

Biodiversity Action Plan for South Georgia & the South Sandwich Islands

2016-2020



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Recommended citation: Government of South Georgia & the South Sandwich Islands (2016)
Biodiversity Action Plan for South Georgia & the South Sandwich Islands 2016-2020.
Government House, Stanley, Falkland Islands

Cover photo credit: Andy Black

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Introduction

Background

South Georgia & the South Sandwich Islands (SGSSI) is a UK Overseas Territory (OT) in the South Atlantic Ocean. The island of South Georgia is situated approximately 1,450 km south-east of the Falkland Islands and 1,900 km east of the southern tip of South America. Mainland South Georgia and its offshore islands comprise a land area of 3,755 km². It is mountainous, with the majority of land over 1,000 m above sea level. Approximately 60% of the land is permanently covered with snow and ice. The South Sandwich Islands lie to the south and are a chain of eleven volcanically active islands stretching from 56° S to 59° S.



Figure 1. South Georgia at sunset (Photo: Martin Collins)

The SGSSI Maritime Zone (MZ) was declared in 1993 and extends 200 nautical miles from the baselines (the coast of South Georgia and each of the South Sandwich Islands) and occupies approximately 1.3 million km². The SGSSI Marine Protected Area (MPA), which occupies the 1.07 million km² of the MZ that lies north of 60° S, was declared in 2012. It is a sustainable use MPA and includes large no take zones in all coastal areas.

The Territory is a haven for wildlife and is home to about five million seals of four different species, 65 million breeding birds of 30 different species and 40 species of non-breeding birds. The waters surrounding the islands are an important habitat for migrating whales and are host to a vast array of marine benthic fauna. They are also rich in commercially important fish species and are important for Antarctic krill populations that are a key link in the Southern Ocean food web.

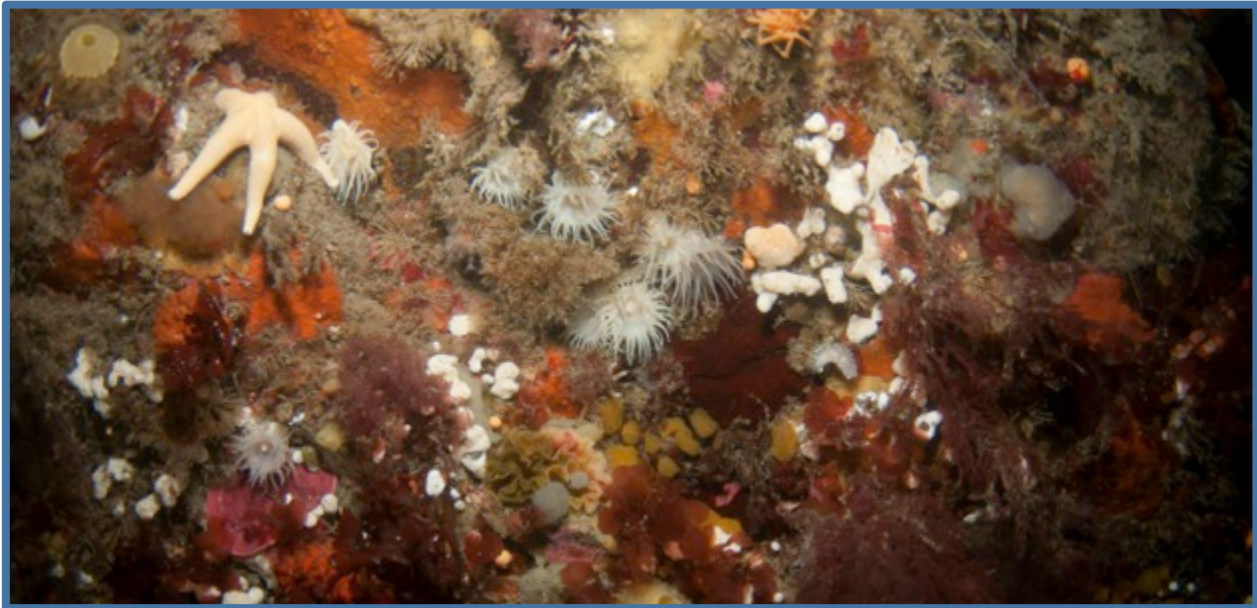


Figure 2. High biodiversity in the marine benthic environment (Photo: Shallow Marine Surveys Group)

Past human activities have had profound impacts on the flora and fauna of South Georgia. Sealing began in the late 1700s and by the early 1800s fur seal populations were severely depleted. Tens of thousands of whales were killed between 1904 and the 1960s, with over 1,000 people working on the island at the peak of the whaling industry. With so many visiting people and vessels, and the movement of supplies and equipment, numerous non-native species were either accidentally or deliberately introduced, the most devastating being brown rats and reindeer.

Current status

There is no resident human population on South Georgia although there is a settlement at King Edward Point that hosts the administration of the island, a scientific base operated by the British Antarctic Survey (BAS) and a museum run by the South Georgia Heritage Trust (SGHT). Approximately 13 personnel are resident at King Edward Point in the winter months, but in the summer months that number can double.

A second BAS base is situated on Bird Island, off the north-western tip of mainland South Georgia. It has a complement of four personnel in the winter months and up to 10 in the summer months. The South Sandwich Islands are unpopulated and receive infrequent visits from yachts and small cruise ships.

The main activities within SGSSI are fishing, tourism and science. Within the MZ, fisheries are managed to the highest international standards in one of the world's largest sustainable use MPAs. The South Georgia Patagonian toothfish fishery has been certified as being sustainably managed by the Marine Stewardship Council (MSC), since 2004. The largest operators in the icefish and krill fisheries have also received certification from the MSC.

Approximately 7,000 tourists visit SGSSI each year. Cruise ship operators are all members of the International Association of Antarctic Tour Operators (IAATO) and landings are limited to designated Visitor Landing Sites. A range of science activities are also routinely carried out on

South Georgia. A particular emphasis is placed on the monitoring of seabird, seals and fish stocks, providing information that is useful for the continued sustainable management of the marine environment. A small number of adventurous expeditions visit the island's interior annually.

