

# South Georgia Association Newsletter

Number 36 April 2019

Website: [www.southgeorgiaassociation.org](http://www.southgeorgiaassociation.org) ISSN: 1747-430

Facebook: [www.facebook.com/southgeorgiaassociation](http://www.facebook.com/southgeorgiaassociation)



*Ocean Harbour with the wreck of the Bayard and the Golden Fleece*

In this issue: Autumn Event in Plymouth; Marine plastics on South Georgia; Whale research team based at KEP; Mapping South Georgia's coastal habitats; introducing the new GSGSSI Chief Executive and Director of Fisheries & Conservation; Loss of sealer's history at KEP; new stamp issues; SGSSI MPA Enhancements; Grytviken management plan published.

## Spring Meeting at Royal Overseas League on April 13<sup>th</sup>

Full details to follow in the Autumn Newsletter.



*SGA Members gather for the Annual General Meeting.*



*Pat Lurcock receives the Morag Campbell Husband medal on behalf of Sally Poncet from SGA President David Tatham.*



*Elizabeth White talks to the SGA about her experiences filming penguins for the BBC in the South Sandwich Islands.*

## **Welcome to Helen Havercroft, the new Chief Executive of the Government of South Georgia & the South Sandwich Islands**



In June 2018, Helen Havercroft moved her family to the Falkland Islands from Margate in Kent to take up the post of GSGSSI Chief Executive Officer. Helena took over from James Jansen who returned to the UK with his family. Helen wishes to extend her thanks to James for his support during a very busy handover period.

Prior to joining GSGSSI, Helen worked in London for HM Revenue and Customs for 12 years before moving to the seaside in Kent to work for the local authority as the Head of Growth and Development, leading regeneration and change initiatives.

Once offered the job with GSGSSI, Helen had no doubt about accepting, but the daunting task of packing up her belongings brought home what an adventure she was embarking on. However, with the full support of her family behind her, it did not take her long to make the journey to South Georgia and she was blown away (quite literally at times!) by its beauty. Helen spent time at King Edward Point, meeting the Government Officers and the BAS team who are responsible for looking after the base and undertaking a range of marine and fisheries science. Helen also visited Grytviken to meet the SGHT Museum Team and spent time with the Indigena Invasive Weed Control team. The role is proving to be more diverse than Helen anticipated, but she is enjoying a new phase of learning.

Helen is sorry that she was not able to attend the April meeting of the South Georgia Association, but will be in the UK later in the year when she plans to meet members of the SGA Committee.

## **Mark Belchier appointed as Director of Fisheries & Environment**



Dr Mark Belchier has recently been appointed as GSGSSI's Director of Fisheries and Conservation. Mark brings tremendous knowledge and experience to the post having spent much of the last twenty years as the King Edward Point Science Manager at British Antarctic Survey (2000-2018). Mark was also a key member of the UK Delegation to CCAMLR and served as the Convener of CCAMLR's Working Group on Fish Stock Assessment and, more recently, as Chair of CCAMLR's Scientific Committee. Mark will continue to be based at BAS headquarters in Cambridge, making regular visits to Stanley and South Georgia.

## New stamp issue commemorates the end of World War I and the role of Shackleton's men

South Georgia & the South Sandwich Islands has released a set of stamps which commemorates the centenary of the end of World War I and the role Shackleton's men played in the conflict. The onset of World War I meant that the Imperial Trans-Antarctic Expedition nearly did not take place. On 3 August 1914, as *Endurance* was about to depart, Germany declared war on France and Britain mobilised her forces. The immediate effect on the expedition was that three members left to rejoin their units. Shackleton cabled the Admiralty in London offering *Endurance* and her complement. The First Sea Lord, Winston Churchill, replied 'Proceed' and, with the backing of King George V, *Endurance* set sail for Antarctica on 8 August.

When the men returned to civilisation, they found the world was still at war. The war with Germany had been expected to be short-lived but, three years later, it continued to engulf Europe. Almost to a man, the explorers joined the armed forces or returned to their previous lives in the Merchant Navy. Even Perce Blackborow, despite having the toes of his left foot amputated on Elephant Island, joined the Merchant Navy. Some made the ultimate sacrifice for doing so. Tim McCarthy was killed when his ship was torpedoed. Alfred Cheetham and Ernest Wild, Frank Wild's brother, also died at sea. James McIlroy, James Wordie and Clarence Mauger were badly injured.

At 42 years of age and too old for conscription Shackleton was gazetted as a temporary Major and joined Syren Force, a multinational force sent to Murmansk in northern Russia, first to defend it against the Germans and then, after the Armistice, to support the White Russians against the Red, Bolshevik, forces. His task was to organise winter equipment and he was joined by Alexander Macklin, Leonard Hussey, Joseph Stenhouse and Frank Worsley. The stamps depict Thomas Orde-Lees and Frank Worsley.

