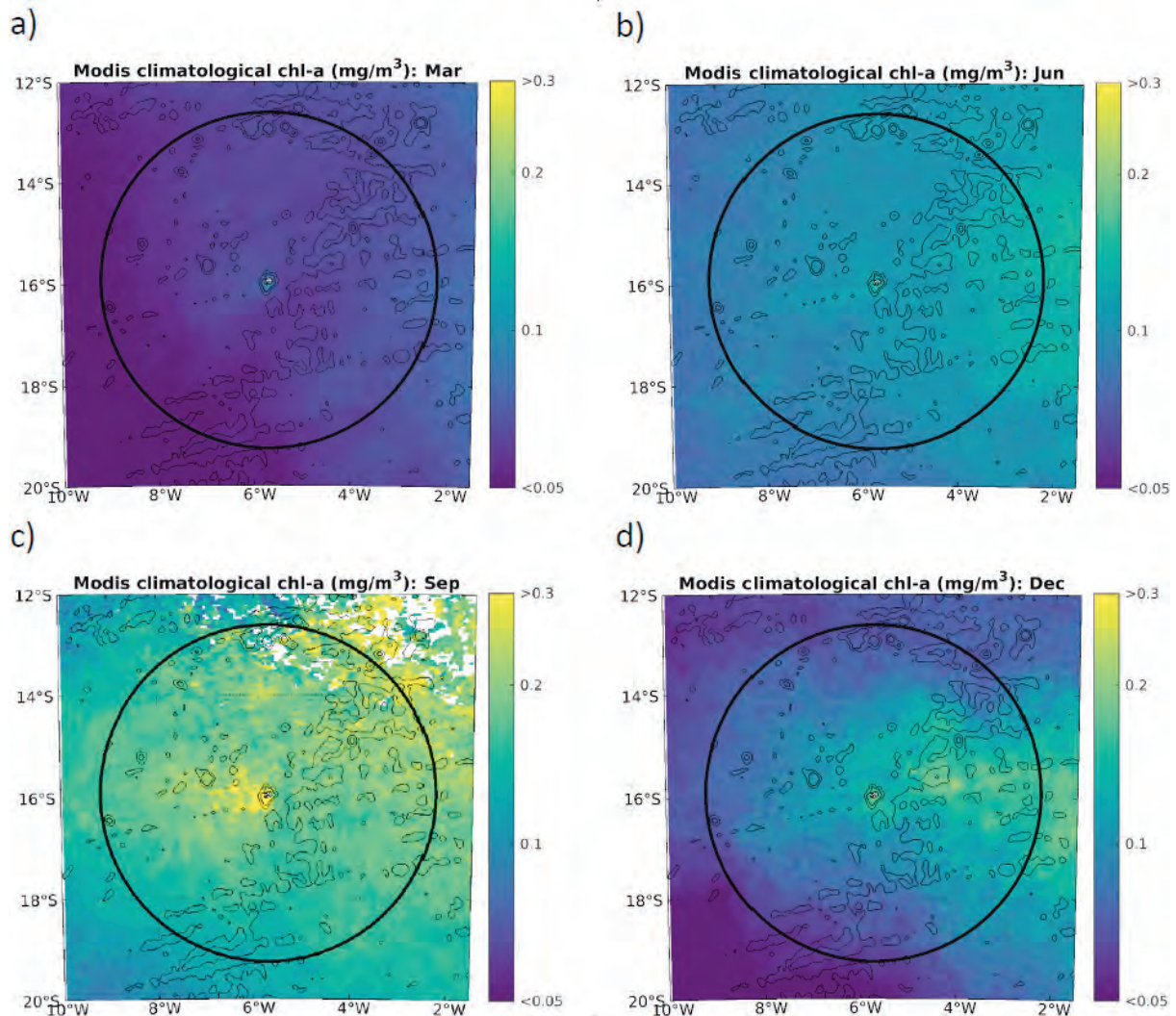


Figure 5. Group for High Resolution Sea Surface Temperature (GHR SST) climatological monthly mean sea surface temperature (SST, °C) for the period 2008-2017. A) March, b) June, c) September, d) December. SST contours every 0.25 °C. The St Helena MPA is marked as a thick black line, and the 1500 m isobath is plotted. From the DPLUS070 report (Thorpe et al. 2020).

Surface productivity has been assessed by monitoring chlorophyll- $\alpha$  content (a proxy for phytoplankton biomass). Productivity is constrained in the South Atlantic by nutrient availability, which strongly relates to vertical mixing (Moore et al. 2013). Although the waters in the St Helena MPA are fed by the terminal end of the productive Benguela / Angolan Current, most of the nutrients and primary productivity are lost before the current reaches St Helena. Mean monthly

chlorophyll content ratios indicate that productivity is lowest in March and highest in September/October (Figure 6 and Thorpe et al. 2020). Spatially, productivity varies, with highest productivity identified at Speery to the southwest of St Helena, noting that there is significant interannual variability at this site. For further details see the DPLUS070 report (Thorpe et al. 2020) and Blue Belt Programme report (CR098 2020).



**Figure 6.** MODIS climatological monthly mean surface chlorophyll concentration ( $\text{mg m}^{-3}$ ) for the period 2008-2017. a) March, b) June, c) September, d) December. White cells indicate no data due to cloud cover. Note that the chlorophyll values are plotted on a  $\log_{10}$  scale. The 200 nm EEZ is plotted with a thick black line, and the 1500, 3000 and 4500 m isobaths are plotted in thin black lines. From the DPLUS070 report (Thorpe et al. 2020).



## Key Marine Habitats

St Helena’s MPA can be divided into pelagic, open ocean and benthic habitats, which include the narrow shallow coastal fringe, the seamounts and the seafloor of the continental slope and abyssal plain.

St Helena has a narrow coastal margin, with 156 km<sup>2</sup> of area less than 200 m deep (Edwards & Glass 1990). Inshore habitats include large boulder and bedrock reefs; both white and volcanic sandy areas and regions covered in cobbles and

maerl. The north-western side of the island is comprised of mostly sandy bottoms, whilst the north-eastern and south-western sides are mainly bedrock (Figure 7). Marine habitat types on the southern side of St Helena are less studied, but the exposed windward side are more likely to be rocky. Further information on substrate can be found in Blue Belt Programme report (CR147 2020).

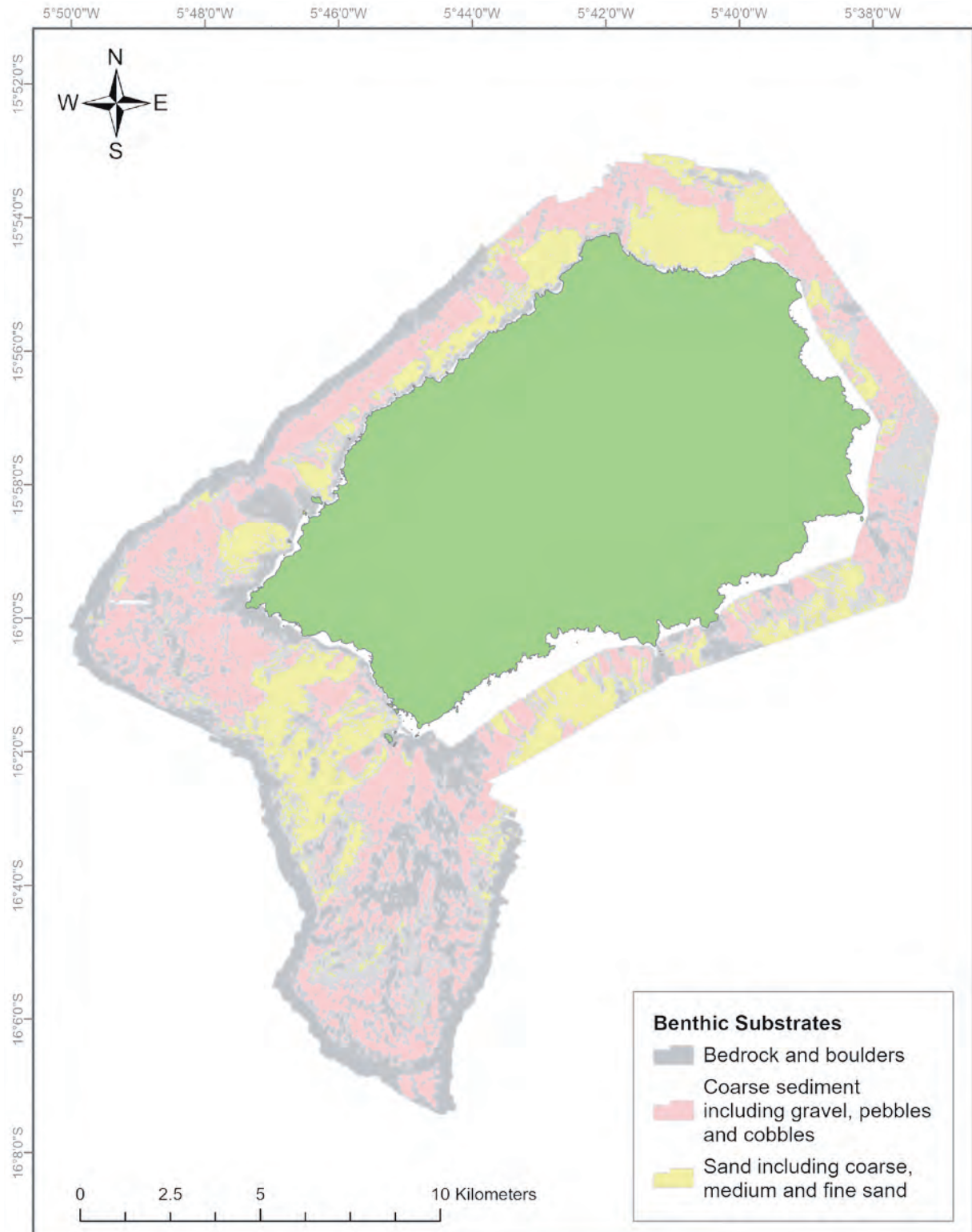


Figure 7. Habitat map denoting seabed type defined as bedrock and boulders, coarse sediment and sand. Regions without colour are yet to be surveyed and classified.



Key habitats within St Helena's MPA are summarised in Table 1 including their distribution and environmental importance. Some regions are host to unique and endemic biota (maerl),

although further research is required to complete habitat maps and to validate locations of habitat types.

**Table 1.** Summary of key habitats including habitat type, distribution and area covered within St Helena's MPA and environmental importance.

Habitat type	Habitat	Distribution	Area covered (km <sup>2</sup> )	Importance
<b>Benthic coastal</b>	Numerous substrates including rocks/boulders, rhodoliths and maerl	Coast surrounding St Helena island (>150m)	201	Habitat for benthic species (including endemics) and fish unique to these substrates.
<b>Benthic seamount</b>	Numerous substrates including rocks/boulders and deepwater sponge and coral grounds	Seamounts within St Helena's MPA (>3000m)	9,858	Habitat for benthic species and fish unique to these substrates.
<b>Benthic slope and abyssal plain</b>	Habitats including the slope and deep seafloor (>1500m)	Throughout St Helena's MPA	438,553	Unknown biodiversity. Almost no exploration.
<b>Upper pelagic</b>	Open ocean	Throughout St Helena's MPA	448,441	Habitat for tunas, sharks, marine mammals and seabirds.

## Key Marine Species

A total of 829 marine species have so far been documented for St Helena's MPA (Table 2), including 72 species of algae, 223 Mollusca, 44 Echinodermata, 218 Chordata, 43 Cnidaria, 33 Bryozoa, 69 Foraminifera, 64 Crustacea, 27 Porifera, 31 Annelida and 5 Platyhelminthes. In a recent review of St Helena's fish fauna, 19 new species were recorded for the island and three species new to science were described (Brown et al. 2019), demonstrating that knowledge of St Helena's biodiversity is evolving, even for well-known taxa like fish.

**Table 2.** Summary of documented marine species (by taxa) in St Helena based in information reported in (Brown 2014b, Brown et al. 2019, Santos et al. 2019).

Taxa	Number of documented species
Algae	72
Mollusca	223
Echinodermata	44
Chordata - sea-squirts	10
Chordata – fish (elasmobranch)	10
Chordata – fish (teleost)	179
Chordata – reptiles, birds, mammals	19
Cnidaria – Actinaria	21
Cnidaria - Octocoralia	9
Cnidaria - Hydrozoa	13
Bryozoa	33
Foraminifera	69
Crustacea (Decapod)	64 (35)
Porifera	27
Annelida	31
Platyhelminthes	5
<b>Total</b>	<b>829</b>

As of July 2022, the benthic coastal regions were home to 18 endemic species which are only found within St Helena's MPA (Table 3). These include a variety of different fish, shellfish and benthic species.



**Table 3.** Endemic species of fish, echinoderms, decapods and cnidaria from St Helena. Total species richness (TR) and endemic species richness (ER) (and percentage) are indicated for each group.

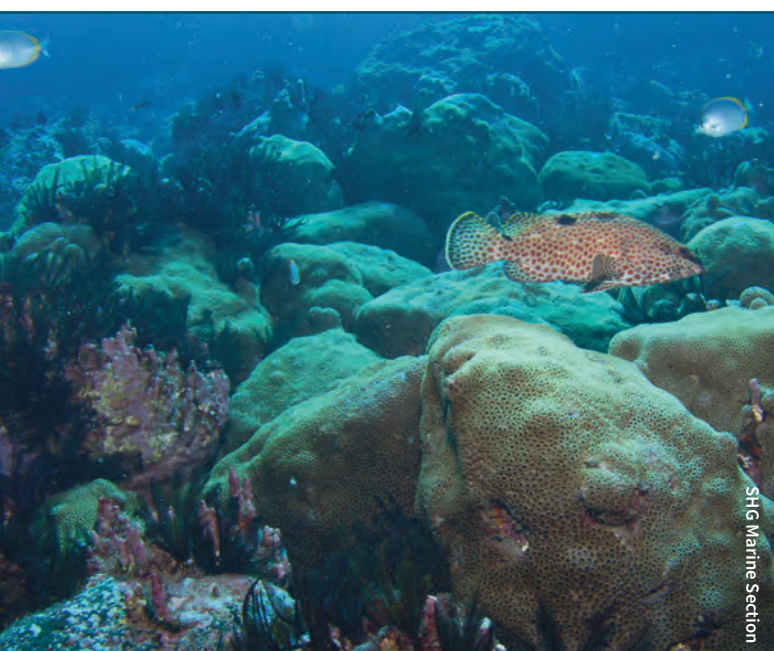
Group	Common Name	Local name	Scientific Name
<b>Fish</b>	St Helena fangtooth moray	<i>n/a</i>	<i>Enchelycore sanctaehelenae</i>
TR = 189	Undescribed conger species	<i>n/a</i>	<i>Conger</i> sp.
ER = 11 (4%)	Melliss's conger	<i>n/a</i>	<i>Ariosoma mellissi</i>
	St Helena skulpin		<i>Physiculus helenensis</i>
	Melliss's scorpionfish	<i>Gurnard</i>	<i>Scorpaena mellissii</i>
	St Helena seabream	<i>Old Wife</i>	<i>Diplodus helenae</i>
	St Helena damselfish	<i>Bastard Five Finger</i>	<i>Chromis sanctaehelenae</i>
	St Helena gregory	<i>Bastard Cavalley Pilot</i>	
	<i>Stegastes sanctaehelenae</i>		
	Springer's blenny	<i>n/a</i>	<i>Scartella springeri</i>
	St Helena lefteye flounder	<i>Flounder</i>	<i>Monolene helenensis</i>
	Reticulate tonguefish	<i>n/a</i>	<i>Symphurus reticulatus</i>
<b>Echinoderms</b>	St Helena seastar	<i>Starfish</i>	<i>Astropecten sanctaehelenae</i>
TR = 44; ER = 2 (5%)	St Helena burrowing urchin	<i>Sand Urchin</i>	<i>Echinocardium connectens</i>
<b>Cnidaria</b>	Orange Cup Coral	<i>n/a</i>	<i>Balanophyllia helenae</i>
TR = 37	St Helena Tree Coral	<i>n/a</i>	<i>Sclerhelia hirtella</i>
ER = 4 (11%)	Common Sea Anemone	<i>Sea Puss</i>	<i>Phymactis santaehelenae</i>
	Trumpet Anemone	<i>n/a</i>	<i>Aiptasia insignis</i>
<b>Crustacea</b>	Red Slipper Lobster	Stumps	<i>Scyllarides obtusus</i>

The following sections summarise the key species present within St Helena's MPA by taxonomic class, including relevant literature and research undertaken to date. For further details and species-specific summaries please see Blue Belt Programme report CR098 (CR098 2020). A number of marine species are included on the IUCN Red List of Threatened Species and listed as protected species on Schedule 2 of the Environmental Protection Ordinance, 2016 (Annex 1).

## Corals

Despite being in a sub-tropical location at a latitude where coral reefs normally form, St Helena has no coral dominated habitats. There are six species of shallow water hermatypic stony corals (Scleractinia) that live on rocky reef habitats around the island. These include the zooxanthellate corals, *Favia gravida*, *Siderastrea radians* and *Madracis decactis*, and the filter-feeding azooxanthellate corals, *Polycyathus atlanticus*, *Balanophyllia helenae* and *Sclerhelia hirtella*. The latter two azooxanthellate corals are endemic to St Helena and are found on steep walls and overhangs in current swept areas.

Deep-water corals, comprising a number of species including the reef-building *Desmophyllum pertusum* and *Solenosimilia variabilis*, and solitary species from a wide range of groups (such as black corals, bamboo corals, and sea whips), seem to occur widely around the Island and seamount margins of St Helena's MPA. Records are currently patchy both in terms of the depth bands surveyed so far, predominantly 100-1000 m, but also within these bands. These corals occur beyond the photic zone and rely solely upon sinking organic matter from the surface. Deep-water corals have important ecological roles such as the creation of habitat, particularly for deep-water fishes, and the sequestration of oceanic carbon.



Knowledge of the deep-sea habitats in the St Helena MPA is poor, with patchy records from only a handful of relatively brief surveys around the Island and at the largest seamounts (Bonaparte, Cardno, and Southern Cross). Some predictive habitat modelling of generalised biotopes, and of reef-forming deep-water corals specifically, has been undertaken but this remains unvalidated because of the paucity of data. Deep-water research continues to turn up new discoveries, such as extensive fields of sea pens (Pennatulacea) at around 700 m depth on the southern margin of St Helena.

## Crustacea

Approximately 64 species of crustacean have been identified so far (Brown 2014b), with two key commercial species; the endemic slipper lobster (*Scyllarides obtusus*) and spiny lobster (*Panulirus echinatus*), known locally as “longlegs”. A recent Darwin Plus project (Sustainable management of lobster populations, DPLUS077) provided insights into these key commercial lobster species including their ecology, catch and landings, legislation and current management practices.

## Cephalopods

Three species of cephalopods are found in littoral areas, inhabiting rocky (common octopus, *Octopus occidentalis*) and sandy habitats (white-spotted octopus, *Callistoctopus macropus*). The blanket octopus (*Tremoctopus violaceus*) is generally pelagic (Brown 2014b), but it has been observed swimming just above the bottom (Carpenter & De Angelis 2014). The taxonomic status of *Octopus sanctaehelenae* and *Octopus insularis*, and their relation to *O. occidentalis* remains unresolved (Amor et al. 2017).

Additionally, there are 47 cephalopod species occurring in the offshore region, with cosmopolitan distributions and varying habitat preferences, from epi-pelagic to bathy-pelagic distributions (Carpenter & De Angelis 2014). Of those, 24 species have been identified in a recent survey in St Helena’s MPA, with one putative new species (Morley 2018).

