



Centre for Environment  
Fisheries & Aquaculture  
Science

# Blue Belt Overseas Territory Work Plan: South Georgia & the South Sandwich Islands

## Extended OT Plan

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Author(s) : Chris Darby, Marta Soffker, Ainsley Riley,

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This Work Plan has been developed on the basis of a Blue Belt Programme annual budget of £4m. The Work Plan detail is subject to updates to reflect ongoing delivery. The Programme budget for FY19/20 (and therefore associated activities for FY19/20) is yet to be confirmed.



# Document Control

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Project Manager:	Patsy Falconer (Cefas), Philip Crabtree (MMO)
Report compiled by:	Chris Darby, Marta Soeffker, Ainsley Riley
Quality control by:	Martin Collins, Joanna Stockill
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# Introduction

## Background information

South Georgia & the South Sandwich Islands (SGSSI) have been under UK administration since 1908. The islands were part of the Falkland Island Dependencies until 1985, when they were declared a separate UK Overseas Territory administered by the Government of South Georgia & the South Sandwich Islands (GSSGI). There are no permanent residents in the Territory but the British Antarctic Survey (BAS) operates two bases on South Georgia. The base at King Edward Point (KEP) is operated under contract to GSSGI and the Foreign and Commonwealth Office (FCO); it is staffed by eight BAS personnel, plus two GSSGI Officers. Bird Island has a year-round complement of four BAS personnel who undertake long-term monitoring of seabirds and marine mammals.

The South Georgia & South Sandwich Islands Maritime Zone was designated as an International Union for Conservation of Nature (IUCN) Category VI (Sustainable Use) Marine Protected Area (MPA) in 2012, with additional spatial and seasonal closures added in 2013. The MPA includes a prohibition on commercial bottom trawling throughout, and a range of spatial and temporal closures.

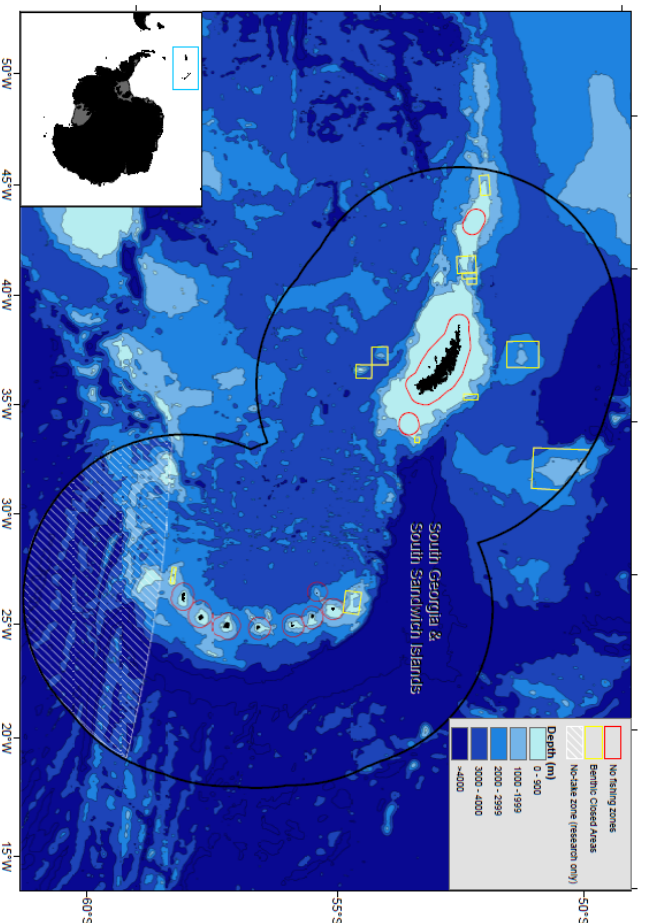


Figure 1. The SGSSI Maritime Zone (including the SGSSI MPA).

South Georgia & the South Sandwich Islands and their associated maritime zone is also claimed by Argentina. The Argentine maritime claim uses Shag Rocks (Figure 1) as a baseline for its claim and hence claims a larger maritime zone, which is sometimes reproduced (incorrectly) on charts.

The objective of the Blue Belt initiative is to enhance the protection of the marine environment across the UK's Overseas Territories (UKOTs). The project stems from the UK Government's commitment to 'create a Blue Belt around the UK's 14 Overseas Territories, subject to local support and environmental need', with a goal to protect over 4 million km<sup>2</sup> of ocean by 2020.

