



Ascension Island

Biodiversity Strategy and Action Plan

2022-2025



Our vision: Ascension's biodiversity and ecosystems are safeguarded for the future and contribute to the identity and prosperity of the island.

Ascension Island Biodiversity Strategy and Action Plan
2022-2025

Ascension Island Government 2022

Executive summary

- Ascension Island is a remote overseas territory of the United Kingdom located at the centre of the Atlantic Ocean.
- The island and its surrounding waters contain globally-important biodiversity including at least 71 endemic species and significant breeding populations of green turtles and seabirds.
- Responsibility for protecting Ascension's biodiversity is shared between the Ascension Island Government and the United Kingdom Government.
- This document describes how that protection will be achieved and how Ascension's obligations under international conservation conventions will be met. It is divided into two parts: a Strategy and an Action plan.



Strategy

- The strategy sets out the objectives for biodiversity protection on Ascension and the principles that will guide how this is done.
- Legislation and policy underpin all aspects of biodiversity conservation, though some areas require review and update.
- The five main elements of biodiversity protection on Ascension are: protected area management, protected species, environmental impact assessment, management of resource exploitation and biosecurity controls.
- Engaging the Ascension community in conservation work is fundamental to securing support, participation and legitimacy.
- Research and monitoring will be prioritised to provide a sound evidence base for decision making.

Action Plan

- The Action Plan describes the practical steps that will be taken to implement the strategy over the next three years.
- It is divided into sections covering the main protected habitats and species. However, many of the activities cut across the sections and in reality management will take an integrated, whole-island approach.
- Actions are designed to counter the main threats to Ascension's biodiversity and an adaptive management approach will be used to refine them over time.
- Most of the actions will be led by the Ascension Island Government Conservation and Fisheries Directorate, but their successful completion will rely on the support of other organisations on Ascension, volunteers and many international partners.

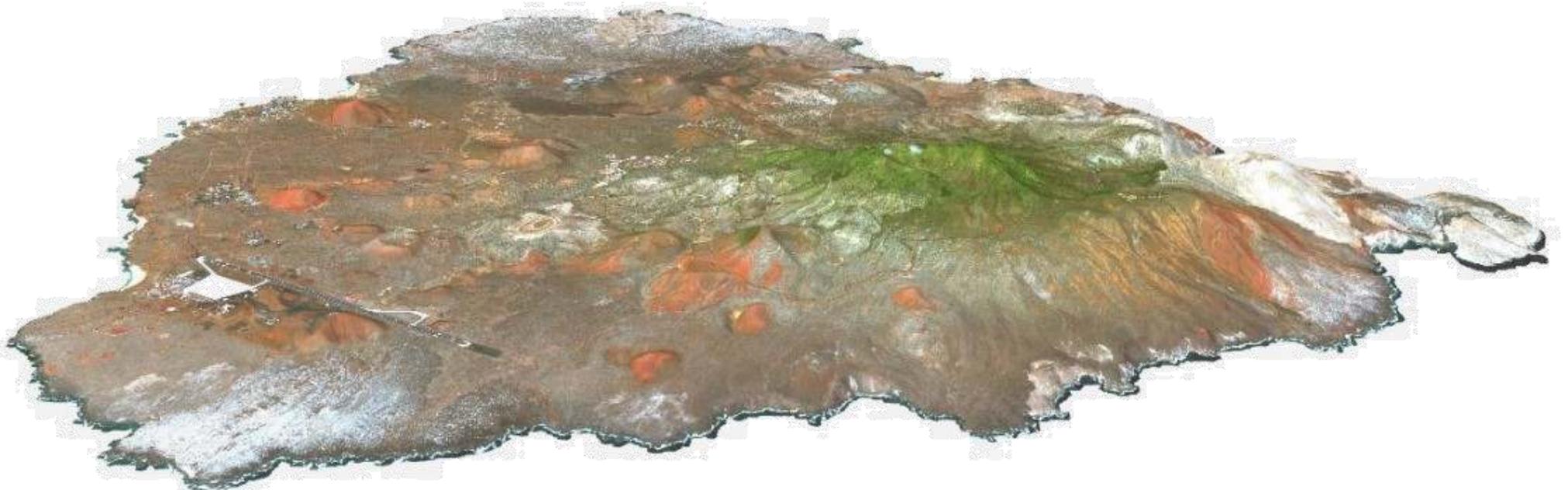
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Introduction to Ascension Island

- Ascension Island is a UK Overseas Territory at the centre of the Atlantic Ocean.
- The island is 88km² with its highest point Green Mountain 859m above sea level. Ascension has asserted its claim to an Exclusive Economic Zone extending 200nm from the island and covering an area of 445,000km².
- The UK and US militaries have bases on Ascension.
- There is no resident population on Ascension. Everybody living here is either contracted by one of the island's small number of employing organisations or the dependent of someone who is. However, many people have served multiple concurrent contracts and have lived on the island for many years.
- The people living on Ascension are primarily drawn from St Helena, UK, US and South Africa.
- Governance of the island is undertaken by the Ascension Island Government. This consists of a small administration based on Ascension and an advisory Council elected by the island population. The head of the Ascension Island Government is the Governor of St Helena, Ascension and Tristan da Cunha who is represented on Ascension by the island Administrator. Both the Governor and Administrator are employees of the UK Government's Foreign, Commonwealth and Development Office.
- Responsibility for biodiversity conservation primarily rests with the Ascension Island Government, but the UK Government also has a role in supporting the protection of biodiversity on the island.



The Biodiversity Strategy and Action Plan

This Biodiversity Strategy and Action Plan sets out how Ascension Island will protect its biodiversity and meet its commitments under international agreements and local strategies.

The UK is party to the CONVENTION ON BIOLOGICAL DIVERSITY (CBD) and it has been extended to Ascension. The CBD requires parties to ensure:

- the conservation of biological diversity
- the sustainable use of the components of biological diversity
- the fair and equitable sharing of the benefits arising from the use of genetic resources

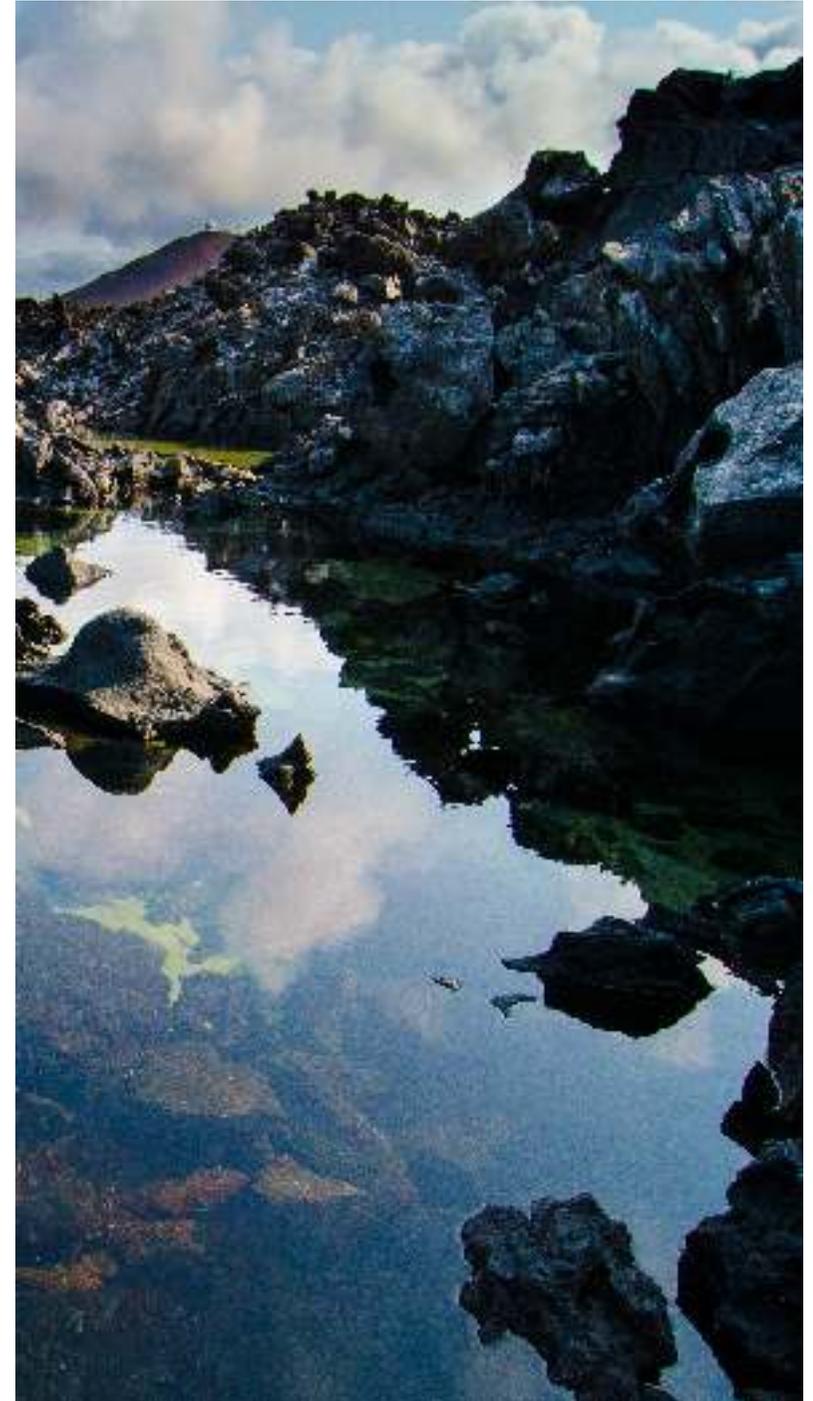
The post 2020 Global Biodiversity Framework sets out targets covering all aspects of biodiversity protection that parties to the CBD are expected to meet.

The CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS (CMS) has been extended to Ascension. For species listed in Appendix I, *The CMS requires: strict protection on them striving towards strictly protect the animal, conserving or restoring the places they live, mitigating obstacles to migration and controlling other factors that might endanger them.* A number of turtle, shark and whale species that occur around Ascension are listed in CMS Appendix I (see page 30 of this plan).

Ascension is party to the CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES OF WILD FAUNA AND FLORA (CITES), which restricts the import, export and trade of listed species including turtles and whales that are known to occur in Ascension's waters.

The UK OVERSEAS TERRITORIES BIODIVERSITY STRATEGY (2009) was developed 'to enable the UK and Territory Government to meet their international obligations for the conservation and sustainable use of biodiversity in the Overseas Territories.'

Ascension signed an ENVIRONMENTAL CHARTER in 2001. This contains guiding principles and commitments for developing environmental policies, legislation and standards in order to meet international obligations for biodiversity conservation.



This document is in three parts:

The INTRODUCTION

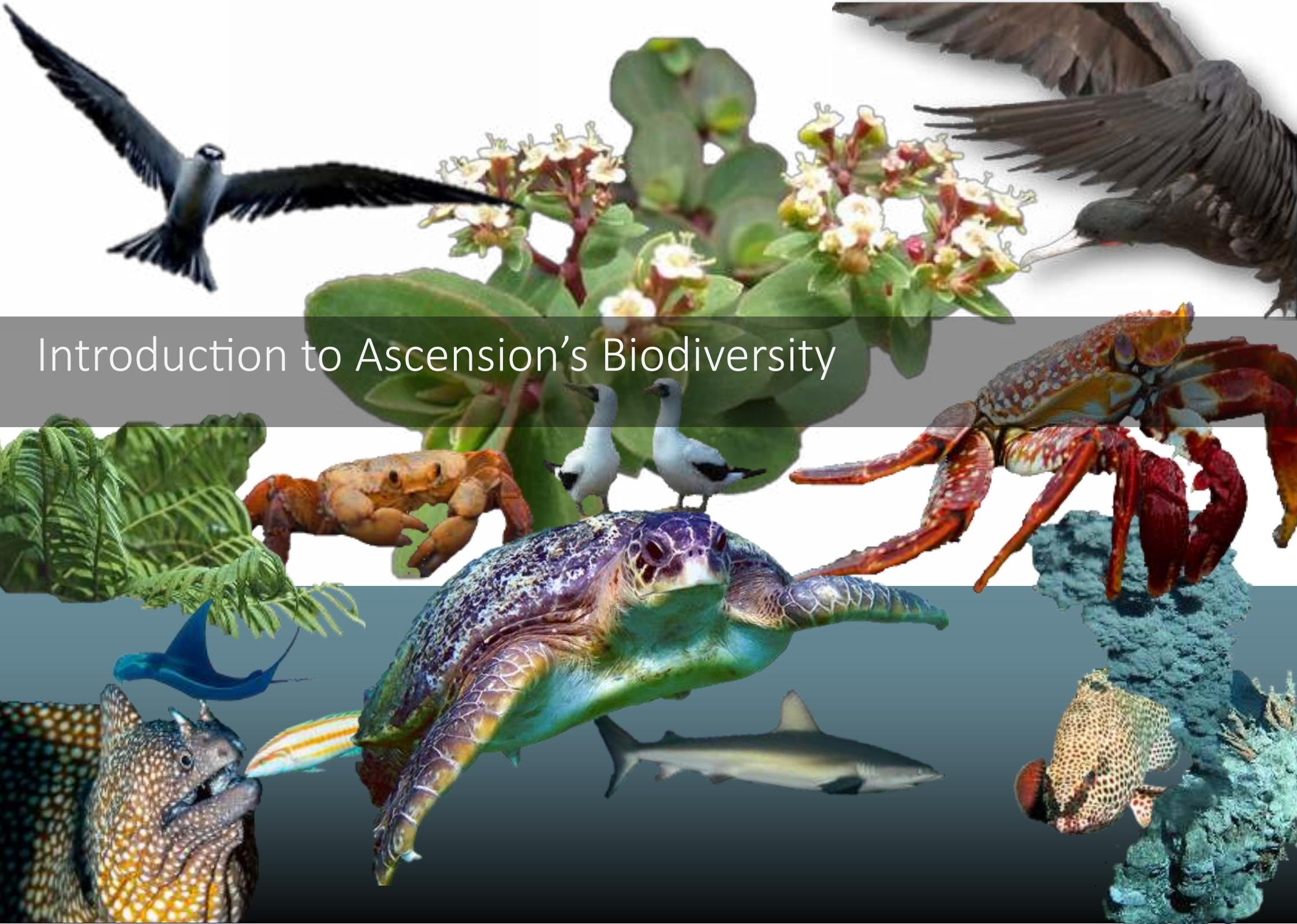
provides an overview of Ascension's biodiversity and the threats it faces.

The STRATEGY

describes what we want to achieve and the overall approach we are taking through legislation and policy to protect Ascension's biodiversity

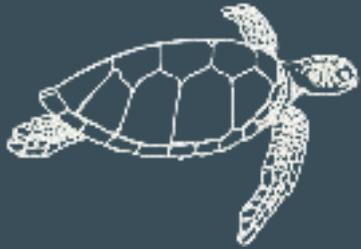
The ACTION PLAN

details the practical steps we will take in the next five years to conserve, restore and manage Ascension's biodiversity.



Introduction to Ascension's Biodiversity

Ascension may be a small island, but it is home to globally-significant biodiversity.



20,000 green turtle nests

The second largest green turtle nesting site in the Atlantic Ocean with up to 1 million eggs laid each year.



500,000 seabirds

The largest seabird nesting site in the tropical Atlantic with eleven species recorded.



71+ endemic species

At least 71 species of vascular plants, bryophytes, fish, seabirds and invertebrates found only on or around Ascension. More are being discovered as research continues.

Near-pristine marine ecosystems

Shallow water, pelagic and deep benthic marine ecosystems that receive few local impacts and contain an abundance of top predators.



Seamounts

Three shallow water seamounts within Ascension's waters that rise over 3,000m from the surrounding seabed to a minimum of just 77m from the ocean surface. The two shallowest mounts are associated with high productivity and abundant fish.



Hydrothermal vents

Vent fields along the Mid-Atlantic Ridge that support specialised creatures. Many vents remain undiscovered and unexplored.



How Ascension's biodiversity has been shaped

Ascension Island is young, small and remote, meaning the chances of terrestrial or shallow water marine species arriving by natural means are slight. The 1,600km of deep ocean separating Ascension from its nearest continental neighbour provide a very effective barrier to colonisation.

Shallow water marine species that did arrive, probably as drifting larvae, found warm, productive waters and many thrived. Some evolved into distinct species found only on Ascension. Combined with the open ocean species that come very close to the island, they have created an abundant marine fauna. Ascension's marine communities are still species-poor compared to older or less remote islands (Wirtz *et al.* 2014), but the number of individuals is impressive and complex ecosystems have developed and are still relatively intact.

In contrast, terrestrial species that found their way to Ascension encountered an arid climate, little fresh water and active volcanism, which made colonisation difficult. The result was that when humans first discovered Ascension in the 16th century, they described the island as largely barren. Charles Darwin visited in 1836 and said of Ascension "'tis but a cinder."

Those descriptions were exaggerated. For seabirds and green turtles, which required nothing beyond a safe place to nest, Ascension provided the perfect conditions and many thousands began breeding on the island.

There were also plants and invertebrates that did manage to establish in Ascension's harsh conditions. As in the marine environment, some of these then evolved into endemic species found nowhere else on earth. However, it is true that when human's first landed on Ascension there wasn't much obvious life and most of the island was devoid of higher plants. Even where plants were more abundant on the cooler, wetter mountain, the plant communities and ecosystems they supported were simple and contained few species.