## Fish

A total of 189 species of fish have been documented in St Helena’s MPA in studies primarily focused on inshore regions (Edwards 1990, Brown et al. 2019). Additionally, a recent cruise (Morley 2018) noted one hundred different species in offshore regions (depths down to 1000 m). In the inshore areas, 11 species of fish have been identified as endemic to St Helena (Edwards 1990, Brown 2014b)

There are several demersal fish species that have historically been the target (or bycatch) of local fisheries (Edwards 1990) or have been observed in scientific expeditions (Morley 2018) or during dive surveys (Cowburn et al. 2021). Common species include grouper (*Epinephelus adscensionis*), conger (*Gymnothorax moringa*), cavalley (*Pseudocaranx dentex*) and deepwater bullseye (*Cookeolus japonicus*). Other species include old wife (*Diplodus sargus helenae*), squirrelfish (*Holocentrus adscensionis*), pompano (*Trachinotus ovatus*), glasseye snapper (*Heteropriacanthus cruentatus*) and gurnard (*Scopaena plumieri*). Reviews of demersal species is provided in Blue Belt Programme reports CR071 (CR071 2020), CR165 (CR165 2021) and groundfish species fishery management advice is provided in Blue Belt Programme report CR170 (CR170 2021).

Pelagic fish species within St Helena’s MPA include small pelagic fish, tuna, and billfish. Small pelagic fish are the foundation for all local fisheries, as they are used as bait. Bait species include kingston (*Decapterus macarellus*), stonebrass (*D. muroadsi*), summer stonebrass (*D. punctatus*), steenbrass (*Crumenophthalmus selar*) and mackerel (*Scomber colias*). St Helena’s stonebrass population is considered to be one of several scattered remnants of a once widespread species (Edwards & Glass 1990). Review of baitfish species and their fishery management advice is provided in Blue Belt Programme report CR168 (CR168 2021). Several large pelagic species are present within St Helena waters and are important for local fisheries. Species include yellowfin tuna (*Thunnus albacores*), skipjack tuna (*Katsuwonus pelamis*), bigeye tuna (*Thunnus obesus*), albacore tuna (*Thunnus alalunga*), wahoo (*Acanthocybium solandri*), swordfish (*Xiphias gladius*) and blue marlin (*Makaira nigricans*). Recent studies on yellowfin tuna tagged within St Helena’s MPA highlight seasonal changes in vertical behaviour (Wright et al. 2021a) and the high retention of yellowfin tuna within the EEZ (Wright et al. 2021b). Review of tuna species and their fishery management advice is provided in Blue Belt Programme report CR169 (CR169 2021).

Seven families of shark have been documented in St Helena’s MPA including whale sharks (Rhincodontidae), thresher sharks (Alopiidae), crocodile sharks (Pseudocarchariidae), mackerel sharks (Lamnidae), requiem sharks (Carcharhinidae), hammerheads (Sphyrnidae) and carpet sharks (Orectolobiformes). Additionally, a species of devil ray (*Mobula tarapacana*) is regularly observed in St Helena’s MPA (Edwards 1990, Brown 2014a, Beard et al 2021). Species of note include the whale shark (*Rhincodon typus*, listed as endangered under IUCN), which is seasonally abundant in inshore waters in the summer months, with both males and females found in the local area (SHG 2016). Cookiecutter sharks (*Isotius brasiensis*) are suspected in the region based on injuries found on tuna (Edwards 1990), but none have been recorded to date. Other species of note include the Galapagos shark (*Carcharhinus galapagensis*) and shortfin mako shark (*Isurus oxyrinchus*) which used to be caught as bycatch by the local fishery.

Further information on fish species can be found in the Blue Belt Programme Fisheries Profile report (CR012 2018) and the Marine Habitats and Biodiversity Assessment (CR147 2020).







### Turtles

Three species of turtle are found around the island, but not in great numbers; the green turtle (*Chelonia mydas*), hawksbill turtle (*Eretmochelys imbricata*) (Edwards & Glass 1990) and leatherback turtles (*Dermochelys coriacea*). Anecdotal evidence suggests that in the past, female green turtles have attempted to nest on Sandy Bay in considerable number. The shore in recent years has not been suitable for turtle nesting (unlike Ascension Island) (Edwards & Glass 1990). Since 2005 there have been sporadic nesting attempts at both Rupert's and Sandy Bay beach. The majority of attempts resulted in washouts with only one recorded successful hatching event at Sandy Bay in 2015.

### Seabirds

Seventeen species of seabird from seven families have been recorded on mainland St Helena and its nearby islands. There are numerous sightings of vagrant seabird species. Previous studies indicate that there are four species of gulls and terns (Laridae), three species of booby (Sulidae), three species of petrels and shearwaters (Procellariidae), one species of tropicbirds (Phaethonitidae) and two species each from the families of skuas (Stercorariidae), frigatebirds (Fregatidae) and storm petrels (Hydrobatidae and Oceanitidae). Only nine of these birds' nest on the offshore islands and mainland and all are ground nesting species that use steep cliffs and offshore islets, such as Egg Island, Thompson's Valley Island and Peaked Island. However, the fairy tern (*Gygis alba*) roosts and nests across the island in variety of habitats. The global population of tropicbirds (Phaethonitidae) is estimated to be around 8000 pairs (Lee and Walsh-McGehee 2000) therefore St Helena's population could represent 1.2-2.5% of the global population. This makes the population of red-billed tropicbirds internationally important. Work is currently ongoing to clarify status of storm petrels (Hydrobatidae) and tropicbirds (Phaethonitidae).

### Marine mammals

A number of dolphin and whale species are present within St Helena's MPA as resident populations and occasional visitors. Resident populations include pantropical spotted dolphin (*Stenella attenuata*), rough-toothed dolphin (*Steno bredanensis*) and bottlenose dolphin (*Tursiops truncatus*). Early research undertaken by Dr W. Perrin on the dolphin populations of St Helena, noted that the pantropical dolphin, known locally as the "porpoise", is the most common species, followed by the bottlenose, which is known locally as the "cowfish" (Edwards 1990). These dolphin populations are observed throughout the year with seasonal reduction in sightings of bottlenose dolphins (Clingham et al. 2013) potentially linked to dolphins moving offshore (Martin et al. 2021).

St Helena is a wintering ground for several cetacean species (Whitehead 2003, MacLeod & Bennett 2007, Clingham et al. 2013), with the humpback whale (*Megaptera novaeangliae*) known to seasonally calve in St Helena's MPA from June to December (Clingham et al. 2013). Observations of humpback whales outside this period (in April) suggests further studies are required to understand the ecology of this species within St Helena's MPA (Martin et al. 2021). There are numerous sightings of vagrant cetacean species. Sperm whale occurrence and seasonal patterns of movement also require further study, with occasional sightings since historical records of hunting sperm whale around St Helena (Clark 1887). Other historic records of sea mammals found around the island include the southern elephant seal (Edwards 1990) which is no longer found on the island (and was last reported in 1819 by D. Henry).



# 3 Human Uses

## Fishing

St Helena has a long history of fishing (Edwards 1990), with targeting by recreational, commercial and sports fishers. A history of fishing within St Helena’s MPA is provided in the Blue Belt Programme Fisheries Profile (CR012 2018), and the St Helena Fisheries Sector – Review and Strategy (Collins 2017).

St Helena’s MPA offers the potential for future services for commercial fishing of its tuna species which directly provides a means of food and income through servicing the local market for fish and the potential for value added export capabilities to generate foreign exchanges revenues.

St Helena’s MPA can be divided into separate fishing areas: inshore and offshore. The inshore area includes the seas within 30 nm of the island. The offshore area encompasses the remainder of the EEZ, between 30 and 200 nm.

The main target species for St Helena’s recreational, commercial and sports fisheries is tuna, both for the local market as an important source of protein, and as one of the few export industries. In addition to tuna, other species targeted by St Helena fishers include wahoo, other large pelagic fish (dorado, marlin and cavalley), groundfish (grouper, rock bullseye, deepwater bullseye), species used for bait (mackerel and Decapterus species), and lobster (Figure 8).

The methods used, and the time of day the fishing occurs, depends on the target species and includes rod and reel, pole and line, potting, hand gathering, and spearfishing, all of which are one-by-one fishing methods. Figure 8 provides an overview of fishing methods used in relation to the species targeted and the time of day.

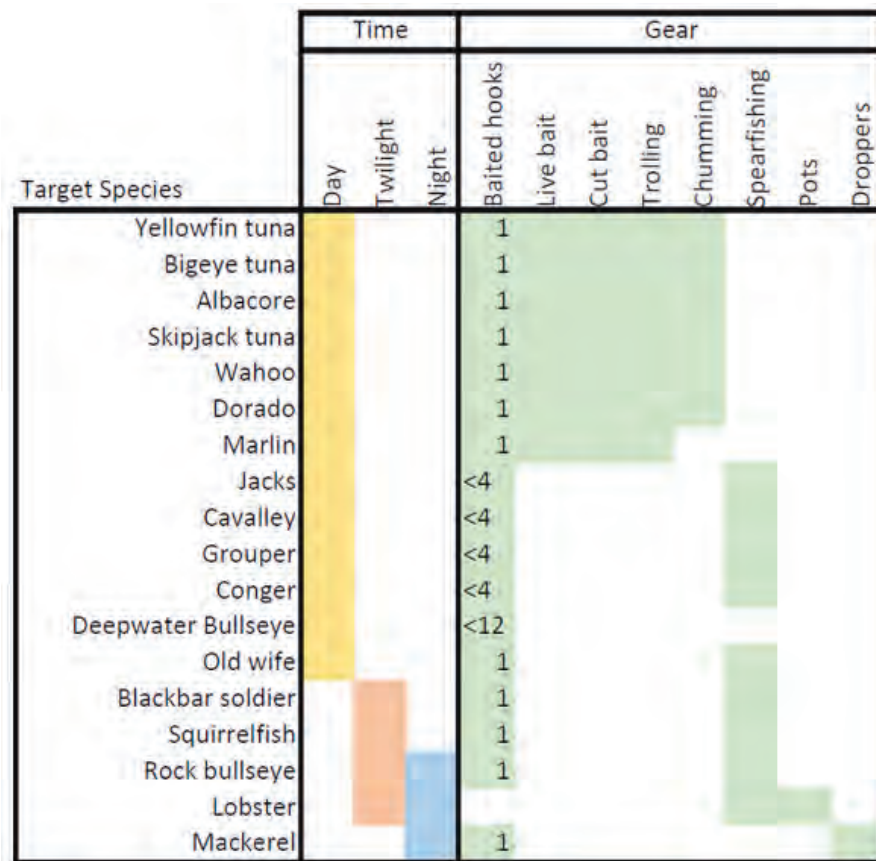


Figure 8. Diagram showing the main fisheries resources targeted within St Helena’s MPA, along with the primary gears used and time of day when fishing for this species takes place. The number represents the number of hooks used.

Rod and reel, pole and line and trolling methods are used to target large pelagic species. For rod and reel and pole and line fishing, bait (small pelagic fish) is often used to “chum” the area around the vessel to attract large fish. Fishers then use baited or unbaited hooks cast from a stationary or moving vessel. Trolling involves the vessel dragging lures behind the vessel to try to attract large pelagic fish.

Potting and hand gathering methods are used to target lobster. For potting, bait (fish heads etc) is placed within the lobster pot, and the pots are left to soak at least overnight. Lobster are also targeted by divers by hand (hand gathering methods).

Spearfishing is used to target large pelagic fish, groundfish and lobster. Spearfishing is a form of fishing in which a fisher attempts to catch fish using a lance or speargun whilst underwater freediving. The two basic types of spears are elastic (powered by rubber bands) and pneumatic which are attached to floats or buoys. Near shore spearfishing for ground fish and lobster species is usually undertaken using a lance (elastic powered - Hawaiian sling shot). Pneumatic spear guns are used in the capture of pelagic species like tuna in deeper areas. Pelagic spearfishing has grown in popularity in recent years.



## Sports fishing and recreational fishing

Sport fishing involves local vessels which can be chartered to target 'sport fish' including tunas (*Thunnus* sp.), wahoo (*Acanthocybium solandri*) and billfish (catch and release only). Recreational fishing involves local fishers targeting pelagic fish or groundfish for recreation or for subsistence and can be carried out from shore or boat. Currently there are six sport fishing licences issued and 39 recreational licences issues (data of licences to fish in 2022). The Fishing Licencing Policy for St Helena Island 2020 notes that a precautionary approach will be taken to licencing until the relative impact of sport and recreational activities on fish resources and fish habitat can be established. In practice, this will mean implementing a limit on vessel numbers that are licenced, implementing licencing for all spearfishing activities and bag/vessel limits for fishing periods for catch of the various species of interest.

Methods used by sports and recreational fishing boats include rod and reel, pole and line, potting, hand gathering, and spearfishing, where the method used depends on the species

targeted and the location. Catches have only been reported for recreational and sports fishers since January 2021, with returns showing seasonal trends in fishing activities.

## Rock fishing and shoreline entry spearfishing

Rock fishing is an important cultural use of the marine environment. Historically, rock fishing was important for subsistence. But, since the 1970's, fish availability to the public has increased, with catch sold in the local market, mobile fish vans and country-based stores. Therefore, rockfishing changed from a subsistence activity to an activity mostly for recreation.

Rock fishers follow old established trails along the cliff faces and down ropes and ladders to rocky outcrops along the coastline (Figure 9), with a few sites requiring overnight or day trips accessed via boat (small boats take rock fishers to hard-to-reach fishing spots and collect them a few hours later). Rock fishing methods include handlines, bamboo rods, modern rod and reels and droppers.

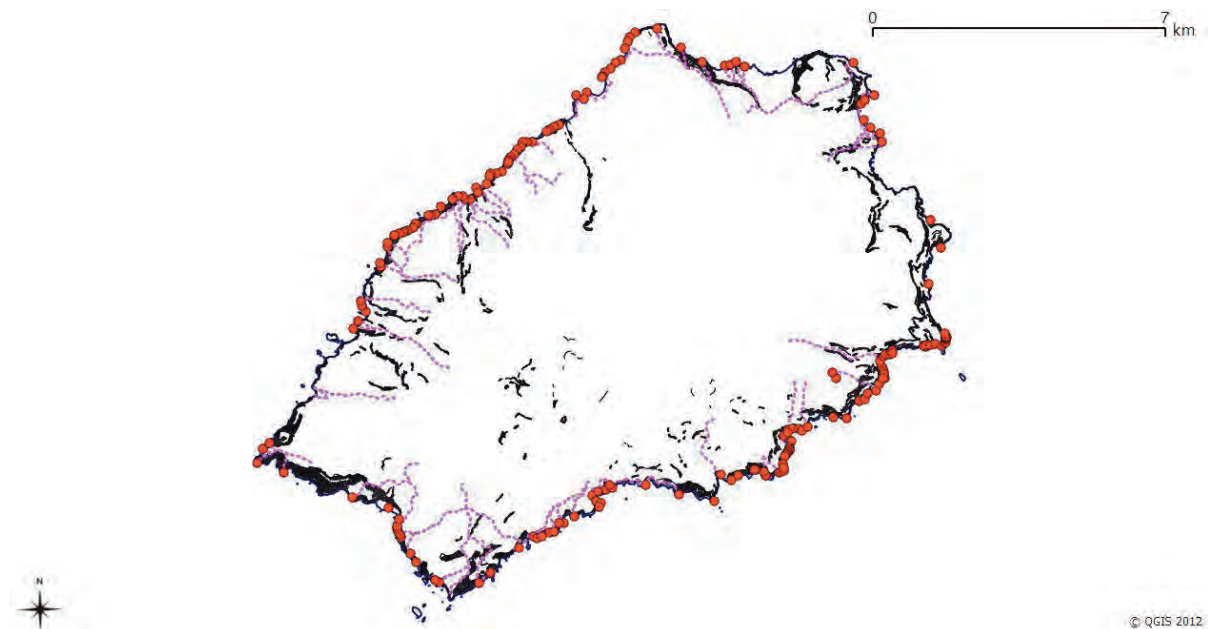


Figure 9. Roads (pink) and sites (red points) where rockfishing has been known to take place around St Helena Island.

A rock fishing survey conducted by St Helena Government in 2012 and 2013 indicated that the species usually targeted by rock fishers are glasseye snapper (*Heteropriacanthus cruentatus*), mackerel (*Scomber colias*), moray eel (*Gymnothorax moringa*), grouper (*Epinephelus adscensionis*), squirrelfish (*Holocentrus adscensionis*), blackbar soldier (*Myripristis jacobus*) and octopus (*Octopus occidentalis*) (CR071 2020). Some fishers also report targeting spiny lobster and although illegal, occasionally Galapagos sharks (known locally as the mackerel shark). Since the updated management measures have been introduced in 2020, targeted education has been ongoing with rock fishers to raise awareness of the rules. Rockfishing catches are not

quantified regularly, but verbal reports indicate that between 1 to 2 dozen fish are landed per trip or whatever fishers can carry (Henry et al. 2013)

In addition to rockfishing, an unquantifiable number of individuals also go spearfishing from shore. There has been no evidence gathering about seasonality of this fishing activity including the target species and catch. Though, it is likely that the number of people spearfishing from the shore is very low even less than the number of rockfishers.

### Commercial fishing

Commercial fishing occurs both inshore and offshore within St Helena’s MPA allowing fishers to sell their catch to the local market or for export. Currently there are 16 licensed commercial fishing vessels (licenced to fish in 2022). Yellowfin tuna (*Thunnus albacares*, YFT), bigeye tuna (*Thunnus obesus*, BET), skipjack tuna (*Katsuwonus pelamis*, SKJ) and wahoo (*Acanthocybium solandri*, WAH) are the principal target species, with economic potential to support the local market and to generate revenue from the export market, but nearshore demersal species such as grouper and lobster are also occasionally targeted. Commercial fishing for

nearshore species such as grouper (*Epinephelus adscensionis*), conger (*Gymnothorax moringa*), glasseye snapper (*Heteropriacanthus cruentatus*), squirrelfish (*Holocentrus ascensionis*) and soldierfish (*Myripristis jacobus*)), usually happens when tuna catches are poor or when the local market demands other species.

Catches vary between years and by species (Figure 10). Highest landings in recent years (since 2015) have been for tropical tuna species (yellowfin tuna, bigeye tuna and skipjack tuna; Figure 9A).

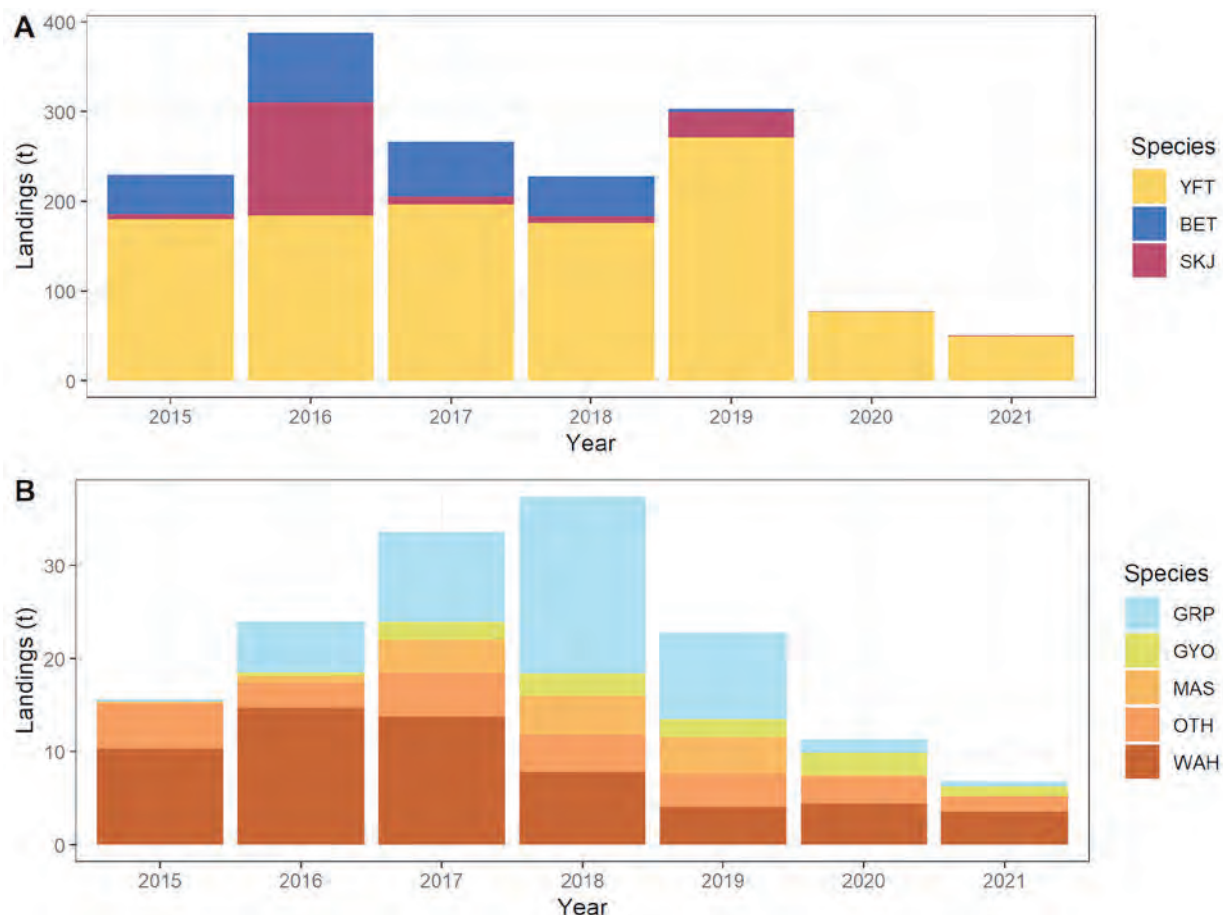


Figure 10. Catches (tonnes) of targeted species per year by St Helena’s fishing vessels. Species codes include bigeye tuna (BET), skipjack tuna (SKJ), wahoo (WAH), yellowfin tuna (YFT), grouper (GRP), conger (GYO), mackerel (MAS), wahoo (WAH) and other landed species (OTH).