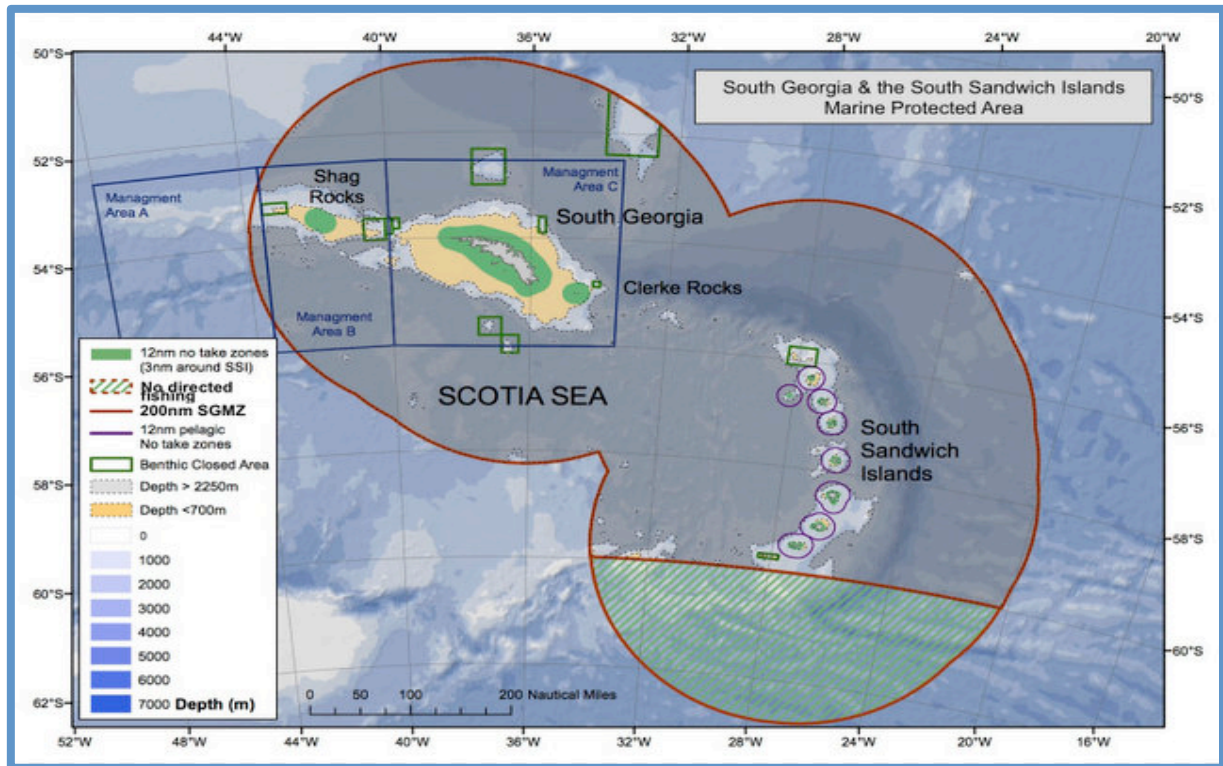


Figure 3. The SGSSI Marine Protected Area

SGSSI is administered by the Government of South Georgia & the South Sandwich Islands (GSGSSI); a small team based in Stanley, Falkland Islands, and three Government Officers, working on rotation, at KEP. GSGSSI is financially self-sufficient with annual revenue of around £6 million. This is derived from fishing licences, tourist landing fees and the sale of stamps and commemorative coins. Revenue is primarily spent on environmental management fisheries research and protection, and government administration.

Environmental planning

Conserving the environment of SGSSI is central to all activities in the Territory. The past five years in particular have seen major advances in the management and protection of the environment of the islands. The enactment of the Wildlife & Protected Areas (WPA) Ordinance in 2011 was followed by the creation of the MPA in 2012. The completion in 2015 of projects to eradicate rodents and reindeer appear to have been successful and there are already indications that native habitats and species are starting to recover.

Ensuring that these high standards of stewardship continue and that SGSSI remains at the forefront of environmental management best practice, is more important than ever, especially against a backdrop of a changing climate and increasing human visitation.

Vision statement

To work in partnership with experts and stakeholders in the UK and the rest of the world to conserve the biodiversity and ecosystem function of the South Georgia & the South Sandwich Islands' environment for the benefit of all human kind, and to facilitate responsible access, ensuring that the Territory remains at the forefront of cutting-edge environmental management best practice.



Figure 4. The flag flies high at King Edward Point (Photo: Matthew Phillips)

Goal and Objectives

Overall goal

The overall goal of environmental management on SGSSI is to conserve the Territory's environment, minimise human impacts and, where practicable, restore the native biodiversity and habitats.

This plan seeks to ensure that species and habitats receive adequate protection and that all current and future activities in the Territory are managed sustainably and with the interests of protecting the environment at their heart.

Objectives

This National Biodiversity Action Plan has the following main objectives which were identified in the overarching South Georgia & the South Sandwich Islands Strategy 2016-2020:

1. Integrate principles of environmental sustainability into Government policies and ensure that environmental management practices are fully transparent and conform to, or exceed, global standards.
2. Increase SGSSI's environmental global reach through collaboration and knowledge sharing with our stakeholders.
3. Ensure that our obligations under multilateral environmental agreements are met.
4. Develop standardised environmental assessment procedures which are scalable and commensurate with the potential impact the activity may have on the environment.
5. Enhance knowledge of the biodiversity and habitats of SGSSI through research, monitoring and review, including the establishment of scientific baselines from which to assess environmental change including the potential effects of climate change.
6. Effectively manage non-native species and work along the entire biosecurity continuum to implement best practice biosecurity protocols, post-border monitoring and emergency response measures.
7. Adopting an evidence-based approach and using the best available data, ensure appropriate protection of the terrestrial and marine environments through a suite of protected areas, ensuring that activities are managed sustainably and with minimal impacts on the environment.
8. Understand and, where possible, mitigate the risks from substances that have the potential to harm the environment such as heavy fuel oil and pollutants present in old whaling stations.

Implementation

The implementation period for this plan is five years and is designed to mirror the time frame of the overarching South Georgia & the South Sandwich Islands Strategy 2016-2020.

Activities within the plan can be divided into three categories:

- activities which are currently under way and for which resources have already been allocated;
- activities which will be directly supported by GSGSSI from core funds, but for which no specific resources have yet been allocated;
- activities which will only take place if external funding can be sourced.

A full breakdown of all actions, their current resource allocation, the timescale on which they will be delivered and who is responsible for their delivery, can be found in the Activities Plan (see page 35).

Where external resources are required in order to complete an action, priority will be given to identifying suitable funding streams. The type of funding available will depend on the nature of the action but may include: UK Darwin funding, EU voluntary scheme for Biodiversity and Ecosystem Services in Territories of European overseas (BEST) (sic) funding, collaborative project or match funding from foreign governments, non-governmental organisations or industry.

At the end of the implementation period, GSGSSI will commission an assessment of its achievements against the original stated objectives. This will be used as the basis for drafting the activity plan for the following five-year period.

Objective 1: Integrate principles of environmental sustainability into Government policies and ensure that environmental management practices are fully transparent and conform to, or exceed, global standards

Environmental stewardship and sustainability are central to the way in which GSGSSI administers the Territory. Conservation values are embodied in the SGSSI Strategy 2016 – 2020. It provides “a framework to guide the future direction of South Georgia & the South Sandwich Islands” and is therefore the overarching framework under which the National Biodiversity Action Plan sits. As other planning documents are developed, the environmental vision of the Territory will be taken into account.

GSGSSI will strive for transparency and work closely with stakeholders to ensure they are consulted and informed about conservation projects and environmental management in the Territory. Where appropriate, information will be made available on-line. Expert review will be sought on major projects to ensure that environmental management practices are fit for purpose and conform to, or exceed, global standards.



Figure 5. Iris Peninsula from the air (Photo: Jennifer Lee)

Planned activities:

1.1 Ensure that all future legislation and policies that relate to economic and infrastructure developments do not have significant negative impact on biodiversity.

1.1.1 Planned infrastructure maintenance work at King Edward Point and Bird Island will be subject to an annual environmental assessment.

1.1.2 Any opening of new visitor landing sites or changes in use of existing visitor sites will be preceded by an environmental assessment.

- 1.1.3 Any science or media activity that requires installation of equipment on land or at sea, or that will require an overnight stay ashore anywhere other than at a research station will be preceded by an environmental assessment.
- 1.1.4 Any development which has a major impact on the existing footprint of operations in the Territory will be preceded by an externally reviewed environmental assessment.
- 1.1.5 The policy of not permitting activities such as mineral and hydrocarbon extraction will be continued.
- 1.2 *The mechanisms and impacts of climate change will be factored into the decision making process and, where possible, action will be taken to reduce the carbon footprint of GSGSSI operations.*
- 1.2.1 Where possible, power in the Territory will be from renewable sources. At King Edward Point, hydroelectric power will be maintained as the main source of power and diesel generators will only be used as a reserve power source.
- 1.2.2 Economical, fuel-efficient travel will be a requirement for the fisheries patrol vessel *Pharos SG* during routine transit.
- 1.2.3 Waste management for all elements of operations at King Edward Point and Bird Island will be reviewed in collaboration with BAS. Waste streams will be mapped, options for reduction of waste identified, and handling and disposal options reviewed to ensure they reflect best practice.
- 1.2.4 The environmental footprint of GSGSSI operations in Stanley will be reviewed, and an energy policy will be developed.

Objective 2: Increase SGSSI’s environmental global reach through collaboration and knowledge sharing with our stakeholders

Engaging with a broad range of experts and stakeholders is vital to ensure that local policies are fit for purpose and that the high standards of environmental stewardship within the Territory are showcased. South Georgia’s glaciated landscape and its position on the edge of the polar front means the ecological communities may be particularly sensitive to the impacts of climate change. Being aware of this global issue, and acting to minimise carbon emissions at a local level is vital.