## Biodiversity

South Georgia & the South Sandwich Islands are strongly influenced by the Antarctic Circumpolar Current (ACC). As South Georgia lies to the south of the ACC Polar Front, the seas are cold throughout the year, with sea-surface temperature (SST) varying from 0 to 4 °C. The South Sandwich Islands are south of the Southern Boundary of the ACC and the surrounding waters are significantly cooler, reaching only 1.5 °C in the summer. The waters around GSSSI are amongst the most productive in the Southern Ocean, with high productivity associated with elevated nutrients which in turn supports high diversity and abundance of marine fauna.

The MPA and fishing regulations are designed to protect globally important breeding populations of seabirds and marine mammals, including 4 species of albatross (Diomedidae), five species of penguin (Spheniscidae), 4 million Antarctic fur seals (Otariidae) and 110,000 elephant seals (Phocidae).

## Fisheries

Four fisheries operate in the GSSSI Maritime Zone; a longline fishery for Patagonian toothfish (*Dissostichus eleginoides*) at South Georgia, a research and monitoring fishery for Patagonian toothfish and Antarctic toothfish (*Dissostichus mawsoni*) at the South Sandwich Islands and pelagic trawl fisheries at South Georgia for Antarctic krill (*Euphausia superba*) and mackerel icefish (*Champoscephalus gunnari*).

The GSSSI maritime zone falls within the area of jurisdiction of the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR), to which the UK is a signatory; the GSSSI maritime zone falls within CCAMLR Areas 48.2, 48.3 and 48.4. Consequently, all the fisheries in the area are also subject to CCAMLR regulations. The GSSSI government accepts and enforces these measures, but has also introduced additional more restrictive measures to those agreed by CCAMLR, e.g. seasonal (winter only) restrictions on the krill fisheries. The GSSSI sustainable use Marine Protected Area (MPA) was declared in February 2012 and occupies 1.07 million km<sup>2</sup>. All GSSSI fisheries are considered sustainably managed by CCAMLR and the South Georgia toothfish and icefish fisheries reviewed and certified as sustainable by the Marine Stewardship Council (MSC).

All vessels are licenced by GSSSI and are required to carry international scientific observers, who record fishing activities and collect biological data. A dedicated patrol vessel, Pharos SG, conducts regular surveillance patrols carrying GSSSI enforcement officers who are also CCAMLR inspectors.

## Other activities

Tourism and associated disturbance represents a threat to the islands but is regulated by the International Association of Antarctica Tour Operators (IAATO) and GSSSI.

## Local capacity

The Government of South Georgia & the South Sandwich Islands employs a Director of Fisheries & Environment, Marine & Fisheries Scientist, Operations Director (all based in Stanley) and three Government Officers (based at KEP). Two UK institutes provide science and monitoring support: The Centre for the Environment, Fisheries and Aquaculture Science (Cefas) - stock assessment, technical and management advice and British Antarctic Survey (BAS) – fisheries biological research and monitoring land-based predators; with the Marine Resource Assessment Group (MRAG) (UK) and Capfish (South Africa) providing International Scientific Observers. King Edward Point has full scientific laboratory facilities for conducting fisheries research.

## Current status (linked to FCO Mandate)

The management system is based on a combination of CCAMLR regulations (Conservation Measures, CMS) and GSSGSI domestic law.

**Design:** The MPA, which encompasses the entire maritime zone, comprises a mixture of IUCN Category VI and Category I areas. The MPA scientific research and monitoring programme will be reviewed in 2018.

**Designation:** The MPA was designated by the Marine Protected Areas Order (2013) under the Wildlife and Protected Areas Ordinance (2011). That designation is underpinned by the Fisheries (Conservation and Management) Ordinance 2000.

**Management:** Management objectives are in place for the MPA and each fishery.

**Monitored:** International fisheries observers monitor all fishing vessels. There is a biennial trawl survey, an annual acoustic survey for krill and monitoring of penguins, seabirds and seals.

**Enforced:** All vessels operating in the fisheries must have a Class A Automatic Identification System (AIS) broadcasting at all times and must have a tamperproof Vessel Monitoring System (VMS). South Georgia & the South Sandwich Islands has a dedicated patrol vessel, MV Pharos SG, which carries a Fisheries Protection Officer (FPO), and undertakes regular patrols of the SSSSI maritime zone and vessel inspections for GSSGSI and CCAMLR.