In terms of size, the average size of the tuna caught varies spatially and temporally with largest yellowfin tuna and bigeye tuna caught at the northernmost area of the EEZ, at the Cardno Seamount (CR087 2020).

For further details on variability of commercial tuna catch by size, year and season, see Blue Belt Programme report CR087 (CR087 2020).





## Tourism / Recreation

Both tourists and locals take part in recreation activities that are associated with the marine environment. The main marine recreational uses and activities undertaken are swimming, snorkelling, sailing, water sports, boat rides, SCUBA diving, free diving, fishing, spearfishing, beach/coastal recreation, wildlife viewing and wildlife interaction. Lemon Valley, Sandy Bay, Rupert's Bay and James Bay are four areas used regularly as locations where people meet, socialise and have outdoor cookups by the sea. At Lemon Valley, Rupert's Bay and James Bay people also swim/snorkel, SCUBA and free dive and enjoy other various water sports activities including jet skis, kayaking and paddle boarding.

### Wildlife watching / interactions

Wildlife watching/interactions are provided by a number of the Marine Tour Operators who have designed services focusing on both seasonal and resident marine species to support their business. Locals also use their own boats to view marine wildlife and there are boats available for charter. There are currently six Marine Tour Operators in total.

Wildlife interaction and viewing tours seasonally focus on whale sharks (*Rhincodon typus*) from November to April and humpback whales (*Megaptera novaeangliae*) from June to December. They also offer year-round opportunities for observing the resident populations of pan-tropical spotted dolphins (*Stenella attenuata*), as well as bottlenose dolphins (*Tursiops truncatus*), rough-toothed dolphins (*Steno bredanensis*) and the seabird colonies off Egg Island. Several Marine Tour Operators provide customers with an opportunity to snorkel with whale sharks.

### SCUBA and Deep-Water Free Diving

Currently there are two active Marine Tour Operator SCUBA diving businesses, a local dive club and one free diving instructor business. Locals also use their own boats or enter the water from appropriate locations to undertake SCUBA

diving and recreational free diving using facilities provided by the local dive club. Marine Tour Operator businesses offer SCUBA diving trips for paying clientele. Pleasure SCUBA diving via Marine Tour Operators occurs regularly at least four times per week with both operators taking around 2 to 20 people per trip, with additional training dives occurring at other times during the week. Deep/blue water free diving has increased in popularity in recent years and is undertaken by a small number of people. Almost all the diving occurs at sheltered sites on the leeward side of the island. The most popular dive sites are James Bay, Long Ledge, Red Island, Billy Mays, Bennett's Point, Buoy Hole (Cavalley Hole), Cavalley Rock and the wreck sites (in particular Frontier, Bedgellet, Darkdale and Papanui) (Figure 11). These sites support a variety of marine life and a host of endemic species. Charismatic species such as devil rays (*Mobula tarapacana*) are also a major draw for divers.

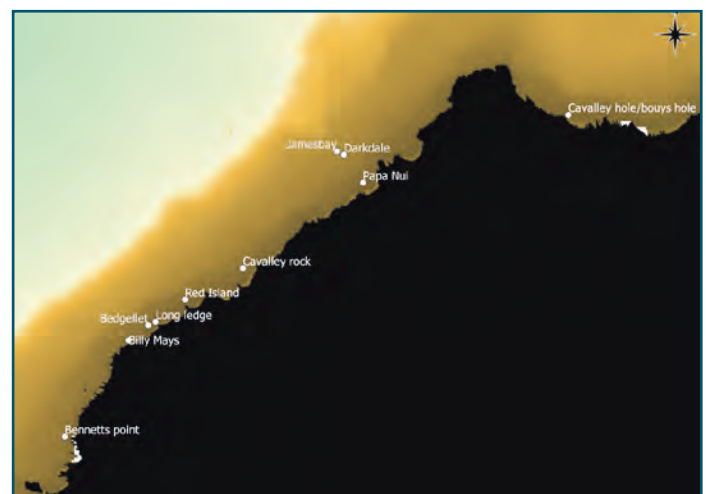


Figure 11. Dive site locations within St Helena's MPA.

## Shipping

The St Helena MPA has a moderate level of shipping traffic transiting through it. Automatic Identification System (AIS) monitoring has shown a stable, annual, presence of cargo ships within the MPA, with cargo ships frequently observed transiting every month. General traffic flow within the MPA is in a north-westerly/south-easterly direction, although there is evidence of vessel traffic heading to and from West African and South American ports (NASH Maritime Ltd, 2021). A low and stable presence of hazardous cargo vessels occurred during the period reviewed. During 2019 to 2021, between 642 and 820 non-fishing vessels were observed annually within the St Helena MPA, of which an average of 173 per year were carrying hazardous cargo (Table 4).

*Table 4: Total unique vessel AIS IDs per category within the St Helena MPA and surrounding buffer zone between 2019 and 2021. NB the fishing vessels observed were transiting the MPA*

Category	2019	2020	2021	Total
<b>Cargo</b>	288	393	358	1,039
<b>Hazardous cargo</b>	162	181	176	519
<b>Fishing</b>	27	67	46	140
<b>Passenger</b>	10	14	7	31
<b>Pleasure</b>	141	128	101	370
<b>Unknown</b>	11	20	10	41
<b>Other</b>	30	84	30	144
<b>Total</b>	<b>669</b>	<b>887</b>	<b>728</b>	<b>2,284</b>





## Marine Development Activities

Marine development activities in St Helena are defined as: dredging; deposition of materials or objects; removal of materials or objects; construction works; aggregate extraction; offshore renewable energy generation; laying of submarine cables or pipelines; gas drilling; carbon capture and storage; and exploration for and exploitation of natural gas, petroleum and minerals. Current marine developments within St Helena’s MPA include sand extraction, vessel moorings, submarine cables and artificial reefs.

### Sand extraction

Marine sand has been extracted, mainly from James Bay, since 1979. Crushed aggregate and sand were originally used to make concrete but nowadays most of the sand is used for mortar and plastering for local building and businesses.

Sand pumping was initially undertaken by Solomon and Company Plc in James Bay, after which the practice was continued by a private operator. A second, private operator began pumping sand in Rupert’s Bay for a period of around 10 years in the late 1980s to early 1990s. People have also been reported to take sand off the beach with a shovel at Sandy Bay, James Bay and Rupert’s Bay. There have been occasional requests to St Helena Government (usually once per year) for small quantities of sand and beetle stones (cobble) from Rupert’s Bay, mostly for use for house features such as patios or fireplaces. Records of the quantities of sand extracted by businesses exist for the period from 1986 to 2006. Quantities have varied, peaking initially in 1978-79 and again in 1995-96 due to an increased requirement for use in house construction, but have remained relatively stable ever since (Figure 12). Between 2005/6 and 2012/13, an average of 2,000 m<sup>3</sup> was extracted annually.

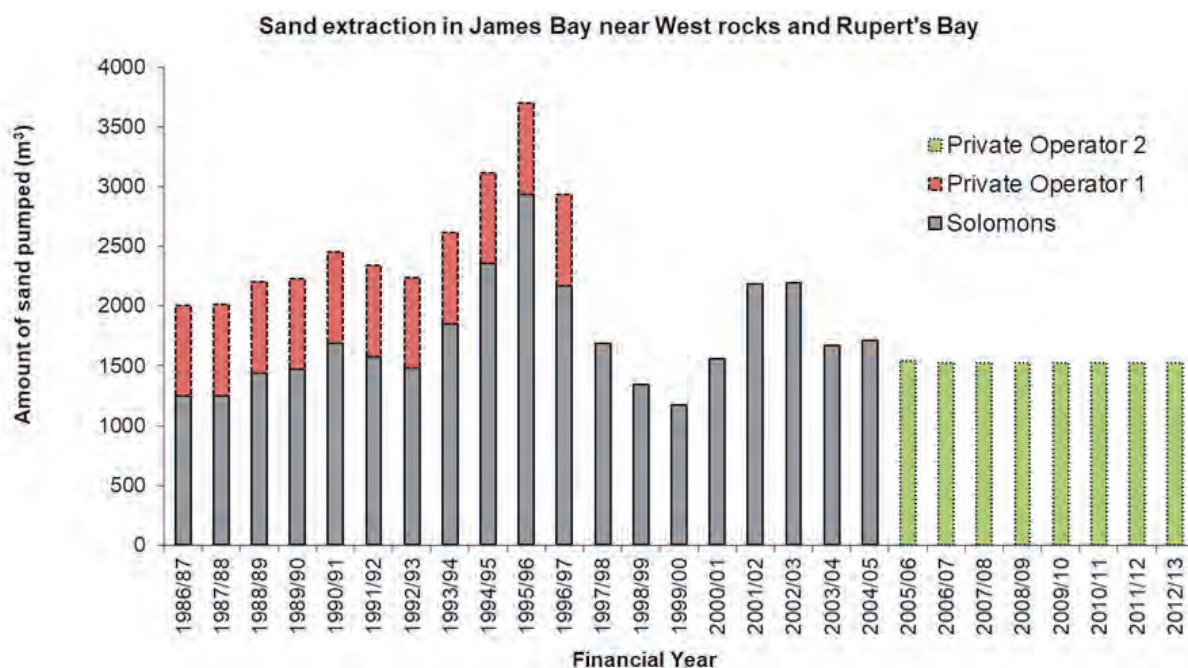


Figure 12. Reported annual volumes of sediment extracted from James Bay (near West Rocks) and Rupert’s Bay. Values from 2005/6 to 2012/13 are a single estimate rather than accurate records.

The extraction method involves pumping sand from a barge anchored to four to six permanent anchors. The barge is then moved around as necessary to each anchor point. The works typically take place over two days per week (usually Saturday and Sunday from 8am-4pm). A three-inch suction pipe, with a two-inch delivery end, is used to extract the sand. The extraction is guided by drop down camera to identify the sand resource. The sand is filtered to remove any non-target material e.g. larger rock/stones, organic matter, litter etc. and the filtered material is disposed of away from the extraction site. The extracted and filtered sand is either stored on land at West Rocks or pumped into skips located on barges. If collected in skips on barges, the sand is transported to the landing area and craned from the barge directly onto delivery trucks for storage/drying inland.

### Vessel Moorings

Most local vessels are moored in James Bay. The moorings run in several parallel lines facing north/south. Moorings are generally heavy anchors placed on the seabed with chain and rope combination configurations to secure both the stern and bow of the vessel. Anchors include old engine blocks, concrete blocks, concrete filled tyres and old large ship anchors. Most vessels have their own anchors although there are a few that share. Mooring locations within the port are assigned to a vessel by the Harbour Master; the vessel owner designs and deploys the required mooring and are provided basic guidelines by the Harbour Master. To the west end of James Bay, the island has 23 visitor moorings designed for a maximum 20 tonnes displacement and 50 ft (length overall (LOA)) and 5 of which have a maximum 50 tonnes displacement and 60 ft (LOA). Buoys are allocated on a first come first served basis; on average, 120 yachts use these moorings each year.

### Sub Marine Cable System

Currently the only subsea cable within the St Helena MPA is the EQUIANO cable; prior to commencement of this work an environmental impact assessment was undertaken. This is a private subsea telecommunications cable that connects Africa with Europe. The EQUIANO cable system spans approximately 16,000 km from Sisymbria, Portugal to Melkbosstrand, South Africa with branches to Nigeria, Namibia, and St Helena. The cable is surface laid within St Helena's MPA. The cable route leaves Rupert's Bay from the beach landing point following a north-north-west

alignment away from the coastline sitting on the seabed, the cable diverts to the north and continues diagonally across the seabed gradient until it reaches the slope (approximately 6.5 km from the point of landing, continuing to approximately 7.7 km). By this point the cable route follows a north-north-east path to the steep seabed slope, approximately 24.5 km from the beach landing point passing out of St Helena territorial waters. The cable route outside the 12 nm territorial water limit is also surface laid and continues at an easterly alignment (Figure 13).

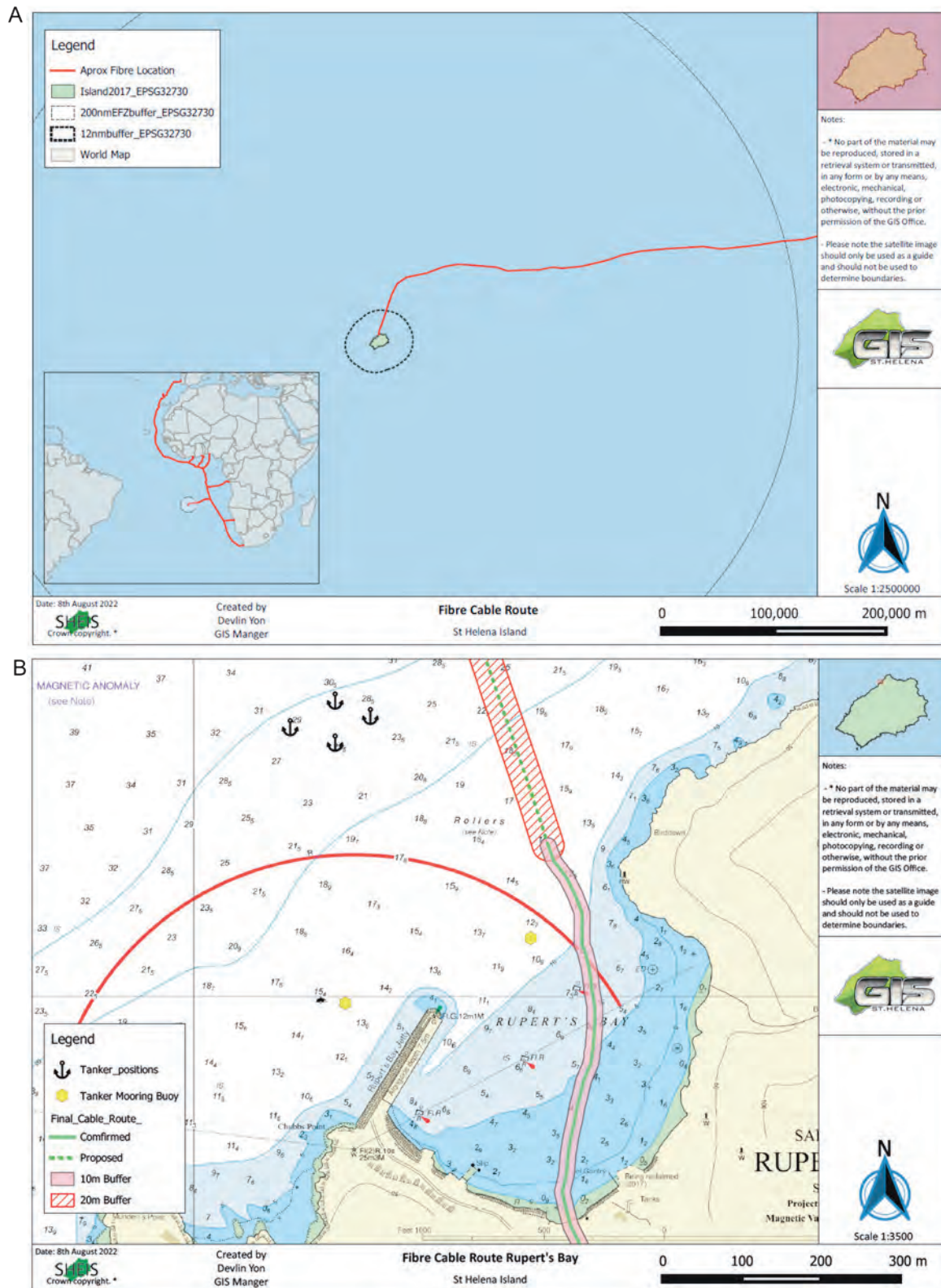


Figure 13. EQUIANO sub-marine cable system showing links to other countries (A) and point of landing within St Helena's MPA at Rupert's Bay (B).



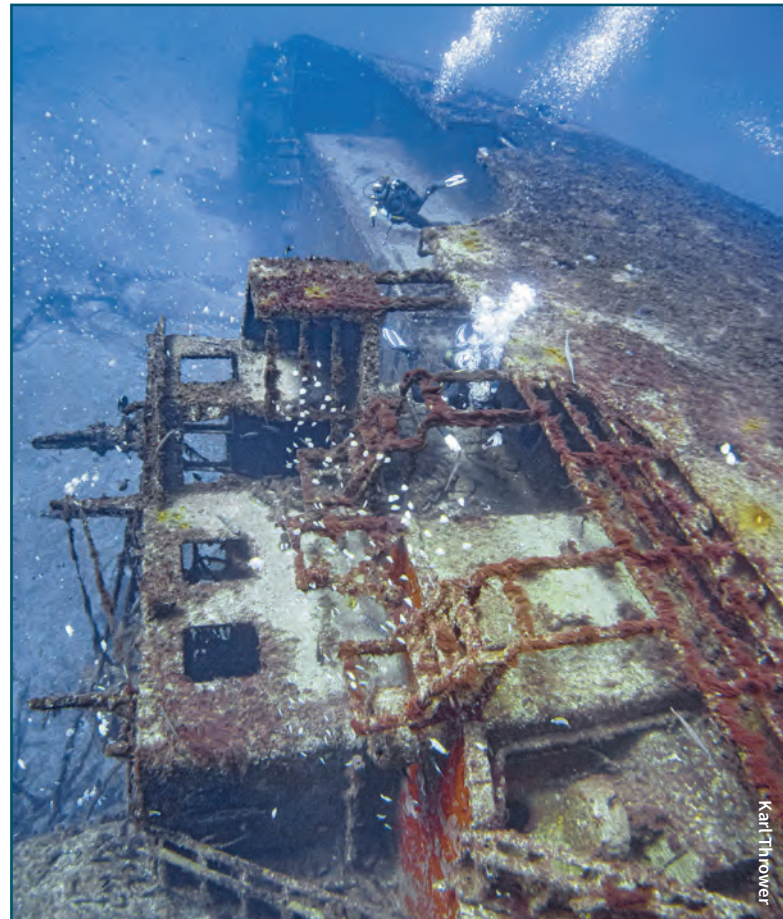
## Artificial reefs and Wrecks

In 1987 an intended artificial reef (in 29 metres of water) made of old car bodies was established at a site off Breakneck valley to create additional habitat for fish. All vehicles were cleaned of oil and engines removed prior to disposal. Further disposal of old vehicles was made after the initial reef creation between 2003 and 2010. Surveys conducted over the years indicate that these cars are now scattered all over the area. No whole cars exist and most of them have deteriorated flat onto the sand and not fulfilling the intended purpose. The Horse Point landfill site is the only designated waste management facility on St. Helena and old cars are disposed of there.