GSGSSI will continue to liaise closely with UK government departments which are engaged in work with the Overseas Territories. These include the:

- Foreign and Commonwealth Office (FCO);
- Department for Environment, Food and Rural Affairs (DEFRA);
- Joint Nature Conservation Committee (JNCC);
- Department for Business, Innovation and Skills (BIS);
- Department for Energy and Climate Change (DECC);
- Department for International Development (DFID).

GSGSSI staff based in Stanley have a close working relationship and knowledge exchange with the Falkland Island Government and other organisations operating throughout the South Atlantic region. They will seek to build on these relationships and also engage with the governments of other countries who have an interest in the sub-Antarctic region.

Recognising the important role non-governmental organisations have had in protecting South Georgia’s biodiversity, GSGSSI will strive to ensure that this community stays informed about plans and progress and will seek to identify opportunities for future collaboration as appropriate.



Figure 6. Government House, Falkland Islands (Photo: Colette Bassford)

Planned activities:

2.1 *Maintain a close, working relationship on biodiversity and conservation related issues with relevant UK government departments, governments of other sub-Antarctic territories and non-governmental organisations.*

2.1.1 Regular dialogue with the UK government departments and governments of other sub-Antarctic Territories will be maintained to discuss progress and delivery of environmental management objectives.

2.1.2 An annual stakeholder meeting will be held to provide an opportunity for wider consultation and to ensure transparency in major GSGSSI policy decisions.

2.1.3 The opportunity to form special interest groups will be provided if an issue which warrants further discussion is identified in the annual stakeholder meeting.

2.2 *Raise awareness of the global importance of SGSSI biodiversity amongst the international community with a particular emphasis on those based in the UK, European Union and Falkland Islands.*

2.2.1 An outreach plan will be produced which will identify opportunities to engage target audiences on environmental and conservation issues through a variety of media.

2.2.2 Media projects which promote SGSSI biodiversity to target audiences will be encouraged. Where appropriate, assistance will be given in planning and implementing such projects.

2.2.3 The environment and wildlife pages on the GSGSSI website will be expanded and kept updated.

2.2.4 GSGSSI staff, and those working on environmental and conservation projects on the islands, will be encouraged to attend local and international meetings which provide opportunities to share their work and raise awareness of SGSSI biodiversity with a wider audience.

Objective 3: Ensure that our obligations under multilateral environmental agreements are met

A range of multilateral environmental agreements are extended to SGSSI. These include the:

- Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR);
- Convention on Migratory Species (under which the Agreement on the Conservation of Albatrosses and Petrels (ACAP) is a part);
- Convention on Biological Diversity (CBD);
- London Convention on the prevention of Marine Pollution;
- Ramsar Convention on conservation of wetlands;
- United Nations Convention on the Law of the Sea (UNCLOS);
- Vienna Convention for the Protection of the Ozone Layer;
- Aarhus Convention.

A full description of all international agreements which apply to SGSSI is at Annex 1. All require policy actions and constant vigilance to ensure that activities within the Territory are compliant. However, because of SGSSI's unique flora and fauna, and globally important populations of threatened species, particular focus is needed to develop action plans for the implementation of treaties that directly concern the protection of biodiversity.



Figure 7. Wandering albatross (Photo: Andy Black)

Planned activities:

3.1. *Convention on the Conservation of Antarctic Marine Living Resources*

- 3.1.1. Manage SGSSI fisheries in a precautionary manner, to the highest international standards and consistent with all CCAMLR requirements, to ensure long-term sustainability.

- 3.1.2. Support the UK delegation to CCAMLR to represent SGSSI's interests and promote the highest standards of marine management and conservation in the South Scotia Sea and wider Southern Ocean, by means including continued MSC certification and fisheries management plans.
- 3.1.3. Continue to rigorously implement and further enhance mitigation measures to avoid the incidental mortality of seabirds, including working ACAP to prompt action in other jurisdictions visited by South Georgia seabird populations.

3.2. Convention on Migratory species

- 3.2.1. Provide the UK with all information necessary to compile its national report to the Convention on Migratory Species.
- 3.2.2. Review the plan for the implementation of the Agreement in the Conservation of Albatross and Petrels (ACAP) on South Georgia on a regular (5-year) basis.
- 3.2.3. Undertake actions described in the ACAP implementation plan and report as required to the ACAP secretariat.
- 3.2.4. In light of on-going population declines, develop species action plans for black-browed, grey-headed and wandering albatross.
- 3.2.5. Strive to better understand the population dynamics of cetacean populations in the Territory by developing monitoring programmes and photo-identification catalogues and ensuring these data are available to concerned nations and scientists.

3.3. Convention on Biological Diversity

- 3.3.1. Provide the UK with all information necessary to compile its national report to the Convention on Biological Diversity.
- 3.3.2. As far as practical, support the UK in achieving Aichi targets through implementation of this Biodiversity Action Plan (see Annex 2).
- 3.3.3. Work towards ensuring that GSGSSI policy, procedures and legal framework are consistent with the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization.
- 3.3.4. Remain vigilant to conservation threats and develop species action plans as appropriate.

Objective 4. Develop standardised environmental assessment procedures which are scalable and commensurate with the potential impact the activity may have on the environment.

In a rapidly changing world, and with the constant development and refinement of environmental management practices, it is vital that actions undertaken on SGSSI are transparent and reflect global best practice. It is vital in order to safeguard the Territory's biodiversity that all projects, both large and small, account in advance for any impact on the environment that may occur. Procedures to develop assessment procedures that are scalable and commensurate with the potential impacts of activities will be key in ensuring that small projects are not delayed by unnecessary bureaucracy, and large projects are subject to an appropriate level of external scrutiny in order to ensure the highest standards of environmental sustainability are upheld.

GSGSSI will work with organisations such as DEFRA to establish a framework under which environmental assessments will be conducted. A system which recognises the unique opportunities and challenges of the SGSSI environment will be developed. It will take the best of international practice, ensuring it is adapted for the SGSSI context. Clear and transparent guidelines will be made available stakeholders.

Engaging with experts to ensure that environmental assessments for larger projects will ensure that the highest standards are maintained. Experts will be selected that have demonstrable experience in the relevant field and/or direct knowledge of the South Georgia environment



Figure 8. A diverse range of ecotypes in close proximity makes robust Environmental Assessments essential

Planned activities:

- 4.1. Review current practices and ensure environmental assessment procedures and mitigation measures are fit for purpose*
- 4.1.1. Review existing environmental assessment procedures in place for use in SGSSI (including those used by BAS and GSGSSI) and liaise with other bodies such as DEFRA to determine best practice.
 - 4.1.2. Create a revised environmental impact assessment procedure with standard on-line documentation to assist applicants.
 - 4.1.3. Work with appropriate independent experts to review any development which has a major impact on the existing footprint of operations, and/or that have a potential to have a major impact on the environment, to ensure best practice standards are upheld.
 - 4.1.4. Consider if any additional legislation is required in order to support revised environmental assessment procedures.

Objective 5: Enhance knowledge of the biodiversity and habitats of SGSSI through research, monitoring and review, including the establishment of scientific baselines from which to assess environmental change, including the potential effects of climate change.

Improving knowledge of flora and fauna both at a species and community level is fundamental to protecting biodiversity and ecosystem function in the Territory. Co-ordinated, systematic surveys to gather information on the distribution and extent of biota will allow the establishment of baselines against which to measure future change.

Whilst there are on-going studies on seals, seabirds and commercial fish species, other groups such as plants and terrestrial and marine invertebrates are less well understood. Developing habitat maps and comprehensive species lists is a vital step in producing an inventory of biodiversity in the Territory and allowing adequate protection. With the development of improved remote sensing technologies, large areas can be surveyed with minimal environmental footprint or disturbance to wildlife.

In a time of unprecedented change in terrestrial communities as a result of the eradication of destructive invasive species, there is a need to monitor how the communities respond. It is hoped that populations of native burrowing seabirds, the pintail duck and the endemic South Georgia pipit will increase substantially but it is not known how quickly this change will happen and if it will happen across all species and all areas.