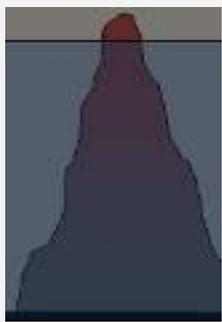
The current terrestrial biodiversity on Ascension is largely the result of introductions that occurred since humans discovered the island in 1501. Terrestrial non-native species now greatly outnumber native ones and novel ecosystems have been created including species from around the world. These ecosystems are not stable. Some introduced plant species on Ascension are still in a colonisation phase and their distribution is rapidly changing. This will have consequences for the island's biodiversity, climate and infrastructure. Pioneer species such as Mexican thorn that can survive in the volcanic clinker substrate may lead to the development of proper soil and so pave the way for other species to follow. It is a dynamic situation and further dramatic change is likely to occur over the coming decades.

The diagram overleaf shows the major stages that shaped Ascension's biodiversity.



How Ascension's biodiversity has been shaped

Over 1 million years ago	1 million years ago	1 million years ago-1501	1501-1815	1815-1960s	1960s-present
Ascension is an active underwater volcano forming a seamount below the ocean surface. Marine life is species poor but abundant.	Eruptions cause the volcano to breach the ocean surface and Ascension Island is created. Dry land provides a nesting site for seabirds and turtles.	Volcanic activity continues on the island. The remote location of Ascension means very few terrestrial plants and animals colonise naturally.	Human sailors discover Ascension and use it as a provisioning station deliberately introducing food animals such as goats and unintentionally introducing others such as rats.	The British Navy permanently settles Ascension. Multiple plant species introduced in part to create an artificial cloud forest on Green Mountain and increase the supply of fresh water.	Deliberate introductions of Mexican thorn shrub to suppress dust. Subsequent spread across island. Introduction of biocontrol agents to slow its spread. Feral cats eradicated from Ascension in 2004.

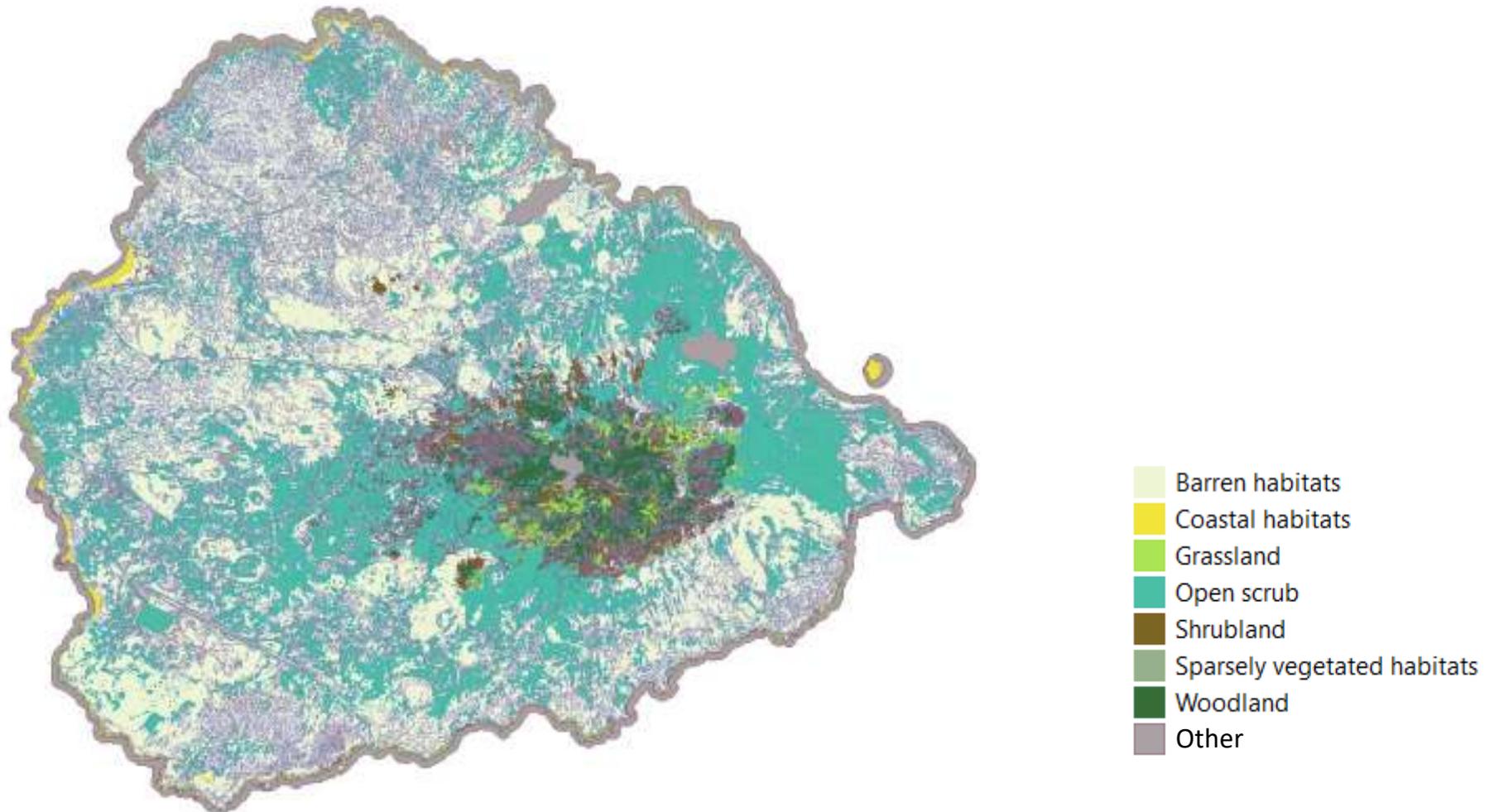


Species gained	Inshore marine species including 144 species of coastal fish	Seabirds Green turtles At least 94 Plants and lichens At least 35 Terrestrial invertebrates	Black rats Feral cats Rabbits Goats	Humans Hundreds of plants from around the world Unintentional introduction of hundreds of non-native invertebrates	Mexican thorn Mexican thorn biocontrol agents Brown anole lizard
Species lost			4 endemic plants 2 endemic birds Unknown number of lower plants and invertebrates		Feral cats

The current distribution of habitats—terrestrial

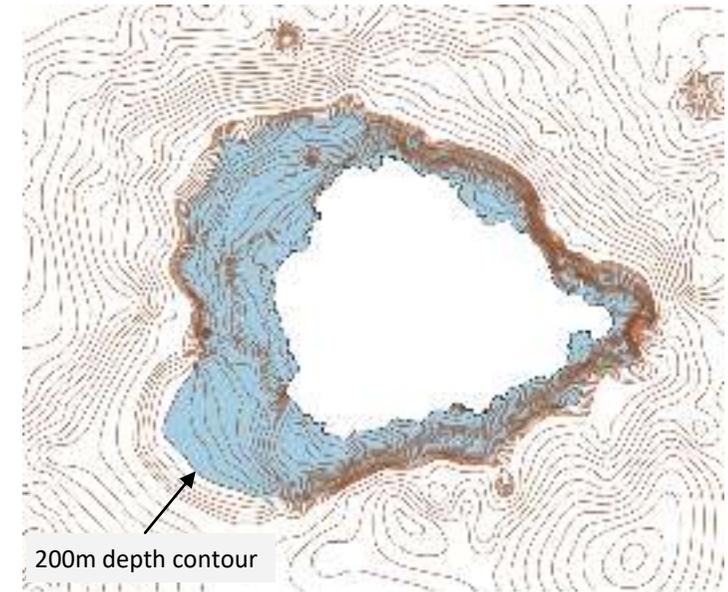
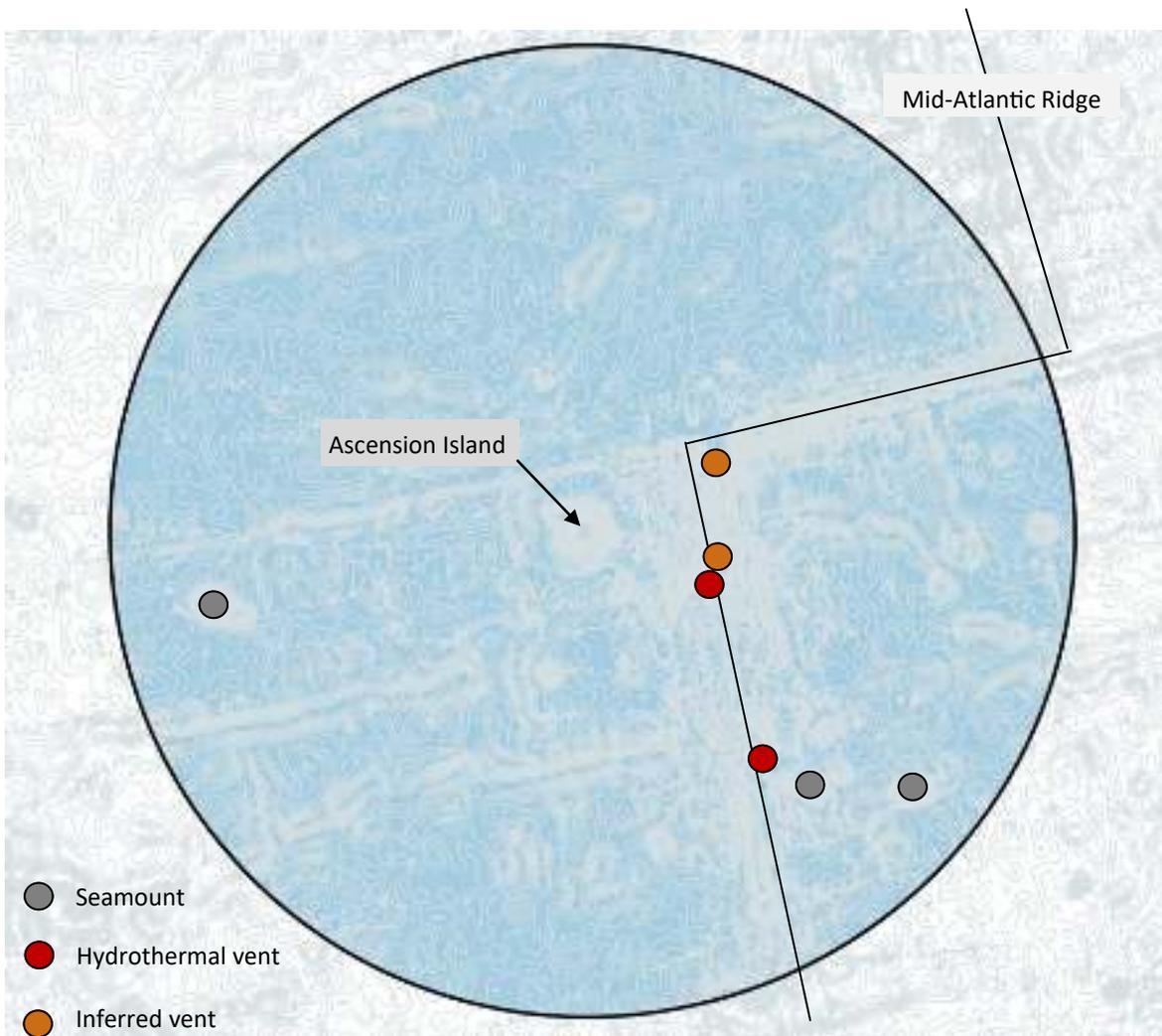
Much of Ascension Island is still dominated by bare lava, particularly in the lowlands around the coast. Endemic and native species are not dominant and vegetation communities on the island are defined by non-native species. On the highest slopes of Green Mountain there is a diverse man-made cloud forest made up of introduced species from around the world. Lower down the Mountain, guava, Bermudan cedar, Australian pine and yellowboy form cover that is dense,

but low in diversity. Across the rest of the island the vegetation is dominated by Mexican thorn. This one species has spread across lowland areas since it was introduced in the 1960s and its range is still expanding. It is one of the few plant species able to survive the harsh dry conditions of Ascension's lowlands and it is transforming these areas from bare lava to scrubland.



The current distribution of habitats—marine

Ascension's marine zone extends 200nm out from the island and encompasses 445,000km² of the Atlantic Ocean. Much of it remains to be explored and there is limited information about bathymetry, substrate type and species distribution for most of the zone.



A narrow ring of shallow water around Ascension is within the depth that light can penetrate creating a rich shallow water habitat. Coral reefs are not present (possibly due to the high number of grazers), but coralline algae and rhodoliths provide some community structure.

There are three shallow water seamounts within Ascension's marine zone at 266m, 101m and 77m below the surface. Higher ocean productivity and fish abundance have been found around the two shallower mounts.

Most of the zone is open ocean greater than 3,000m deep. The seabed in these areas is presumed to be soft sediment typical of most abyssal plain habitats.

The Mid-Atlantic Ridge runs through the zone. Two hydrothermal vents have been confirmed along this section of ridge and the presence of a further two vent fields inferred from water chemistry.



Natural capital and Ecosystem services

Natural capital

The elements of nature that directly and indirectly produce value or benefits to people, including ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and functions.

Ecosystem services

The direct and indirect contributions of ecosystems to human wellbeing, and have an impact on our survival and quality of life. There are four types of ecosystem services : provisioning, regulating, cultural and supporting services

Ascension is a challenging place for humans to live. In its natural state the island would contain large areas of bare ground with few plants or animals. There is little fresh water and the low rainfall, lack of soil or pollinators and scorching sunlight make plant cultivation difficult. Ascension's strategic location for military and communication activities has justified its continued settlement, but there is relatively little reliance on local natural capital and ecosystem services; instead the island is almost completely dependent on the import of essential goods and the production of fresh water from its two desalination plants.

However, there is still a strong connection between the island community and the natural world, and this is seen most intensely in the importance of recreational fishing and the ocean to people's way of life. Though largely artificial, the forest on Green Mountain also features prominently in

people's cultural identity and recreation and the Mountain is highly valued by the local community (Canales *et al.* 2019).

To date there has not been a comprehensive assessment of Ascension's natural capital, but the benefits provided by deep sea habitats (La Bianca *et al.*, 2019), blue carbon sequestration (Barnes *et al.*, 2019) and the potential to increase tourism (Acorn Tourism, 2019) have been considered as part of JNCC's South Atlantic Natural Capital Assessment Project.

The unusual situation on Ascension creates a dilemma: any development of terrestrial ecosystem services or nature-based solutions to climate change impacts on Ascension could only be delivered at significant scale by non-native species, resulting in a potential trade off with the protection of native biodiversity.

Natural capital and Ecosystem services

The most important elements of Ascension's natural capital and the ecosystem services they provide are illustrated. Both native and non-native species contribute to the island's natural capital. The benefits of some have been well realised, whereas others, such as bioprospecting in deep sea habitats, have not yet been developed.

F W M C P I T S N

Green Mountain
'artificial cloud forest'

B I N

Endemic plant and invertebrate species

F D C S N

Non-native plants

P T

Shell sand beaches

I T

Green turtles

Provisioning services
 Food
 Water capture
 Bioprospecting

Regulating services
 Moderate climate
 Dust suppression
 Carbon sequestration

Ecosystem services

Cultural, spiritual and recreational services
 Physical and mental health
 Inspiration
 Tourism