St Helena also has eight wrecks, three of which were scuttled and five which sank, they are:

Name of Wreck	Location
Papanui	15°55.350 S and 005°43.200 W
Spangereid	15°55.380 S and 005°43.220 W
Darkdale	15°55.086 S and 005°43.394 W
Witte Leeuw (White Lion)	15°55.048 S and 005°43.205 W
Bedgellet	15°56.735 S and 005°45.281 W
Frontier and Portzic	15°56.224 S and 005°44.640 W
Atlantic Rose	15°55.764 S and 005°43.832 W

It is prohibited to create artificial reefs without complying with the Protection of Wrecks and Marine Archaeological Heritage Ordinance 2014, under which the Governor in Council may make provision for scuttling of vessels for the purpose of creating artificial reefs having regard to the potential tourism benefit but subject to implementing steps to avoid damage to sensitive marine habitats.



## Wastewater discharge

Currently, virtually all sewage on the island (including grey water) is untreated and is released raw over the cliffs at several places from Half Tree Hollow and directly into the surf zone in James Bay from Jamestown (although there are settlement tanks at Half Tree Hollow). Planning is underway for contained sewerage systems to avoid discharge into the ocean, but implementation of such systems is unlikely to be in place prior to 2023/24. Some of the smaller settlements have a septic tank and soakaways and the sludge is emptied occasionally by tanker and taken to the landfill site at Horse Point. At Longwood and Bottom Woods, there are septic tanks and soakaways and a single main sewer system takes waste to oxidation ponds which is the only treatment plant on island. The septic tank for the fish factory in Rupert's Bay does not have a soakaway and when full, the tank empties into the 'run' which goes directly into the sea. Rupert's has a sewage treatment plant which uses activated sludge as a treatment process. It is expected that the existing and new customers will be connected to this plant. This will be an improvement over the current arrangement which includes septic tanks and discharge into the sea.

## ■ 4 Values of the MPA

St Helena's marine environment is one of the island's most valuable assets. Its value lies not only in what can be harvested on a sustainable basis from this environment, but in the physical environment itself that shapes the lifestyle and culture of the community and attracts tourists who visit each year.

The marine environment of St Helena is valued for its:

- Natural beauty, diverse and unique ecological environment and its associated flora and fauna which has global importance
- Cultural and historical influences (local population diversity evolution, maritime history)
- Economic benefits and opportunities derived from the natural environment, underpinned by robust scientific evidence and strong environmental consciousness
- Ability to provide health, wellbeing and spirituality benefits to all

### Natural beauty and uniqueness

St Helena's remoteness and age has resulted in the development of a unique assemblage of marine species, 18 of which are endemic, colonising a location that would otherwise be a barren open ocean habitat. The island, narrow inshore area, offshore seamounts and ocean influences provide a unique habitat for a wide variety of marine species. Inshore ratios of common species to endemics are very high, and offshore seamounts provide the opportunity for pelagic species to feed for extended periods and are where megafauna species such as whale sharks, humpback whales, devil rays and green turtles seasonally frequent during their migrations.

### Culture and history

Access to the island from 1502 until 2017 was only by sea. Throughout the years, everything came or left the island via the sea. Being a strategic port of call for sailing vessels carrying all nationalities and undertaking many purposes has dictated the population mix we know today, influencing culture and traditions, coastal and port infrastructure and ocean nostalgia (what will it bring? who will it take away?) and providing a vital lifeline to the island.



Ed Thorpe



The history of St Helena touches many aspects of world history. The island played an important role during the abolition of slavery. The island's remote location meant it was used as a place of exile for key prisoners including Napoleon Bonaparte, King Dinuzulu, 6,000 Boers and Bahraini princes. All descendants of the modern St Helena population have been shaped by this diversity and history, and St Helena's heritage is visualised in the remaining coastal fortifications and historic buildings. The isolation has forced traditional ways of life and unique marine environment uses and traditions.

### Economic benefits and opportunities

The physical and biological components of the marine environment of St Helena interact to provide a series of ecosystem processes and functions. These processes in turn provide beneficial ecosystem services such as commercial fisheries, tourism opportunities, and recreation. Some of these services can be measured in a direct economic way and others have increasingly been perceived as valuable because they cannot be financially valued. However, all these direct and indirect marine ecosystem services support aspects of human wellbeing on St Helena, directly by providing a means of income and food and indirectly by providing opportunities for relaxation and links to cultural heritage.

St Helena's fisheries legislation explicitly only allows the use of one-by-one tuna fishing gear and methods in its waters. This will not only support future market opportunities supplying responsibly harvested St Helena tuna to high value markets, it will also help meet consumers' growing demand for transparency and their desire to only purchase ethically and responsibly sourced seafood. By responsibly managing our fisheries, broader ecosystems will also be protected from the damage caused by destructive fishing gear, preventing ghost fishing, habitat damage, and pollution.

A study of the marine ecosystem services of St Helena in 2016, concluded that tourism and recreation were the main growth

areas on the island with high values associated with seasonal wildlife watching trips (Rees et al. 2017). Recreation activity was estimated to generate approximately £214,000 in expenditure each year with a clear growth in this sector over time. The most valuable recreation activities were directly associated with wildlife interactions e.g., swimming with whale sharks and SCUBA diving. Tourism was valued at £853,802 as a result of expenditure from cruise ship passengers, visiting yachts and tourist passengers. Fisheries were found to have a value of £198,157 to include local sales and exports. The fishing economy also supported a number of jobs in fishing, processing and sales.

### Spirituality, health and wellbeing

There is a high level of awareness of the links between the marine environment and benefits realised by the local population. There is also a deep and spiritual connection to the sea that cannot be valued by conventional means and that includes simply 'looking at the sea' and gaining 'inspiration' from the sea. Benefits highlighted by locals included relaxation, enjoyment, restfulness, connection with nature and mental health benefits (Rees et al. 2016). A study of the cultural ecosystem services in St Helena (Bormpoudakis et al. 2019) also found that the people living on St Helena find the island to be beautiful, and strongly associated with notions of diversity and uniqueness. Places that were thought to best characterise the St Helena environment included the ocean, Lot's Wife's Ponds, the Wharf in Jamestown and coasts in general, reflecting the closeness of Saints to the sea and the ocean. Most respondents spent their leisure time at beaches with popular activities including picnics, cooking outside, swimming in the sea and coastal fishing. Outdoor leisure was strongly related to feelings of freedom, escape and independence, tranquillity, inner peace and contentment, and belonging and attachment. The study found that both leisure and work outdoors in natural settings had clear benefits in terms of wellbeing with respondents who were outside more appearing to be less anxious and happier.



Cerns\_Joshua

# 5 Threats to the MPA

The creation of the MPA and introduction of new regulations have provided significant protection for St Helena’s waters, but some threats to the marine environment and biodiversity remain.<sup>2</sup> These threats have been identified through

feedback from stakeholders and research and monitoring activities over the past few years and as identified in the previous Marine Management Plan (SHG 2016) (Table 5, Figure 14).

Table 5: Risk matrix of identified threats to St Helena’s Marine Protected Area

		LIKELIHOOD					
Rare	Unlikely	Possible	Likely	Almost certain			
-IUU (offshore-foreign flagged-could include longline, purse seine, trawlers) -Habitat damage (Artificial reefs: sunken vessels)	-Invasive species (outbreak of new introduced species)				Catastrophic	CONSEQUENCE	
	-Pollution (large-scale oil spill)	-Overfishing		-Climate change -Pollution (plastic from external sources) -Invasive (expansion of known species)	Major		
	-Disturbance to wildlife		-Habitat damage (diving)	-Pollution (raw sewage and wastewater from land at current levels) -Land run-off	Moderate		
-Bycatch -Habitat damage (deep-sea mining) -Pollution (underwater blasting)	-Pollution (agricultural run-off)		-Pollution (small-scale oil spill) -Pollution (wastewater from vessels) -Habitat damage (sand extraction at current levels)	-Habitat damage (small vessel anchoring) -Pollution (sunscreen at current levels) -Pollution (plastic from local sources)- Pollution (noise) -IUU (inshore)	Minor		
-IUU (offshore-local flagged - one-by-one vessels only) -Pollution (light) -Habitat damage (Artificial reefs: purpose built)		-Habitat damage (large vessel anchoring) -Habitat damage (marine cables) -Habitat damage (vessel moorings)			Insignificant		

<sup>2</sup> In this context, the term *threat* is an umbrella term for an activity or mechanism by which an activity can have an adverse effect on a part of the ecosystem. This term is used in the St Helena Marine Management Plan.



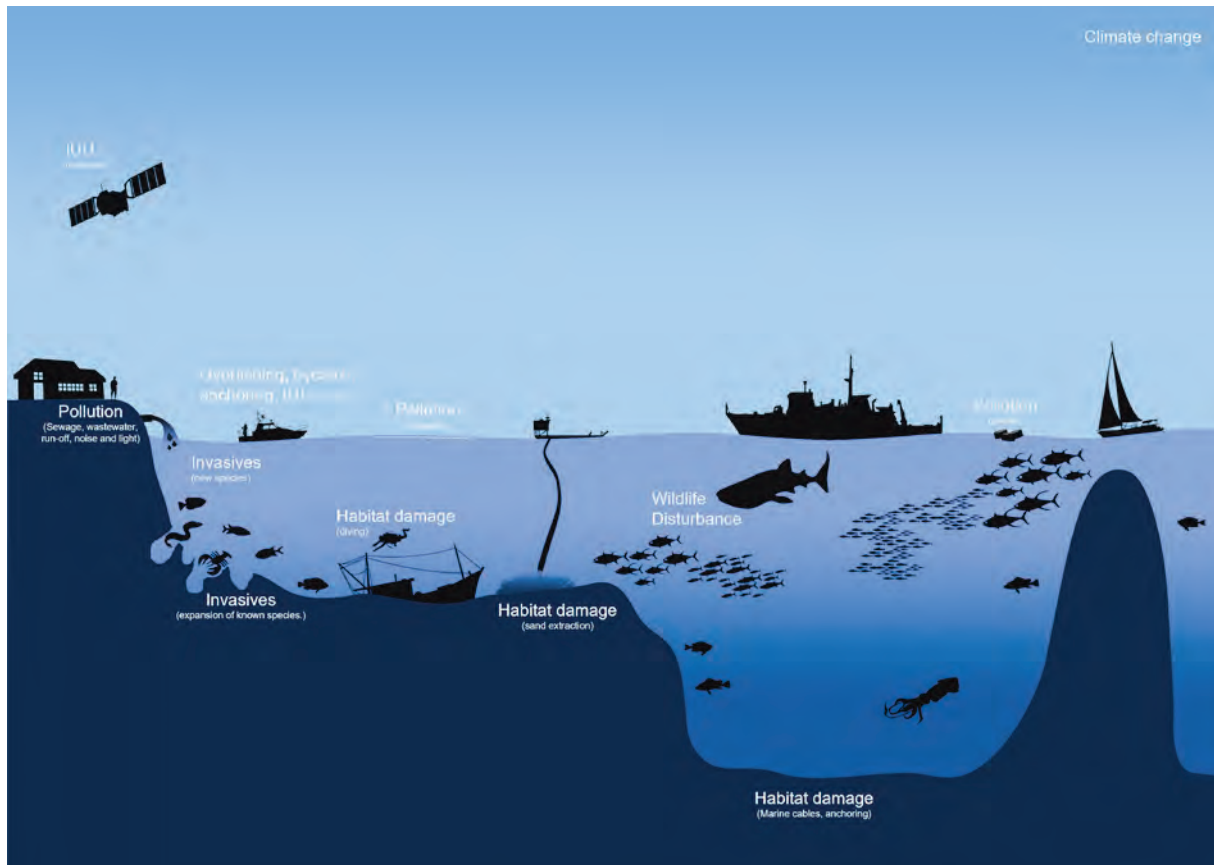


Figure 14. Identified threats within the marine environment.

## Habitat Damage

Habitat damage can be caused by all marine-related recreation, commercial, tourism and shipping activities:

Rocky reefs are a productive habitat type supporting a diverse range of invertebrates and reef fishes. Increased numbers of boaters, snorkelers, and SCUBA divers that come into direct contact with marine ecosystems can potentially cause damage to sensitive benthic organisms. Whilst diving, careless finning, poor buoyancy control and trailing of unsecured kit especially through confined areas such as swim-throughs, arches and caves pose a direct threat. Anchoring activities can cause habitat destruction as anchors and chains can damage rocky reef and soft sediment biodiversity during the drop, when at rest, if they drag and when being retrieved. In the absence of fixed moorings at most popular inshore diving or fishing grounds, most vessels will deploy an anchor relevant to the size of their vessel. All large vessels which are mostly cruise ships that stay within St Helena port area will need to anchor. There are no piloting facilities and no predefined state anchorage boundaries charted. Most large vessels are directed to the old RMS St Helena anchorage position; vessels not suitable for this anchorage, anchor wherever they deem safe to do so. Normal maritime procedures are expected of vessels to ensure that the anchor does not drag.

The 'Marine (Tourism and Interaction with Marine Life) Policy' requires that all marine tourism activities should have the minimum possible impact on marine biodiversity and should prevent harm to any protected marine species. Under the Marine Regulations (Tourism and Interaction with Marine Life) 2023, all commercial tour operators must apply for a marine tourism licence. A marine tourism licence will only be granted to operators who have obtained accreditation from the Environment and Natural Resources and Planning (ENRP) Portfolio of St Helena Government through the Marine Environment Accreditation Scheme for St Helena. As part of the Marine Environmental Accreditation scheme, Marine Tour Operators undertake training on environmentally responsible behaviour. The Environmental Best Practice Guidelines for Dive Tourism provide guidance on checking divers' level of experience, dive site pressure, pre-dive briefings, anchoring and diving in caves arches and swim-throughs to safeguard the marine habitats and species.

As a result of the above management measures, the risks of habitat damage has been assessed as:

- a. Diving: Likelihood: likely; Consequence: moderate
- b. Small vessels anchoring: Likelihood: almost certain; Consequence: minor
- c. Large vessels anchoring: Likelihood: possible; Consequence: insignificant

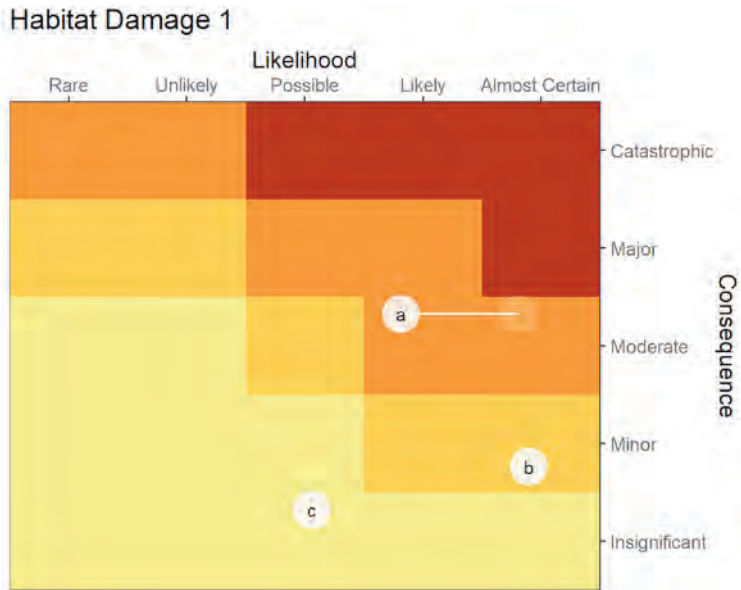


Figure 15. Habitat damage risk matrix representing risk from (a) diving, (b) small vessel anchoring and (c) large vessel anchoring. Risk prior to management is represented as the transparent symbol and after management as the solid symbol.

Habitat damage can also be caused by development activities in both the coastal zone and within the marine environment. Coastal developments are not considered within this Marine Management Plan as they are managed through the Land Planning and Development Control Ordinance, 2013. This prohibits any development unless appropriate development permission has been granted. An application for development permission for a development which may have significant effects on the environment, must be accompanied by an Environmental Impact Assessment (EIA) report assessing the environmental impacts of the proposed development. The marine development activities currently taking place within the St Helena MPA are sand extraction, vessel moorings, submarine cables and artificial reefs. These activities could all have impacts on the seabed and associated marine habitats. Impacts from vessel moorings, submarine cables and artificial reefs have not been assessed, but are thought to be low. A risk assessment of current sand extraction activities (Lonsdale et al., 2019) concluded that at the current extraction levels (assumed to be an annual extraction of ‘around 1000 cubic yards’ from a permanent location in James Bay), there is low environmental risk to the marine environment of extraction at this magnitude at this location. Although there are currently no offshore exploration activities for oil or gas production, if this industry were to develop in St Helena it would be a potential threat to the marine environment through habitat modification and pollution risk.

Under the ‘Policy for Managing Development Activities Within St Helena’s Marine Environment’, only proposals for marine development activities that are compatible with the goals and objectives of the St Helena Marine Management Plan will

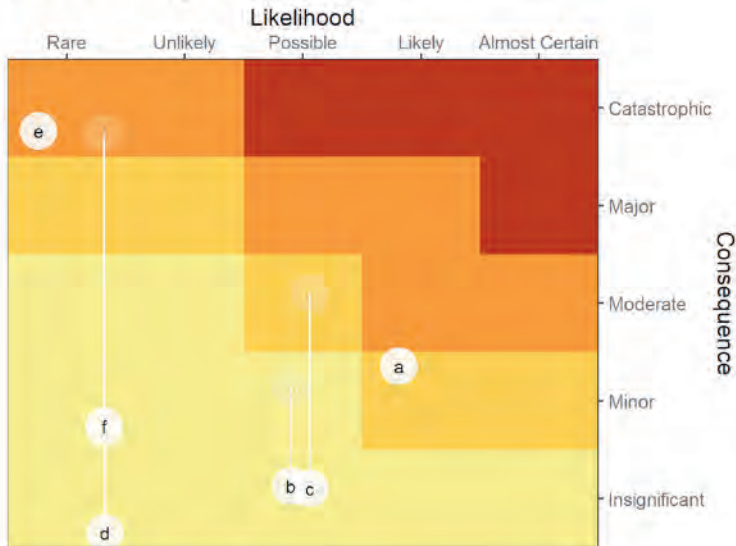
be supported within the MPA. As such, marine development activities (including sand extraction, submarine cables, artificial reefs and vessel moorings) must have the minimum possible impact on marine biodiversity, habitats and ecosystems and use natural resources sustainably. Anyone planning to carry out any development within the St Helena MPA will be required to obtain a marine development licence. Proposals that may have a significant adverse impact on the marine environment due to their size, nature or location will require submission of an EIA report assessing the likely environmental impacts of the proposed development. This policy will also apply to any potential future development activities such as offshore exploration for oil and gas production or deep-sea mining, which would require an associated EIA report. The licence application would need to include surveys to establish the substrate type and species abundance and diversity at any potential development site to ascertain the nature of the habitat and whether there are any rare or endangered species present that would be impacted detrimentally. Action plans would be required on how any developer would mitigate against pollution incidents to prevent damage to the marine environment throughout the construction, operation and decommissioning stages. Any such activity would only be granted a marine development licence if it were found to be compatible with the goals and objectives of this Marine Management Plan. For any marine development licences, conditions may be attached to minimise adverse impacts on the marine environment and other users of the sea. These conditions could include a requirement for reporting on the development activity, for example a requirement to report the amount of sand extracted from the licensed area on an annual basis.



As a result of the above management measures, the risks of habitat damage has been assessed as:

- a. Sand extraction: Likelihood: likely; Consequence: minor
- b. Vessel moorings: Likelihood: possible; Consequence: insignificant
- c. Submarine cable: Likelihood: possible; Consequence: insignificant
- d. Artificial reefs [purpose built]: Likelihood: Rare; Consequence: insignificant
- e. Artificial reefs [sunken vessel]: Likelihood: Rare; Consequence: catastrophic
- f. Deep-sea mining: Rare: Unlikely; Consequence: Minor

**Habitat Damage 2**



**Figure 16.** Habitat damage risk matrix representing risk from (a) sand extraction, (b) vessel moorings, (c) submarine cables, (d) artificial reefs [purpose built], (e) artificial reefs [sunken vessel] and (f) deep-sea mining. Risk prior to management is represented as the transparent symbol and after management as the solid symbol.



SHG Marine Section

## Overfishing

A range of large pelagic and demersal species are targeted by fishers, with fishers also relying on small-pelagic species for use as bait (CR085 2020). Overfishing can occur when insufficient management measures are in place to protect target and non-target species from fishing operations.