Figure 9. The iconic South Georgia pipit (Photo: Jennifer Lee)

Herbicide control of non-native plants also has the potential to impact community composition. A key part of adaptive management is to document the impact of different types of herbicide and to note what species grow back in an area that has been treated. This data will form part of a resource that is useful not only to SGSSI but also to other UK Overseas Territories and remote island communities which are embarking on non-native plant control initiatives.

Planned activities:

5.1 Improve understanding of the flora and fauna of the Territory

- 5.1.1 Improve taxonomic understanding and work with experts to develop identification guides for understudied taxa such as invertebrates.
- 5.1.2 Identification and investigation of species in both marine and terrestrial habitats that can be used as a barometer for change in respect of management interventions.
- 5.1.3 Utilisation of new technologies and remote sensing techniques that maximise understanding of the Territory's flora and fauna with minimal impact on the environment.
- 5.1.4 Encourage scientists who can improve knowledge of less well-studied taxa to visit the Territory and ensure that this information legacy remains accessible.
- 5.1.5 Improve baseline data on benthic habitats (including those in benthic closed areas) and intertidal zones to underpin management of protected areas.
- 5.1.6 Produce a guide to the marine life of SGSSI

5.2 Monitor the recovery of habitats and biodiversity following restoration projects and management interventions

- 5.2.1 Development of long term monitoring sites to track the recovery of bird species, and particularly burrowing seabird populations following the eradication of rats, mice and reindeer.
- 5.2.2 Development of long term monitoring sites to monitor the changes in coastal vegetation communities following the eradication of reindeer.
- 5.2.3 Use of remote sensing technology to map vegetation communities and coastal marine habitats on a landscape scale for future use as a baseline against which large scale change in response to eradication efforts and climate change can be measured.
- 5.2.4 Develop monitoring protocols to facilitate the documentation of changes in vegetation community composition as a consequence of herbicide application and non-native plant control.

Objective 6: Effectively manage non-native species and work along the entire biosecurity continuum to deliver best practice biosecurity protocols, post-boarder monitoring and emergency response measures

In the last five-years there have been major initiatives to eradicate invasive mammals from South Georgia. The South Georgia Heritage Trust (SGHT) programme to eradicate rats and mice by dropping poison laced cereal bait pellets from helicopters is the largest project of its type ever undertaken globally. In addition, GSGSSI has undertaken a project to eradicate the two herds of reindeer from South Georgia which, in the first year, employed a combination of herding and ground shooting, and, in subsequent years, ground shooting only to kill 6,750 reindeer. Early signs are that the vegetation is making a speedy recovery.



Figure 10. Reindeer at Ocean Harbour (Photo: Martin Collins)

Although it may be some years before it is known if the SGHT project has been successful, ensuring that rodents are not able to return is essential. Stringent biosecurity must be in place on all vessels that visit South Georgia.

Following a rodent incursion at King Edward Point in 2014, the Island Eradication Advisory Group provided feedback on a review of biosecurity practices in relation to rodents. This advice has been adopted and incorporated into future GSGSSI plans. To ensure the highest standards are upheld, biosecurity protocols will continue to be reviewed on a regular basis with expert advice sought as appropriate. Forging strong links with partner organisations in gateway ports such as Stanley, Falkland Islands, is an important step to help prevent invasive species becoming entrained in the South Georgia supply chain.

Good progress has been made with the eradication of invasive mammals but now the longer and more difficult task of controlling non-native plants is ahead. Two years' funding was awarded in 2014 from the Darwin Plus initiative to allow the development of a non-native plant

management plan and to ensure that procedures are in place to continue this work longer term. Key elements to the success of the non-native plant management plan will be determining the distribution and abundance of non-native plants, their traits and potential for spread, and the likely impacts if not properly managed. It was also aimed at establishing procedures to prevent the arrival of new species and to provide for rapid action should a biosecurity breach occur.

Approximately 60 vessels visit South Georgia each year, many having previously been in harbours known to have populations of marine invasive species. Little is known about the risk of these species being transported to and establishing in South Georgia. Understanding this is fundamental to developing an effective mitigation strategy.

The challenges of eradicating a non-native invertebrate species which has already established in the South Georgia environment would be significant, but improving understanding of their extents and impacts will help restrict their further spread and limit their impact on native biota.

Planned activities

6.1 Ensure that biosecurity protocols are reviewed and, where possible, improved particularly in respect of rats and mice

- 6.1.1 Consolidate existing biosecurity policies and protocols into a biosecurity handbook that is available online.
- 6.1.2 Conduct an annual biosecurity review which covers all elements of the logistic activities on SGSSI. Complete action points raised in a timely manner and update the biosecurity handbook as necessary.
- 6.1.3 Review protocols for all vessels visiting the Territory to ensure consistency of biosecurity standards, particularly with regard to rats and mice.
- 6.1.4 Review and improve cargo handling procedures and facilities to further reduce the risk of rodents and other non-native species being transported into the Territory.
- 6.1.5 Work with the Falkland Island Government to investigate the feasibility of the use of a rodent detection dog based in the Falkland Islands for pre-border biosecurity screening on vessels.
- 6.1.6 Install additional rodent monitoring devices at visitor landing sites and jetties at King Edward Point and Grytviken as necessary.
- 6.1.7 Ensure all visitors are briefed on and act in accordance with biosecurity procedures by providing the necessary information, equipment and other means they need to avoid introducing non-natives species or transmitting diseases.
- 6.1.8 Make all visitors aware of what actions that should be taken if they witness or suspect that a biosecurity breach or rodent incursion has occurred.
- 6.1.9 Solicit independent expert review of biosecurity protocols every 5-years to ensure that best practice is being maintained.

6.2 Strengthen ties and share knowledge on best biosecurity practice with gateway ports so as to best protect the biodiversity of the Territory

6.2.1 Work with the Falkland Island Government and HM armed forces to improve biosecurity arrangements at gateway ports. As appropriate provide them and with DOC200 traps to reduce abundance of rodents at port facilities.

6.2.2 Participate in local and regional workshops that relate to biosecurity.

6.2.3 Maintain regular contact with the Falkland Islands Government Department of Agriculture to share knowledge on emerging threats and possible mitigation measures.

6.3 Develop a non-native plant management strategy, identifying which, if any, species could be eradicated and which should be controlled

6.3.1 Complete non-native plant surveys of coastal regions of the Territory, giving priority to areas which have a history of sustained human presence i.e. King Edward Point, the former whaling stations at Grytviken, Stromness, Leith, Husvik, Prince Olav Harbour; parts of the Barff and Green peninsulas and Moltke Harbour.

6.3.2 Identify key performance indicators and publish a non-native plant management strategy and associated environmental assessment on the GSGSSI website and distribute to interested stakeholders.

6.3.3 Undertake a programme of herbicide control for species which have been identified as a priority for control in the non-native plant management strategy, publishing an annual update on progress.

6.3.4 Develop an early detection, rapid response strategy which can be implemented to prevent further spread should a new species be detected.

6.3.5 Ensure that the database which contains information about the non-native plant control efforts on South Georgia is available online.

6.3.6 Build capacity to ensure that a group of trained and appropriately experienced workers with the appropriate skill base is available to the project in the future.



Figure 11. Herbicide control of invasive bittercress (Photo: Jennifer Lee)

6.4 Risk assessment and monitoring for non-native species in the marine environment

- 6.4.1 Identify project partners who can assist in undertaking a risk assessment of the potential for marine non-native species introduction on South Georgia.
- 6.4.2 Review existing information on native and non-native marine species in South Georgia and at gateway ports including the potential impact of non-native species.
- 6.4.3 Undertake a pathway analysis to better understand how non-native marine species may enter and move around within the Territory
- 6.4.4 Work with experts and stakeholders to identify practical, effective mitigation measures and, as appropriate, put them in to effect.