Supporting services
 Soil formation
 Nutrient cycling

F P T

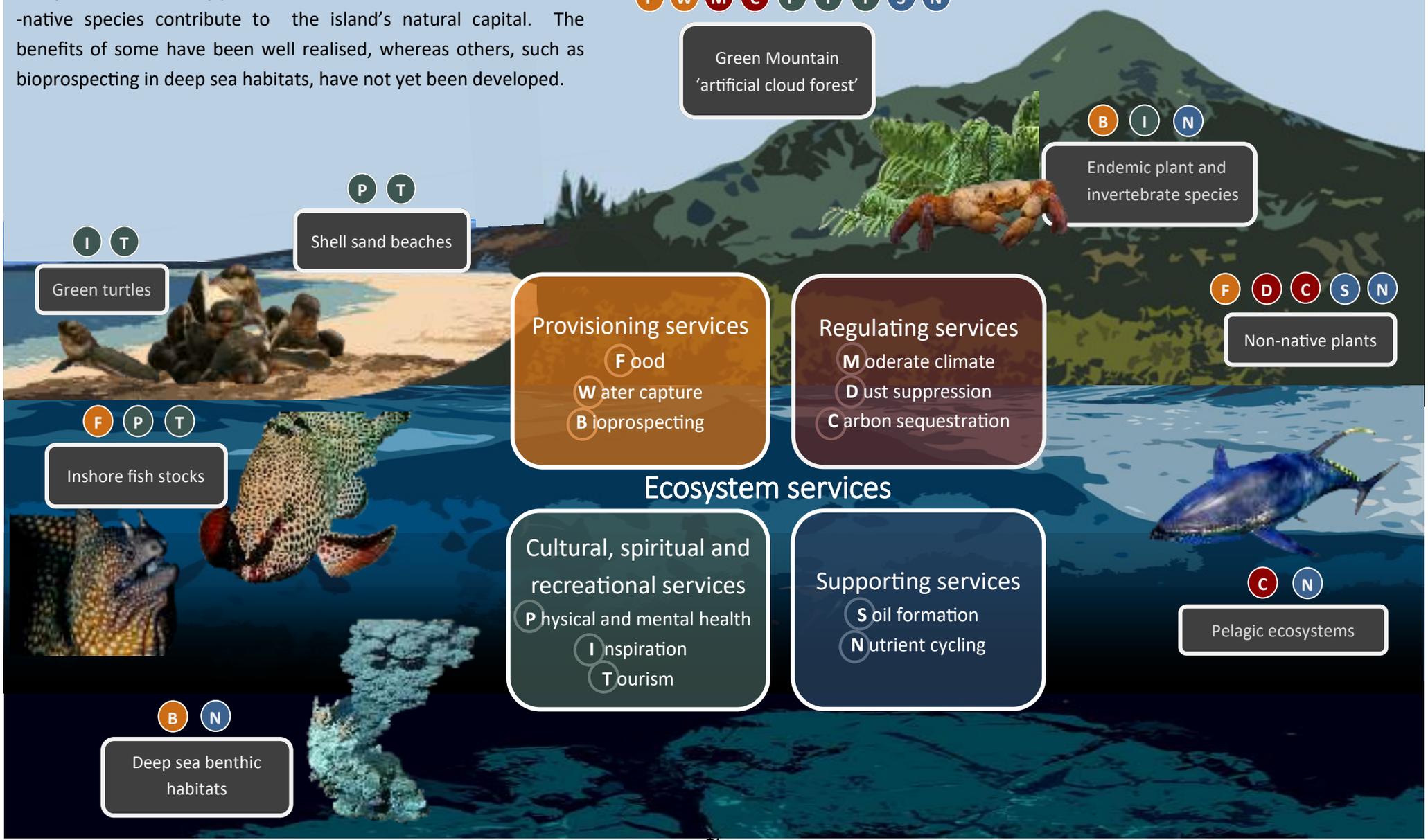
Inshore fish stocks

C N

Pelagic ecosystems

B N

Deep sea benthic habitats



Threats to Ascension's Biodiversity

	CLIMATE CHANGE	INVASIVE NON-NATIVES	POLLUTION	DEVELOPMENT	DISTURBANCE
Description	<p>The climate is changing and Ascension is already seeing the impact of this on its biodiversity. Small islands are particularly vulnerable because species cannot migrate to areas of more suitable habitat. The high level of endemism on Ascension means species extinction is a real possibility.</p>	<p>Non-native species have changed Ascension's terrestrial environments beyond all recognition. Some aggressive species such as Mexican thorn and black rats now dominate large parts of the island. There are no recorded marine non-native species, but the shallow water habitat around Ascension would be very vulnerable to new invaders.</p>	<p>Ascension's small population size means relatively little pollution is generated on the island, but there are still local sources of litter and waste water. Litter, particularly plastic is washed up on the island and there is a threat of fuel spills.</p>	<p>Major developments are rare on Ascension and regulations mean they do not occur in protected areas. Smaller scale construction and maintenance activities do occur and are most likely to affect Green Mountain and the coast.</p>	<p>Visitors and people living on Ascension may inadvertently harm wildlife by disturbing their natural behaviour or causing physical damage to habitats. Effects can include turtles and seabirds abandoning nesting attempts.</p>
Nature of threat	<ul style="list-style-type: none"> Increased air and sea temperatures Increase in extreme weather Increased frequency of droughts Rising cloud base Changes to ocean currents Sea level rise Ocean acidification 	<ul style="list-style-type: none"> Encroachment of invasive plants Damage to native flora by pests Impact of grazing animals on native flora Predation by invasive animals Introduction of new invasive non-natives 	<ul style="list-style-type: none"> Litter Discharges from land Discharges from vessels Spill incidents Run off 	<ul style="list-style-type: none"> New buildings Cables and pipelines Coastal protection Dredging for pier access Moorings 	<ul style="list-style-type: none"> Tourism and recreation Military activities Vessel interactions
Scale of threat	<ul style="list-style-type: none"> Air temperature rise by >1.5 °C by 2100. Sea temperatures rise by 1.5-4.5 °C by 2100. Weakening of the Atlantic Equatorial Undercurrent. Sea level rising by 0.25mm per year. Ocean will be too acidic for shell formation by 2100. 	<ul style="list-style-type: none"> 95% of Ascension's terrestrial species are non-native. All 16 Species Action Plans for native Ascension species list invasive non-native species as a threat. 	<ul style="list-style-type: none"> Litter is accumulating at 10kg per year on Long Beach. No major spill incidents have been recorded on Ascension. Heavy rains cause sediment run off into the ocean approximately every five years. 	<ul style="list-style-type: none"> Very little development pressure on Ascension. Development that does occur is not close to areas of conservation importance. 	<ul style="list-style-type: none"> Relatively little disturbance due to small population size. Tourist numbers unlikely to rise above 600 per year.
Most affected	<ul style="list-style-type: none"> All marine ecosystems Green turtles Endemic plants Nesting seabirds Land crabs 	<ul style="list-style-type: none"> Endemic plants Nesting seabirds Green turtles Land crabs Endemic invertebrates 	<ul style="list-style-type: none"> All marine ecosystems Green turtles Nesting seabirds Land crabs 	<ul style="list-style-type: none"> Coastal ecosystems Green turtles Nesting seabirds Land crabs Ascension spurge Endemic bryophytes 	<ul style="list-style-type: none"> Green turtles Nesting seabirds Land crabs



Plastic waste washed up on Ascension's remote Crystal Bay. Global threats such as climate change and ocean pollution could have a significant impact on the island's biodiversity.



Biodiversity Strategy

Strategic objectives

1. No native species or genetically distinct populations are lost from Ascension and the size and distribution of native populations is maintained or increased.
2. Management plans are in place and being implemented for all protected areas.
3. Habitats are improved to support self-sustaining populations of endemic species that require little or no ongoing management.
4. There are no new introductions of invasive, non-native species and the impacts of those already present are reduced.
5. Environmental Impact Assessments are undertaken for all new strategies or developments. Approval is not granted for any activity that would lead to significant environmental degradation.
6. Exploitation of natural resources is managed to ensure it is sustainable and the benefits are shared by the island community.
7. Everyone living on Ascension is aware of the island's biodiversity and has opportunities to input into decision making and take practical action to protect it.
8. The knowledge and value of Ascension's biodiversity are shared with the Ascension and global community.
9. Ascension's obligations under multi-lateral environmental agreements are met.





The following principles will guide how this strategy is implemented:

- Ecosystem approach** We recognise the interconnectedness of species, habitats and the natural processes that support them, and will seek to conserve and restore functioning ecosystems in all their complexity.
- Mainstreaming** We understand that effective protection will only be achieved if strategic and operational decisions across all sectors of government and society consider biodiversity.
- Informed decisions** We will ensure decisions are based on the best available knowledge. There are many forms of knowledge and we will draw on the experience of the local community as well as scientific research.
- Community** We recognise the role humans play in Ascension's ecosystems and the social and cultural value of biodiversity. Everyone living on Ascension will be encouraged to participate in protecting the island's biodiversity and share in the benefits it creates.
- Sustainable** We will endeavor to find management options that provide effective protection with minimal ongoing intervention to secure biodiversity in the long-term.
- Global perspective** We will seek international partners and willingly share knowledge and experience because global-scale challenges require global solutions.
- Innovation** We will actively seek out and trial new concepts and technologies to improve how we deliver this strategy.

Climate-smart management

Climate change will have profound consequences for Ascension's biodiversity. It will not be enough to limit the impacts on particular species and habitats; in the face of the greatest challenge faced by our planet in human history, our entire approach to conservation management needs to be rethought. This is how we intend to do that on Ascension:

Dynamic management

The impacts of climate change will be hard to predict, so we will need to adapt our management. This will require a robust system of monitoring and a decision making process that is capable of responding rapidly when required.

- Proposed system for managing inshore fisheries (p. 34)
- Monitoring and evaluation approach (p. 72)
- Monitoring in place for key habitats and species (p. 46-70)

Manage other pressures

We have little power to reduce the causes of climate change and in many cases no tools to tackle directly the impacts it will have. In such cases we will have to manage other pressures more strictly to ensure our biodiversity has the resilience to survive in a changing climate.

- Proposed system for managing inshore fisheries (p.34)
- Proposed requirement for Environmental Impact Assessments (p.32)

Intervention

In many cases the goal of conservation is to reduce external pressures and leave nature to take care of itself. That will not always be good enough in the face of rapid climate change and our management may need to be more interventionist than we are used to.

- Beach shading trial to reduce impacts on turtle nests (p.46)
- Passive irrigation and assisted migration of endemic plants (p.62)

Review area-based protection

Protected areas such as nature reserves are a cornerstone of most conservation efforts including on Ascension. However, climate change will alter the distribution of habitats and species meaning in the future those areas may be in the wrong place. We are monitoring the distribution of our key species and are prepared to shift protected area boundaries to follow them.

- Protected area network (p.28)

Community support

Underpinning all of this is the need to retain the support of the Ascension island community and wider stakeholders. We may be asking people to accept rapidly changing regulations and the imposition of restrictions on activities that in themselves should not be damaging. It will be difficult to keep up with, and may at times seem unfair or contradictory. In order to secure support and compliance, we need to build trust in the management systems and a widespread understanding of the scale of the problem and why restrictions may be necessary.

- Public engagement (p.36)

Organisations involved in protecting Ascension's biodiversity



The AIG Conservation and Fisheries Directorate delivers most of the biodiversity protection activities on Ascension. It sits within the island's government structure and is supported by volunteers, government and third sector organisations on Ascension and in the UK and USA.

The UK Government shares responsibility with the AIG for protecting the island's

biodiversity and ensuring multi-national environmental agreements that have been extended to Ascension are met. Management of Ascension's Marine Protected Area receives significant financial and technical support from the UK Government's Blue Belt Programme, including the provision of satellite surveillance to detect illegal fishing activity.

Elements of Ascension's biodiversity protection

Biodiversity Action Plan

Research

Public engagement and education

Area-based protection
of important
biodiversity sites

Protection for key
species

Impact assessments
for new
developments

Management of
resource exploitation

Biosecurity
controls

Local legislation and policy underpinning international
commitments to conserve biodiversity

Local legislation and policy underpinning international commitments to conserve biodiversity

The diagram opposite shows the agreements, strategies and legislation relevant to biodiversity protection on Ascension.

Ascension has developed a suite of domestic legislation and policies to meet its obligations under multi-national environmental agreements. This provides protection for key biodiversity sites and individual species, as well as managing the threats from illegal fishing and introduced species.

Most of the existing legislation has been in place for a number of years allowing its effectiveness to be tested.

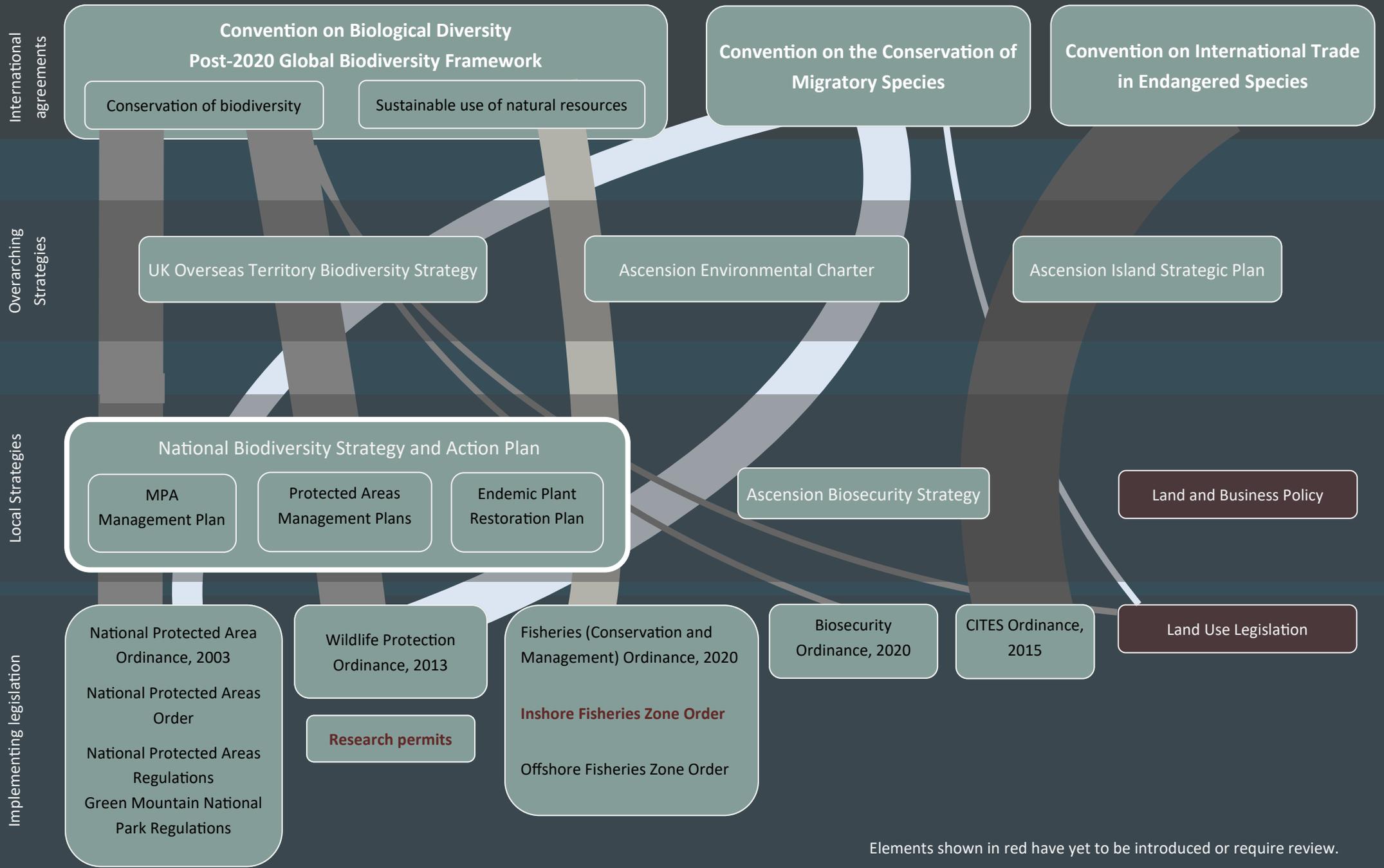
Strengths of the current legislation and policy

- Most endemic species benefit from the combination of direct protection through the Wildlife Protection Ordinance, 2013, and protection of their main habitats through the National Protected Areas Ordinance, 2003.
- Management plans are in place or are being developed for all protected areas.
- Biosecurity and fisheries management legislation and strategies address two of the main threats to biodiversity.

Priorities for further Legislation and policy development over the next three years:

- **Development control** - A new land and business policy will be introduced to ensure environmental impact assessments are carried out and considered for all new developments. This may also require supporting legislation.
- **Inshore fisheries management** - A system for managing the recreational and sports fisheries that operate within 12nm of the island will be introduced under existing provisions in the Fisheries (Conservation and Management) Ordinance, 2015.
- **Pollution control** - Gaps in the regulation of pollution discharges and procedures for tackling pollution incidents will be addressed with assistance from the UK Maritime and Coastguard Agency.
- **Protected Areas** - A review of the National Protected Areas Ordinance, 2003, will be undertaken to consider whether the network adequately covers the core range of endemic and protected species and effectively restricts damaging activities.
- **US Airforce** - Agree Memorandum of Understanding with the US Airforce to ensure operations on their base provide levels of biodiversity protection equivalent to local legislation.
- **Research Permits** - Establish a legal basis for permitting research on habitats and species not included in the Wildlife Protection Ordinance.

Local legislation and policy underpinning international commitments to conserve biodiversity



Elements shown in red have yet to be introduced or require review.

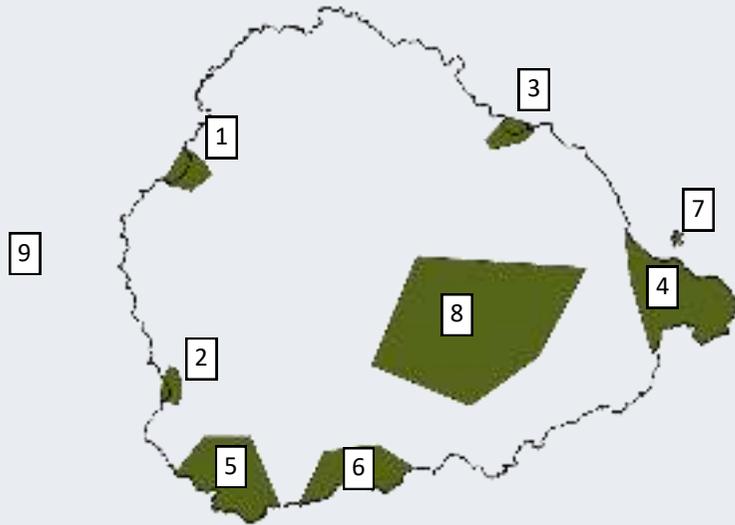
Area-based protection of important biodiversity sites

Ascension has a network of six Nature Reserves, one Sanctuary, a National Park and a Marine Protected Area. All are designated under the National Protected Areas Ordinance, 2003, and specific sets of regulations restrict potentially damaging activities on these sites. Management plans will soon be in place for all the protected areas and will be implemented by AIGCFD and its partners. Collectively, the protected areas cover most areas of major conservation importance on Ascension including the core distribution of most protected species.

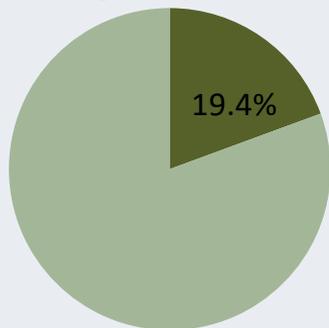
The exceptions are the wide distribution of land crabs, some important sites for the Ascension spurge and more marginal nesting areas for green turtles and seabirds. The most significant omission is the current lack of consideration of endemic terrestrial invertebrates in the design of the protected area network. The research required to address this is planned between 2021 and

2024. The Post-2020 Global Biodiversity Framework has a global target that 30% of sea and land will be included within well-managed protected areas. The designation of further terrestrial sites on Ascension to provide further protection for turtles, seabirds and invertebrates and move towards that global target will be considered and consulted on before 2025.