**Thomas Orde-Lees**, a captain in the Royal Marines, joined ITAE as the motor expert and developed two models of motor-sledge. During the expedition he was placed in charge of stores. On return to Britain he transferred to the Royal Flying Corps and served in the Balloon Service on the Western Front. He became an active proponent of the use of parachutes. To convince military commanders of their practicality and value, Orde-Lees jumped, headfirst, from the top of the Tower Bridge into the River Thames, barely 50 metres below. He later made low-level descents from aircraft to demonstrate parachutes at home and abroad. Orde-Lees was awarded the Air Force Cross for this pioneering work.

**Frank Worsley**, a New Zealander and a veteran of sailing ships, was appointed captain of *Endurance*. He has become famous for navigating the *James Caird* from Elephant Island to South Georgia. A member of the Royal Navy Reserve, he was given command of the 'mystery ship' *PQ61* and sank the U-boat *UC33* by ramming, for which Worsley was awarded the Distinguished Service Order. In 1918 Worsley joined Shackleton in northern Russia and helped organise equipment and stores in Archangel.

More information on the stamps can be found at [www.pobjoystamps.com](http://www.pobjoystamps.com) and the stamps are available to purchase through <https://www.falklandstamps.com>.



*New paired stamps issued by South Georgia & the South Sandwich Islands depicting Thomas Orde-Lees and Frank Worsley*

## Plastic pollution in remote locations: the case of South Georgia

Claire Waluda & Rachel Cavanagh (BAS)

### *A Global Problem*

Plastic has been in existence for around 100 years (the first synthetic polymer *Bakelite* was patented in 1909), but its use has accelerated significantly since the 1950s. Production levels are currently over 300 million metric tonnes per year with an accompanying high level of dependence on this now widespread material. Lost and discarded plastic items are becoming ever more visible: plastic litter is found on beaches worldwide, including in enormous numbers on uninhabited islands in the South Pacific, and in gigantic floating “garbage patches” in all five major ocean basins. With around eight million tonnes of plastic entering our oceans each year there could reputedly be more plastic than fish in the sea by 2050. Its presence on shorelines, in surface waters and in the deep ocean, poses a significant threat to marine ecosystems around the world, even in the remote Polar Regions.

### *Plastic litter in the sub-Antarctic*

Since the late 1980s at South Georgia, scientists from the British Antarctic Survey (BAS) have been recording information on all plastic debris washing up on beaches, ingested by seabirds and entangling birds and seals. Marine litter on the beach at Main Bay, Bird Island has been monitored every year since 1989. Up to 900 items have been recovered each year, with the majority (94%) of these made of plastic, along with small quantities of glass, wood, paper, fabric, rubber and metal. Items include plastic packaging and bottles, fishing line and nets and the occasional fishing buoy. Whilst the presence of plastic at locations so remote from human populations is a cause for concern, there is no evidence of an increase over time and we are currently working to understand the fluctuating trends.

### *Effects on wildlife*

One of the more distressing effects of plastic pollution is the entanglement of marine animals. Since the late 1980s at South Georgia, more than a thousand fur seals have been recorded as having plastic packaging bands, synthetic line and fishing nets caught around their necks. While over 300 seal entanglements were reported in the first two years of the study, more recently we have seen fewer than ten entanglements per year. This significant reduction is thought to be due to the successful introduction of legislation prohibiting the disposal of plastics overboard from ships and to ensure the safe disposal of packaging bands. GSGSSI also prohibited the use of net bags for longline weights in 2012. Scientists at BAS research bases at South Georgia have been able to remove the majority of entanglements from these seals; without such action, most of these animals would have died.



*Plastic debris collected from the beach as Bird Island.*



*Fur seal with fishing net tangled around the neck*

Seabirds are also affected by plastic in the marine environment. Many seabirds accidentally mistake floating plastic objects for their natural food. Since 1992 over 3,000 plastic items have been found in the diets of twelve seabird species monitored at South Georgia. Additionally, we have observed around 100 entangled seabirds, often with plastic lines or hooks trapped in their beaks or around their legs. As highlighted in the BBC series *Blue Planet II*, wide-ranging birds such as wandering albatrosses are the most heavily impacted. Albatrosses forage over huge distances unwittingly ingesting plastic from far beyond the waters of South Georgia. Items found entangling and ingested by seabirds include fishing line, hooks and floats, plastic bags, bottle tops and other small plastic items.