## Desired Outcome for 2020

*South Georgia & the South Sandwich Islands maintain and enhance their reputation for having a well-managed marine environment, with internationally recognised safe, sustainable, environmentally friendly fisheries and effectively regulated marine activities, all underpinned by robust scientific evidence.*



## South Georgia & the South Sandwich Islands Work Programme

This work programme has been planned to help Government of South Georgia & the South Sandwich Islands (GSGSSI) develop, implement and enforce marine protection strategies within the MPA, as part of the Blue Belt Programme. Proposed deliverables have been planned to meet GSGSSI needs and comply with the objectives that underpin the Blue Belt mandate. All work proposed as part of this plan is discussed and agreed with GSGSSI. Quarterly update meetings will be held with GSGSSI, MMO and Cefas to discuss issues, progress and changes to the work programme.

### Workstream 1: Legislation, policy and strategy

Activity: Advice on, and support for, the development of legislation, management strategies and policies

The South Georgia & South Sandwich Islands Marine Protected Area (MPA) was designated in 2012, with additional spatial and seasonal closures added in 2013. The MPA includes a prohibition on commercial bottom trawling throughout, and a range of spatial and temporal closures.

Following discussions with the GSGSSI support is needed for the updating of the fisheries ordinance to include a penalty points system for fishing vessels and updated fishery officer powers. The following deliverables and activities are planned to achieve this objective (Table 1).

Table1. Planned tasks for South Georgia and the South Sandwich Islands legislation, policy and strategy workstream. The lead organisation or contact (where identified) is included in bold type.

Outcome	Activity	ID	Tasks / Outputs	Description	Deliverables	Mandate Objectives	When	Who
<b>LEGISLATION, POLICY AND STRATEGY</b>								
<b>Laws and policies to underpin designation and management.</b>	Update of Fisheries Ordinance to include:  Penalty points system for fishing vessels  Updated Fishery Officer Powers	SGSSI 1.1	Policy instructions drafted by GSGSSI (in conjunction with MMO/FCO). Submit policy to drafters	Policy description and drafting guidance notes for SGSSI legal team. Outline of points system for vessels and update of new powers  First draft of legislation produced in response to policy and drafting note	Policy Document Drafting note document Powers summary	Enforcement	2 Jan - 25Feb 2018	<b>MMO</b> SG Govt <b>SG Legal Team</b>
					Draft 1 legislation		26 Feb - 18 Mar 2018	
			Update legislation Consultation (6 weeks)	First draft of legislation reviewed and comments provided by Blue Belt team, SGSSI and MMO legal Draft released for consultation. Responses received, consolidated, responded to and comments adopted into legislation where appropriate	Draft 2 legislation		19 Mar - 6 May 2018	<b>MMO</b> MMO Legal <b>SG Govt</b> <b>SG Govt</b>
					Consultation		28 May - 8 Jul 2018	
			Develop guidance Submit to AG	This will underpin the legislation and provide guidance for fishing industry and enforcement officers.  Final draft of legislation submitted for approval	Consolidation of consultation responses		9 Jul - 29 Jul 2018	<b>SG Govt</b> <b>SG Legal Team</b> <b>MMO</b> SG Govt <b>SG AG</b>
					Final draft of Legislation		30 Jul - 18 Nov 2018	
					Guidance		30 Jul - 18 Nov 2018	
					Final draft approved		19 Nov - 2nd Dec 2018	



Outcome	Activity	ID	Tasks / Outputs	Description	Deliverables	Mandate Objectives	When	Who
<b>Laws and policies to underpin designation and management.</b>	Update of Fisheries Ordinance to include:  Penalty points system for fishing vessels  Updated Fishery Officer Powers	SGSSI 1.1	Submission to Commissioner;	Final draft of legislation submitted for approval	Final draft approved	Enforcement	3 Dec - 7 Dec 2018	<b>SG Commissioner</b>
			Legislation released	Legislation agree, ratified and in place	Updated legislation		10-Dec-18	<b>SG Govt</b>
			Policy instructions drafted by GSGSSI (in conjunction with MMO/FCO).	Policy description and drafting guidance notes for SGSSI legal team. Outline of points system for vessels and update of new powers	Policy Document Drafting note document Powers summary		2 Jan - 25Feb 2018	<b>MMO SG Govt</b>
			Submit policy to drafters	First draft of legislation produced in response to policy and drafting note	Draft 1 legislation		26 Feb - 18 Mar 2018	<b>SG Legal Team</b>

## Workstream 2: Resource assessment and management

Activity: Determine sustainable harvests for fisheries and advise on sustainable fisheries strategies and management plans

CCAMLR has scheduled a krill acoustic Synoptic Survey of CCAMLR Area 48, extending from the South Atlantic to the Antarctic Peninsula in 2019. It will cover the UK OT regions South Georgia, the South Sandwich Islands and the British Antarctic Territory. The survey, which comprises a multinational acoustic survey with contributions from both research and fishing vessels, will form a key baseline for CCAMLR advice and policy decisions on the management of krill. The proposed survey design will closely follow the similar CCAMLR 2000 krill Synoptic Survey.