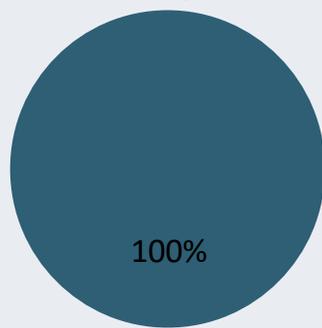
Climate change may alter the distribution of Ascension’s protected species and it is important that the protected area network is adaptable and boundaries can be altered if required. All land on Ascension is owned by the Crown and most is not occupied. Changing the boundaries of protected areas will require consultation and changes to secondary legislation, but should be relatively straightforward on Ascension in most cases.



Percentage area protected for biodiversity under Ascension legislation



Terrestrial environment



Marine environment (Exclusive Economic Zone extends 200nm out from the island)

Protected Area	Notable species and habitats	
Beach Nature Reserves	1. Long Beach	Green turtle
	2. Pan Am	Green turtle
	3. Northeast Bay	Green turtle Land crabs
Seabird Nature Reserves	4. Letterbox	8 protected seabird species Ascension spurge
	5. Mars Bay	Sooty terns Ascension spurge Anchialine pools
	6. Waterside	Sooty terns
7. Boatswain Bird Island Sanctuary	10 protected seabird species Giant pseudoscorpion	
8. Green Mountain National Park	6 endemic plant species Endemic bryophytes Land crabs Fairy terns	
9. Marine Protected Area	11 endemic fish species Endemic marine invertebrates Shallow water habitats Shallow water seamounts Pelagic habitats Deep benthic habitats Hydrothermal vents	



Protection for key species

Forty species of plants and animals are included in the Wildlife Protection Ordinance, 2013 (WPO), which makes it an offence to willfully kill, take, trade or molest them anywhere on Ascension or within the 200nm marine limit around the island.

This list of species includes all of the vertebrates and vascular plants that are endemic to Ascension and most of the near endemics found only on Ascension and a few other islands. It also includes all the species Ascension has an international obligation to protect because they are listed in the Convention on Migratory Species, as well as 20 species considered Endangered or Critically Endangered by the International Union for the Conservation of Nature's (IUCN) Red List.

Many of the species included in the WPO are not considered to be Vulnerable, Endangered or Critically Endangered by the IUCN. In some cases this is because there is insufficient data to make a decision or no assessment has been attempted. However, in other cases it reflects the fact that the IUCN assessment considers the global threat and not the risk of local extinction that was used to compile the WPO list.

Species fished around Ascension are not included in the WPO allowing them to be taken by the fishery. A strict prohibition on killing

would obviously not be appropriate for these species and instead stock health and exploitation rates will be monitored to ensure the fishing pressure is sustainable (see p.34).

In order for the WPO to remain effective, regular reviews of the species included in the list must be undertaken. The last revision was undertaken in 2017 and a further review will be undertaken in 2025.

There are limitations to the protection afforded by the WPO.

- It is only an offence if the harm caused to a species is willful. Reckless or accidental harm is not covered and so, for example, many land crabs die each year on Ascension's roads because people do not take avoiding action.
- It is not an offence to disturb a species. The term 'molest' used in the WPO is not defined, but is generally taken to involve physical contact with a species.
- There are currently no plans to extend the WPO to include unintentional harm or disturbance as offences because it is unlikely to be supported by the island community.
- Most of Ascension's endemic invertebrates and lower plants are not currently included on the WPO.

Protection for key species

- Bigeye tuna
- Blue marlin
- Yellowfin tuna
- Sailfish
- Swordfish
- Wahoo
- Rainbow runner
- Black triggerfish
- Yellow spotted moray
- Broadbanded moray
- White spotted moray
- Rock hind grouper
- Glasseye snapper
- Spiny lobster

Endemic to Ascension

- Ascension seaperch
- Endemic bryophytes
- Endemic molluscs
- Endemic invertebrates
- Endemic sponges
- Grattan scorpionfish
- Ascension tonguefish
- Holanthias caudalis*

- Ascension Parsley fern
- Ascension spurge
- Hedgehog grass
- Moss fern
- Purple fern
- Feather fern
- Ascension spleenwort
- Ascension frigatebird
- Giant pseudoscorpion
- Procaris shrimps
- Typhlatya shrimps
- Ascension hawkfish
- Ascension scorpionfish
- Yellowtail damselfish
- Resplendent angelfish
- Ascension wrasse
- Ascension snake eel
- Mottled blenny
- Ascension seabream

Near endemic to Ascension

- Keeltail needlefish
- Ascension triplefin
- Textile blenny
- Land crab
- Storm petrel
- St Helena sharpnose pufferfish
- Ascension goby
- Auxiliary spot cardinalfish
- St Helena butterflyfish
- St Helena deepwater scorpionfish
- Marmalade razorfish
- Hedgehog butterflyfish
- Yellow razorfish
- Ascension red scorpionfish
- St Helena wrasse
- St Helena flounder
- Mottled blenny
- Island hogfish
- St Helena seaperch
- Strigate parrotfish

IUCN category	Number of species
Critically endangered	10
Endangered	10
Vulnerable	7
Near threatened	4
Least concern	34
Data deficient	5
Not listed	15

- Black noddy
- Brown noddy
- Fairy tern
- Sooty tern
- Red-footed booby
- Masked booby
- Brown booby
- Red-billed tropicbird
- Yellow-billed tropicbird
- Green wire coral
- Black fan coral
- Black coral
- Atlantic goliath grouper
- Hammerhead shark
- Bluntnose six gill shark
- Tiger shark
- Galapagos shark
- Pygmy shark
- Crocodile shark
- Cookie cutter shark
- Dog snapper

Wildlife Protection Ordinance

- Green turtle
- Hawksbill turtle
- Leatherback turtle
- Whale shark
- Oceanic whitetip shark
- Devil ray
- Manta ray
- Humpback whale

CMS Appendix I

- Bottlenose dolphin
- Pantropical spotted dolphin
- Bigeye thresher shark
- Shortfin mako shark
- Silky shark
- Blue shark
- Dusky shark

CMS Appendix II



Impact assessments for new developments

Current Situation

Land outwith protected areas or US Airforce lease area

There is no formal system of planning or development control on Ascension. All land on the island is owned by the Crown and managed by the Ascension Island Government on its behalf. Land Occupancy Permits (LOP) have been issued to a number of organisations and individuals on Ascension allowing them to use and potentially develop parcels of land. The terms and duration of these LOPs vary and some allow the permit holder to undertake development or change in land use with no further permission required. However, most LOPs require the permit holder to seek permission for new development. In these areas and across the majority of the island that is not covered by a LOP, the Administrator will decide whether new developments can take place. There is currently no agreed procedure or policy describing how the Administrator should make such decisions. In practice, the AIG Director of Conservation and Fisheries would normally be consulted, but there is no formal environmental impact mechanism.



Protected areas

Any development in the six Nature Reserves, Green Mountain National Park and Boatswain Bird Island Sanctuary requires permission from the Administrator under the National Protected Areas Ordinance, 2003 and the National Protected Area Regulations, 2014. The types of development the Administrator can permit are constrained and depend on the type of protected area. There is no agreed procedure or policy describing how these decisions should be made.



Development within the MPA requires permission from the Administrator. An environmental impact assessment must be carried out and the Director of Conservation and Fisheries consulted to ensure the development is compatible with the objectives of the MPA and will not negatively affect its natural features.

Land within the US Airforce lease area

An agreement between the UK and US Governments gives authority to the USAF to determine how land within this area is managed. Decisions about the type of development that will be authorised and the need for any environmental impact assessment and mitigation rest solely with USAF for most of this area. The exception is where the South West Bay, Mars Bay and Waterside Fairs Nature Reserves overlap with the Base area. USAF are exempt from the National Protected Areas Regulations but not the National Protected Areas Ordinance, meaning permission from the Administrator is required for development in these nature reserves unless a specific exemption is sought from the UK Government.



Impact assessments for new developments

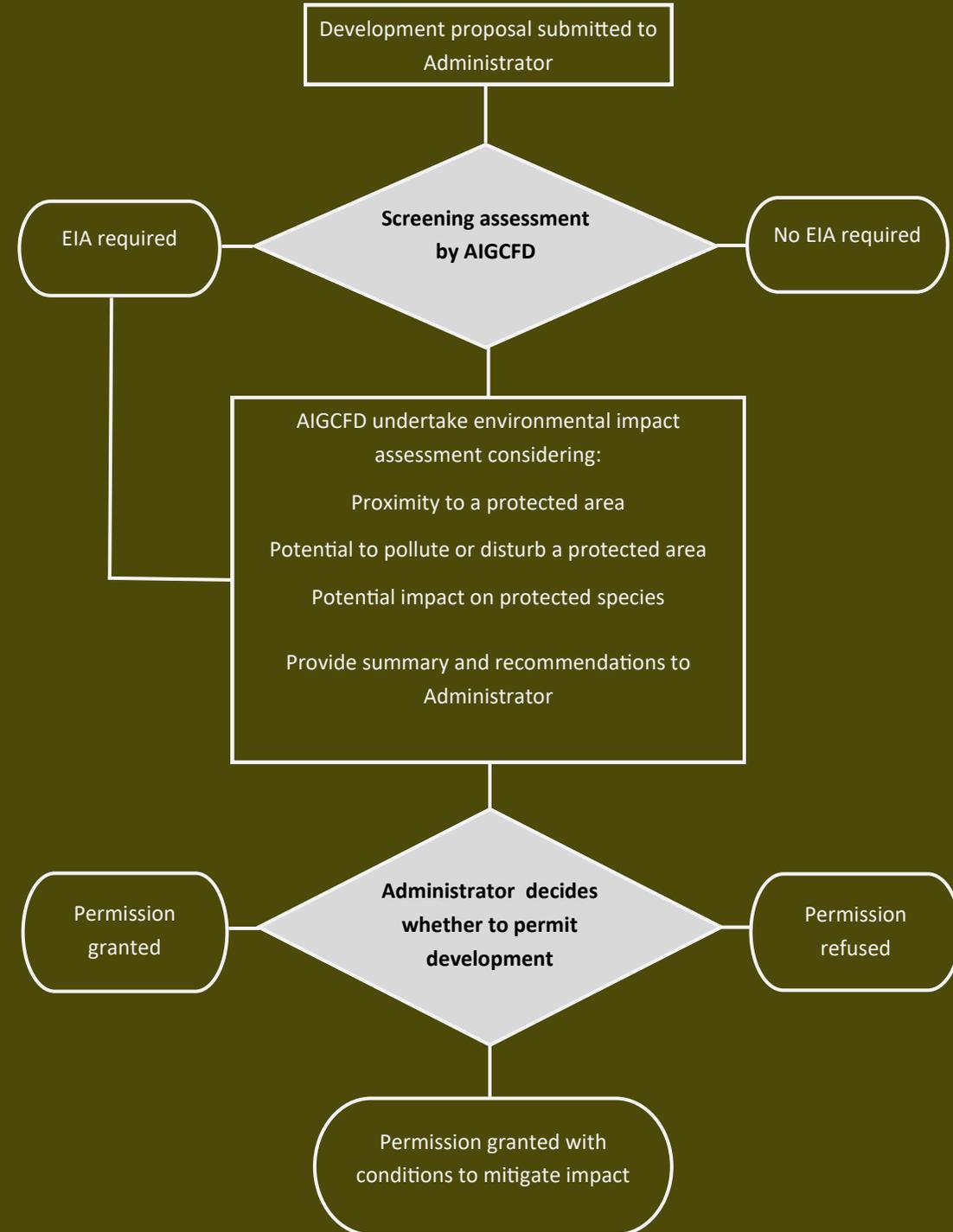
Proposed new Environmental Impact Assessment requirement

Environmental impacts need to be assessed before any major developments take place. This will be achieved by supporting the Administrator's existing role in permitting development with a new AIG Land and Business Policy determining how those decisions will be made. The policy would encompass all land not covered by a LOP, the drafting of new LOPs and the revision of existing LOPs as they come up for renewal.

The proposed new policy would include the Environmental Impact Assessment (EIA) process shown opposite. The process is simpler than in many jurisdictions, but reflects Ascension's limited capacity and is proportionate to the relatively low risk posed by development on the island. EIA would just be one element of the decision making process and social and economic impacts would also need to be considered in any development decision.

A separate initiative will seek to agree a Memorandum of Understanding between AIG and USAF describing the requirement for environmental impact assessments (EIA) on land included within the USAF lease area.

Many of the new developments undertaken on Ascension are led by AIG. The only organisation on the island with the ability to undertake EIAs is the AIG Conservation and Fisheries Directorate, creating a potential conflict of interest. This is unavoidable but needs to be acknowledged and managed. A requirement to bring in external consultants would be over-burdensome for most developments, but should be considered for major infrastructure projects.



Management of resource exploitation

Sustainable use means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

Convention on Biological Diversity 1992

Historical perspective

In common with most parts of the world, Ascension has witnessed the impact of unsustainable exploitation of its natural resources.



Green turtles were taken for food by the earliest human visitors to Ascension and by the 19th century the harvest had become industrialised and unsustainable. Turtle ponds were constructed to keep the turtles fresh until they were slaughtered. At its peak in 1845, over 1500 were killed in a single year.



Seabirds and their eggs were taken for food and featured heavily in accounts of the mess meals on Ascension. A mass cull of sooty terns took place ahead of the runway construction in 1942.



Foreign commercial long-line vessels operated in Ascension's waters from 1988. The target species was bigeye tuna, but other tuna, billfish and shark species were also taken. The level of catch was unsustainable and catches declined from the late 1990s.

Green turtles and seabirds are now protected and no harvesting of adults or eggs takes place. The last commercial licence to fish tuna in Ascension's waters was issued in 2019 and large-scale commercial fishing is now prohibited throughout the Ascension Island MPA.

Present day

The only native biodiversity currently harvested on Ascension are fish and crustaceans found around the coast and close to the island.

Fishing is an important part of the local culture on Ascension and provides a valuable source of food for the island community. Most fish are taken for personal consumption or given to friends and family on Ascension or St Helena.

The main species targeted are yellowfin tuna, rock hind grouper, glasseye snapper, moray eel, wahoo, spiny lobster and octopus.

The presence of large fish has attracted international sports fishermen to Ascension. They primarily target Atlantic blue marlin, yellowfin tuna and wahoo caught either by rod and line or by spear. Catch and release is practiced for most marlin and other billfish.



Management of resource exploitation

The recreational fishery is relatively small, but it still has the potential to affect shallow water species such as rock hind grouper and glasseye snapper simply because these are isolated populations that may have little capacity for replenishment if stocks are depleted (Choat & Robertson 2016; Armstrong & Reeves 2015).

There is no evidence that the recreational or sports fisheries are having an significant impact on fish stocks, but in order to ensure they are sustainable, a management system is proposed incorporating the following areas:

1. Registration and licensing

People living on Ascension who fish will sign up to a free register. Visitors and businesses will need a licence in order to fish and conditions will be attached to licences requiring responsible fishing practices.

2. Data collection

Data on fish populations will be collected with support from the fishing community and monitoring undertaken by AIGCFD .

3. Assessment of fish stocks

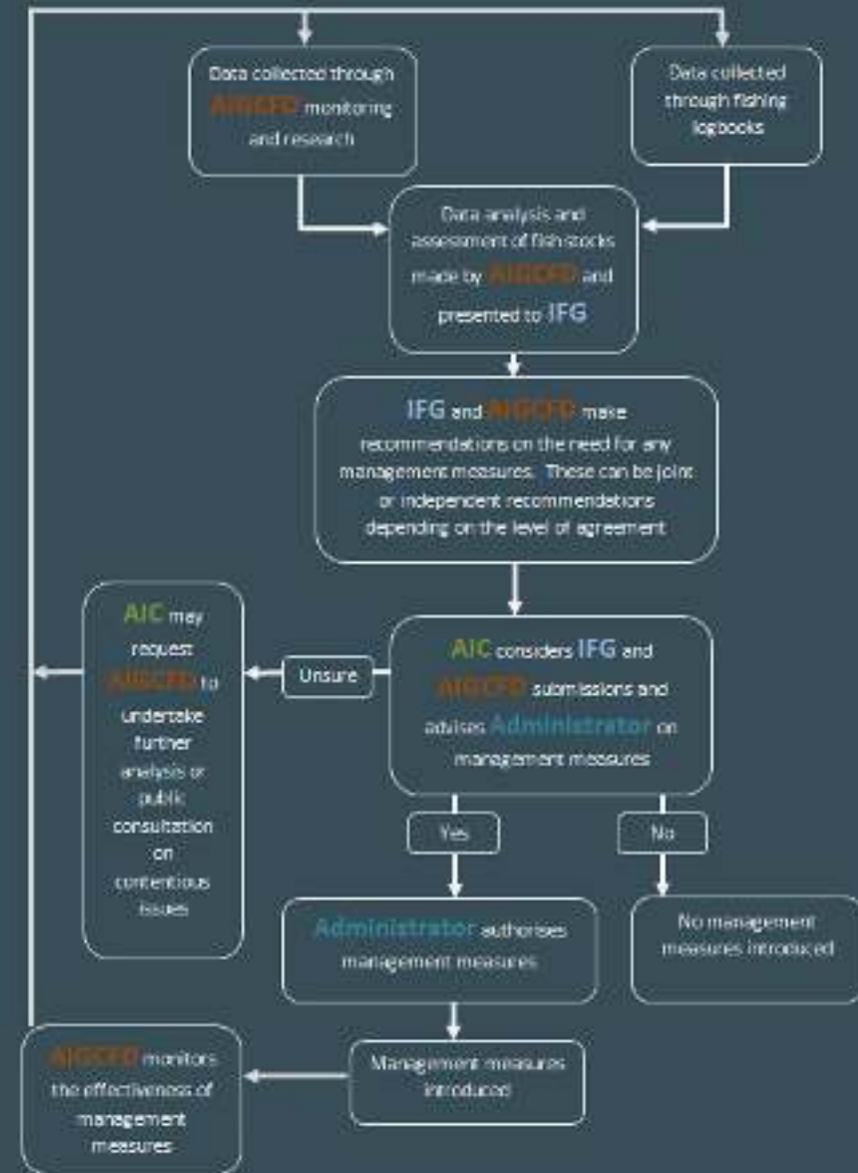
Data collected will be analysed and used to assess the health of fish stocks.