6.5 Improve understanding of the extent of non-native invertebrate species and prevent further spread

- 6.5.1 Identify project partners with suitable taxonomic expertise on invertebrate fauna. Work together to conduct field surveys at sites around SGSSI.
- 6.5.2 Produce a map showing distributions of non-native invertebrate species. Identify un-invaded sites that would benefit from additional protection.

Objective 7: Adopting an evidence-based approach and using the best available data, ensure appropriate protection of the terrestrial and marine environments through a suite of protected areas, ensuring that activities are managed sustainably and with minimal impacts on the environment

Although rugged and difficult to access, the terrestrial environment of SGSSI is vulnerable. The highest biodiversity and biomass is found at the coastal margins where rich tussac grasslands and aggregations of breeding birds and seals are found. Further inland, vegetation is sparser, but large colonies of burrow nesting seabirds can be found on steep scree slopes and un-vegetated areas. These habitats are susceptible to damage from trampling and the breeding colonies of birds can be easily disturbed by human presence.

Visitors make an important contribution to the Territory and tourism has the potential to create ambassadors for the wildlife and wilderness values which GSGSSI upholds. The variety of activities undertaken by visitors ranges from routine landings at recognised landing sites to adventurous expeditions to the island's interior. It is important to engage with these user groups to ensure that the environment is appropriately protected whilst still allowing safe and responsible access.



Figure 12. Visitors from a cruise ship enjoying an extended walk (Photo: Martin Collins)

A range of specially protected areas were identified in the 2005 *Plan for Progress*, but have not been established in law. A priority for the next five years will be to work with stakeholders to identify locations which should be declared as Protected Areas under the Wildlife and Protected Areas Ordinance (2011). An evidence-based approach will be used, incorporating the best available scientific data on the spatial and temporal distribution of biota and the risks that they face. Expert opinion on effective management options. It is envisaged that different categories of protected area will be established, with SGSSI's entire terrestrial environment legally protected in some form.

The South Georgia and South Sandwich Islands MPA was declared on 23 February 2012 as part of an on-going programme of sustainable management of the Territory. It has an area of 1.07 million km² and is sustainably managed (IUCN Category VI) and designed to ensure the protection and conservation of the region's rich and diverse marine life. No take zones (IUCN Category 1) totalling 20,431 km² were created in the coastal zones around South Georgia, Clerke Rocks, Shag and Black Rocks, and the South Sandwich Islands. Further environmental protection within the MPA was announced in June 2013. Measures included a ban on bottom fishing at depths less than 700 m and deeper than 2,250 m, additional benthic closed areas in the depths fished for toothfish, a seasonal closure of the Antarctic krill fishery and a 12 nm pelagic closed area around each of the South Sandwich Islands. It will be important to regularly review the provisions of the MPA to ensure that it remains fit for purpose and in accordance with the management plan.

Planned activities

7.1 Adopt a collaborative, precautionary approach to visitor management, working with user groups to establish a monitoring programme. Use this information to develop revised visitor management plans

7.1.1 Establish baseline information on how visitors use terrestrial areas on South Georgia by gathering data on the current spatial extent of operations, including visitors engaged in tourism activities, expeditions and personnel based at King Edward Point who are undertaking recreational travel.

7.1.2 Establish monitoring sites at locations that receive different levels of visitation and visitors engaged in different types of activity in order to collect data needed to inform revised management plans.

7.1.3 In consultation with IAATO and other stake-holders, develop management policy and revise site-specific management plans taking into account of the important benefits and potential impacts of tourism in Territory.

7.1.4 Establish a contract for the development and maintenance of the South Georgia GIS as a multi-purpose, cross-cutting environmental management tool.

7.2 Develop a suite of terrestrial Protected Areas and the associated management plans

7.2.1 Collate and update the biodiversity, heritage, wilderness, tourism and science site data that are needed for the protected areas decision making process.

7.2.2 Develop a Protected Area framework and associated management plans.

7.2.3 New Protected Areas to be enshrined in law under the Wildlife and Protected Areas Ordinance (2011).

7.3 *In accordance with the MPA management plan, undertake a review of the MPA in 2018 to ensure that it is fit for purpose*

- 7.3.1 Continue to monitor populations of target and by-catch fish in commercial fisheries, and manage the impact of fisheries on benthic species and habitats through science and industry collaborative research as set out in Fisheries Management Plans.
- 7.3.2 Develop programs to monitor the efficacy of benthic closed areas.
- 7.3.3 Identify new species and habitat priorities within the MPA for monitoring, particularly in data poor regions.
- 7.3.4 Maintain monitoring of krill dependent predators to ensure that the krill fishery has minimal impact on populations.
- 7.3.5 Undertake a comprehensive review in 2018 of the effectiveness of the MPA, using the best available scientific data, and consulting independent experts and stakeholders. Publish a comprehensive review with conclusions and recommendations as necessary.
- 7.3.6 Based on the MPA review, consider, as appropriate, the evidence for potential changes in the way the MPA is managed.

Objective 8. Understand and, where possible, mitigate the risks from substances that have the potential to harm the environment such as heavy fuel oil and pollutants present in old whaling stations

Although whaling ceased on South Georgia more than 50 years ago, the legacy of the whaling stations persists. They have considerable heritage value and are culturally important not only for the UK and Norway, who were the primary operators of the shore based operations, but also to a wider international audience. However, the whaling stations contain dangerous structures and harmful substances such as asbestos. Heavy fuel oil contained within storage tanks, pipe work and sunken wrecks could be especially damaging and problematic if it were to leach into the environment. As a consequence, the whaling stations are prohibited areas and special permissions, training and protective equipment are required before accessing them. This means removal of oil and other pollutants will be challenging.



Figure 13. Historic whaling stations are a hazardous environment full of harmful substances (Photo: Andy Black)

Given the isolation and challenges of undertaking remedial action against fuel spill, it is important to minimise the risk of additional pollutants being discharged into the environment. The use of heavy fuel oil south of 60° S is prohibited and as the majority of cruise ships that visit SGSSI also visit the Antarctic the majority burn only lighter fuels. However, some vessels used in the fishing industry continue to burn heavy fuel oil, which poses an on-going risk.

The derelict Argentine research station at Southern Thule, South Sandwich Islands, contains large amounts of waste metal and wood. Initial surveys suggest that there are no materials which pose an immediate hazard to wildlife, but the twisted metal and wire ropes present an entanglement hazard and detract from the wilderness values of the island. Any remedial action will be expensive and logistically complex, and would need to be carefully weighed against the benefits to the environment.

Planned activities

8.1. Remediation of risk from waste oil in whaling stations in Stromness Bay and Prince Olav Harbour

- 8.1.1. Identify suitable project partners and methodologies for removal or remediation of the risks from waste oil in whaling stations.
- 8.1.2. Undertake an assessment of the type, amount and distribution of heavy fuel oil within the whaling stations in Stromness Bay and the environmental risks associated with them.
- 8.1.3. If funding can be secured, environmental assessments and planning documentation will be developed and externally reviewed as appropriate.

8.2. Review the carriage and use of heavy fuel in the SGSSI Maritime Zone by visiting vessels

- 8.2.1. Assess the frequency with which vessels burning heavy fuel oil operate within the Territory.
- 8.2.2. Develop, in consultation with stakeholders, a plan to phase out the burning and carriage of heavy fuel.

8.3. Investigate options for removal of waste and scrap materials from Southern Thule

- 8.3.1. Conduct a feasibility study and environmental assessment on the options to remove part or all of the waste material at the old station site on Southern Thule.
- 8.3.2. Investigate options and necessity to limit visitor access to the site due to possible disturbance and hazards to human health such as unstable structures and possible chemical contaminants. Discuss options with stakeholders before implementation.



Figure 14. Chinstrap penguins make their home in the remains of the research station at South Thule (Photo: Andy Black)

Annex 1. Regulatory framework

Domestic legislation

Proclamation (Maritime Zone) 1993

In 1993, the Proclamation (Maritime Zone) established the SGSSI MZ as its inner boundaries the outer limits of the territorial sea of South Georgia and the South Sandwich Islands and its seaward boundary a line drawn so that each point on the line is 200 nautical miles from the nearest point on specified baselines. The Proclamation provides for regulation of activity in the Maritime Zone, together with the seabed and its subsoil, in accordance with relevant international laws.