Fishing is an important activity within St Helena’s MPA as detailed in Section 3.1. To minimise the likelihood of overfishing St Helena’s targeted and bycaught populations, a number of management measures are in place as specified within the Fishing Licencing Policy for St Helena Island, 2020 and the Fisheries Ordinance, 2021, including:

1. All fishing from a boat is subject to the vessel being in receipt of a valid commercial, recreational, sport or exploratory fishing licence which is issued annually
2. Logbooks are used to monitor catch from all licenced fisheries
3. Species-specific fisheries management measures including
  - a. Total Allowable Catch (TAC) limits (various target species)
  - b. Minimum landing sizes (grouper, glasseye snapper and lobster)
  - c. Closed seasons
  - d. Protection of berried females (lobster)

4. Species-specific long-term monitoring and research
5. Annual fisheries advice reports, produced based on analysis of scientific data, to proactively assess whether current management is effective or requires revision.

The International Commission for the Conservation of Atlantic Tunas (ICCAT) has responsibility for managing highly migratory species including tuna, tuna-like species, swordfish and marlin. ICCAT provides management advice for large pelagic and highly migratory species such as tuna, billfish and wahoo.

Logbooks were introduced by St Helena Government in January 2021 for all commercial, recreational and sport fishers. Logbooks provide a means to monitor catch and ensure that restrictions are adhered to. The Fisheries Ordinance, 2021 also enables St Helena Government to implement management actions if there are concerns about overfishing.

While the risk of overfishing is species specific, depending on species biology and level of fishing activity, overall as a result of the above management measures, the risk of overfishing is shown in figure 17 and has been assessed as:

- a. Overfishing: Likelihood: possible; Consequence: major

### Overfishing

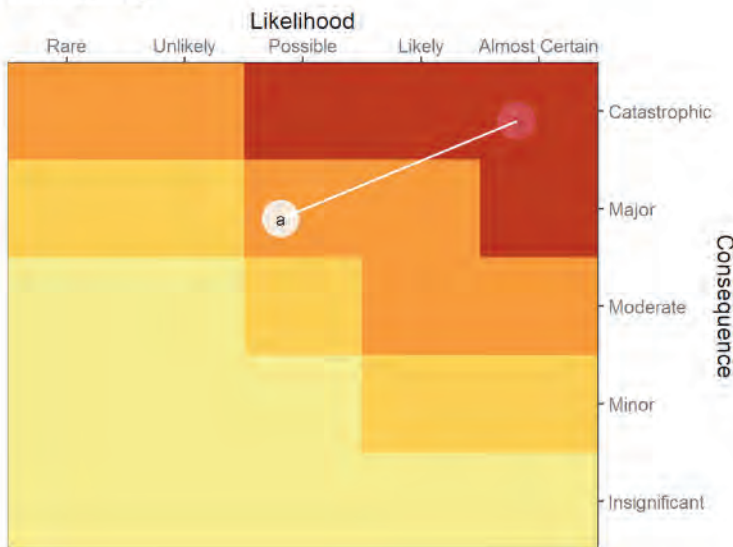


Figure 17. Overfishing risk matrix. Risk prior to management is represented as the transparent symbol and after management as the solid symbol.



## Bycatch

Bycatch occurs when fishing activities result in non-target species being caught and either discarded alive or dead. Therefore, all fishing activities have the potential for bycatch, although certain fishing methods result in higher levels of bycatch than others. There are a number of protective measures in place, or in development, to help minimise the risk of bycatch including fisheries legislation.

The St Helena Government has a pro-active track record of prohibiting unsustainable fishing methods to conserve biodiversity in the EEZ. St Helena has imposed in policy (Fisheries Management Policy Statement) and legislation to employ “one-by-one” fishing methods in St Helena waters (no other methods are licenced). One-by-one fishing methods have very limited bycatch as schooling fish are targeted during feeding frenzies and removed one fish at a time. Other methods, including purse seining, longlining

and greensticking, have been trialled in the past but are no longer permitted within St Helena’s MPA. For example, surface longline trials were conducted in St Helena’s MPA between 1985 and 2016, which reported high levels of bycatch including blue shark and other shark species caught alongside the target swordfish (Collins 2017). Consequently, the fishing sector made a commitment to use one-by-one methods for three years, and since 2020, “one-by-one” fishing methods were the only accepted method for targeting large pelagic fish within St Helena waters (Fisheries Management Policy Statement), with droppers (a hand line with more than one hook per line) used for bait and groundfish fishing only.

As a result of the above management measures, the risk of bycatch is shown in figure 18 and has been assessed as:

a. Bycatch: Likelihood: rare; Consequence: minor.

### Bycatch

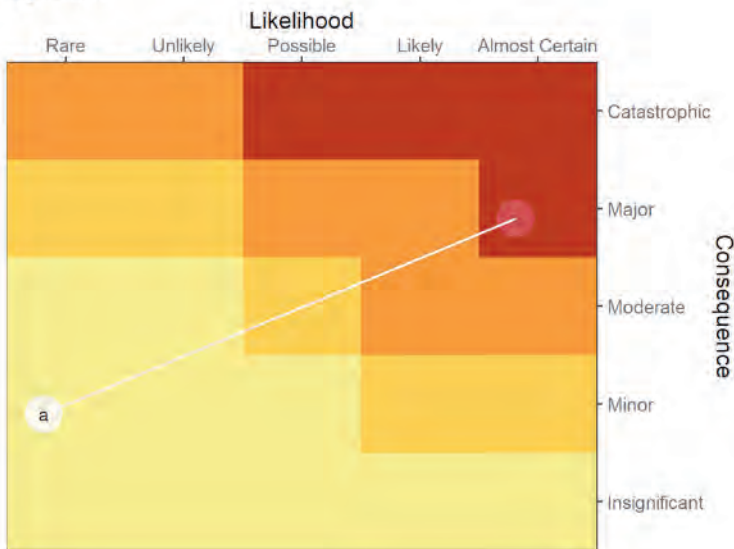


Figure 18. Bycatch risk matrix. Risk prior to management is represented as the transparent symbol and after management as the solid symbol.

## Illegal, unreported and unregulated (IUU) fishing

### IUU locally registered vessels fishing

Locally licenced fishing vessels are closely monitored by the St Helena Government Marine Enforcement Section.

Any vessel that is used to fish within Saint Helena’s EEZ is required by law to have a fishing licence. These fishing licences contain licence conditions that include the vast majority of Saint Helena’s technical conservation measures.

Inshore vessel fishing effort is monitored on a near daily basis by the recording of incidental sightings. Fishing vessel licence holders are issued a fishing logbook and a log containing catch information must be submitted for every fishing trip. Log book returns are compared with incidental sightings to assess the level of compliance regarding logbook submissions.

Inshore fishing vessels are subject to boarding inspections and landing inspections to ensure compliance with technical conservation measures. Inspection records are compared with log book returns to ensure compliance and reporting accuracy.

Analysis of sightings, inspection records and logbook data shows that there is a very high level of compliance regarding

logbook submission and technical conservation measures within the inshore fishing sector. Non-compliance does occur but the data shows this to be of minor impact.

Although every effort is being made to mitigate the risks of non-compliance as per the Marine Compliance and Enforcement Strategy 2021, the system is still relatively new and fishers are still adapting themselves to change with these procedures and there will still be those who deliberately try to evade the measures imposed.

Offshore fishing vessels (including local vessels) are required to have functioning AIS and may also have Remote Electronic Monitoring systems fitted. These systems will be used to monitor fishing activity, catch composition and ensure compliance with logbook submissions.

Observers are deployed on a minimum of 5% of all fishing trips to gather fisheries data to ensure compliance to local and international law.

As a result of the above management measures, the risk of inshore IUU is shown in figure 19 and has been assessed as:

a. Likelihood: almost Certain. Consequence: minor.

### IUU fishing inshore

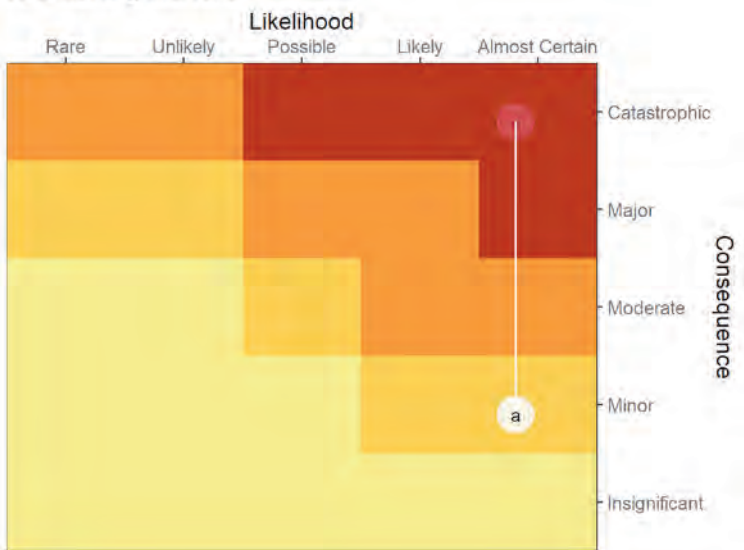


Figure 19. Risk matrix for inshore illegal, unreported and unregulated fishing (a). Risk prior to management is represented as the transparent symbol and after management as the solid symbol.



## Offshore IUU fishing

Comprehensive remote surveillance (Automatic Identification Systems (AIS), Satellite Aperture Radar and Electro Optical Imagery) has been undertaken since April 2020 to better understand the threat of illegal, unreported and unregulated (IUU) fishing within the St Helena MPA. This surveillance covers St Helena’s 200 nm EEZ and a 100 nm buffer zone. The Blue Belt Programme has developed a compliance risk profile which is regularly updated based on new intelligence. This work suggests that compliance within the St Helena MPA is good and to date little evidence of IUU fishing has been identified. Longline vessels targeting yellowfin and bigeye tuna around seamounts comprise the main IUU fishing threat. EU-flagged longline vessels targeting shark pose a lower risk and there is very little evidence of purse seining vessels operating in the area. The main fishing activity is to the southeast of the MPA, with secondary hotspots to the west and north. Fishing to the north of the MPA occurs year-round, with peaks between November and February. Fishing to the southeast of the MPA occurs between March and October and fishing to the west occurs intermittently between March and April, and August to September. Fishing activity along the seamounts to the north of the MPA poses the highest risk, with vessels potentially targeting the seamounts inside the St Helena MPA. In the future, the higher fishing pressure outside the Ascension Island EEZ could shift southwest towards St Helena if fish stocks were to migrate due to changing environmental conditions.

The large size of the St Helena MPA represents a significant challenge to the development of an effective compliance and enforcement strategy especially given the low capacity of St Helena Government to monitor the offshore environment. Effective understanding of the spatial and temporal IUU fishing threats, how they are detected in a cost efficient and targeted way and mechanisms to sanction and deter IUU fishing are all aspects of an effective compliance and enforcement strategy. An initial assessment of the levels of IUU fishing by OceanMind considered the level of IUU fishing to be low. Vessels that pose an IUU fishing threat to the St Helena MPA have been profiled and knowledge gaps and weaknesses in counter measures have been identified and are being addressed by a cyclical

learning process. Surveillance conducted over the St Helena MPA consists of the following:

- **Baseline surveillance year-round involving:**
  - Routine monitoring of AIS using automated techniques and expert manual analysts
  - Requesting or checking other remote sensing data (typically satellite imagery) when intelligence indicates it is necessary
  - Use of free-to-use satellite imagery where practicable
  - Contact with Flag States to request additional information, for example vessel monitoring system (VMS) data
- **The intensity of surveillance is increased above the baseline if required due to:**
  - Identification of the need in the risk profile, or
  - In response to intelligence

Surveillance above the baseline will be primarily through the use of commercial satellite imagery.

Between April 2020 and February 2022, 545 AIS checks were made, with only one incidence of potential non-compliance.<sup>3</sup> This equates to a total compliance of 99.81% between April 2020 and February 2022 within the St Helena MPA.

A Compliance and Enforcement Strategy has been developed for St Helena, which will ensure that St Helena Government achieves full compliance with relevant legislation within the MPA. This strategy covers surveillance and intelligence management, enforcement capacity building, international enforcement liaison and assistance with international obligations (for example RFMOs), which will be delivered through the Blue Belt Programme.

As a result of the above management measures, the risk of offshore IUU is shown in figure 29 and has been assessed as:

- a. Offshore, foreign-flagged vessels: Likelihood: rare; Consequence: catastrophic
- b. Offshore, local-flagged vessels: Likelihood: rare; Consequence: insignificant

### IUU fishing offshore

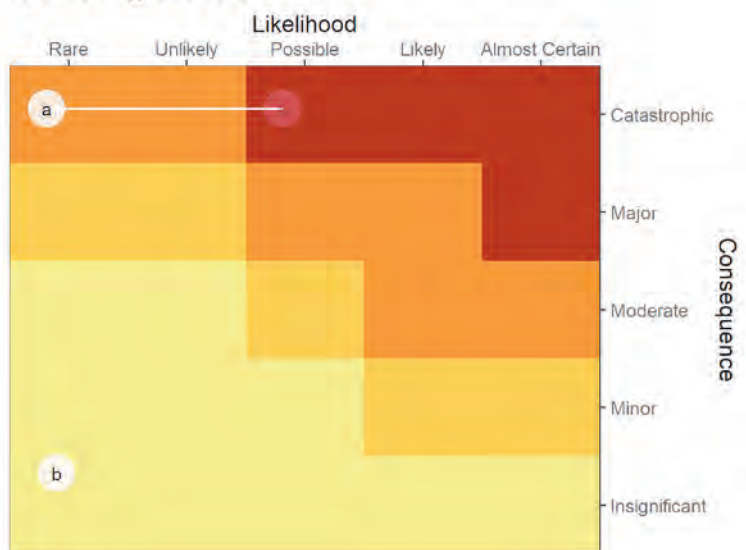


Figure 20. Risk matrix for offshore illegal, unreported and unregulated fishing from foreign-flagged vessels (a) and local-flagged vessels (b). Risk prior to management is represented as the transparent symbol and after management as the solid symbol.

<sup>3</sup> It was thought that this vessel may have been interacting with “dark vessels”, on account of periods of slow speeds, however this was in the northern buffer zone and not actually inside the MPA

## Disturbance to marine wildlife

Increasing numbers of tourists (including yachts) can have detrimental impacts on the natural environment. In particular, recreational activities such as snorkelling, sport fishing and SCUBA diving can cause disturbance to marine species. Marine animals such as whale sharks, dolphins, whales, and birds are disturbed by increased numbers of boats, and by people approaching too closely. This has the potential to cause impacts such as: disruption of normal behaviours; displacement and avoidance of habitat areas; stress and injury; increased mortality and a reduction in breeding success. Disturbance can occur from vessels or aircraft (for example unmanned aerial vehicles / drones) approaching or harassing; swimming in proximity to wildlife; increased underwater noise, debris entering the marine environment; and vessel strikes. Workshops held with local stakeholders during 2016 (Rees et al., 2017) noted particular concerns that unregulated tourism services could result in disturbance to whale sharks and humpback whales causing a decrease in their numbers as well as disturbance to seabirds through increased visits to offshore islands.

Under the ‘Marine (Tourism and Interaction with Marine Life) Policy’, only activities that are compatible with the goals and objectives of the St Helena Marine Management Plan are permitted to operate within the MPA for the purpose of marine tourism interactions. Acceptable marine tourism activities for the purposes of interaction are those set out in the ‘Policy for Marine Species Interaction Activities on St Helena Island to minimise risk of injury and disturbance’. These activities are considered to be low impact, non-consumptive and promote education and awareness building that do not damage or disturb marine habitats and species. Under the Marine Regulations (Tourism and Interaction with Marine Life), 2023,

all commercial tour operators must apply for a marine tourism licence. A marine tourism licence will only be granted to operators who have obtained accreditation from the ENRP Portfolio of St Helena Government through the Marine Environment Accreditation scheme for St Helena. It is prohibited to knowingly and intentionally SCUBA dive with whale sharks and to SCUBA dive, snorkel or free dive with whales, dolphins or porpoises. Non-commercial recreational activities and other activities such as kayaking, jet skis or windsurfing are permitted to operate within the MPA as long as they follow the guidance set out in the Policy for Marine Species Interaction Activities on St Helena Island to minimise risk of injury and disturbance and associated best practice guidelines. This Policy and best practice guidelines provide clear procedures on how interactions with marine species such as whale sharks, whales, dolphins, mobula rays, turtles and seabirds should be conducted to minimise negative impacts associated with human activity. These cover guidance on approaching marine wildlife (direction and speed), limits on the number of boats, distances boats should remain from marine wildlife and duration of interactions and guidance for in-water interactions. There are specific rules around diving in whale shark hotspots during whale shark season (1st November to 31st May), with operators required to inform the appropriate authority 72 hours beforehand of their intention to dive within these areas.

As a result of the above management measures, the current risks of disturbance to marine wildlife is shown in figure 21 and has been assessed as:

- a. Disturbance to wildlife: Likelihood: unlikely;  
Consequence: moderate

### Disturbance to wildlife

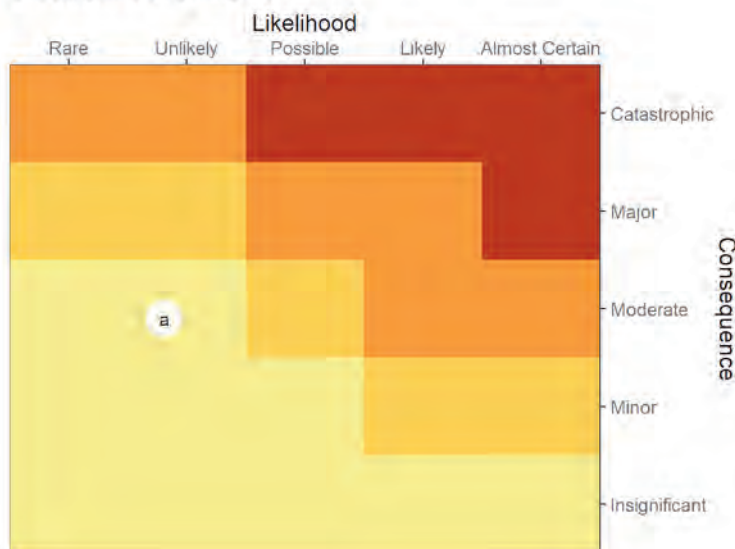


Figure 21. Risk matrix for disturbance to marine wildlife (n). Risk prior to management is represented as the transparent symbol and after management as the solid symbol.



## Marine pollution

The marine environment of St Helena is at risk from threats posed by pollution that can disrupt the marine ecosystem having low to significant impacts based on the severity of the threat.

The threat to the marine environment from pollution from maritime activities is perceived as relatively low, in part due to low numbers of local, visiting and transiting vessels in the MPA, and limited maritime activities which are focussed mainly around Jamestown and Rupert's Bays. The main threats include pollution from vessels (including fuel spills or leaks, waste disposal, bilge water and transfer of invasive and non-native species) and the risk of a major spill from large vessels (including during transfer of the island's fuel supplies from ship to shore). A further threat is the oil leak from the RFA Darkdale, a fleet fuel tanker which during World War II was sunk by a U-boat in James Bay. Over the years there has been a slow leak of fuel, visible as a light sheen on the water surface. A larger than usual leak is observed periodically usually following rough sea conditions. In 2012 following concerns that the leak could pose a significant pollution threat, a survey was conducted by the Ministry of Defence (MOD), Salvage and Maritime Operations, from which it was estimated that the vessel was still holding a large amount of fuel. In 2015 the MOD returned and removed as much of the fuel as was technically possible. Not all of the fuel could be removed and there is still visible seepage from time to time but the risk of the vessel causing a major incident has been minimised.

A recent risk assessment was undertaken to determine the risk of collision or grounding around St Helena which concluded there was a low possibility of occurrence (NASH Maritime Ltd., 2021). This assessment found that vessel traffic frequency was lower than traffic passing through other Overseas Territories<sup>4</sup> and modelling suggested that the probability of collisions occurring was significantly less.

With support from the UK government, St Helena's maritime authority is working with the relevant government departments and local organisations, to meet its international obligations for preventing and responding to maritime pollution. This includes making improvements to legislation, regulations, policy and procedures to minimise the risk of a pollution event, and to be prepared to respond to and manage an incident, as well as financially protect St Helena from the detrimental effects of a pollution incident. St Helena has appropriate pollution response equipment and has undertaken professional training to continue to ensure St Helena is prepared in the event of a maritime pollution incident.