4. Management Measures

If a fish stock is assessed to be declining, management measures may be introduced following the decision making process shown opposite. Measures could include limits on the amount of fish that can be caught or the location and timing of fishing. The need for continued measures would be reviewed on a six monthly basis.

5. Prohibited fishing methods

Fishing methods that are incompatible with sustainable fishing would be banned. These include trawling, gill netting, long-lining, purse seine netting and dynamite fishing.



Decision making process for assessing whether management measures might be needed to protect inshore fish stocks.

AIGCFD - Ascension Island Government Conservation and Fisheries Directorate
IFG - Inshore Fisheries Group made up of volunteers from the fishing community.
AIC - Ascension Island Council
Administrator – Administrator off Ascension Island

Biosecurity controls



Non-native species are one of the greatest threats to Ascension's biodiversity. Terrestrial ecosystems have been changed beyond all recognition by the introduction of new species, with the result that endemic and native species are now struggling to survive. There are currently no recorded non-native species in Ascension's marine environments, but the narrow band of shallow water around Ascension is extremely vulnerable to the threat of new invasive species.

To address this threat the Ascension Island Government has developed, and is implementing, a Biosecurity Strategy underpinned by the Biosecurity Ordinance, 2020. It contains three core elements:



Preventing new introductions

Pathway analysis

Horizon scanning

Import Health Standards for imports that pose a biosecurity threat

Licences required to import high risk imports

Prohibition of the import of extremely high risk imports

Border inspections



Early detection and eradication of new introductions

Post-border surveillance monitoring



Public awareness and reporting

Rapid response capability

Effective eradication treatments



Control of existing non-native species

Control programmes for high impact non-natives

Control efforts focused on Protected Areas

Exploring new and innovative methods for control and eradication



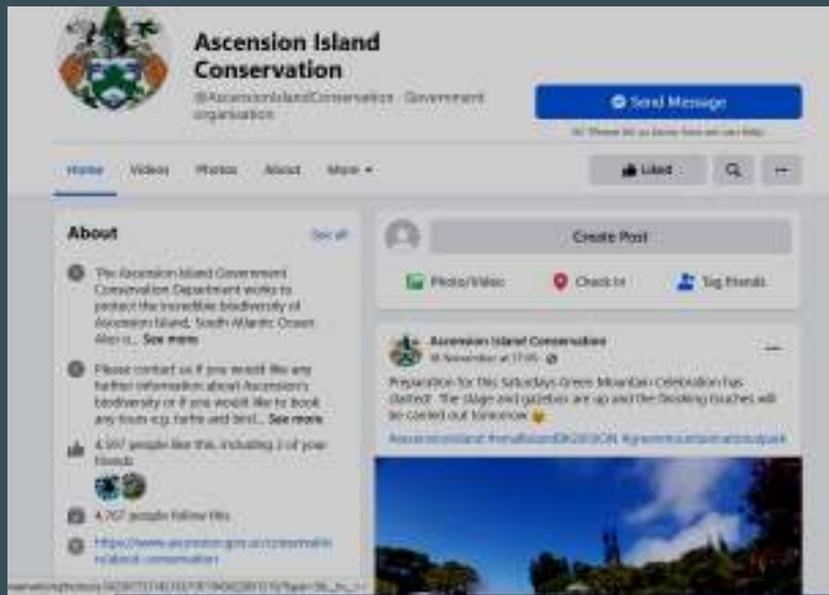
More information is available on the AIG website

Public engagement

Connecting people living on Ascension and those visiting with the island's biodiversity is a fundamental part of this strategy and the work the AIGCFD undertakes. The aims of public engagement are to:

- Instill a sense of ownership, stewardship and pride in the island's biodiversity amongst the Ascension community
- Increase participation of the Ascension community in the protection and management of Ascension's biodiversity
- Enhance understanding of Ascension's biodiversity and the threats it faces including climate change
- Forge international partnerships and collaborations that help advance the NBSAP's objectives

The key messages and audiences are described opposite and two examples of engagement activities are shown below.



Ascension Island Conservation and the Ascension Island MPA have social media accounts that are used to share the work being done with both the island and global community. New information is posted at least weekly and where possible timed to coincide with international events. The Conservation Facebook page currently has 4,767 followers.



During the main school holiday AIG Conservation runs the Explorers Club for young people aged between 7 and 14 on Ascension. The aim is to encourage a greater understanding of Ascension's amazing habitats and species, and to forge a strong connection between the children and their local environment.

Ascension Island Community

International Community

Global Scientific Community

Key messages

Ascension is home to unique and internationally-important biodiversity that is a source of pride for the island.

Everyone on Ascension is responsible for protecting the island's biodiversity and can share in the benefits it creates.

Ascension is home to unique and internationally-important biodiversity.

Ascension's biodiversity is a global asset that can be explored and enjoyed by everyone.

Ascension is keen to collaborate with scientists to study threats to the island's biodiversity and the best means to address them.

In the absence of significant local impacts, Ascension provides an excellent opportunity to investigate global threats such as climate change and marine pollution.

Audience make-up and engagement methods

Ascension Council	Council meetings
Ascension population	Public meetings Public events Local press Facebook Volunteer events MPA Steering Committee Visitor centre Interpretation signs
Governor and AIG	Meetings
Heads of military and civilian organisations	Meetings
School children on Ascension	Explorers Club School trips Public events MPA Youth Committee
Fishing community	IFAC Public meetings Islander Public events Information signs
Visitors to Ascension	Visitor centre Interpretation signs Website

UK Government	Website Social media Meetings
NGOs	Website Social media Meetings Conferences
Funding bodies	Website Social media Conferences
Ascension diaspora	Website Social media Media coverage
St Helena population	Website Social media Saint FM
UK population	Website Social media Media coverage
Global population	Website Social media Media coverage
School children in other countries	Social media Online events

UK Universities	Promotional package Meetings Conferences MPA Scientific Advisory Committee
Global Universities	Promotional package Conferences MPA Scientific Advisory Committee
Blue Belt Partners	Meetings Conferences
JNCC	Meetings Conferences
Big Ocean network	Website Meetings Conferences
SAERI	Meetings Conferences
UKOTCF	Meetings Conferences



Research priorities

An important principle of this strategy is that decisions will be based on the best available information. In reality there are large gaps in knowledge about Ascension's biodiversity and research effort will be focused on those gaps that are limiting effective management. These include:

Baseline data

- Terrestrial invertebrates
- Habitat use and migration of species—fish, land crabs, seabirds
- Mesophotic and deep sea habitats

Threat assessment

- The impacts of climate change on natural processes, species and ecosystems
- The extent and impacts of plastic pollution

Improving management

- The best methods for controlling high priority non-native species
- The best methods to establish cultivated endemic plants in the wild as part of restoration efforts
- Stock assessments for fish species targeted by the local recreational fishery

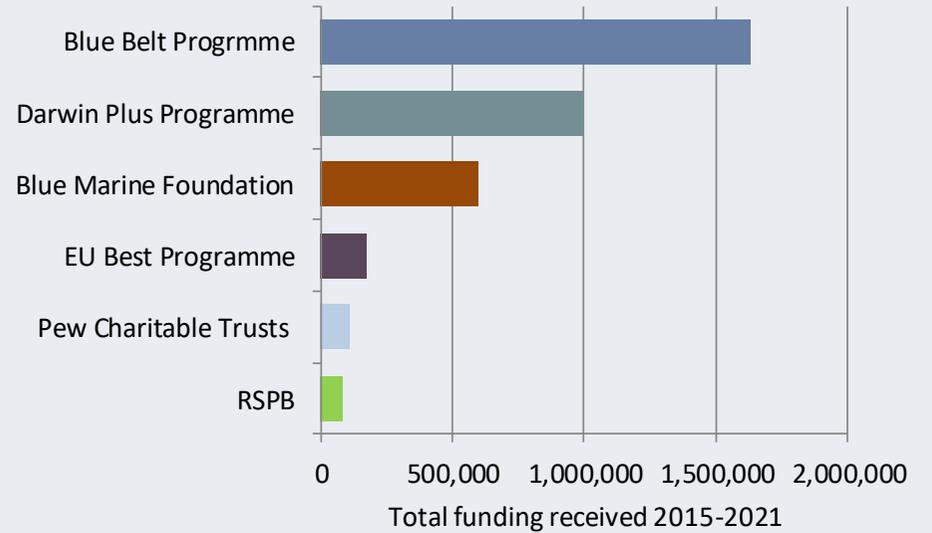
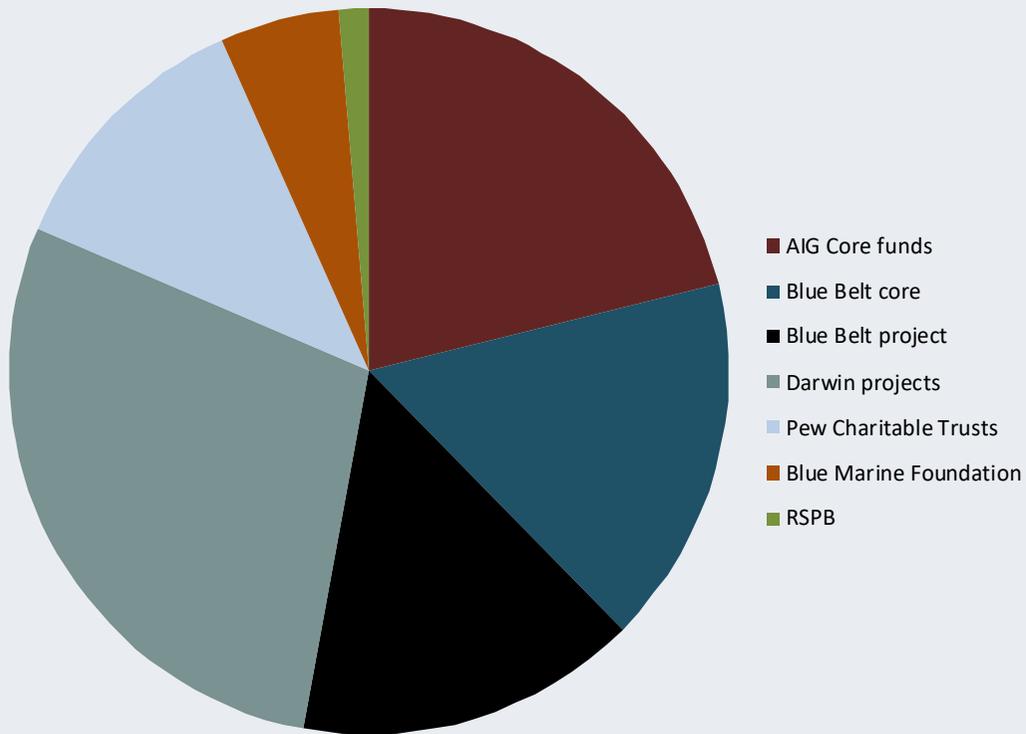
Due to the limited capacity on Ascension, external partners and funding will be sought to complete this research. The aim will be to publish the results in peer-reviewed journals to ensure the research is of high quality and the findings robust.

Sustainable financing of biodiversity protection on Ascension

AIGCFD is the only dedicated conservation body based on Ascension. Approximately a quarter of AIGCFD’s funding comes from central AIG funds primarily derived from a levy on the businesses that operate on Ascension and personal income tax. A significant addition to this core funding is the grant provided by the UK Government’s Blue Belt Programme to cover the core costs of the AIGCFD Marine Team until March 2024.

AIGCFD has been successful at attracting project and grant funding to support biodiversity protection. Since 2015 Ascension has received a total of £4,032,000 in conservation funding from the following sources:

2021-2022 Total income £913,500



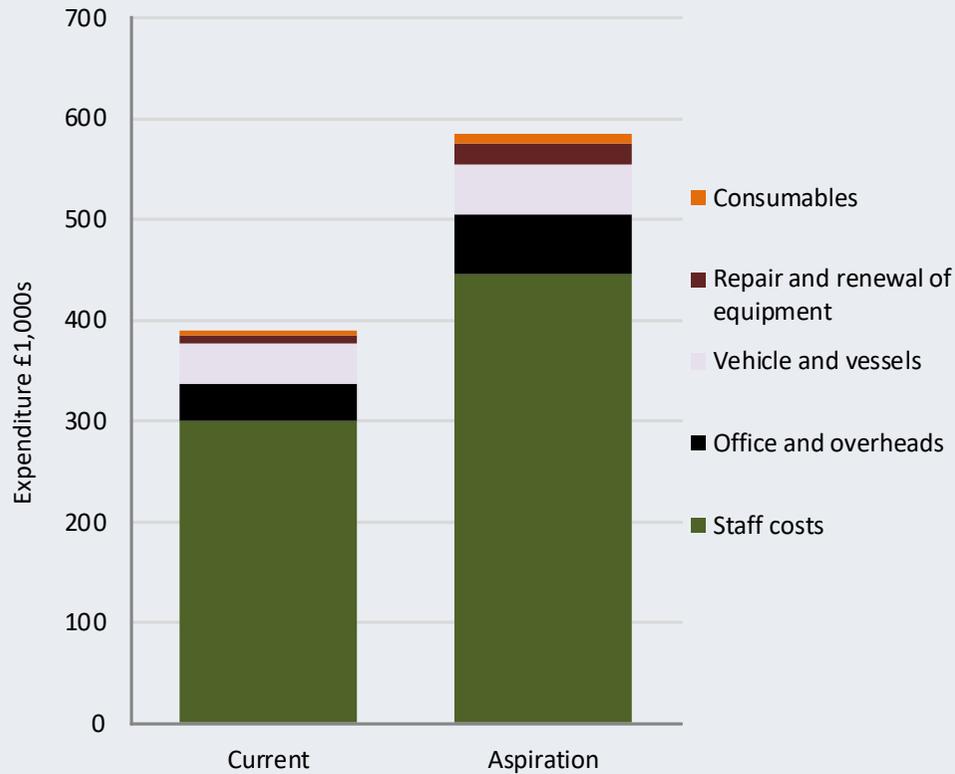
Project funding provides important additional capacity and can address specific problems or research needs. However, the most pressing threats to Ascension’s biodiversity are climate change and non-native species, both of which require long-term sustained management effort that is incompatible with discrete project funding. The current heavy reliance on project funding makes strategic planning difficult and reduces the effectiveness of biodiversity protection.

Sustainable financing of biodiversity protection on Ascension

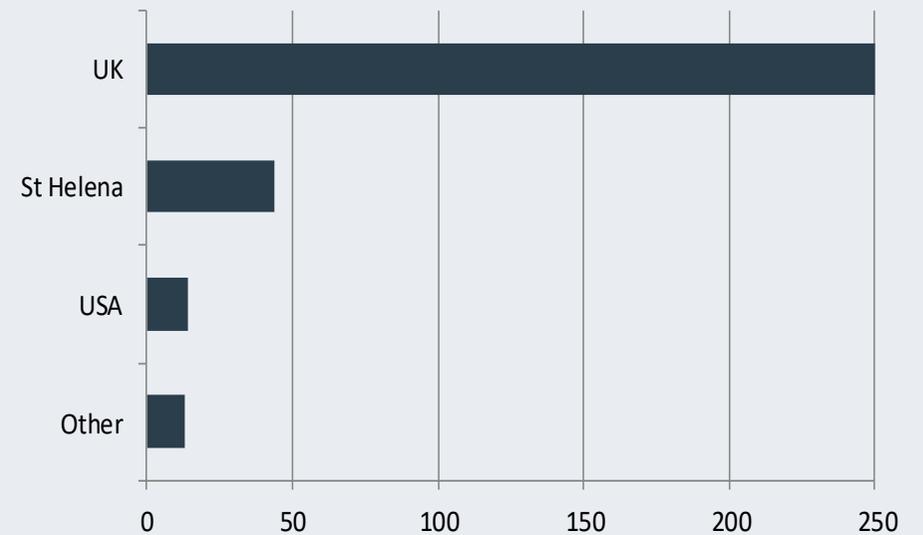
To deliver this NBSAP, an estimated 50% increase in core funding for AIGCFD will be required. The primary purpose of this would be an expansion of the Conservation Team based on Ascension with the addition of two reserve officers and a full time biosecurity officer. If the future governance model of Ascension allows for the expansion of the tourism sector, then a dedicated tourism and engagement post should also be recruited.

There is little scope to increase the amount of core funding available from AIG for biodiversity protection, and so ways to increase unrestricted income and extend AIGCFD's capacity are being found:

- Tour income
- Merchandise
- Unrestricted donations
- Partnership working
- Recruit volunteers



Number of volunteers assisting AIGCFD in 2020 and their country of origin.