Fisheries (Conservation and Management) Ordinance 1993

In 1993, the Fisheries (Conservation and Management) Ordinance was established to provide for the regulation, conservation and management of the fishing waters in the SGSSI MZ. The Ordinance gives effect to the UK Government's conservation and management obligations under CCAMLR. It also provides the framework for licensing and enforcement of fishing, and the penalties for illegal fishing. A number of restrictions are imposed including a requirement that vessels are flagged to a CCAMLR state and licensed by GSGSSI. Specific requirements include each fishing vessel carrying a vessel monitoring system, the daily reporting of catch effort and international observers being present on fishing vessels.

Wildlife and Protected Areas Ordinance 2011

The Wildlife and Protected Areas Ordinance gives comprehensive protection to the flora and fauna of SGSSI. The legislation includes:

- Protection for wild birds and mammals, native invertebrates, native plants and the habitats in which they live;
- Prohibition of introducing non-native species;
- Prohibition of inhumane methods of capturing or killing animals;
- Prohibition of possession or transport of live or dead wildlife; and
- Powers to designate and manage Specially Protected Species and Habitats, Specially Protected Areas and Marine Protected Areas.

The Marine Protected Areas Order 2013 was made under this legislation. This formally declared a marine protected area covering those parts of SGSSI MZ that are north of the 60°S degree latitude line.

International Conventions and Agreements

Convention on Biological Diversity (CBD)

This CBD aims to conserve biodiversity whilst enabling its sustainable use. It also seeks to ensure the fair and equitable sharing of benefits arising from the use of genetic resources. The agreement covers all ecosystems, species, and genetic resources. Parties to the

convention are committed to working towards the aims of the convention including the Aichi Biodiversity targets

[Convention on the Conservation of Migratory Species of Wild Animals \(CMS\)](#)

The CMS, also known as the Bonn Convention, is part of the United Nations Environment Programme. It aims to provide a global platform for the conservation and sustainable use of migratory animals and their habitats. The convention contains two annexes. Annex I lists species which are threatened with extinction and parties strive towards strict protection of these animals and conservation of their habitats and migration pathways. Annex II lists species that would significantly benefit from international co-operation in their conservation.

The Agreement on the Conservation of Albatrosses and Petrels (ACAP) is sits within the CMS framework. ACAP is a multilateral agreement that seeks to conserve albatrosses and petrels by coordinating international activity to mitigate known threats to their populations.

[Convention on the Conservation of Antarctic Marine Living Resources \(CCAMLR\)](#)

CCAMLR is based on principles of precautionary and ecosystem-based management. The underlying premise of CCAMLR is to facilitate the exploitation of marine biotic resources whilst maintaining the viability of such populations over the long term and preserving the structure and function of the Antarctic ecosystem. This is achieved by scientific and ecosystem-based management of fishing activities. Under CCAMLR there are requirements of reporting and observation of fishing activities, management of levels of harvesting and the initiation of technical measures to prevent ecosystem-wide impacts of fishing activities, such as prevention of seabird by-catch from long lines and monitoring of encounters with vulnerable marine ecosystems. SGSSI MZ lie within the area covered by CCAMLR. Under the conditions of their fishing licence, vessels are obliged to comply with CCAMLR conservation measures.

CCAMLR incorporates into its area the International Convention for the Regulation of Whaling and the Convention for the Conservation of Antarctic Seals.

[United Nations Convention on the Law of the Sea \(UNCLOS\)](#)

This is the international agreement that resulted from the third United Nations Conference on the Law of the Sea (UNCLOS III), which took place between 1973 and 1982. The agreement defines the rights and responsibilities of nations with respect to their use of the world's oceans, establishing guidelines for businesses, the environment, and the management of marine natural resources. UNCLOS is the basis for the designation of the 12 nm limit that designates Territorial waters and the 200 nm limits which denotes the territories Exclusive Economic Zone

[London Convention](#)

This convention concerns the Prevention of Marine Pollution by Dumping of Wastes and other Matter. Under the convention, parties individually and collectively promote the effective control of all sources of pollution of the marine environment, and pledge themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other

matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea

Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)

This intergovernmental treaty is intended to provide a framework for national action and international cooperation for the sustainable use of wetlands and their resources. Wetlands are taken to include a variety of fresh and salt-water environments including rivers, lakes, marshes, wet grasslands and peat lands. Under the Convention, contractive parties commit to work towards wise use of their wetlands; designate suitable wetlands for the list of wetlands of international importance and ensure their effective management; cooperate internationally on trans-boundary wetlands, shared wetland systems and shared species

Vienna Convention for the Protection of the Ozone Layer

Under this convention parties commit to take appropriate measures in accordance with the provisions of this Convention and of those protocols in force to which they are party to protect human health and the environment against adverse effects resulting or likely to result from human activities, which modify or are likely to modify the ozone layer.

Aarhus Convention

This convention concerns access to information, public participation in decision-making and access to justice in environmental matters. Under the convention, parties commit to take the necessary legislative, regulatory and other measures, including measures to achieve compatibility between the provisions implementing the information, public participation and access-to-justice provisions, as well as proper enforcement measures, to establish and maintain a clear, transparent and consistent framework to implement the provisions of the convention

Annex 2. Aichi targets

GSGSSI will assist the UK Government in meeting the following Aichi targets:

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Target 1

By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

Target 2

By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

Target 3

By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.

Target 4

By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

Target 5

By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

Target 6

By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

Target 7

By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

Target 8

By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

Target 9

By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

Target 10

By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Target 11

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

Target 12

By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Target 13

By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

Target 14

By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

Target 15

By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

Target 16

By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building

Target 17

By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

Target 18

By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

Target 19

By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

Target 20

By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

The objectives outlined in this plan have been mapped against these Aichi targets in the below matrix

		1	2	3	4	5	6	7	8
Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	1								
	2								
	3								
	4								
Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use	5								
	6								
	7								
	8								
	9								
	10								
Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity	11								
	12								
	13								
Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services	14								
	15								
	16								
Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building	17								
	18								
	19								
	20								
		Integrate principles of environmental sustainability into Government policies and ensure that environmental management practices are fully transparent and conform to, or exceed, global standards.	Increase SGSSI's environmental global reach through collaboration and knowledge sharing with our stakeholders	Ensure that our obligations under multi-lateral environmental agreements are met.	Develop standardised environmental assessment procedures which are scalable and commensurate with the potential impact the activity may have on the environment	Enhance knowledge of the biodiversity and habitats of SGSSI through research, monitoring and review, including the establishment of scientific baselines from which to assess environmental change including the potential effects of climate change	Effectively manage non-native species and work along the entire biosecurity continuum to implement best practice biosecurity protocols, post-border monitoring and emergency response measures	Adopting an evidence-based approach and using the best available data, ensure appropriate protection of the terrestrial and marine environments through a suite of protected areas, ensuring that activities are managed sustainably and with minimal impacts on the environment.	8. Understand and, where possible, mitigate the risks from substances that have the potential to harm the environment such as heavy fuel oil and pollutants present in old historic whaling stations.