With no immediate solution to mitigate the raw sewage and wastewater discharges in James Bay, this activity poses a pollution threat to the marine environment. Sewage attracts bacteria which breaks down the waste and, in the process, uses up substantial amounts of oxygen which can leave part of the marine environment lacking oxygen. Fish and other creatures will struggle to thrive and in some extreme cases, this can cause a 'dead zone' where little is able to grow or survive. In addition to the direct threat caused by the raw sewage, wastewater (grey water) from the Jamestown and Half Tree Hollow houses and businesses (e.g., water used for showering, washing dishes or from washing machines) could contain chemicals, microplastics, acids and heavy metals, as well as surface run-off, which is water running off the ground, collecting substances such as animal faeces, pesticides and car oil along the way. This

has devastating impacts on our natural environments. There is also concern that agricultural fertilisers could potentially leach into the marine environment from island run-off after periods of heavy rain. This could have negative effects in the ocean as fertilisers are composed of nitrogen and phosphorous which make plants grow faster. If these elements enter the ocean, it can cause algal blooms. Just like raw sewage, when the algae then die, it removes a lot of the oxygen from the water, leaving dead zones.

Monthly sampling of faecal indicator bacteria was conducted at St Helena between September 2020 and March 2022. Boat-based sampling was carried out once a month close inshore at Jamestown Run Outfall, Jamestown Front Steps, Jamestown Middle Steps, and Rupert's Bay Temporary Jetty. A near-surface water sample was collected at each site. Comparisons against microbiological standards for bathing water quality indicated that water quality was poor at the James Bay outflow and fair at the other sites monitored. Conductivity, Temperature, Depth (CTD) data did not indicate any links between faecal indicator results and water column structure (stratified vs mixed), suggesting that oceanographic processes were not directly influencing these results. However, there was no data available to relate these results to outflow discharges, changes in environmental conditions such as rainfall winds or currents.

Plastic pollution is a major problem affecting the ocean globally. Eight million tons of plastic waste enters the ocean every year including various forms of microplastics which enter the world's oceans through either deliberate or accidental actions. St Helena is exposed to this threat from international and local sources.

Also contributing to marine pollution is marine litter which includes cigarette butts, plastic bottles, plastic bags and drink cans deliberately disposed of into the sea or entering the sea having been blown or washed down from surrounding areas. Marine litter has negative and long lasting environmental, economic, health and aesthetic impacts. These can include but are not limited to habitat destruction, wildlife entanglement, ingestion (contributing to bioaccumulation of chemicals in fish and humans) and vessel and navigation hazards.

There is no known evidence to suggest that operations at Horse Point Landfill Site (HPLS) contribute towards marine pollution (as is often the case for landfills in other areas). Litter management on site results in very little wind-blown litter blowing off site. There is no known leachate coming from the site. The site has a leachate monitoring borehole which is down gradient from the geo-membrane lined hazardous waste cells.

Between September 2018 and July 2019, the St Helena Government in collaboration with the St Helena National Trust, conducted dedicated marine debris surveys resulting in 127 kg of marine debris being sorted, analysed, and removed from St Helena's coastline. In comparison to other heavily polluted island nations, St Helena's shorelines are deemed to be relatively clean. The vast majority of marine debris was of external origin and the majority of the single-use plastic bottles were from brands of Asian origin. On the island, Rupert's Beach was found to be most heavily impacted by local anthropogenic pressures as it is the only safe and accessible beach for members of the community wanting to use the sea recreationally. As a result, this site is documented as having the most locally sourced marine litter. In contrast, on Sandy Bay Beach, which is difficult to access, the majority of marine debris found was not locally sourced 'in-tact' pollution (i.e., litter dumped by

<sup>4</sup>Bermuda, British Virgin Islands, Cayman Islands and Falkland Islands

users) but was in fact microplastics (plastic of size  $\leq 5\text{cm}$ ), washing up from the ocean. With the baseline data on the amounts of plastic being imported to, and disposed of, on St Helena established, public awareness campaigns on the subject are key to minimise this threat. The St Helena National Trust has developed a comprehensive outreach programme which targets all local audiences and has created a range of relevant audience related materials. Other local organisations undertake bespoke challenges to raise the profile of the threat and mitigate.

The island's Waste Management Services have provided multiple bins at key locations in Jamestown, Rupert's and Sandy Bay, specifically for litter, to prevent wilful disposal into the ocean (including Olympic bins which facilitate cigarette butt disposal). These bins are emptied 4 out of 5 working days plus Sundays (including Public Holidays). In addition, the Waste Management Services have recently assisted to improve Port Waste Management facilities including provision of additional 1100 litre wheeled bins for higher volume waste e.g., cardboard, plastic wrapping etc, when merchants discharge shipping containers, Olympic bins for increased litter management and 2 x 1250 litre bunded waste oil containers to create a permanent dedicated facility within the Port for up to 1250 litres of waste oil storage prior to disposal at HPLS. Mobile spill kits are located throughout Jamestown wharf and with instructional signage soon to be supported with 400 litre sand bins for Port Control use and subsequent management.

Over the past decade scientific finding have highlighted the possible detrimental impacts of sunscreen and other skincare products on the marine ecosystems. Sunscreen applied on the skin can leach off while in the ocean or make its way to the marine environment when introduced into wastewater after showering or bathing. Traces of these harmful chemicals have been found in St Helena's inshore

waters (CR155,2019). Current levels in our local waters are low and as such only pose a minor threat. However, should sunscreen usage increase significantly in the future, publicly accessible inshore marine environments will be impacted.

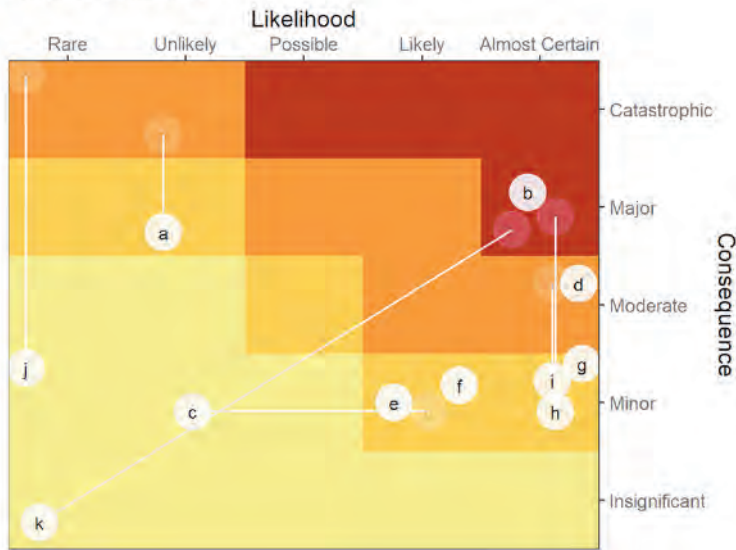
There is no quantifiable data of St Helena's marine environments exposure to the threats posed by noise or light pollution from visiting ships, local vessels, coastal developments, and other activities. Globally the main sources of human-induced marine noise and light pollution comes from commercial shipping, seismic surveys, oil exploration, and military sonar, of which only shipping traffic is present in St Helena. The Environmental Policy for Planning Underwater Blasting Activities on St Helena Island to minimise risk of injury and disturbance to marine life, 2016 aims to minimise the negative impact on marine life through underwater blasting. The Environmental Protection Ordinance, 2016 was amended in June 2021 as part of the steps necessary to support St Helena's aspirations to become dark skies accredited. This change makes provision for the regulation of the use of artificial light at night for the protection of the natural environment and the night sky and for the reduction of energy waste and carbon emissions; and for connected and incidental purposes. Damage can also be caused by habitat destruction or loss both during and after the construction process. The environmental impact of construction works and coastal developments are considered and assessed through the planning process under the Land Planning and Development Control Ordinance, 2013 and includes determining if the development will have a significant impact on any protected species or habitat; suitable mitigation options will also need to be identified and implemented. Any activity that is likely to disturb protected species or habitats will require a licence under the Environmental Protection Ordinance, 2016.



As a result of the above management measures, the current risks of marine pollution are shown in figure 22 and have been assessed as:

- a. Large-scale oil spill: Likelihood: unlikely; Consequence: major
- b. Plastic from external sources: Likelihood: almost certain; Consequence: major
- c. Agricultural runoff: Likelihood: unlikely; Consequence: minor
- d. Raw sewage and wastewater from land at current levels: Likelihood: almost certain; Consequence: moderate
- e. Small-scale oil spill: Likelihood: likely; Consequence: minor
- f. Wastewater from vessels: Likelihood: likely; Consequence: minor
- g. Sunscreen at current levels: Likelihood: almost certain; Consequence: minor
- h. Plastic from local sources: Likelihood: almost certain; Consequence: minor
- i. Noise pollution: Likelihood: almost certain; Consequence: minor
- j. Underwater blasting: Likelihood: rare; Consequence: minor
- k. Light pollution: Likelihood: rare; Consequence: insignificant

**Marine Pollution**



**Figure 22.** Marine pollution risk matrix representing risk from (a) large scale oil spills, (b) plastic from external sources, (c) agricultural run-off, (d) raw sewage and waste water from land, (e) small scale oil spills, (f) waste water from vessels, (g) sunscreen at current levels, (h) plastic from local sources, (i) noise pollution, (j) underwater blasting and (k) light pollution. Risk prior to management is represented as the transparent symbol and after management as the solid symbol.



## Marine Invasive Non-Native Species

Invasive non-native species (INNS) are species whose introduction and/or spread outside their natural past or present distribution threatens biological diversity. INNS are considered to be the greatest threat to biodiversity in marine, freshwater and terrestrial ecosystems after climate change (Caselle et al. 2018). The environmental impacts of INNS include the displacement of indigenous species which results in the loss of both species and genetic biodiversity, destruction of habitat and the introduction of disease. Marine INNS are of particular concern as once they are established, it is extremely difficult and expensive to monitor, manage and eradicate them from marine systems.

St Helena is considered at low risk for marine INNS due to its isolated geographical location. A review undertaken as part of the Blue Belt Programme (Cowburn & Soeffker 2020) noted the presence of six non-native species within the St Helena MPA: naval shipworm (*Teredo navalis*), sea-grapes (*Caulerpa racemosa*), harpoon-weed (*Asparagopsis taxiformis*), single-horn bryozoan (*Schizoporella cf. unicornis*), snowflake coral (*Carijoa riisei*) and pyramid barnacle (*Balanus trigonus*). Of these, only the sea-grapes pose a potential threat of becoming established and causing an impact to the marine environment. At the time of the study, sea-grapes were restricted to a few sites in the north-west of the island at James Bay, Banks and Buttermilk Point, but showed a significant increase over time and have continued to increase in extent. Snowflake coral and single-horn bryozoan occur at very low densities and are restricted to a few sites. Harpoon-weed is widespread with moderate cover in some areas but has not shown any significant increases over time.

A project led by the GB Non-Native Species Secretariat aimed to develop comprehensive biosecurity for the Overseas Territories by providing them with access to UK Government expertise on risk analysis, pathway management, pest identification, contingency planning, rapid response capability and species management. As part of this project, a horizon scanning exercise highlighted priority marine INNS risks (in terms of impact and likelihood of arrival) for St Helena as being: the European shore-crab (*Carcinus maenas*), orange cup coral (*Tubastraea coccinea*), the vase tunicate (*Ciona intestinalis*) the Asian

green mussel (*Perna viridis*), Mediterranean mussel (*Mytilus galloprovincialis*), dwarf mussel (*Semimytilus algosus*), the blue mussel (*Mytilus edulis*) and the Pacific oyster (*Magallana gigas*). The most likely pathway for introduction of all of these species is via hull fouling. The Asian green mussel, Pacific oyster and European shore crab may also be introduced through ballast water.

To minimise the risk of introducing marine INNS by vessels, the St Helena Government Biosecurity Protocol for the Marine Environment states that:

- Cargo ships, cruise ships and fishing vessels must comply with international agreements, such as the Convention for the Control and Management of Ships' Ballast Water and Sediment (BWM Convention) i.e., whenever possible, ballast water exchange should be conducted at least 200 nautical miles from the nearest land and in water at least 200 metres deep.
- The importation of live bait for fishing St Helena waters is not encouraged due to the risk of introducing new potentially invasive species. Where it is permitted, it must be taken from the area between 200 nautical miles and 30 nautical miles from the coastline.
- Visiting yachts must ensure that their hull is cleaned at the port of departure. Hauling-out and hull cleaning of visiting vessels may only be undertaken in an emergency, by arrangement with Port Authorities.
- New vessels arriving to the island (e.g., local tour or fishing operators expanding their businesses and acquiring new vessels) must present a valid antifouling certificate. Failing that, the vessel will be inspected by a Biosecurity Officer and a member of the Marine Conservation Section to check for hull fouling.

As a result of the above management measures, the risks from marine INNS are shown in figure 23 and have been assessed as:

- a. Outbreak of new species: Likelihood: unlikely; Consequence: catastrophic
- b. Expansion of known species: Likelihood: almost certain; Consequence: major

### Marine Invasives and Non-natives

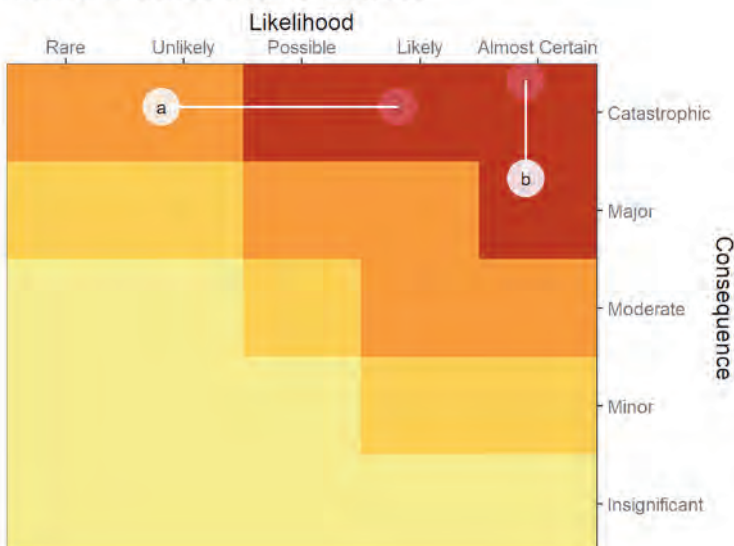


Figure 23. Marine invasives and non-native species risk matrix representing risk from (a) outbreaks of new species and (b) expansion of known species. Risk prior to management is represented as the transparent symbol and after management as the solid symbol.

## Climate Change

Climate change is one of the biggest threats the environment faces during the next century. The South Atlantic Climate Change Report Card developed through the Marine Climate Change Impacts Partnership (Hobbs et al. 2021) highlighted the following key climate change issues for the South Atlantic UK Overseas Territories including St Helena:

- Changes in marine resources for consumption – fishes and invertebrates – and impacts upon food security
- Changes in productivity – pelagic habitats, phytoplankton primary productivity.
- Changes in coastal communities and loss of/changes to cultural identity.

Research has shown that globally, 20 out of 22 tuna stocks have shifted poleward between the 1950s and 2000s and temperate tunas are projected to shift further poleward in the future (Erasuskin-Extramiana et al. 2019). It is currently unclear what the impacts of climate change may be on the abundance of tuna within the St Helena MPA. Some models suggest an overall increase in abundance around St Helena (Cheung et al. 2010), whilst others predict a reduction under high emissions scenarios (FAO 2018). Modelling work (Townhill et al. (2021) concluded that St Helena may become a more suitable habitat for bigeye, skipjack, yellowfin, and albacore tuna. It is also suggested that the high site fidelity shown by yellowfin tuna in St Helena (Wright et al. 2021b) may increase their resilience to climate change effects. Changes in currents, upwelling patterns and general oceanographic conditions may however result in significant impacts on primary producers within the St Helena MPA. Changes in primary production could result in a reduction of marine biomass, and further knock-on impact to higher trophic levels, affecting fisheries and nature-based tourism. Changing temperatures, currents and weather patterns may also enable the introduction and establishment of new marine INNS. Furthermore, due to the isolation of St Helena, increased extreme weather events could impact the island’s

economy and local communities, for example through impacts to shipping and damage to coastal infrastructure.

The Climate Change Report Card highlighted that the impacts of climate change in the South Atlantic Overseas Territories are still relatively poorly documented and understood. More research and data collection is therefore required to better understand and predict climate change impacts and plan mitigating actions more accurately. St Helena Government has been undertaking a time-series record of oceanographic measurements to monitor seasonal cycles in its pelagic ecosystem and investigate how oceanography influences that system (St Helena Government, 2019). This, combined with underwater visual habitat surveys conducted over a 10-year period, and global datasets such as PIRATA,<sup>4</sup> provide an important tool in monitoring climate change.

The ‘Climate Change Policy for St Helena’ aims to reduce the quantity of greenhouse gas emissions created on island by making better use of natural resources, identifying, prioritising and reducing the risks from weather-related hazards through regular environmental monitoring and ensuring that the protection and enhancement of the island’s natural and cultural heritage is at the heart of economic development.

Due to St Helena’s geographical location and it’s unique environment that has evolved (high rate of endemism, seasonal migrations etc.), global effects of climate change are inevitable.

Mitigation of Climate Change impacts is outside of the scope of the Marine Management Plan with actions focussed on improving understanding of current and future threats; based on current knowledge. The risks from climate change is shown in figure 24, and has been assessed as

a. Likelihood: almost certain; Consequence: major

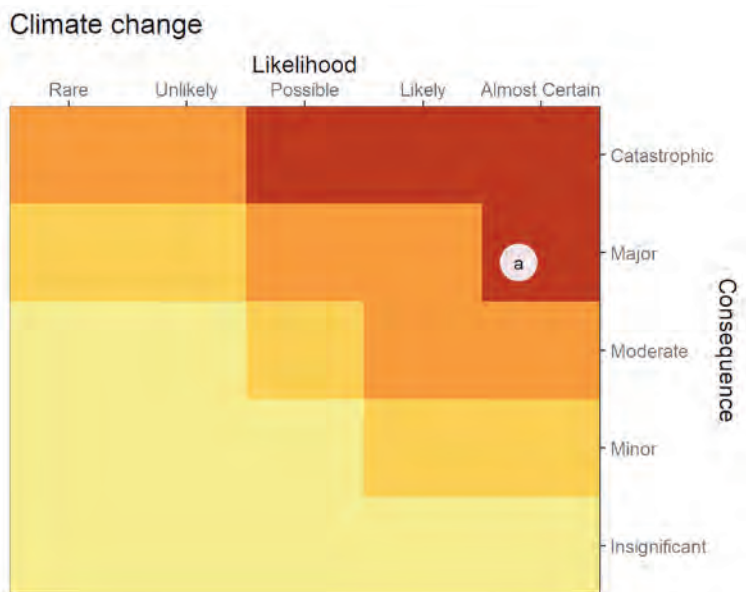


Figure 24. Risk matrix for climate change (a). Risk prior to management is represented as the transparent symbol and after management as the solid symbol.

<sup>4</sup> <https://www.brest.ird.fr/pirata/pirata.php>

## 6 Governance of the MPA

### Governance Structure

#### Regional Governance

Regional Fisheries Management Organisations (RFMOs) are intergovernmental organisations that are established under the United Nations Convention on the Law of the Sea (UNCLOS) and the UN Fish Stocks Agreement and have responsibility for managing highly migratory and straddling high seas fish stocks (including tuna, tuna-like species, swordfish and marlin). The RFMO of relevance to St Helena is the International Commission for the Conservation of Atlantic Tunas (ICCAT). The UK is a signatory to ICCAT on behalf of the Overseas Territories. ICCAT is responsible for carrying out data collection, scientific monitoring and management of tunas and tuna-like species in the Atlantic Ocean and its adjacent seas.