Summary of strategic improvements required 2022-25

		Target	Completion	Strategic
Legislation	Inshore fisheries	Introduce secondary legislation to establish a system for managing the inshore recreational and sports fisheries.	December 2022	6, 9
	Pollution control	Introduce regulations to control sources of marine pollution not covered by current legislation.	March 2023	3
	Protected areas	Review and update protected area network in light of new data on the distribution of endemic invertebrates and any changes in the distribution of existing protected species.	March 2024	2, 3
	Protected species	Review and update list of species protected by the Wildlife Protection Ordinance based on vulnerability assessment.	March 2024	1
	Research permits	Establish a clear basis in law for issuing research permits to work on species not included on the Wildlife Protection Ordinance.	March 2024	1, 8
Policy	Land and business	Introduce a new land and business policy that requires Environmental Impact Assessments to be conducted on all land leased or managed by AIG.	June 2023	5
	Tourism	Introduce a new tourism policy to manage impacts on biodiversity if this sector grows in the future.	March 2023	4, 6
	US Airforce Base	Agree a Memorandum of Understanding between AIG and the US Airforce covering the protection of native habitats and species within the Base lease area.	March 2025	5
Public engagement	Awareness raising	All AIGCFD projects will be publicised on Ascension and through social media. The number of people following AIGCFD on social media will increase to at least 10,000 people.	March 2024	7, 8
	Participation	At least 20% of the island community engages with consultations on major conservation plans or strategies. All decisions on inshore fisheries management are made with the involvement of the fishing community.	March 2023	7
Research and monitoring	Baseline data	A comprehensive survey of terrestrial invertebrates is completed and baseline data collected on mesophotic habitats. Further tracking work resolves year-round distribution of fish, bird and land crab species.	March 2025	1, 2
	Threat assessment	Changes in climate and ocean conditions alongside plastic pollution levels are monitored and their impact on protected species and habitats quantified.	March 2025 and ongoing	1, 2, 3
	Improving management	Trials completed on methods to control Mexican thorn and maidenhair fern and the best methods to restore endemic plants to the wild. Stock assessments in place for all main inshore fished species.	March 2025	1, 2, 3, 6
Sustainable financing		A 25% increase in AIGCFD core funding (compared to 2022 levels) is secured from sustainable sources without the need for additional support from the AIG central budget.	March 2025	-



Biodiversity Action Plan

The Biodiversity Action Plan describes the actions that will be taken over the next five years to protect Ascension's biodiversity.

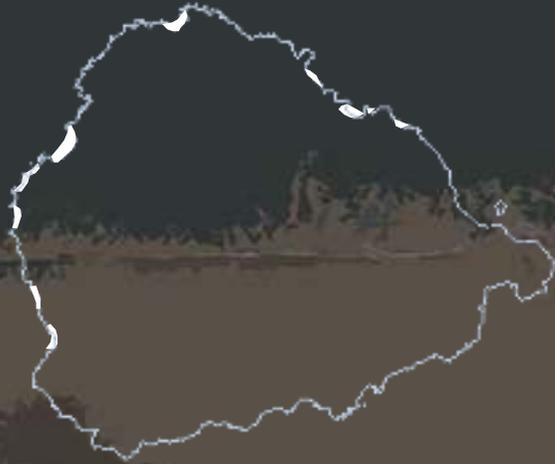
The plan is divided into sections covering the main protected habitats and species. However, many of the activities cut across the sections and in reality management will take an integrated, whole-island approach.

This plan is an overview of conservation action on Ascension. In many cases more detailed management plans for particular protected areas or species are available and links to these are provided.

Beaches



Beaches



Protected areas

- Long Beach Nature Reserve
- Pan Am Nature Reserve
- North East Bay Nature Reserve

Protected species

- Green turtle *Chelonia mydas*
- Land crab *Johngarthia lagostoma*

Legislation

The three beach nature reserves are protected under the National Protected Areas Ordinance and National Protected Areas Regulations.

Beaches between Catherine Point and North Point on the west coast of the island are covered by the Harbours Regulations that prevent the unauthorised removal of sand.

The area below the mean high water spring tide mark on all of Ascension's beaches fall within the Marine Protected Area and are covered by the National Protected Areas Ordinance.

More information

A dedicated Beach Nature Reserves Management Plan is available.

Sandy beaches are found around the north and west coasts of Ascension. They primarily consist of shell sand and most are highly dynamic environments. The tidal range on Ascension is small, but high swells and storms cause regular inundation and shifting of the sand. The most obvious feature of Ascension's beaches are the holes excavated by turtles, which create a distinctive pitted pattern. The three beaches on Ascension with the largest populations of nesting green turtles have been designated as Nature Reserves with accompanying regulations that restrict activities that would damage or disturb the turtles.

Threats		
Climate change	Sea level rise and increased swells	Inundation of turtle nests; reduced beach area
	Increased temperature	Death of turtle hatchlings and skewed sex ratio. Desiccation of land crabs.
Invasive non-native species	Encroachment of non-native shrubs and plants	Reduction in area of suitable turtle nesting habitat. Harbouring non-native predators
	Rats and myna birds	Predation of turtle hatchlings and land crabs
Pollution	Littering	Entanglement and ingestion Toxicity associated with plastics Spoils recreational experience
	Spill incidents	Toxic to marine life Spoils recreational experience
	Light pollution	Abandonment of turtle nesting attempts Attraction of turtle hatchlings away from ocean
Development	Removal of sand from beaches	Reduced area and suitability of turtle nesting habitat Disruption to erosion and deposition patterns
Disturbance	Human disturbance of turtles	Abandonment of turtle nesting attempts

Beaches - Actions and targets

Action	Description	Target	Threat addressed	Strategic
Litter clearance	AIGCFD to organise beach cleans with volunteers from the local community to remove litter.	Three protected beaches: Community Beach cleans every six months. Removal of all litter. Other beaches: Annual community beach cleans. Removal of all plastic waste.	Littering	3
Non-native plant removal	Cut and apply herbicide to cut stems of non-native shrubs on beaches and buffer zones around them Hand pull annual weeds on the beaches before they set seed.	All non-native shrubs removed form beaches by 2023. Buffer zones cleared by 2026	Encroachment of non-native shrubs and plants	4
Rodent control	Setting and replenishment of poison bait boxes at Long Beach and North East Bay.	Set ten boxes on each beach and check every fortnight between January and August every year.	Rats and mynah birds	4
Removal of legacy structures	Remove old concrete blocks, structures and Mexican thorn stumps from Long Beach.	All blocks, stumps and structures no longer in use removed by 2022.	Littering	3
Tours and engagement	Provide tours and information for members of the public to allow turtles to be viewed without disturbance.	Engagement information distributed annually ahead of turtle season. Tours offered weekly according to demand.	Human disturbance	7, 8
Enable landward migration of beaches	Remove structures at the back of protected beaches and allow sand to build up in these areas.	All barriers to migration of protected beaches assessed by 2022. Removal of non-essential barriers by 2024.	Sea level rise and increased swells	3
Beach shading trial	Construct shade canopies on Long Beach and North East Bay to investigate impact on nest temperatures.	Record temperatures in 20 shaded and 20 control nests on both Long Beach and North East Bay by August 2022.	Increased temperature	3

Monitoring

Description	Metric	Frequency
Turtle nesting and productivity	Number of emerging green turtle females and nesting attempts on three protected beaches.	Annual
	Number of emerging green turtle females and nesting attempts on all beaches	Every five years
	Nest location, temperature and hatch success	15 nests on each of three protected beaches annually
Land crab abundance	Number of crabs on 100m transect on North East Bay during spawning events	Three times a year in February, March and April
Litter accumulation and removal	Weight of litter accumulating on beaches per year categorized by type.	Annual
	Weight of waste removed from beaches per year categorized by type	Annual

Volunteers assist with the annual island-wide beach clean ahead of the turtle nesting season.



Seabird nesting sites



Seabird nesting sites



Protected areas

- Boatswain Bird Island Sanctuary
- Letterbox Nature Reserve
- Mars Bay Nature Reserve
- Waterside Nature Reserve

Protected species

- Ascension frigatebird
- Masked booby
- Brown booby
- Red-footed booby
- Yellow-billed tropicbird
- Sooty tern
- Fairy tern
- Red-billed tropicbird
- Brown noddy
- Black noddy
- Strom petrel

Legislation

The three nature reserves and Sanctuary are protected under the National Protected Areas Ordinance and National Protected Areas Regulations.

More information

Management Plans are available for the Letterbox Nature Reserve and Wideawake Nature Reserves (Mars Bay and Waterside).

The distribution of old guano and historical accounts suggest seabirds once nested across Ascension Island and the rocks and stacks around its coast. Hunting by humans and predation by feral cats decimated some species and at one point the entire world population of Ascension frigatebirds nested on the tiny Boatswain Bird Island. The eradication of feral cats from Ascension in 2004 allowed masked boobies, brown boobies and frigatebirds to recolonise the plateau of the Letterbox Peninsula. Masked boobies are beginning to expand their range around the southeast coast of the main island. Cliff nesting species such as noddies and storm petrels were less vulnerable to predation and they are found on the sheer cliffs of Boatswainbird Island, the southeast coast and the stacks.

On the southwest coast of the main island, Mars Bay and Waterside Nature Reserves support vast colonies of sooty terns estimated to contain 250,000 birds. Impressive as these colonies are, there was once a much greater number of sooty terns nesting on the plain that was cleared for the Ascension runway in 1942.

All the seabirds on Ascension forage for prey such as flying fish and squid in the ocean around the island. Tracking studies suggest species vary in the distance they forage from the island during the nesting period with frigatebirds regularly flying over 400 miles in a single trip. Research is only just beginning into where the birds migrate to outside of the nesting period; early results suggest sooty terns may range right across the Atlantic to the coast of Brazil.

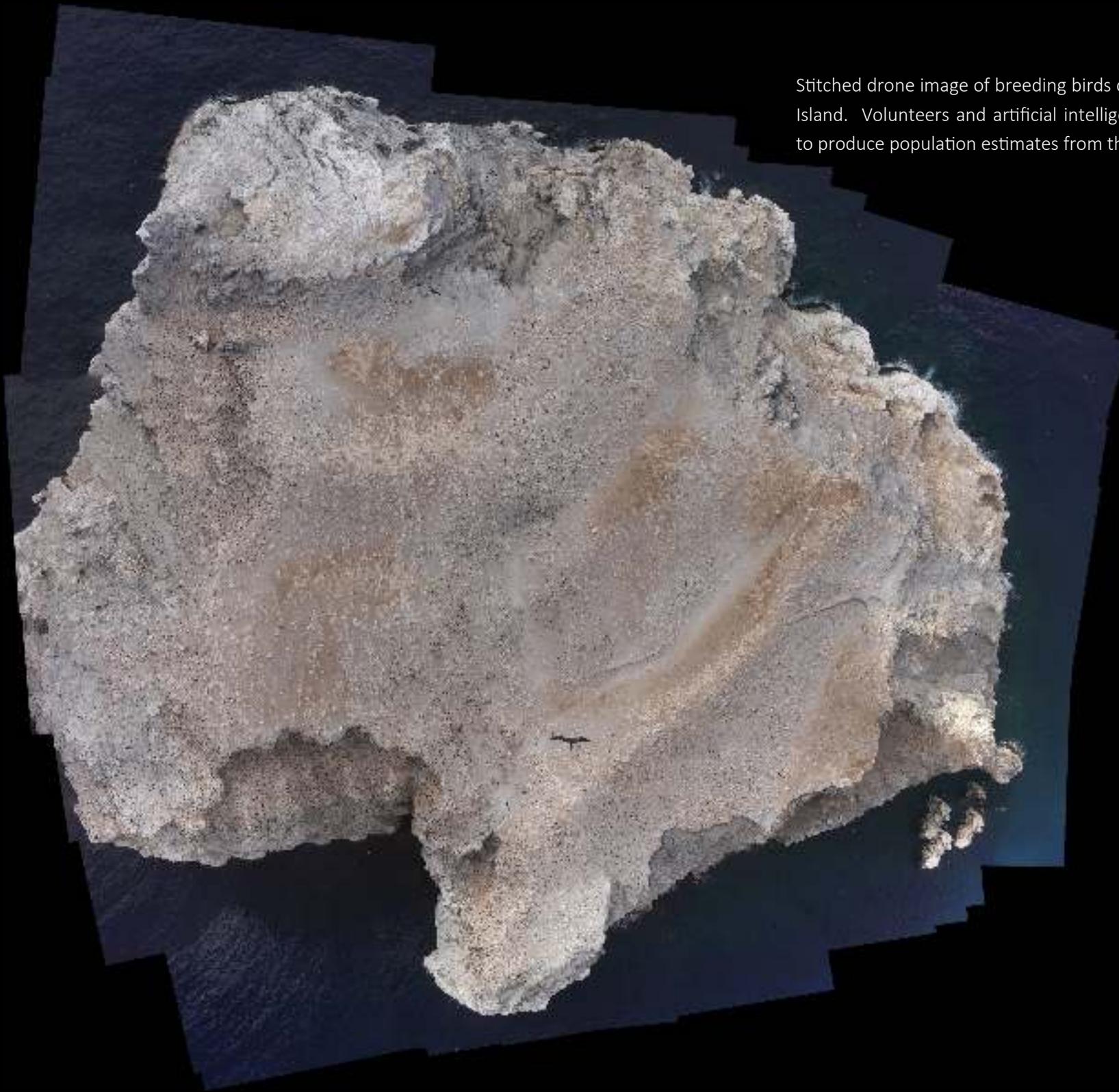
Threats		
Climate change	Changes in ocean currents and productivity	Lack of food for seabirds
	Increased temperature	Incubation temperatures above tolerance of eggs and chicks
Invasive non-native species	Encroachment of non-native shrubs and plants	Reduction in area of suitable nesting habitat. Harbouring non-native predators
	Rats, mice and myna birds	Predation of eggs and chicks
Pollution	Littering	Entanglement and ingestion Toxicity associated with plastics
	Spill incidents	Smothering of birds Toxicity
Disturbance	Human disturbance	Nest abandonment
		Trampling of eggs and hatchlings

Seabird nesting sites - Actions and targets

Action	Description	Target	Threat addressed	Strategic objective
Rodent control	Setting and replenishment of poison bait boxes at Mars Bay and Waterside Nature Reserves .	Set 40 bait boxes on each reserve and check every fortnight during sooty tern breeding period.	Rats and mice	4
Non-native plant removal	Cut and apply herbicide to cut stems of non-native shrubs on nature reserves and buffer zones around them.	All non-native shrubs removed from Mars Bay and Waterside by 2023. Buffer zones cleared by 2025. No encroachment of shrubs into Letterbox Peninsula.	Encroachment of non-native shrubs and plants	4
Litter clearance	AIGCFD to organise litter cleans with volunteers from the local community.	Annual litter clean in Mars Bay Nature Reserve.	Littering	3
Public engagement	Distribute social media posts and press articles and organise school visits to encourage responsible access to the bird breeding sites and explaining the threat disturbance poses to nesting seabirds.	Produce at least three press articles and 12 social media posts each year. At least 20 school children take part in an seabird educational visit annually.	Human disturbance	7, 8
Temporary access restriction	Use temporary closures of footpaths and tracks to protect nesting birds as necessary.	Close paths or tracks within 5 days of recording significant nesting activity on or immediately adjacent to them. Monitor compliance with the restrictions.	Human disturbance	1
Trial monitoring using remote cameras	Trial the use of fixed point cameras and drone imagery combined with crowd-sourced image analysis to record nesting seabird numbers.	Establish camera network on seabird nature reserves by end 2022. Conduct biannual drone surveys of Boatswain Bird Island. Validate counts using traditional visual surveys at accessible sites.	na	1

Monitoring

Description	Metric	Frequency
Seabird population census	Number of breeding pairs (mainland frigatebirds and masked boobies)	Annual
	Nest location, and timing of laying (mainland frigatebirds and masked boobies)	Annual
Seabird productivity	Number of fledged chicks per nest (mainland frigatebirds and masked boobies)	Annual
Seabird tracking	Position of individual birds	Opportunistic
Plastic pollution	Plastic ingestion rates	Opportunistic
Non-native species	Plants and rodents	Annual

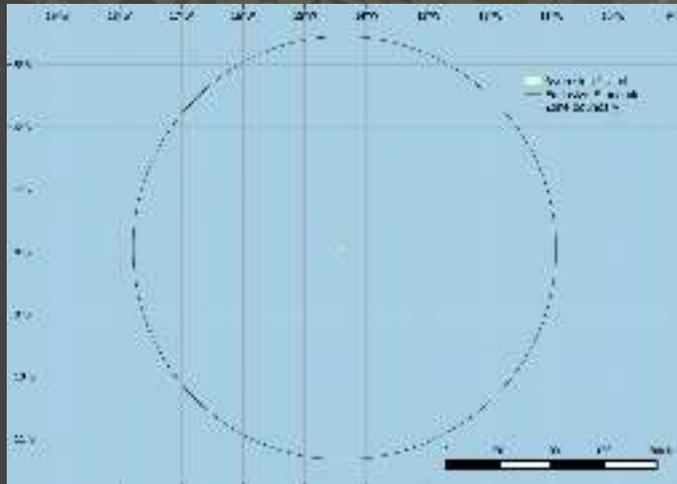


Stitched drone image of breeding birds on Boatswain Bird Island. Volunteers and artificial intelligence will be used to produce population estimates from these images.

Marine Protected Area



Marine Protected Area



The entire 445,000km² of Ascension’s Exclusive Economic Zone has been designated as a Marine Protected Area. It encompasses nearshore habitat around the island, shallow water seamounts, vast open ocean and hydrothermal vents. Large-scale commercial fishing and mining are not permitted anywhere within the MPA and no fishing of any type is allowed beyond 12nm of the island. These local pressures can be managed, but the MPA is still vulnerable to climate change, global pollution and poor fishing practices in the rest of the Atlantic.