The SSI have been identified as data poor by CCAMLR as well as by the five-year GSGSSI MPA review, which the Blue Belt is helping to support. The Blue Belt will contribute to the survey by working with British Antarctic Survey to undertake an acoustic survey of krill in the South Sandwich Islands region on the *RRS Discovery*. The UK survey will form a major part of the UK contribution to the CCAMLR multinational programme. The survey results will directly impact the management of the krill fishery across the whole of the Antarctic region covered by BAT and SGSSI.

In addition there is an ad-hoc support and advice task included to support GSGSSI, notably in support of the SGSSI MPA review, which started in 2017 and is scheduled to complete in the first half of the year.

Table 2. Planned tasks for South Georgia and the South Sandwich Islands *Resource Assessment and Management* workstream. The lead organisation or contact (where identified) is included in bold type.

Outcome	Activity	ID	Tasks / Outputs	Description	Deliverables	Mandate Objectives	When	Who
<b>RESOURCE ASSESSMENT AND MANAGEMENT</b>								
<b>Ensure monitoring and sustainable management of fisheries.</b>	Determine sustainable harvests for fisheries and advice on sustainable fisheries strategies and management plans.	SGSSI 2.1	Ad-hoc support & advice, including logistical and science support the GSGSSI MPA review	Ad-hoc support & advice on the SGSSI region	Research reports and advice as required	Management	Annual	<b>Cefas</b>
		SGSSI 2.2	Undertake krill acoustic survey of the South Sandwich Islands on RRS Discovery	Blue Belt has agreed with BAS to extend <i>RRS Discovery</i> cruise 98 by 14 days to include a krill acoustic survey in the South Sandwich Islands. The cruise will be implemented by BAS with Cefas participation.	<ol style="list-style-type: none"> <li>1) Krill survey of the South Sandwich Islands</li> <li>2) Cruise report</li> <li>3) Submission of data to CCAMLR</li> <li>4) Papers to CCAMLR;</li> <li>5) Scientific publications</li> </ol>	Management	Feb 2019	<b>BAS/Cefas</b>

## Workstream 3: Biodiversity and habitat use

Activity: Develop an understanding of the biodiversity of marine environment, as well as the associated threats.

There is limited information available on the benthic biodiversity of the SGSSI MZ particularly in deep water; a deep-water camera system has been procured to provide the capability to collect data in this environment. The system will be deployed on two surveys to collect information within the established South Georgia & South Sandwich Islands MPA to collect information on the deep-water ecosystem and any visible impact of historic and current longline fishing. Areas for the survey have previously been identified by Cefas and include fished areas, closed areas and areas where fishing has been discontinued, to enable recovery (if impacted) to be evaluated.

### *Benthic biodiversity survey*

Cefas will conduct a benthic survey in the South Sandwich Islands region of the SGSSI MPA on the *RSS Discovery* in February 2018/19. The survey will be designed to fill the data gap on the deep water benthic marine environment at the South Sandwich Islands using the Blue Belt deep water camera. The information collected will feed directly into the research and monitoring information required for the future design and management of the SGSSI MPA.

The scientific expedition will include research teams from Cefas as well as invited external scientists. It will collect benthic biodiversity information from the South Sandwich Islands. The drivers for the survey are the recent high profile of the SSI and the southern UK maritime zone region, below 60° South, which extends into CCAMLR and the provision of science reports and advice to the SGSSI MPA reviews.

### *Long-line benthic interactions*

In addition to the deep-water camera surveys, two activities are scheduled to use the long lines deployed by fishing vessels to collect information on the potential interactions between long lines and the benthos at South Georgia & the South Sandwich Islands. Two types of long line cameras have been purchased along with motion sensors that can be attached to long lines. The cameras and sensors are being deployed on long lines and the information analysed to examine the movement of the lines when deployed and recovered and the benthic environment in the areas in which they are deployed. The data will be used within a risk modelling analysis leading to advice and scheduled for 2019/20.

Table 3. Planned tasks for South Georgia and the South Sandwich Islands *Biodiversity and Habitat Use* workstream. The lead organisation or contact (where one has been identified) is shown in bold type.