ICCAT Recommendations and management measures are developed to protect stocks of migratory species including tuna, tuna-like species and pelagic sharks. Recommendations

can include total allowable catch limits, closed seasons, and closed areas for example. All relevant ICCAT Recommendations are legally binding, and therefore St Helena must comply with the requirements, which are annually reviewed and updated by ICCAT depending on the stock status. St Helena has its own tagging programme registered with ICCAT and has also participated in ICCAT's regional Atlantic Ocean Tropical Tuna Tagging Programme (AOTTP). St Helena submits catch and tagging data to ICCAT annually including both commercial and recreational landings.

#### 6.2 National governance

St Helena is a UK Overseas Territory, and the governance and institutional structure is set out in the Constitution of St Helena, Ascension and Tristan da Cunha Order, 2009. Further details are provided in Annex 2.

### Legislation and policy

Local laws in St Helena are made under the authority of the Constitution of St Helena, Ascension and Tristan da Cunha. For any matter not covered by a local law, St Helena uses relevant English law that was in force up to 1 January 2006. Some English (or United Kingdom) statutes apply to St Helena by their own force, while others are applied by Orders in Council. Others may apply if they are not contrary to a local law and can be adapted to local conditions.

#### International obligations

St Helena is included within the UK's ratification of a number of multilateral environmental agreements (MEAs) as shown in Table 6.

**Table 6:** MEAs relevant to the MPA management ratified by the UK on behalf of St Helena

Convention	Status
The Convention on Biological Diversity	Ratified by the UK 03/06/94
The International Convention for the Regulation of Whaling	Ratified by the UK 10/11/48
United Nations Convention on the Law of the Sea	Ratified by the UK 25/07/1997
Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)	Ratified by the UK 05/01/1976
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	Ratified by the UK 31/10/1976
Convention on the Conservation of Migratory Species of Wild Animals	Ratified by the UK 01/10/1985
Convention Concerning the Protection of the World Cultural and Natural Heritage	Ratified by the UK 29/05/1984
Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention)	Ratified by the UK 17/11/1975





Ratification of a number of International Maritime Organization (IMO) Conventions has also been extended to St Helena including the International Convention for the Safety of Life at Sea 1974 (SOLAS) and the Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREG). St Helena is afforded protection by a number of implementing UK statutory instruments relating to the discharge of substances from shipping (including oil pollution):

- The Merchant Shipping (Oil Pollution) (Saint Helena) Order 1998 enables effect to be given to the International Convention on Civil Liability for Oil Pollution Damage 1992 and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1992. These, respectively, require oil tankers to hold insurance against the cost of clean-up, impose strict liability, up to a specified financial limit, if a maritime casualty occurs and enable access to an international fund of costs cannot be recovered from the ship owner or insurer.
- The Merchant Shipping (Prevention of Pollution) (Intervention) (Overseas Territories) Order 1982 and the Prevention of Oil Pollution Act 1971 (Overseas Territories) Order 1982 implement the Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties. The 1982 Orders enable the Governor (or equivalent) of an Overseas Territory to take measures to prevent, mitigate or eliminate grave and imminent danger to the coastline from pollution or the threat of pollution from oil or other substances.
- The Environmental Protection (Overseas Territories) Order 1988 implements the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention), 1972 which prohibits the dumping of certain hazardous materials. In addition, a special permit is required prior to dumping of a number of other identified materials and a general permit for other wastes or matter. This is administered by the Port Authority who enforces restrictions on operational discharges.

### National legislation

The St Helena MPA was designated under Section 30 the Environmental Protection Ordinance 2016 which makes provision for the Governor in Council to designate Marine Protected Areas where management measures are required:

- (i) to protect habitats and ecosystems;
- (ii) to protect biodiversity, at any level; or
- (iii) to ensure sustainable use of the marine environment.

Section 31 requires the adoption of a management plan for any designated MPAs. The Environmental Protection Ordinance also makes provision for the conservation of biodiversity, the regulation of trade in endangered species and the control of pollution, hazardous substances, litter and waste. It is an offence to hunt, collect, kill, wound,

pursue, capture, molest or have possession of a protected species; disturb a protected species during its breeding or migration season; remove, damage, destroy or possess the nests or eggs of a protected species; or disturb, damage or destroy the habitat of a protected species without a licence. Protected species are listed in Schedule 2 of the Ordinance and include a number of marine fish species, lobster, sharks, turtles and cetaceans (Annex 1). Species are included in Schedule 2 on the basis of their IUCN Red List<sup>6</sup> status (Threatened or Near Threatened) at the time the Environmental Protection Ordinance, 2016 was drafted, listing under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)<sup>7</sup> or the Convention on Migratory Species (CMS)<sup>8</sup> or because they are endemic. It is an offence to wilfully introduce, release or allow to escape any non-native species. It is also an offence to discharge, deposit or otherwise release polluting matter into the environment.

Other national legislation which has implications for management of the St Helena MPA includes:

- **Environmental Protection Ordinance - Marine Regulations (Tourism and Interaction with Marine Life) 2023** makes it a requirement for anyone wishing to conduct any commercial interaction activities with marine wildlife to apply for a licence. It also prohibits knowingly and intentionally SCUBA diving with whale sharks and SCUBA diving, snorkelling or free diving with whales, dolphins or porpoises.
- **The Fisheries Ordinance 2021** establishes a licensing system for fishing and enables the Chief Fisheries Officer to grant licences for recreational fishing, sport fishing, commercial fishing, exploratory fishing and research fishing. It specifies that only fishing by handline, fishing by pole-and-line, fishing with droppers, fishing by hand-held dip nets, fishing by pots, fishing by hand and fishing by use of a spear gun is permitted within St Helena's waters. It also enables the Chief Fisheries Officer to set total allowable catch limits and issue fishing control notices to ensure sustainable management of fish resources. Fishing Control Notices can regulate unlicensed activities such as traditional rock fishing or spearfishing from the shore. There are currently three fishing control notices in place, these notices impose;
  - A closed season for the use of droppers
  - The minimum sizes of fish caught from the shore
  - A closed season of the lobster fishery
  - Seasonal restrictions on fishing methods used to fish for lobster
- **The Merchant Shipping Ordinance 2021** requires that the master of a ship must ensure that oil is not discharged or does not escape from a ship into St Helena waters and if this does occur, must immediately report it to the Harbour Master.

<sup>6</sup> The IUCN Red List of Threatened Species assesses the conservation status of species at a global level. The IUCN Red List categories indicate how close a species is to becoming extinct. Species in the Vulnerable, Endangered and Critically Endangered categories are collectively described as 'threatened' and hence in particular need of protection.

<sup>7</sup> The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments that aims to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species. Over 38,700 species are protected by CITES; they are listed in the three CITES Appendices.

<sup>8</sup> The Convention on Migratory Species (CMS) is a global convention specialising in the conservation of migratory species, their habitats and migration routes. Migratory species threatened with extinction are listed on Appendix I of the Convention. Migratory species that need or would significantly benefit from international co-operation are listed in Appendix II of the Convention.

- **The Ports Ordinance 2016** regulates the management and control of harbours in St Helena, of vessels, and other matters connected to harbour safety.
- **The Protection of Wrecks and Marine Archaeological Heritage Ordinance 2014** protects the marine archaeological heritage of St Helena, including sites of wrecks, from interference by unauthorised persons and for connected purposes. The Ordinance restricts and prohibits activities (including sand pumping and fishing for demersal species) on or near wrecks, areas of marine archaeological interest and protected artefacts.
- **The Land Planning and Development Control Ordinance 2013** prohibits any development unless appropriate development permission has been granted. An application for permission for a development which may have significant effects on the environment, must be accompanied by an Environmental Impact Assessment (EIA) report assessing the environmental impacts of the proposed development.
- **The Minerals Vesting Ordinance 1951** vests in the crown all minerals in St Helena waters. A 2015 amendment extended that to the 200 nm maritime zone.
- **The Criminal Justice (Fixed Penalties) Ordinance 2020** makes provision for fixed penalties to be issued in respect of certain offences, including fisheries offences. This enables the marine enforcement officers to issue a fixed penalty notice to anyone they consider to have committed an offence.

#### International policy

- The UK Government's **25 Year Environment Plan** highlights the UK's ambition to champion and support conservation and biodiversity in Overseas Territories' waters and notes an intention to work domestically and internationally to deliver the UK's commitments under UN SDG 14. It includes a commitment to continue implementation of the Blue Belt Programme, including assisting with efficient monitoring and enforcement of large scale MPAs. Two indicators are of direct relevance to this Marine Management Plan: 'Status of endemic and globally threatened species in the UK Overseas Territories' (K3) and 'Extent and condition of terrestrial and marine protected areas in the UK Overseas Territories' (K4).
  - **The UK Overseas Territories Biodiversity Strategy** sets out the UK Government strategy to enable the UK and Overseas Territory Governments to meet their international obligations for the conservation and sustainable use of biodiversity in the Overseas Territories. One of the five strategic priorities is to develop ecosystem-based initiatives for the conservation and sustainable use of the marine environment.
- #### National policy and plans
- A number of national plans and policies support the Marine Management Plan and their links with the MMP are briefly highlighted below.
- The objective of the **St Helena Island 10 Year Plan 2017 – 2027** is to continue to make St Helena a wonderful place to live, work, raise children, visit and to do business. This will be achieved through five national goals. The 10-Year Plan's 'Altogether Greener' goal aims to ensure that the Island's natural resources are preserved and enhanced. The Marine Management Plan will help to deliver this aspiration through implementation of a number of actions aimed at maintaining and enhancing the exceptional environmental qualities of our marine environment for this generation and the next under its management Goal 1: *The Island's marine environment and natural ecosystems are protected, conserved, and (where necessary) restored, with appropriate monitoring to track short and long-term changes.*
  - The vision of the **Sustainable Economic Development Plan 2018 – 2028** (SEDP) is to achieve development which is economically, environmentally and socially sustainable. This plan is linked to the Marine Management Plan through its goal: *Sustain and Improve our Natural Capital.* A number of the actions of the Marine Management Plan will be implemented in support of this aspiration through continuous achievement of its Goal 2: *Use of natural resources is managed sustainably, using evidence-based decisions for appropriate management of human activities, aimed at securing economic, food and cultural security for St Helena.*
  - The **Climate Change Policy 2019** aims to reduce the quantity of greenhouse gas emissions created on island by making better use of natural resources, reducing the risks from weather-related hazards, ensuring that the protection and enhancement of the island's natural and cultural heritage is at the heart of economic development, in order to maintain a good quality of life for residents now and in the future. The Marine Management Plan supports these aims through actions proposed under management Goal 1, primarily through proposing a monitoring strategy is established and implemented to understand baselines and track changes to the marine environment and risk assessing current and future threats to the marine environment to enable a proactive approach to risk management.
  - Within **the Environment, Natural Resources and Planning Portfolio Strategy and Delivery Plan April 2021 – March 2024**, one of the key priorities is to protect the natural environment by conserving biodiversity, preventing, minimising or mitigating against any negative activity and or impact, to conserve and enhance the island's natural capital. Management actions proposed under Goals 1 and 2 of the Marine Management Plan together with implementation and monitoring of policies for fisheries, marine tourism and other marine activities (sand extraction and marine pollution) will inform and direct priority monitoring and management actions for the marine environment, increasing its value and contribution as a natural resource for use and enjoyment by Islanders and tourists alike.

- The **Marine (Tourism and Interaction with Marine Life) Policy 2020** aims to effectively manage marine tourism in or near the marine environment to minimise impacts on the marine environment and large charismatic marine species, especially in the face of increasing pressures from economic development. The Marine Management Plan is linked to the pursuit of this policy objective through proposing regulatory actions, marine stakeholder engagement and socio-economic monitoring of marine tourism activities under its management Goal 2.
- The **Policy for Managing Development Activities within St Helena’s Marine Environment 2021** aims to effectively manage developments in the marine environment to prevent, minimise and mitigate adverse impacts on the marine environment, whilst supporting sustainable economic development. The Marine Management Plan is linked to the pursuit of this policy objective through proposing regulatory actions and socio-economic monitoring of marine development activities under its management Goal 2.
- The **Marine Compliance and Enforcement Strategy 2021 for Marine Operations in St Helena** sets out how St Helena Government plans to manage compliance and enforcement with regards to legislation for its marine environment, including fisheries, marine tourism and other marine operations (marine developments and scientific research). Implementation of the strategy to ensure activities within the marine environment are regulated and enforced, with clear and transparent information provided to all users is a key part of securing progress against achievement of Goals 1 and 2 of the Marine Management Plan.
- The **Biosecurity Protocol for the Marine Environment 2015** aims to prevent the arrival of any additional non-native marine species. It sets out the requirements for cargo ships, cruise ships, fishing vessels and visiting yachts around the management of ballast water hull fouling and importation of live bait. The protocol is linked to Goal 1 of the Marine Management Plan through enabling implementation of regulatory activities that form part of a proactive approach to risk management of current and future threats to the marine environment.
- The **Environmental policy for planning underwater blasting activities on St Helena Island to minimise risk of injury and disturbance to marine life** aims to minimize the negative impact on marine life through underwater blasting by providing guidelines that reflect best practise for operators on island, taking into account local limitations, and sets regulations for the planning, managing, operating and reporting of underwater blasting activities. The policy is linked to Goal 1 of the Marine Management Plan through enabling implementation of regulatory activities that form part of a proactive approach to risk management of current and future threats to the marine environment.



## Part 2:

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# Marine Protected Area Management





## 7 Vision

The rich biodiversity and unique natural ecosystems of St Helena's MPA are conserved, protected, and restored, with use

of its natural resources managed in line with its IUCN Category VI Sustainable use principles, now and for future generations.

## 8 Goals

In order to achieve this long-term vision, the goals of the St Helena MPA are:

- The islands marine environment and natural ecosystems are protected, conserved, and (where necessary) restored, with appropriate monitoring to track short and long-term changes.

- Use of natural resources is managed sustainably, using evidence-based decisions for appropriate adaptive and strategic management of human activities, aimed at securing economic, food and cultural security for St Helena.
- St Helena's marine environment, its importance, and management methods are better understood by both the local and international community, with all provided the opportunity to input into securing its future.

## 9 Management Principles

The St Helena MPA is considered to be an IUCN Category VI 'Protected area with sustainable use of natural resources' MPA. As a result, low-level human use of marine resources is permitted within the MPA as long as the activities are compatible with nature conservation. All current and human activities within the MPA are managed within a comprehensive policy and legislative framework which ensure that these activities cause no damage or disturbance to St Helena's marine habitats and species.

- Only one-by-one fishing methods are permitted within the St Helena MPA (handlines, pole-and-line, pots, by hand, spear gun)
- Only marine tourism activities that are compatible with the goals and objectives of the St Helena Marine Management Plan are permitted to operate within the MPA. Acceptable activities are considered to be those that are low impact, non-consumptive and promote education and awareness building that do not damage or disturb marine habitats and species<sup>9</sup>
- Only proposals for marine developments<sup>10</sup> that are compatible with the goals and objectives of the Marine Management Plan are supported within the MPA. All marine developments must therefore have the minimal impact on marine biodiversity, habitats and ecosystems and use natural resources sustainably. Any marine development that may cause a significant adverse impact on the marine environment will require an Environmental Impact Assessment.

Management of the MPA is guided by the following management principles:

**Precautionary principle:** Where evidence is inconclusive, or non-existent, St Helena Government will make reasonable efforts to fill evidence gaps but will also need to as far as is reasonably practicable and proportionate, apply precaution within an overall risk-based approach. The precautionary principle as set out in the Environmental Protection Ordinance (2016) is defined as "if there are reasonable grounds for concern that any activity may cause harm to the environment, preventive measures should be taken in anticipation of the

risk, whether or not there is conclusive evidence of a causal relationship between that activity and such harm". This would need to be considered based on risk, which will be made upon the best available techniques and evidence, combined with knowledge, information and/or expertise from elsewhere in the world.

**Sustainable development approach:** Any activities within the St Helena MPA must have minimal impact on marine biodiversity, habitats and ecosystems and must bring positive social and economic benefits to the island community. MPA management will consider multiple activities, balance environmental, socio-economic and cultural objectives, and apply the principles of ecosystem-based management. This will ensure that activities within the MPA meet the needs of the present, without compromising the ability of future generations to meet their own needs.

**Evidence-based:** All management decisions will be based on the best available information, and any knowledge gaps will be addressed through research and monitoring of both ecological and socio-economic systems. The outcomes of management actions will be evaluated through the use of indicators to ensure an adaptive management approach. This will allow for changes to be detected and fed-back into the management decision-making process during implementation. Towards the end of the implementation phase, management effectiveness will be evaluated, and the plan modified on the basis of the results.

**Collaborative:** The effectiveness of MPA management depends on the willingness of the local community to comply with the regulations, report any infringements/non-compliance, feedback on management effectiveness and practicality and provide local knowledge on any changes witnessed. The local community has been involved in the review and revision of the Marine Management Plan. It is crucial that this collaboration is maintained. The management framework sets out the mechanisms through which marine resource users and the local community can continue to contribute and work in partnership with St Helena Government to help secure the sustainable future of their marine resources.

<sup>9</sup> This includes existing activities at current levels such as: SCUBA diving, snorkelling, free diving, guided coastal or scenic tours by boat, wildlife viewing tours (dolphins, whales and seabirds), wildlife interaction tours (permitted species)

<sup>10</sup> This includes but is not limited to: dredging; deposition of materials or objects; removal of materials or objects; construction works; aggregate extraction; offshore renewable energy generation; laying of submarine cables or pipelines; gas drilling; carbon capture and storage; and exploration for and exploitation of natural gas, petroleum and minerals.

## 10 Management objectives and actions

The management objectives and actions described in this section provide an overview of the activities that will be undertaken over the next five years to achieve the vision and goals of the St Helena MPA. There are a series of actions to deliver each objective which have been prioritised (high, medium and low), and each objective has associated indicators to measure success. The St Helena Research

and Monitoring Plan sets out how the key indicators will be monitored and includes long-term targets to determine whether management objectives are being achieved. The management actions will be implemented by St Helena Government with assistance from external programmes and organisations where appropriate.

**Goal 1:** *The islands marine environment and natural ecosystems are protected, conserved, and (where necessary) restored, with appropriate monitoring to track short and long-term changes.*

### Objective 1.1: The existing management framework is implemented within current resources to manage and protect the marine environment.