Protected habitats

- Shallow water
- Seamounts
- Pelagic
- Deep sea

Protected species

- Wildlife Protection Ordinance lists:
- 40 Fish species
 - 2 turtle species
 - 2 cetacean species
 - 3 marine crustacean species
 - 3 coral species

Legislation

The National Protected Areas Ordinance applies to the entire MPA.

More information

A Management Plan and Monitoring, Evaluation and Research Strategy are available for the MPA.

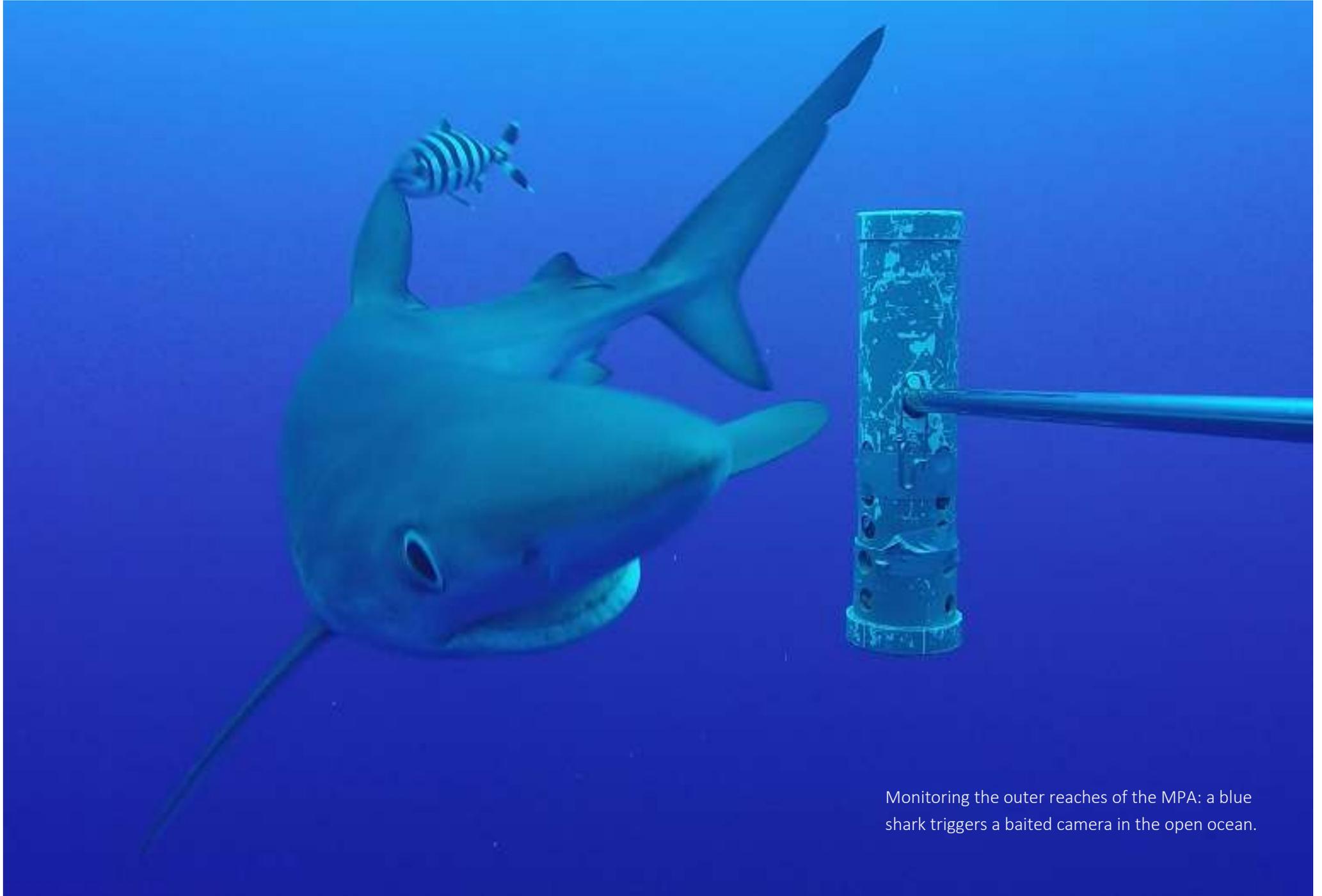
Threats		
Climate change	Changes in ocean currents and productivity	Reduced food availability. Unsuitable oceanographic conditions.
	Increased sea surface temperature	Sea temperatures above tolerance of some species.
	Ocean acidification	Prevent shell formation
Fishing	Illegal fishing	Reduce fish abundance and alter ecosystem functioning. Potential bycatch of seabirds and turtles.
	Commercial fishing outside of the MPA	
	Poorly-managed recreational and sports fishing	
Invasive non-native species	Introduction of new invasives	Competition and predation of native species
Pollution	Littering	Entanglement and ingestion Toxicity associated with plastics
	Spill incidents	Smothering of seabed
	Land-based pollution	Toxicity to marine species
Disturbance	Tourism	Damage to habitats
Development	Coastal infrastructure	Loss of habitat
Mineral extraction	Sand removal	Destruction of habitat

Marine Protected Area—Actions and targets

Action	Description	Target	Threat addressed	Strategic objective
Prevent illegal fishing	Satellite surveillance of MPA to detect illegal fishing activity. Report suspicious activity to International Commission for the Conservation of Atlantic Tuna.	All illegal fishing activity detected. Effective enforcement action undertaken in response to all incidents of illegal fishing.	Illegal fishing	1, 9
Manage the inshore fishery	Introduce an inshore fisheries management system that is stakeholder-led and adaptive.	Inshore fisheries management strategy consulted on and agreed by the elected Council in 2022.	Poorly-managed recreational and sports fishing	6
Control marine pollution	Improve pollution control legislation and policy and increase spill response capability.	Marine pollution control legislation drafted by 2022. Spill response capability increased according to recommendations of the Marine Coastguard Agency by 2024.	Littering, spill incidents, land-based pollution.	3
Prevent the introduction of non-native species	Implement MPA biosecurity strategy involving inspections, surveillance and public engagement.	No non-native species detected in the marine environment	Introduction of new invasives	4
Develop guidelines for tourism businesses	Regulations and best practice guidance in place governing the conduct of all sports fishing and ecotourism businesses.	All sports fishing and ecotourism businesses adhering to best practice guidance.	Human disturbance	6
Assess new development proposals	Establish effective development control system including robust impact assessments	Environmental Impact Assessment carried out on all new development proposals that could impact the MPA.	Coastal infrastructure	5

Monitoring

Description	Metric	Frequency
Vessel activity in the MPA	Number of suspicious vessels potentially engaging in illegal fishing detected	Continuous monitoring of AIS signals. Weekly Synthetic Aperture Radar coverage January to May.
Presence and abundance of inshore and offshore indicator species	Presence and abundance compared to baseline set at establishment of MPA	Annual
Presence of non-native species	Number of marine non-native species detected	Every three months
Physical ocean conditions	Comparison of seasonal temperature patterns, pH, dissolved oxygen and conductivity against baselines set at establishment of MPA.	Continuous data collection. Review annually.
Public attitude to MPA	Satisfaction scores recorded through questionnaires	Annual



Monitoring the outer reaches of the MPA: a blue shark triggers a baited camera in the open ocean.

Green Mountain National Park



Green Mountain National Park

Green Mountain is Ascension's only National Park. The peak itself is the highest point on the island reaching 859m above sea level. Like all hills on Ascension, it was formed by volcanic eruptions and the mountain is the result of multiple layers of lava dating back at least 600,000 years. As its name suggests, Green Mountain has always been the most vegetated part of the island. Its elevation helps to trap cloud, and precipitation rates on the mountain are approximately three to four times those on lower lying areas of the island. When humans first discovered Ascension in the 16th century, most of the island's native plants were found on the Mountain and it was the source of the only reliable supply of fresh water. The Mountain was the obvious place to cultivate edible plants and build accommodation for the garrison when the island was settled by the Royal Navy in 1815.

In the mid 19th Century the Mountain was transformed by an attempt to create an artificial cloud forest. Hundreds of species of plants (and hitch hiking invertebrates) were imported from around the world and as a result the Mountain's flora and fauna are now dominated by non-native species. The intervening 170 years has allowed a novel ecosystem to evolve complete with mature trees and intimate species associations. However, this man-made version is a greatly simplified reproduction of the complex ecosystems seen in natural cloud forests.

The farm that once operated on the Mountain has now ceased and many of the buildings have fallen into disrepair, but it is still one of the most popular places on the island for walking and recreation. Despite the influx of non-natives, the Mountain remains the stronghold for six of the seven endemic vascular plants on Ascension as well as the land crabs and fairy tern populations



Protected species

- Hedgehog grass
- Moss fern
- Ascension spleenwort
- Land crab
- Purple fern
- Parsley fern
- Feather fern
- Fairy tern

Legislation

Green Mountain is designated as a National Park under the National Protected Areas Ordinance, 2003. The general National Protected Areas Regulations, 2014, and the Green Mountain National Park Regulations, 2010 Apply to whole area designated.

More information

A Green Mountain National Park Management Plan is available.

Threats		
Climate change	Increased temperature	Heat stress Increased evaporation
	Reduced precipitation and elevated cloud base	Drought
Invasive non-native species	Legacy of non-native species introductions	Competition and predation of native species
	Introduction of new non-natives	
Pollution	Littering	Entanglement and ingestion Toxicity associated with plastics
Disturbance	Tourism	Trampling of habitats and burrows Disturbance to crabs and birds
Development	Infrastructure maintenance	Loss of habitat

Green Mountain National Park - Actions, targets

Action	Description	Target	Threat addressed	Strategic objective
Path maintenance	Clear paths of vegetation and landslips and maintain safe walking surface.	All path obstructions cleared within a week of detection. All named paths within the National Park have safe walking surface.	na	7
Cloud forest restoration	Propagate and plant out beneficial trees to expand the man-made cloud forest for the benefit of endemic species.	Expand cloud forest across 2,000m ² between Dew Pond and Coronation Peak.	na	3
Passive irrigation of endemic plants	Install fog catchers and irrigation system to supply increased water to endemic plants.	Irrigations systems operational on Windy Ridge and Breakneck Valley.	Reduced precipitation and cloud base	3
Non-native plant removal and rodent control	Cut and remove potentially invasive plants and control rodents through the setting and replenishment of poison bait boxes.	Eradication of flax from the National Park by 2023. Set rodent boxes along all major paths and check at least every three months.	Invasive non-native species	4
Impact assessments	Carry out impact assessments for any new development and infrastructure maintenance within the National Park.	Impact Assessment carried out before all new developments or maintenance work that could affect the National Park. Appropriate mitigations applied.	Development	5
Litter clearance	AIGCFD to organise litter cleans with volunteers from the local community.	Litter cleans in areas of highest use occur at least annually.	Littering	3
Education and engagement activities	Distribute social media posts and press articles and organise events and school visits to encourage responsible access to the National Park.	Produce at least three press articles and 12 social media posts each year. At least 20 school children take part in educational visit annually.	Disturbance	7, 8

Monitoring

Description	Metric	Frequency
Climate change	Temperature, precipitation and cloud base height	Continuous
Visitor satisfaction	Number of visitors to National Park	Annual
	Reported satisfaction levels through questionnaires	Biennial
Public engagement	Number of people attending events and school visits	Annual
	Number of engagements with social media posts	Annual
Volunteer engagement	Number of volunteers assisting split by demographic group	Annual review



Volunteers assist with maintaining paths within the National Park.

Endemic plants



Endemic plants



Protected species

- Hedgehog grass
- Purple fern
- Moss fern
- Parsley fern
- Ascension spleenwort
- Feather fern
- Ascension spurge

More information

An Ascension Island Endemic Plant Restoration Plan is being developed.

There are seven species of higher plant that are endemic to Ascension. Six are considered critically endangered and one vulnerable on the IUCN Red list. The distribution of six of these is concentrated within Green Mountain National Park including five ferns and one grass species. The Ascension spurge is the exception and it has a fragmented distribution around the more arid parts of the island. Three higher plant species are known to have become extinct on Ascension since the discovery of the island. The Ascension parsley fern was also thought to be extinct until a plant was found growing in the wild in 2009.

The introduction of hundreds of non-native plants to Green Mountain in the 1800s radically changed the habitat and crowded out the less competitive endemic species. Some endemic species have adapted to the artificial cloud forest such as the moss fern that is now found growing on the trees and bamboo. However, all of the endemic plants are in steep decline due to pressure from introduced plants, grazing animals and insect pests and the reduced moisture levels seen as a result of climate change. AIGCFD are actively seeking to protect and restore the plant populations through their cultivation and reintroduction as well as trialing the use of passive irrigation and assisted migration to make them more resilient to climate change.

Threats		
Climate change	Increased temperature	Heat stress Increased evaporation
	Reduced precipitation and cloud base	Drought stress Lack of recruitment
Invasive non-native species	Encroachment of non-native plants Grazing by non-native mammals	Competition for space, light and moisture.
	Introduction of new non-natives	Overgrazing of endemic plants.
Disturbance	Human disturbance	Trampling of plants
Development	Infrastructure maintenance	Loss of habitat Destruction of plants

Endemic plants - Actions, targets monitoring

Action	Description	Target	Threat addressed	Strategic objective
Passive irrigation of endemic plants	Install fog and rain catchers and irrigation system to provide increased water to endemic plants.	Irrigations systems operational on Windy Ridge and Breakneck Valley.	Reduced precipitation and cloud base	1, 3
Enhancement of <i>in situ</i> populations	Planting out of cultivated endemic plants to enhance existing populations and establish new ones.	Self-sustaining populations of feather fern and hedgehog grass secured in at least two sites for each species.	na	1
Assisted migration of Ascension spurge	Establish spurge at new sites on the island with higher rainfall and soil moisture.	Establish new spurge populations in at least two locations with more suitable soil moisture conditions by 2022.	Reduced precipitation and cloud base	1, 3
Cloud forest expansion	Propagate and plant out beneficial trees to expand the manmade cloud forest.	Expand cloud forest across 200m ² between Dew Pond and Coronation Peak.	na	1, 3
Targeted non-native plant removal	Remove non-native plants from key sites for endemics and restoration areas.	Windy Ridge, parsley fern restoration areas and spurge assisted migration sites kept clear of non-native plant species.	Invasive non-native species	4
Control of grazing	Fence restoration areas to exclude sheep and rabbits. Control rodents through poison baited boxes.	Fences maintained around spurge assisted migration sites.	Invasive non-native species	3
Impact assessments	Carry out impact assessments for any new development and infrastructure maintenance that could affect endemic plants.	Impact Assessment carried out before all new developments or maintenance work that could affect endemic plants. Appropriate mitigations applied.	Development	5
Education and engagement activities	Distribute social media posts and press articles and organise events and school visits to raise awareness about endemic plants.	Produce at least three press articles and 12 social media posts each year. At least 20 school children take part in educational visit annually.	Disturbance	7, 8

Monitoring

Description	Metric	Frequency
Climate change	Temperature, precipitation and cloud base height	Continuous
Status of endemic plant populations	Number and distribution of seven endemic plants species at indicator sites	Spurge and parsley fern biannually Other five species annually
Success of restoration activities	Proportion of plants surviving at restoration and assisted migration sites	Minimum every three months
Soil moisture and humidity	Level of soil moisture and humidity experienced by endemic plants	Continuous recording. Annual review

Fog catchers and irrigation systems have been installed at the top of Windy Ridge on Green Mountain to supply water to endemic plants on the lower slopes during periods of drought.



Land crabs



Land crabs



Land crabs (*Johngarthia lagostoma*) are the only large terrestrial animal native to Ascension. This species is only found on Ascension and three small islands off the Brazilian coast. They presumably arrived at Ascension as larvae transported on ocean currents and managed to establish a population on the island. Aside from their aquatic larval stage, land crabs are a terrestrial species. However, they still require their gills to remain moist in order to breathe and much of their behaviour is linked to this requirement. They are found throughout the island, but are most common at higher elevations around Green Mountain where moisture levels and plant cover are higher. They spend most of the day in burrows, only venturing out at night or after heavy rain.

Each year they undertake a migration from their foraging areas down to the coast to spawn. This takes place 10 days after the full moon in January, February, March and April on most of Ascension's beaches, but by far the largest aggregation is at Northeast Bay where many thousands of crabs congregate to release their eggs into the surf.

In the past land crabs were heavily persecuted by humans because of the damage they did to crops on the mountain. Between 1879 and 1887 335,000 were killed. Land crabs are now protected, but they continue to be killed on Ascension's roads and face threats from climate change and non-native species.

Protection

Land crabs are listed in the Wildlife Protection Ordinance

Northeast Bay is designated as a Nature Reserve

Green Mountain is designated as a National Park

Legislation

Green Mountain and Northeast Bay are designated under the National Protected Areas Ordinance, 2003 and the general National Protected Areas Regulations, 2014, and the Green Mountain National Park Regulations, 2010 Apply.