Outcome	Activity	ID	Tasks / Outputs	Description	Deliverables	Mandate Objectives	When	Who
<b>BIODIVERSITY AND HABITAT USE</b>								
<b>Enhanced knowledge and understanding of marine biodiversity and threats to the marine environment to inform design of marine protection.</b>	Develop an understanding of the biodiversity of marine environment, as well as their associated threats.	GSGSSI 3.1	Spatial modelling of risk	Modelling of the South Georgia longline fishery to produce an ecosystem risk map	3D spatial and temporal modelling tool that allows managers to evaluate and optimise the spatial management of the longline fishery	Design, Management	<u>Deferred to 2019</u>	Cefas
		GSGSSI 3.2	Pharos seabed benthic survey, SG	Trials of the Cefas deep water camera system from the Pharos collecting data in the South Georgia	1) Testing of the deep sea camera 2) Collection of data in and adjacent to the SG benthic closed areas in the SG MPA 3) Collection of data in areas that are frequently fished by long lines 4) Report	Design, Management, Monitoring of Environment	April - May 2018	Cefas BAS
		GSGSSI 3.3	RRS Discovery benthic survey of SSI	Cefas benthic survey of the South Sandwich Islands	1) Camera survey of the benthic environment at the South Sandwich Islands 2) Benthic trawl survey 3) Report	Design, Management, Monitoring of Environment	February - March 2019	Cefas Others

Outcome	Activity	ID	Tasks / Outputs	Description	Deliverables	Mandate Objectives	When	Who
<b>Enhanced knowledge and understanding of marine biodiversity and threats to the marine environment to inform design of marine protection.</b>	Develop an understanding of the biodiversity of marine environment, , as well as their associated threats.	GSGSSI 3.4	Longline foot print monitor deployment	Deployment of movement sensors on long lines in the South Georgia fishery, analysis and modelling of the movement of lines and determination of their environmental foot print.	<ul style="list-style-type: none"> <li>1) Movement data collected from long lines deployed in the South Georgia fishery</li> <li>2) Analysis and advice on the potential footprint of long lines on the seabed</li> <li>3) Annual reports on progress</li> </ul>	Design, Management, Monitoring of Environment	May 2018 - onwards	Cefas
		GSGSSI 3.5	Longline camera deployment	Deployment of individual long line cameras in the South Georgia fishery, analysis and determination of the benthic species associated with the long line fishing areas.	<ul style="list-style-type: none"> <li>1) Ecosystem data collected from long lines deployed in the South Georgia fishery</li> <li>2) Analysis and advice on the potential footprint impact of long lines on the seabed</li> <li>3) Annual reports on progress</li> </ul>	Design, Management, Monitoring of the Environment	May 2018 - onwards	

## Workstream 4: Data systems and management

Activity: Capacity building, facilities and improvements to existing systems / processes

The British Antarctic Survey (BAS) provide database support to the GSGSI and the FCO and CCAMLR data are submitted and stored within an international database. The systems are fully developed and undergo regular review and revision; consequently, no activities were identified as a priority in this workstream. There will be a requirement for data storage from the survey, but that will be as part of the cross-project data storage capability.

## Workstream 5: Local capacity and training

Activity: Training, capacity building, facilities and local engagement

A scoping exercise on training needs was carried out in SGSSI and some training requirements were requested. These will be captured under 5.1 of the cross cutting plan

## Workstream 6: Surveillance, compliance and enforcement

Cross-cutting surveillance, compliance and enforcement activities 1.1, 1.3, 1.4, 2.1, 2.2, 3.1, 4.1, 5.1, 6.1 7.1, 7.2 and 8.1 apply to the SGSSI area.



## Key Milestones:

- M1: Completion of SGSSI MPA Review (Date TBC).
- M2: MV Pharos SG survey (May 2018).
- M3: RRS Discovery 98 (Krill acoustics) (Feb 2019).
- M4: RRS Discovery 99 (benthic biodiversity) (March 2019)

## Key Deliverables

There are a number of key deliverables that will indicate success of the Blue Belt programme in supporting GSSSI to achieve the BB overall desired outcome.

Deliverables identified for GSSSI include:

- D1: Update of Fisheries Ordinance.
- D2: Survey report from MV *Pharos SG* survey.
- D3: Report from longline camera deployments.
- D4: Report from longline movement sensors.
- D5: Report from krill acoustic survey.
- D6: Report from SSI benthic survey.
- D7: A risk based framework for analysis of the impact of longline fishing within the GSSSI MPA.
- D8: Paper to CCAMLR on analysis of krill acoustic survey.
- D9: Report to GSSSI on benthic biodiversity of South Sandwich Islands.