Action	Responsible organisation	Priority
1.1.1 Develop annual operational plans to effectively implement the Marine Management Plan actions	ENRP	High
1.1.2 Undertake annual reviews of the Marine Management Plan to ensure that objectives are being met	ENRP	High
1.1.3 Conduct management effectiveness evaluations as part of the review process every 2 years	ENRP	High
1.1.4 Ensure an appropriate level of staffing for effective MPA management (including marine fisheries and conservation officer, fisheries scientist, marine enforcement officer and marine conservation and fisheries assistants.)	SHG	High
1.1.5 Undertake a staff training needs assessment and develop a schedule for regular training	SHG	High
1.1.6 Establish and implement a sustainable financing strategy to support MPA management actions in the long-term	SHG (SEDP & ENRP)	High
<b>Indicators of success</b> Implementation of the Marine Management Plan Management effectiveness evaluation undertaken Adequacy of staff numbers for management Staff skill level Adequacy of equipment and facilities for management Existence of an MPA sustainable financing strategy The MPA is achieving its objectives		

### Objective 1.2: A monitoring strategy is in place to understand baselines and track changes to the marine environment

Action	Responsible organisation	Priority
1.2.1 Implement the St Helena Monitoring and Research Plan	ENRP & NGOs/ research institutes	High
1.2.2 Ensure raw data is accessible through the St Helena data portal	ENRP & local NGOs	High
1.2.3 Ensure that monitoring data is used to inform MPA management decisions	ENRP & local NGOs	High
<b>Indicators of success</b> Existence and adoption of Monitoring and Research Plan Data portal updated annually Application of scientific research and monitoring to management Level of understanding of the marine environment		



**Objective 1.3: Current and future threats to the marine environment are understood and risk assessed to enable a proactive approach to risk management**

Action	Responsible organisation	Priority
1.3.1 Gather baseline data on seamount habitats and species occurrence	ENRP (with external support)	Medium
1.3.2 Undertake long-term research, monitoring and modelling to better understand the potential impacts of climate change on St Helena's marine environment	ENRP (with external support)	High
1.3.3 Understand extent of impacts of microplastics particularly in commercial fish species	External organisation with local support	Medium
1.3.4 Establish a baseline volume of sewage and land/rain runoff and its impacts on the local marine environment	SHG & Connect	Medium
1.3.5 Establish a long-term water quality monitoring and reporting programme	Environmental Health	High
1.3.6 Undertake monitoring of sand extraction activity and review current management measures accordingly	ENRP / Marine Enforcement	Medium
1.3.7 Establish a baseline of marine invasive non-native species currently in St Helena and potential threats to the natural environment and consider the feasibility of their management.	Biosecurity lead (Marine Section facilitate)	Medium
1.3.8 Undertake horizon scanning for new marine threats from marine INNS	ENRP Marine Section and Biosecurity	High
1.3.9 Undertake a 'Futures assessment' to consider the potential threats, pressures and emergent issues that may impact St Helena in the future.	ENRP (with external support)	High
<b>Indicators of success</b> Existence and application of scientific research and monitoring Data portal updated annually Knowledge of future pressures on St Helena and the MPA Level of understanding of current and future threats to the marine environment		

*Goal 2: Use of natural resources is managed sustainably, using evidence-based decisions for appropriate management of human activities, aimed at securing economic, food and cultural security for St Helena.*

**Objective 2.1: Fishing practices are sustainable, with management methods for target species informed by scientific evidence and local knowledge.**

Action	Responsible organisation	Priority
2.1.1 Undertake long-term monitoring of all locally fished species (pelagic and groundfish) and ensure advice is incorporated into MPA management decisions and any Total Allowable Catch (TAC) are set according to stock assessment advice.	ENRP (with external support)	High
2.1.2 Establish observer programme (observers or electronic monitoring) for new and existing fisheries as a minimum in line with ICCAT requirements.	ENRP (with external support)	High
2.1.3 Undertake socioeconomic monitoring to assess trends in the economic benefits to the local community from fishing over time	SHG (with external support)	High
<b>Indicators of success</b> Existence and adoption of Fisheries Management Plans / Monitoring and Research Plan Target species diversity Target species biomass Target species size distribution Economic benefits from fishing		

**Objective 2.2: Development activities in the marine environment are effectively managed to prevent, minimise and mitigate adverse impacts, whilst supporting sustainable economic development.**

Action	Responsible organisation	Priority
2.2.1 Implement the Policy/Regulations for managing development activities within St Helena's marine environment through establishment of a new licensing process	ENRP	High
2.2.2 Undertake socioeconomic monitoring to assess trends in the economic benefits to the local community from marine development activities over time	SHG (ENRP / SEDP) with external support	Medium
<b>Indicators of success</b> Implementation of policy and legislation Seabed condition Community infrastructure and business		

**Objective 2.3: Marine tourism activities minimise their impacts on the marine environment and large marine species, whilst supporting economic development.**

Action	Responsible organisation	Priority
2.3.1 Implement the Tourism and Interaction with Marine Life Policy/ Regulations through establishment of a new licensing process for commercial tour operators	ENRP Marine Enforcement Section / Chief Environment Officer	High
2.3.2 Promote the marine accreditation scheme locally and internationally to raise awareness with visitors to St Helena	SEDP / Tourist Office / local tour operators	Medium
2.3.3 Administer the marine accreditation scheme and monitor marine tourism activities to better understand any threats from the activities and thereby inform management decisions	ENRP / Marine Enforcement	High
2.3.4 Improve engagement with marine tour operators to enable them to provide feedback on the new licensing process and improve compliance with the regulations	ENRP / Marine Enforcement	High
2.3.5 Undertake socioeconomic monitoring to assess trends in the economic benefits to the local community from marine tourism over time	SHG (ENRP / SEDP) with external support	High
2.3.6 Undertake a carrying capacity study of marine tourism activities within the MPA to better understand current and future pressures	ENRP with external support	High
<b>Indicators of success</b> Implementation of policy and legislation Focal species diversity and abundance Economic benefits from marine tourism		

**Objective 2.4: A suitable level of prevention preparedness and response to a marine pollution incident is developed, established and maintained.**

Action	Responsible organisation	Priority
2.4.1 Undertake on-island training in the use and maintenance of pollution response equipment	Pollution working group	High
2.4.2 Develop and endorse a Marine Pollution Policy and procedures	ENRP Environmental Risk Section	High
2.4.3 Develop new Regulations under the Environmental Protection Ordinance to implement the Marine Pollution Policy	Chief Environment Officer	High
<b>Indicators of success</b> Existence and implementation of marine pollution incidence response plan Existence and implementation of policy and legislation Staff skill level Water quality		

**Objective 2.5: Activities within the marine environment are regulated and enforced, with clear and transparent information provided to all users.**

Action	Responsible organisation	Priority
2.5.1 Implement the Compliance and Enforcement Strategy for Marine Operations in St Helena and monitor compliance with all marine legislation	Marine Enforcement Section	High
2.5.2 Ensure that St Helena is compliant with ICCAT requirements and meets all reporting obligations	ENRP / Fisheries Management / Marine Enforcement Section	High
2.5.3 Trial new technology to improve detection of illegal, unreported and unregulated fishing	Marine Enforcement Section	Medium
<b>Indicators of success</b> Implementation Compliance and Enforcement Strategy Local understanding of MPA rules and regulations Level of compliance		

*Goal 3: St Helena's marine environment, its importance, and management methods are better understood by both the local and international community, with all provided the opportunity to input into securing its future.*

**Objective 3.1: Users of the marine environment and stakeholders are able to participate in management decisions and activities to protect and enhance the MPA.**

Action	Responsible organisation	Priority
3.1.1 Implement the St Helena Stakeholder (Internal and External) Engagement Plan	ENRP (led by Marine Section with Marine Enforcement and Chief Environment Officer)	High
3.1.2 Implement cross-Portfolio awareness activities to improve integration between land and marine planning	Director ENRP	High
3.1.3 Establish an MPA working group/forum to enable stakeholders to actively engage in the management process	Director ENRP	High
<b>Indicators of success</b> Implementation of Stakeholder Engagement Plan Level of stakeholder participation and satisfaction in management processes and activities		



**Objective 3.2: An education and awareness campaign is in place to provide information about and promote St Helena’s MPA to local and international audiences.**

Action	Responsible organisation	Priority
3.2.1 Establish an education programme and undertake education and awareness-raising activities to engage all members of the community and sustain momentum	ENRP with local NGOs	High
3.2.2 Develop innovative ways to enhance communication about the benefits the MPA brings to the local community to build active support	ENRP with local NGOs	Medium
3.2.3 Establish a targeted education campaign to raise the profile of the impact of sewage and marine plastics on the marine environment.	ENRP with local NGOs	High
3.2.4 Raise awareness of the work St Helena is doing to manage the marine environment on a regional and international scale	ENRP, SHRI, local and international NGOs, universities	Medium
3.2.5 Capitalise on the new Marine Centre to enhance communication between scientists and the local stakeholders and wider community	ENRP, SHRI	Medium
3.2.6 Establish a socio-economic monitoring programme to assess the cultural, social and economic values of the MPA and assess trends over time	SHG and local NGOs with external support	High
<b>Indicators of success</b> Existence and implementation of Communications Plan Level of awareness of the MPA values amongst the local community Level of understanding of threats to the MPA values amongst the local community Level of understanding of the MPA values at a regional and international scale		

## 11 Monitoring and Review

Evaluation of the Marine Management Plan will determine whether management actions are achieving the desired outcomes, addressing priority management needs, and meeting the objectives of the MPA.

Annual reviews, conducted by staff within the ENRP Portfolio in collaboration with key stakeholders in St Helena, will determine whether activities have occurred as planned and will identify any issues affecting implementation and resource allocation. The Marine Management Plan will undergo a comprehensive review and evaluation every five years to be completed through a consultation process with stakeholders and other interested parties. The evaluation will take into account new scientific research and will assess the extent to which management actions have achieved the MPA objectives over the five-year period and will be used to advise adaptive management decisions. The St Helena Research and Monitoring Plan sets out how the key natural, social, cultural and economic values will be monitored and includes long-term targets to determine whether management objectives are being achieved. This information will be used to inform the Marine Management Plan evaluation. The evaluation will review management actions completed, revise strategies and activities accordingly and, as appropriate, add new strategies and activities based on priority management needs and any new threats identified. The output of this activity will be a revised Marine Management Plan for the next five years of operations.



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## Annex 1 - Protected marine species list

Table A1.1 Protected marine species listed in Schedule 2 of the Environmental Protection Ordinance, 2016

Family	Scientific Name	Local Name	Global Name	International Designation
<b>Fish</b>				
Scombridae	<i>Thunnus obesus</i>	Coffrey	Bigeye Tuna	IUCN Vulnerable
Syngnathidae	<i>Hippocampus erectus</i>	Seahorse	Lined Seahorse, Northern	IUCN Vulnerable
Scorpaenidae	<i>Pontinus nigropunctatus</i>	Deepwater Jack	Deepwater Jack	IUCN Vulnerable
Moridae	<i>Physiculus helenensis</i>	Skulpin	Skulpin	IUCN Critically Endangered
Pomacentridae	<i>Stegastes sanctaehelenae</i>	Bastard Cavalley Pilot		IUCN Vulnerable
Pomacentridae	<i>Chromis sanctaehelenae</i>	Bastard Five Finger		IUCN Vulnerable
Callionymidae	<i>Callionymus sanctaehelenae</i>	St Helena Dragonet		IUCN Critically Endangered
Istiophoridae	<i>Kajikia albida</i>	White Marlin	White Marlin	IUCN Vulnerable
Serranidae	<i>Holanthias fronticinctus</i>	Deepwater Greenfish		
Scorpaenidae	<i>Scorpaena mellissii</i>	Deepwater Gurnard		
Labridae	<i>Thalassoma sanctaehelenae</i>	Greenfish		
Congridae	<i>Ariosoma mellissii</i>	Silver Eel		
Blenniidae	<i>Scartella springeri</i>	Springer's Blenny		
Gobiidae	<i>Priolepis ascensionis</i>	Ascension Goby		
Tripterygiidae	<i>Helcogramma ascensionis</i>	Ascension Triplefin		
Chaetodontidae	<i>Prognathodes dichrous</i>	Bastard Cunningfish		
Tetraodontidae	<i>Canthigaster sanctaehelenae</i>	Bastard Hogfish		
Chaetodontidae	<i>Chaetodon sanctaehelenae</i>	Cunningfish	St Helena Butterfly Fish	
Serranidae	<i>Serranus sanctaehelenae</i>	Deepwater Brown Mullet	St Helena Comber	
Ostraciidae	<i>Acanthostracion notacanthus</i>	Hogfish	Island Cowfish	
Labridae	<i>Xyrichtys blanchardi</i>	Marmalade Razorfish	Marmalade Razorfish	
Labridae	<i>Bodianus insularis</i>	Parrotfish	Parrotfish	
Apogonidae	<i>Apogon axillaris</i>	Red Mullet		
Scorpaenidae	<i>Scorpaenodes insularis</i>	Red Scorpionfish	Red Scorpionfish	
Scaridae	<i>Sparisoma strigatum</i>	Rockfish		
Labridae	<i>Xyrichtys sanctaehelenae</i>	Sand Greenfish	Yellow Razorfish	
Ophichthidae	<i>Phaenomonas longissima</i>	Short-maned Sand Eel		
Bothidae	<i>Bothus mellissi</i>	Solefish/Flounder		
Blenniidae	<i>Entomacrodus textilis</i>	Textile Blenny	Textile Blenny	

Family	Scientific Name	Local Name	Global Name	International Designation
<b>Crustaceans</b>				
Palinuridae	<i>Panulirus echinatus</i>		Brown Spiny Lobster (when in berry)	IUCN Least Concern
Scyllaridae	<i>Scyllarides obtusus</i>	Stumpy	Slipper Lobster	IUCN Critically Endangered
<b>Sharks</b>				
Rhincodontidae	<i>Rhincodon Typus</i>	Bone Shark	Whale Shark	IUCN Vulnerable
Carcharhinidae	<i>Prionace glauca</i>	Blue Shark	Blue shark	IUCN Near Threatened
Pseudocarchariidae	<i>Pseudocarcharias kamoharai</i>	Crocodile shark	Crocodile Shark	IUCN Near Threatened
Lamnidae	<i>Isurus oxyrinchus</i>	Dog shark	Shortfin Mako	IUCN Vulnerable
Carcharhinidae	<i>Carcharhinus galapagensis</i>	Mackerel shark	Galapagos Shark	Near Threatened
Sphyrnidae	<i>Sphyrna</i> sp.	Shovel-nose shark		
Alopiidae	<i>Alopias superciliosus</i>	Whiptail	Bigeye Thresher	IUCN Vulnerable
Carcharhinidae	<i>Carcharhinus longimanus</i>	Whitetip	Oceanic Whitetip Shark, Whitetip Whaler	IUCN Vulnerable
Mobulidae	<i>Mobula tarapacana</i>	Chilean Devil Ray	Devil Ray	CMS listed
<b>Turtles</b>				
Cheloniidae	<i>Eretmochelys imbricata</i>	Hawksbill Turtle	Hawksbill Turtle	IUCN Critically Endangered
Cheloniidae	<i>Chelonia mydas</i>	Green Turtle	Green Turtle	IUCN Endangered
<b>Cetaceans</b>				
Balaenopteridae	<i>Megaptera novaeangliae</i>	Humpback whale	Humpback Whale	CITES Appendix I
Delphinidae	<i>Stenella attenuata</i>	Porpoise	Pantropical Spotted Dolphin	CITES Appendix II
Delphinidae	<i>Tursiops truncatus</i>	Cow Porpoise	Bottlenose Dolphin	CITES Appendix II
Delphinidae	<i>Steno bredanensis</i>	Angerline	Rough-toothed Dolphin	CITES Appendix II
Delphinidae	<i>Stenella longirostris</i>	Spinner	Spinner Dolphin	CITES Appendix II
Physeteridae	<i>Physeter macrocephalus</i>	Sperm whale	Sperm Whale	CITES Appendix I
Ziphiidae	<i>Mesoplodon densirostris</i>	Blainvilles Beaked Whale	Blainville Beaked Whale	CITES Appendix II
Physeteridae	<i>Kogia brevicps</i>	Pigmy Sperm Whale	Pigmy Sperm Whale	CITES Appendix II
Physeteridae	<i>Kogia sima</i>	Dwarf Pigmy Sperm Whale	Dwarf Pigmy Sperm Whale	CITES Appendix II
<b>Seabirds</b>				
Hydrobatidae	<i>Oceanodroma castro</i>	Maderian Storm Petrel	Maderian Storm Petrel	IUCN Least Concern
Phaethontidae	<i>Phaethon aethereus</i>	Trophy Bird	Red-billed Tropicbird	IUCN Least Concern
Sulidae	<i>Sula dactylatra</i>	Gannet	Masked Booby	IUCN Least Concern
Sulidae	<i>Sula leucogaster</i>	Duck	Brown Booby	IUCN Least Concern
Sternidae	<i>Onychoprion fuscatus</i>	Wideawake	Sooty Tern	IUCN Least Concern
Sternidae	<i>Anous stolidus</i>	Common Noddy	Brown Noddy	IUCN Least Concern
Sternidae	<i>Anous minutus</i>	Egg Bird	Black Noddy	IUCN Least Concern
Laridae	<i>Gygis alba</i>	White Bird	Fairy Tern	IUCN Least Concern

Family	Scientific Name	Local Name	Global Name	International Designation
Procellariidae	<i>Bulweria Bulwerii</i>	Bulwers Petrel	Bulwers Petrel	IUCN Least Concern
Hydrobatidae	<i>Pelagodroma marina</i>	White Faced Storm Petrel	White Faced Storm Petrel	IUCN Least Concern
Sulidae	<i>Sula Sula</i>	Red Footed Booby	Red Footed Booby	IUCN Least Concern
Stercorariidae	<i>Stercorarius pomarinus</i>	Cape Hen	Promarine Skua	IUCN Least Concern
Stercorariidae	<i>Stercorarius parasiticus</i>	Cape Hen	Arctic Skua	IUCN Least Concern
Procellariidae	<i>Puffinus griseus</i>		Sooty Shearwater	IUCN Near Threatened
Procellariidae	<i>Puffinus lherminieri</i>		Little Shearwater	IUCN Least Concern
Fregatidae	<i>Fregata ariel</i>		Lesser frigatebird	
Fregatidae	<i>Fregata minor</i>		Great Frigate Bird	



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## ■ Annex 2 - St Helena Government structure

The Executive Authority of St Helena is vested in His Majesty and is exercised by the Governor who is appointed by His Majesty by Commission. The Governor is responsible for the conduct of any business of the Government of St Helena, including the general direction and policy control of any department, with respect to defence, external affairs, internal security, the administration of justice, finance and appointment to any office in the St Helena Public Service.

St Helena is governed within a democratic system where the people of St Helena elect members of the public to represent them in Legislative Council. The Legislative Council makes laws for the peace, order and good governance of St Helena. It consists of twelve Elected Members who represent the whole island, a Speaker and a Deputy Speaker and the Attorney General as ex officio member. The twelve Elected Members of Legislative Council elect the Chief Minister from among them. The Chief Minister then recommends to the Governor the appointment of four Ministers, including a Minister for the Environment, Natural Resources & Planning Portfolio, and together with the Attorney General (as a non-voting member) they form the Executive Council.

The Executive Council is the highest policy-making body on St Helena and the Governor must obtain and act in accordance with the advice of the Executive Council. The Chief Minister has oversight for the performance of Ministers and their Portfolios. The Ministers have direct responsibility and accountability for all policies and services delivered by their Portfolio. The remaining seven Elected Members of the Legislative Council (backbenchers) scrutinise the performance and decision-making by the Ministers to ensure the effective use of public funds.

The St Helena Administration is known as the Public Service. Within the St Helena Public Service, there are five portfolios and a Central Support Service. Each Portfolio is administered by a Director who acts as chief policy adviser to the Minister on matters within their Portfolio's responsibility. Responsibility for MPA management sits under the Environment Natural Resources and Planning Portfolio; however effective implementation of the Marine Management Plan requires cooperation across all five portfolios (Figure 13).



SHG Marine Section

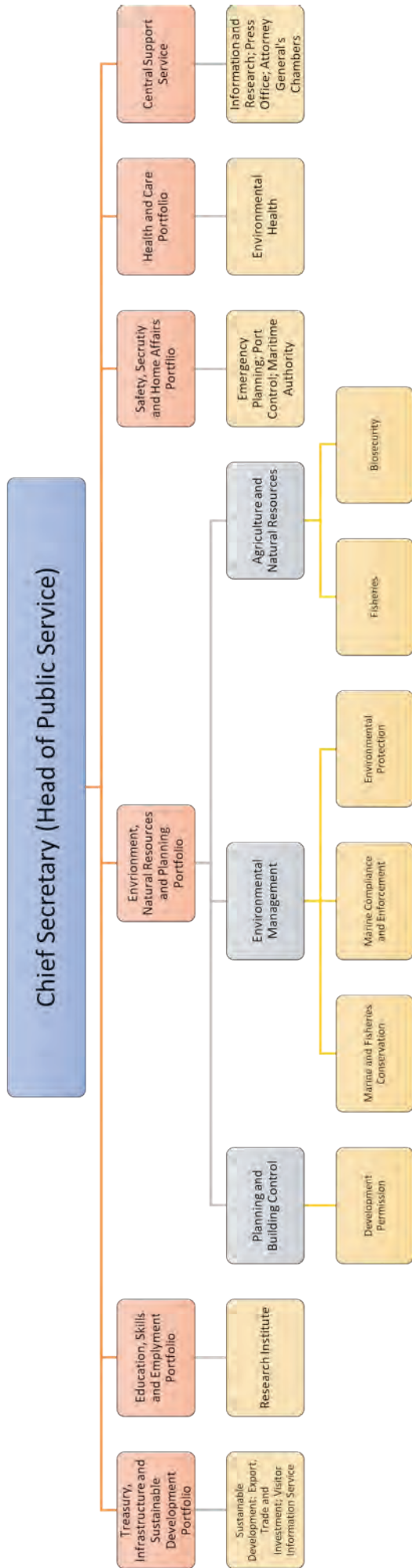


Figure 13: St Helena Public Service organogram, showing the five Portfolios and Central Support Service (orange), the three Divisions within the Environment, Natural Resources and Planning Portfolio (grey) and areas of work with relevance to management of the St Helena MPA (yellow)







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