More information

The land crab Species Action Plan

Threats		
Climate change	Increased temperature	Heat stress
	Reduced precipitation and cloud base	Desiccation Lack of recruitment
	Changes in ocean currents	Reduced retention of crab larvae
Invasive non-native species	Rats	Predation of young crabs. Competition with adult crabs.
Pollution	Littering	Entanglement and ingestion Toxicity associated with plastics
Disturbance	Tourism	Crushing by vehicles Trampling of burrows
Development	Infrastructure maintenance	Loss of habitat Destruction of burrows

Land crabs - Actions and targets

Action	Description	Target	Threat addressed	Strategic
Impact assessments	Ensure checks are made for crabs and burrows ahead of all developments and land use changes.	Impact assessments carried out for all developments that could impact crabs or their habitats. Appropriate mitigations applied.	Development	5
Driver awareness campaign	Public engagement campaign to encourage safer driving and fewer road deaths	Reduce road deaths by 30% by 2025.	Disturbance	1
Rodent control	Control rodents in key habitats on Green Mountain and Northeast Bay. Using poison baited boxes.	Set ten boxes on Northeast Bay and check every fortnight between January and August every year. Set rodent boxes along all major paths on Green Mountain and check at least every three months.	Invasive non-native species	4
Public tours during crab spawning periods	AIGCFD to organise tours for members of the public to Northeast Bay to witness crab spawning events.	At least 40 members of the public attend crab tours each year.	Disturbance	7
Litter clearance	AIGCFD to organise beach cleans with volunteers from the local community to remove litter from Northeast Bay.	Community Beach cleans every six months on Northeast Bay. Removal of all plastic waste.	Littering	3

Monitoring

Description	Metric	Frequency
Spawning transect	Number of crabs per metre of transect at Northeast Bay during spawning aggregation	Three times per year to coincide with spawning
Growth rates	Annual growth increment of tagged crabs	Searches for tagged crabs three times per year
Road deaths	Number of crabs crushed on road	Monthly

AIGCFD measure and tag crabs during their spawning aggregations at North East Bay in order to record growth rates and estimate the age structure of the population.



Terrestrial invertebrates



Terrestrial invertebrates

There are significant gaps in our knowledge of Ascension’s invertebrate fauna. Past surveys have concentrated on specific habitats such as caves and identified a total of 30 native and 25 endemic terrestrial invertebrate species, but to date there has been no comprehensive invertebrate survey across the island. This will be addressed through a Darwin Plus-funded project that will be completed in 2024. It is likely this survey will identify endemic species new to science.

Of those species already described, the giant pseudoscorpion (*Garypus titanius*) is probably the most charismatic of Ascension’s endemic invertebrates. It is the largest pseudoscorpion in the world, reaching up to 15mm, and is only known from Boatswain Bird Island. Ascension also has its own entire genus of scaly crickets (*Discophallus*) containing five species found only on the island. At present the network of terrestrial protected areas on Ascension is not designed to include the habitats of endemic invertebrates and the lack of knowledge about their distribution and biology means they are not taken into account in land management or development control decisions.

Non-native invertebrate species probably greatly outnumber native ones. Centuries of unintentional introductions has resulted in at least 390 non-native invertebrate species on Ascension including damaging species such as termites, cockroaches, mealy bugs and mosquitos.

Protected species

Land crabs and giant pseudoscorpion are listed on the Wildlife Protection Ordinance

More information

Land crab Species Action Plan

Giant pseudoscorpion Species Action Plan

Threats		
Climate change	Increased temperature	Heat stress
	Reduced precipitation	Desiccation
Invasive non-native species	Encroachment of non-native shrubs and plants	Loss of habitat
	Rats, mice, myna birds, ants, cockroaches	Predation of native invertebrates
Pollution	Littering	Entanglement and ingestion Toxicity associated with plastics
Development	New developments	Loss of habitat Crushing of invertebrates

Terrestrial invertebrates—Actions and targets

Action	Description	Target	Threat addressed	Strategic
Identify endemic species	Conduct a comprehensive survey of Ascension's invertebrate fauna.	Sampling carried out across all of Ascension's main habitat types by 2023. All specimens identified to species level by 2025.	na	1
Endemic species conservation plans	Create conservation plans for endemic invertebrate species based on knowledge of their habitat requirements and significant threats.	Conservation plans prepared for at least three endemic species by March 2024. IUCN Red listing of at least 10 endemic invertebrate species completed by 2025.	na	1
Protected area review	Review Protected Area coverage to ensure key sites for endemic invertebrates are sufficiently protected. Consider the extension of existing sites or creation of new ones.	All key sites for endemic invertebrates included within protected areas or receiving equivalent protection by 2025.	Development	2
Non-native plant removal	Cut and apply herbicide to cut stems of non-native shrubs on key sites for endemic invertebrates and buffer zones around them.	All non-native shrubs removed from at least five key sites for endemic invertebrates by 2025.	Encroachment of non-native shrubs and plants	4
Rodent control	Setting and replenishment of poison bait boxes at key sites for endemic invertebrates.	Rat boxes checked and rebaited as required at least every three months at five key sites for endemic invertebrates.	Rats, and mice	4
Impact assessments	Carry out impact assessments for any new development and infrastructure maintenance at key sites for endemic invertebrates	Impact Assessment carried out before all new developments or maintenance work that could affect endemic invertebrates. Appropriate mitigations applied.	Development	5

Monitoring

Description	Metric	Frequency
Endemic species abundance	Density or catch per unit effort of at least five species of endemic invertebrate.	Biannually
Habitat suitability	To be determined once more information is available on habitat requirements of endemic species. May take the form of vegetation cover or climatic variable monitoring.	Biannually



Malaise trap catching flying invertebrates on Green Mountain as part of a comprehensive survey of Ascension's terrestrial invertebrate fauna.

Monitoring and evaluation

Monitoring is essential to track the state of Ascension's biodiversity and the threats it faces, and to ensure that management actions are making a positive contribution towards protecting biodiversity and achieving this NBSAP's strategic objectives. Monitoring can be divided into: two broad areas:

- **Monitoring management action implementation** - have planned management actions been completed and outputs achieved?
- **Performance monitoring** - is the ultimate aim of protecting Ascension's biodiversity being achieved?

Though connected, these need to be treated separately so we can distinguish between situations where biodiversity is declining because the actions weren't carried out properly and other instances where the actions were completed but weren't sufficient to achieve the objectives. This is important for guiding the future management responses: in the first situation efforts to complete the actions would be redoubled; in the second new actions would need to be identified.

Each of the Action Plan sections in the proceeding pages contains measurable targets for management action implementation and describes the performance monitoring that will be carried out for the different species and habitats. This monitoring will largely be delivered by the AIGCFD, though volunteers and external partners will also be involved.

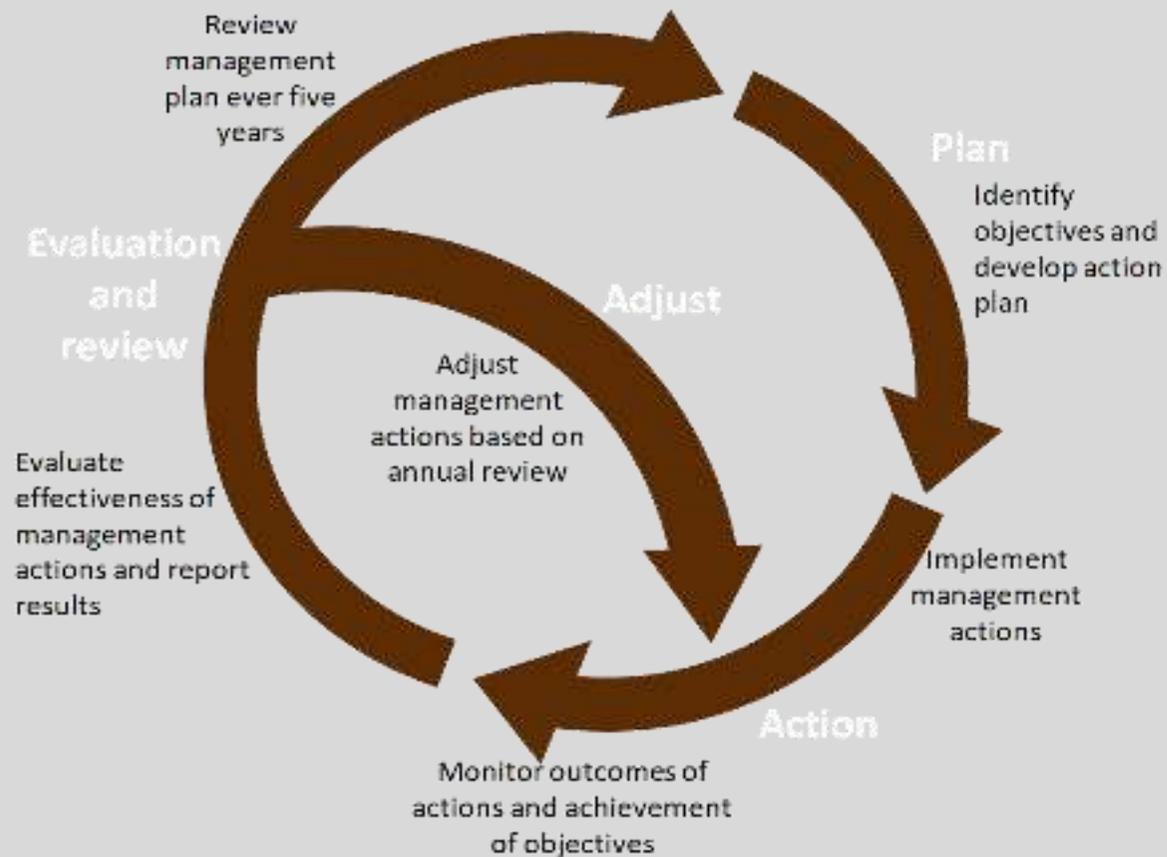
The focus of monitoring effort will be areas where information will lead to better management decisions through an adaptive management process (diagram opposite). Monitoring and research can consume considerable resources and so this must be justified by asking:

- Would management be altered depending on the results of the monitoring or research? and
- How big a benefit would that change bring in terms of achieving the MPA's objectives?

Obtaining the information is not sufficient in itself. The results of monitoring need to be evaluated and used to report progress and guide management. This requires a culture of openness and a willingness to alter established management practices where they are not working. Each year a 'state of Ascension's biodiversity' and a summary of progress against management actions will be published by AIG Conservation. These will be brief documents, but provide enough detail to identify trends and refine management actions. Every five years this NBSAP and the actions it contains will be reviewed against the results of performance monitoring and recent research to ensure the actions being taken are the right ones to counter all threats that can be addressed.

Adaptive Management

Adaptive management is the process by which the success of a management action is monitored as it is being carried out and the results used to improve management by either reconsidering or refining the action in the future. It is an iterative process with many cycles of implementation, evaluation and review.



Effective Adaptive Management requires good monitoring and a willingness to act on the results, even if this means altering or abandoning existing practices.

References

Acorn Tourism; Smith, N. (2019). South Atlantic Natural Capital Project; Ascension Island Tourism Report. JNCC. UK

Choat and Robinson

David K A Barnes Chester J Sands Ness Smith (2019). Ascension Island Natural Capital Assessment: Valuation of carbon storage, sequestration and social cost by benthos in Ascension Island's EEZ . JNCC. UK

Joana Canelas, Robert Fish, Dimitrios Bormpoudakis, Ness Smith. (2019). South Atlantic Natural Capital Project: Cultural Ecosystem Services on Ascension Island . JNCC. UK

Giulia La Bianca, Heidi Tillin, Ben Hodgson, Gabriel Erni-Cassola, Kerry Howell, Sian Rees (2019). Ascension Island—Natural Capital Assessment. JNCC. UK

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Scientific names of species



Plants

Ascension parsley fern	<i>Anogramma ascensionis</i>
Ascension spleenwort	<i>Asplenium ascensionis</i>
Ascension spurge	<i>Euphorbia organoides</i>
Bermudan cedar	<i>Juniperus bermudiana</i>
Australian pine	<i>Casuarina equisetifolia</i>
Guava	<i>Psidium guajava</i>
Purple fern	<i>Ptisana purpurascens</i>
Mexican thorn	<i>Prosopis juliflora</i>
Feather fern	<i>Pteris adscensionis</i>
Hedgehog grass	<i>Sporobolus caespitosus</i>
Moss fern	<i>Stenogrammitis ascensionensis</i>
Yellowboy	<i>Tecoma stans</i>



Invertebrates

Black coral	<i>Tanacetipathes sp.</i>
Black fan coral	<i>Antipathella wollastoni</i>
Coralline algae assemblage	e.g. <i>Mesophyllum brachycladum</i> , <i>Neogoniolithon mamillosum</i>
Giant pseudoscorpion	<i>Garypus titanius</i>
Green wire coral	<i>Stichopathes occidentalis</i>
Land crab	<i>Johngarthia lagostoma</i>
Lophelia coral	<i>Lophelia cf. pertusa</i>
Procaris shrimp	<i>Procaris ascensionis</i>
Spiny lobster	<i>Panulirus echinatus</i>
Typhlatya shrimp	<i>Typhlatya rogersi</i>



Birds

Ascension frigatebird	<i>Fregata aquila</i>
Black noddy	<i>Anous minutus</i>
Ascension parsley fern	<i>Anogramma ascensionis</i>
Brown booby	<i>Sula leucogaster</i>
Brown noddy	<i>Anous stolidus</i>
Fairy tern	<i>Gygis alba</i>
Masked Booby	<i>Sula dactylatra</i>
Myna bird	<i>Acridotheres tristis</i>
Red-billed tropicbird	<i>Phaethon aethereus</i>
Red-footed booby	<i>Sula sula</i>
Sooty tern	<i>Oncychoprion fuscatus</i>
Storm petrel	<i>Oceanodroma spp.</i>
Yellow-billed tropicbird	<i>Phaethon lepturus</i>



Mammals

Bottlenose dolphin	<i>Turipos truncatus</i>
Cat (feral)	<i>Felis catus</i>
Goat	<i>Capra aegagrus hircus</i>
House mouse	<i>Mus musculus</i>
Humpback whale	<i>Megaptera novaeangliae</i>
Pantropical spotted dolphin	<i>Stenella attenuata</i>
Rabbit	<i>Oryctolagus cuniculus</i>
Black rat	<i>Rattus rattus</i>



Reptiles

Brown anole lizard	<i>Anolis sagrei</i>
Green turtle	<i>Chelonia mydas</i>
Hawksbill turtle	<i>Eretmochelys imbricata</i>
Leatherback turtle	<i>Dermochelys coriacea</i>



Fish

Ascension goby	<i>Priolepis ascensionis</i>
Ascension hawkfish	<i>Amblycirrhitus earnshawi</i>
Ascension red scorpionfish	<i>Scorpaena insularis</i>
Ascension scorpionfish	<i>Scorpaena ascensionis</i>
Ascension seabream	<i>Diplodus sargus ascensionis</i>
Ascension seaperch	<i>Holanthias caudalis</i>
Ascension snake eel	<i>Ichthyapus insularis</i>
Ascension tonguefish	<i>Symphurus lubbocki</i>
Ascension triplefin	<i>Helcogramma ascensionis</i>
Ascension wrasse	<i>Thalassoma ascensionis</i>
Atlantic goliath grouper	<i>Epinephelus itajara</i>
Auxiliary spot cardinalfish	<i>Apogon axillaris</i>
Bigeye thresher shark	<i>Alopias superciliosus</i>
Bigeye tuna	<i>Thunnus obesus</i>
Black triggerfish	<i>Melichthys niger</i>
Blue shark	<i>Prionace glauca</i>
Blue marlin	<i>Makaira nigricans</i>
Bluntnose sixgill shark	<i>Hexanchus griseus</i>
Broadbanded moray	<i>Channomuraena vittata</i>
Cookie cutter shark	<i>Isistius brasiliensis</i>
Crocodile shark	<i>Pseudocarcharias kamoharai</i>
Devil ray	<i>Mobula tarapacana</i>
Dog snapper	<i>Lutjanus jocu</i>
Dusky shark	<i>Carcharhinus obscurus</i>
Galapagos shark	<i>Carcharhinus galapagensis</i>
Glasseye snapper	<i>Heteropriacanthus cruentatus</i>
Grattan scorpionfish	<i>Scorpaena grattanica</i>
Hammerhead shark	<i>Sphyrna spp.</i>
Hedgehog butterfly fish	<i>Prognathodes dichrous</i>
Ascension swallowtail	<i>Holanthias caudalis</i>
Island hogfish	<i>Bodianus insularis</i>
Keeltail needlefish	<i>Platybelone argalus</i>

Manta ray	<i>Mobula sp.</i>
Marmalade razorfish	<i>Xyrichtys blanchardi</i>
Mottled blenny	<i>Scartella nuchifilis</i>
Oceanic whitetip shark	<i>Cacharhinus longimanus</i>
Pygmy shark	<i>Eurotomiscrus bispinatus</i>
Rainbow runner	<i>Elagatis bipinnulata</i>
Resplendent angelfish	<i>Centropyge resplendens</i>
Rockhind grouper	<i>Epinephelus adscensionis</i>
Sailfish	<i>Istiophorus platypterus</i>
Shortfin mako shark	<i>Isurus oxyrinchus</i>
Silky shark	<i>Carcharhinus falciformis</i>
St Helena butterfly fish	<i>Chaetodon sanctaehelenae</i>
St Helena deepwater scorpionfish	<i>Pontinus nigropunctatus</i>
St Helena flounder	<i>Bothus mellissi</i>
St Helena seaperch	<i>Serranus sanctaehelenae</i>
St Helena sharpnose pufferfish	<i>Canthigaster sanctaehelenae</i>
St Helena wrasse	<i>Thalassoma sanctaehelenae</i>
Strigate parrotfish	<i>Sparisoma strigatum</i>
Swordfish	<i>Xiphias gladius</i>
Textile blenny	<i>Entomacrodus textilis</i>
Tiger shark	<i>Galeocerdo cuvier</i>
Wahoo	<i>Acanthocybium solandri</i>
Whale shark	<i>Rhincodon typus</i>
White Spotted Moray	<i>Muraena pavonina</i>
Yellow razorfish	<i>Xyrichtys sanctaehelenae</i>
Yellow Spotted Moray	<i>Gymnothorax moringa</i>
Yellowfin tuna	<i>Thunnus albacares</i>
Yellowtail damselfish	<i>Stegastes lubbocki</i>