Activities Plan

Activities already underway and /or with resources already allocated
Priority activities which will be funded by GSGSSI but no specific resources allocated yet
Activities that will only take place if external funding becomes available

Abbreviation	Job Title	Post Holder	Contact
Commissioner	Commissioner of SGSSI	Colin Roberts	Colin.Roberts@fco.gov.uk
CEO	Chief Executive Officer	James Jansen	James.jansen@gov.gs
MEF	Marine Environment and Fisheries Manager	Paul Brewin	Paul.Brewin@gov.gs
Ops	Operations Director	Richard McKee	exo@gov.gs
Env	Environment Officer	Jennifer Lee	env@gov.gs
Legal	Legal Advisor	Mark Lewis	legal@gov.gs
GO	Government Officer	Pat Lurcock Simon Browning Steve Waugh	go@gov.gs
Admin	Admin Officer	Ian Haywood	admin@gov.gs

	Activity	Timescale	Responsibility
1.1.	<i>Ensure that all future legislation and policies that relate to economic and infrastructure developments do not have significant negative impact on biodiversity</i>		
1.1.1	Planned infrastructure maintenance work at King Edward Point and Bird Island will be subject to an annual environmental assessment.	As required	Env/Ops
1.1.2	Any opening of new visitor landing sites or changes in use of existing visitor sites will be preceded by an environmental assessment.	As required	Env/Ops
1.1.3	Any science or media activity that requires installation of equipment on land or at sea, or that will require an overnight stay ashore anywhere other than at a research station will be preceded by an environmental assessment.	As required	Env/Ops
1.1.4	Any development which has a major impact on the existing footprint of operations in the Territory will be preceded by an externally reviewed environmental assessment.	As required	Env/Ops/CEO
1.1.5	The policy of not permitting activities such as mineral and hydrocarbon extraction will be continued.	Ongoing	CEO
1.2	<i>The mechanisms and impacts of climate change will be factored into the decision making process and, where possible, action will be taken to reduce the carbon footprint of GSGSSI operations.</i>		
1.2.1	Where possible, power in the Territory will be from renewable sources. At King Edward Point hydroelectric power will be maintained as the main source of power and diesel generators will only be used as a reserve power source	Ongoing	Ops/GO
1.2.2	Economical, fuel-efficient travel will be a requirement for the fisheries patrol vessel <i>Pharos SG</i> during routine transit.	Monthly review	CEO/OPS/MEF

1.2.3	Waste management for all elements of operations at King Edward Point and Bird Island will be reviewed in collaboration with BAS. Waste streams will be mapped, options for reduction of waste identified, and handling and disposal options reviewed to ensure they reflect best practice.	2018	Ops/Env/GO
1.2.4	The environmental footprint of GSGSSI operations in Stanley will be reviewed, and an energy policy will be developed.	2017	Admin
2.1	<i>Maintain a close, working relationship on biodiversity and conservation related issues with relevant UK government departments, governments of other sub-Antarctic territories and non-governmental organisations</i>		
2.1.1	Regular dialogue with the UK government departments and governments of other sub-Antarctic Territories will be maintained to discuss progress and delivery of environmental management objectives.	At least monthly	All
2.1.2	An annual stakeholder meeting will be held to provide an opportunity for wider consultation and to ensure transparency in major GSGSSI policy decisions.	Annual	All
2.1.3	The opportunity to form special interest groups will be provided if an issue which warrants further discussion is identified in the annual stakeholder meeting.	As required	All
2.2	<i>Raise awareness of the global importance of SGSSI biodiversity amongst the international community with a particular emphasis on those based in the UK, European Union and Falkland Islands.</i>		
2.2.1	An outreach plan will be produced which will identify opportunities to engage target audiences on environmental and conservation issues through a variety of media.	2017	Env
2.2.2	Media projects which promote SGSSI biodiversity to target audiences will be encouraged. Where appropriate, assistance will be given in planning and implementing such projects.	Ongoing	Ops/Env

2.2.3	The environment and wildlife pages on the GSGSSI website will be expanded and kept updated	Ongoing	Env
2.2.4	GSGSSI staff, and those working on environmental and conservation projects on the islands, will be encouraged to attend local and international meetings which provide opportunities to share their work and raise awareness of SGSSI biodiversity with a wider audience.	Ongoing	All
3.1	<i>Convention on the Conservation of Antarctic Marine Living Resources</i>		
3.1.1	Manage SGSSI fisheries in a precautionary manner, to the highest international standards and consistent with all CCAMLR requirements, to ensure long-term sustainability	Ongoing (annual review)	CEO/MEF/GO
3.1.2	Support the UK delegation to CCAMLR to represent SGSSI's interests and promote the highest standards of marine management and conservation in the South Scotia Sea and wider Southern Ocean, by means including continued MSC certification and fisheries management plans.	Ongoing	MEF/CEO
3.1.3	Continue to rigorously implement and further enhance mitigation measures to avoid the incidental mortality of seabirds, including working through ACAP, to prompt action in other jurisdictions visited by South Georgia seabird populations.	Ongoing	MEF/Env
3.2	<i>Convention on Migratory species</i>		
3.2.1	Provide the UK with all information necessary to compile its national report to the Convention on Migratory Species.	As required	MEF/Env

3.2.2	Review the plan for the implementation of the Agreement on the Conservation of Albatross and Petrels (ACAP) on South Georgia on a regular (5-year) basis.	2016	MEF/Env
3.2.3	Undertake actions described in the ACAP implementation plan and report as required to the ACAP secretariat.	As required by plan	MEF/Env
3.2.4	In light of on-going population declines, develop species action plans for black-browed, grey-headed and wandering albatross.	2016	Env
3.2.5	Strive to better understand the population dynamics of cetacean populations in the Territory by developing monitoring programmes and photo-identification catalogues and ensuring these data are available to concerned nations and scientists.	2019	MEF/Env
3.3	<i>Convention on Biological Diversity</i>		
3.3.1	Provide the UK with all information necessary to compile its national report to the Convention on Biological Diversity	As required	Env
3.3.2	As far as practical support the UK in achieving Aichi targets through implementation of this Biodiversity Action Plan (see Annex 2).	Ongoing	All
3.3.4	Work towards ensuring that GSGSSI policy, procedures and legal framework are consistent with the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization.	2020	Legal
3.3.5	Remain vigilant to conservation threats and develop species action plans as appropriate.	Ongoing	Env

4.1	<i>Review current practices and ensure environmental assessment procedures and mitigation measures are fit for purpose</i>		
4.1.1	Review existing environmental assessment procedures within SGSSI (including those used by BAS and GSGSSI) and liaise with bodies such as DEFRA to determine best practice	2017	Env
4.1.2	Create a revised environmental impact assessment procedure with standard on-line documentation to assist applicants.	2018	Env
4.1.3	Work with appropriate independent experts to review any development which has a major impact on the existing footprint of operations, and/or that have a potential to have a major impact on the environment, to ensure best practice standards are upheld.	As required	Env
4.1.4	Consider if any additional legislation is required in order to support revised environmental assessment procedures.	2018	Legal
5.1	<i>Improve understanding of the flora and fauna of the Territory</i>		
5.1.1	Improve taxonomic understanding and work with experts to develop identification guides for understudied taxa such as invertebrates.	2018	Env
5.1.2	Identification and investigation of species in both marine and terrestrial habitats that can be used as a barometer for change in respect to management interventions.	2018	MEF/Env
5.1.3	Utilisation of new technologies and remote sensing techniques that maximise understanding of the Territory's flora and fauna with minimal impact on the environment.	Ongoing	MEF/Env

5.1.4	Encourage scientists who can improve knowledge of less well-studied taxa to visit the Territory and ensure that this information legacy remains accessible.	Ongoing	MEF/Env
5.1.5	Improve baseline data on benthic habitats (including those in benthic closed areas) and intertidal zones to underpin management of protected areas.	2019	MEF
5.1.6	Produce a guide to the marine life of SGSSI.	2018	MEF
5.2	<i>Monitor the recovery of habitats and biodiversity following restoration projects and management interventions</i>		
5.2.1	Development of long term monitoring sites to track the recovery of burrowing seabird populations following the eradication of rats, mice and reindeer	2016	Env
5.2.2	Development of long term monitoring sites to monitor the changes in coastal vegetation communities following the eradication of reindeer	2016	Env
5.2.3	Use of remote sensing technology to map vegetation communities and coastal marine habitats on a landscape scale for future use as a baseline against which large scale change in response to eradication efforts and climate change can be measured.	2017	Env
5.2.4	Develop monitoring protocols to facilitate the documentation of changes in vegetation community composition as a consequence of herbicide application and non-native plant control.	2017	Env

6.1	<i>Ensure that biosecurity protocols are reviewed and, where possible, improved particularly in respect of rats and mice.</i>		
6.1.1	Consolidate existing biosecurity policies and protocols into a biosecurity handbook that is available online	2016	Env
6.1.2	Conduct an annual biosecurity review which covers all elements of the logistic activities on SGSSI. Complete action points raised in a timely manner and update the biosecurity handbook as necessary.	Annual	Env/GO
6.1.3	Review protocols for all vessels visiting the Territory to ensure consistency of biosecurity standards, particularly with regard to rats and mice.	2017	Env/GO
6.1.4	Review and improve cargo handling procedures and facilities to further reduce the risk of rodents and other non-native species being transported into the Territory.	As required	Env/GO/Ops
6.1.5	Work with the Falkland Island Government to investigate the feasibility of the use of a rodent detection dog based in the Falkland Islands for pre-border biosecurity screening on vessels.	2018	Env
6.1.6	Install additional rodent monitoring devices at visitor landing sites and jetties at King Edward Point and Grytviken as necessary.	As required	Env/GO
6.1.7	Ensure all visitors are briefed on and act in accordance with biosecurity procedures by providing the necessary information, equipment and other means they need to avoid introducing non-natives species or transmitting diseases.	Ongoing	GO
6.1.8	Make all visitors aware of what actions that should be taken if they witness or suspect that a biosecurity breach or rodent incursion has occurred.	2017	Env/Ops/GO

6.1.9	Solicit independent expert review of biosecurity protocols every 5-years to ensure that best practice is being maintained.	2020	Env
6.2	<i>Strengthen ties and share knowledge on best biosecurity practice with gateway ports so as to best protect the biodiversity of the Territory</i>		
6.2.1	Work with the Falkland Island Government and HM armed forces to improve biosecurity arrangements at gateway ports. As appropriate provide them and with DOC200 traps to reduce abundance of rodents at port facilities.	2016	Env
6.2.2	Participate in local and regional workshops that relate to biosecurity.	As required	All
6.2.3	Maintain regular contact with the Falkland Islands Government Department of Agriculture to share knowledge on emerging threats and possible mitigation measures.	Ongoing	Env
6.3	<i>Develop a non-native plant management strategy, identifying which, if any, species could be eradicated and which should be controlled</i>		
6.3.1	Complete non-native plant surveys of coastal regions of the Territory, giving priority to areas which have a history of sustained human presence i.e. King Edward Point, the former whaling stations at Grytviken, Stromness, Leith, Husvik, Prince Olav Harbour; parts of the Barff and Green peninsulas and Moltke Harbour.	2016	Env
6.3.2	Identify key performance indicators and publish a non-native plant management strategy and associated environmental assessment on the GSGSSI website and distribute to interested stakeholders.	2016	Env

6.3.3	Undertake a programme of herbicide control for species which have been identified as a priority for control in the non-native plant management strategy, publishing an annual update on progress.	Ongoing	Env
6.3.4	Develop an early detection, rapid response strategy which can be implemented to prevent further spread should a new species be detected	2016	Env
6.3.5	Ensure that the database which contains information about the non-native plant control efforts on South Georgia is available online.	2016	Env
6.3.6	Build capacity to ensure that a group of trained and appropriately experienced workers with the appropriate skill base is available to the project in the future.	Ongoing	Env
6.4	<i>Risk assessment and monitoring for non-native species in the marine environment</i>		
6.4.1	Identify project partners who can assist in undertaking a risk assessment of the potential for marine non-native species introduction in South Georgia.	2016	Env/MEF
6.4.2	Review existing information on native and non-native marine species in South Georgia and at gateway ports including the potential impact of non-native species.	Apply for funding in 2016	Env/MEF
6.4.3	Undertake a pathway analysis to better understand how non-native marine species may enter and move around within the Territory.	2016	Env/MEF
6.4.4	Work with experts and stakeholders to identify practical, effective mitigation measures and, as appropriate, put them in to effect.	As required	Env/MEF

6.5	<i>Improve understanding of the extent of non-native invertebrate species and prevent further spread</i>		
6.5.1	Identify project partners with suitable taxonomic expertise on invertebrate fauna. Work together to conduct field surveys at sites around SGSSI.	2017	Env
6.5.2	Produce a map showing distributions of non-native invertebrate species. Identify un-invaded sites that would benefit from additional protection.	2018	Env
7.1	<i>Adopt a collaborative, precautionary approach to visitor management, working with user groups to establish a monitoring programme. Use this information to develop revised visitor management plans</i>		
7.1.1	Establish baseline information on how visitors use terrestrial areas on South Georgia by gathering data on the current spatial extent of operations, including visitors engaged in tourism activities, expeditions and personnel based at King Edward Point who are undertaking recreational travel.	2016	Ops/Env
7.1.2	Establish monitoring sites at locations that receive different levels of visitation and visitors engaged in different types of activity in order to collect data needed to inform revised management plans.	2017	Ops/Env
7.1.3	In consultation with IAATO and other stakeholders, develop management policy and revise site-specific management plans taking into account of the important benefits and potential impacts of tourism in Territory.	2018	Ops/Env
7.1.4	Establish a contract for the development and maintenance of the South Georgia GIS as a multi-purpose, cross-cutting environmental management tool.	2017	CEO

7.2	<i>Develop a suite of terrestrial Protected Areas and the associated management plans</i>		
7.2.1	Collate and update the biodiversity, heritage, wilderness, tourism and science site data that are needed for the protected areas decision making process	2017	Ops/Env
7.2.2	Develop a Protected Area framework and associated management plans.	2019	Env
7.2.3	New Protected Areas will be enshrined in law under the Wildlife and Protected Areas Ordinance (2011)	2020	Env
7.3	<i>In accordance with the MPA management plan, undertake a review of the MPA in 2018 to ensure that it is fit for purpose</i>		
7.3.1	Continue to monitor populations of target and by-catch fish in commercial fisheries, and manage the impact of fisheries on benthic species and habitats through science and industry collaborative research as set out in Fisheries Management Plans.	Ongoing	MEF
7.3.2	Develop programs to monitor the efficacy of benthic closed areas	2017	MEF
7.3.3	Identify new species and habitat priorities within the MPA for monitoring, particularly in data poor regions.	2017	MEF
7.3.4	Maintain monitoring of krill dependent predators, to ensure that the krill fishery has minimal impact on populations.	Ongoing	MEF

7.3.5	Undertake a comprehensive review in 2018 of the effectiveness of the MPA, using the best available scientific data, and consulting independent experts and stakeholders. Publish a comprehensive review with conclusions and recommendations as necessary.	2018	MEF
7.3.6	Based on the MPA review, as appropriate, consider evidence for potential changes in the way the MPA is managed.	As required	MEF
8.1	<i>Remediation of risk from waste oil in whaling stations in Stromness Bay and Prince Olav Harbour</i>		
8.1.1	Identify suitable project partners and methodologies for removal or remediation of the risks from waste oil in whaling stations.	2017	Ops/Env
8.1.2	Undertake an assessment of the type, amount and distribution of heavy fuel oil within the whaling stations in Stromness Bay and the environmental risks associated with them.	Apply for funding in 2017	Ops/Env
8.1.3	If funding can be secured, environmental assessments and planning documentation will be developed and externally reviewed as appropriate.	As required	Ops/Env
8.2	<i>Review the carriage and use of heavy fuel in the SGSSI Maritime Zone by visiting vessels</i>		
8.2.1	Assess the frequency with which vessels burning heavy fuel oil operate within the Territory.	2016	MEF
8.2.2	Develop, in consultation with stakeholders, a plan to phase out the burning and carriage of heavy fuel.	2017	MEF

8.3	<i>Investigate options for removal of waste and scrap materials from Southern Thule</i>		
8.3.1	Conduct a feasibility study and environmental assessment on the options to remove part or all of the waste material at the old station site on Southern Thule.	2018	Env
8.3.2	Investigate options and necessity to limit visitor access to the site due to possible disturbance and hazards to human health such as unstable structures and possible chemical contaminants. Discuss options with stakeholders before implementation.	2019	Ops/Env