### *Microplastics*

A topic of increasing global focus is the prevalence of microplastics (pieces less than 5mm in size) in the environment. These can be from microbeads (e.g. from cosmetics) or produced from the breakdown of larger pieces of plastic. A recent study found that microplastics in Antarctica are five orders of magnitude higher than would be expected based on the current human population on bases and ships (fishing vessels and cruise liners), suggesting a large proportion originate from outside the Southern Ocean. This highlights the rapid spread and ubiquity of plastic throughout the world's oceans. At South Georgia, microplastics have so far been discovered in shallow marine sediments and in the scats of gentoo penguins and Antarctic fur seals. Research is underway to investigate further their presence in the wider marine environment and associated wildlife (including krill, fish, seabirds and seals). This work will help us to understand how microplastics might be accumulating in the Southern Ocean food web and the potential risks this may pose to marine animals.

Our work continues in South Georgia to better understand and tackle the effects of plastic in the marine environment. It is heartening to see the ongoing success of measures to reduce plastic pollution in the region, however we must not lose sight of the fact that plastic waste is a burgeoning problem across the globe. Drawing together the data, knowledge and lessons learned from over three decades of research on plastics in South Georgia provides a valuable contribution towards international efforts in addressing this major environmental, social, and economic challenge.



*Gentoo penguin inspecting a plastic bottle on a South Georgia beach*



*Debris on the beach at Main Bay, Bird Island.*

## South Georgia Whale Project based at King Edward Point Stephanie Martin, celebrating her 20<sup>th</sup> season working around South Georgia

A team of international scientists was based at Discovery House on King Edward Point (KEP) this summer. The largest team included members of the South Georgia Whale project led by Dr Jen Jackson from British Antarctic Survey (BAS). It is the second year of the international collaboration, funded primarily by EU BEST and the DARWIN PLUS Initiative, with additional support from WWF and the South Georgia Heritage Trust/Friends of South Georgia Island. The focus is on southern right whales; to look at the health, habitat use and recovery of this population. This season we had the support of the South Georgia government to use the local boats. Our team, nicknamed the “whaleys”, included six whale scientists and two boatmen from the BAS team.

We sailed from Stanley, Falkland Islands on the South Georgia government fisheries patrol vessel MV *Pharos* and arrived at KEP just before Christmas. Our first day out in Cumberland Bay West, we saw a humpback whale and this became the theme of the summer. Humpback whales made up 18 out of the 20 encounters we had with whales.

As anyone who has spent time on South Georgia knows, the weather is the biggest challenge for any project. We had to be very picky about determining our weather window for any offshore boating in the area between Stromness and St. Andrews. We used the small, manoeuvrable inflatable RIB for the working boat and the larger jet boat for surveying and for safety.

The main aim of the project was to satellite tag whales, collect skin samples, take photos to identify individuals and potentially use drones to look at the animal’s overall health condition. On January 19, we had some luck and found a group of humpback whales near Right Whale Rocks. Dr Emma Carroll collected several skin samples which will be used for genetics, stable isotope and toxicology analyses. The weather improved enough for satellite tagger, Dr Amy Kennedy, to successfully deploy our first satellite tag on a whale in South Georgia waters.

We tagged our second humpback whale on January 22, 2019. The whales have followed very different tracks. The first whale has been travelling off the eastern side of South Georgia and very close to the coast. The second whale has been slowly but steadily heading into the waters of the South Sandwich Islands.

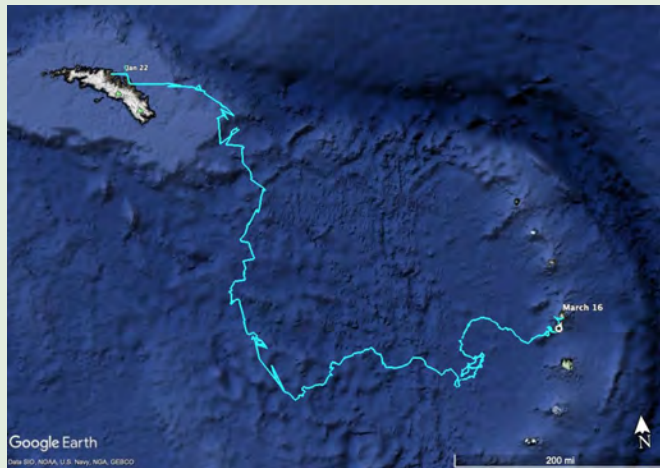


*The whale project team on the beach at King Edward Point*



*A humpback whale near Right Whale Rocks at the entrance to Cumberland Bay*

The weather was much more of a challenge in late January and throughout February so we were unable to tag any more whales. We did collect several more humpback skin samples and collected quite a few identification photos. Our drone pilot, Darryl MacDonald, was kept busy shooting footage for BBC projects and BAS PhD student Connor Bamford had lots of data to analyse.



*Tracks of two humpback whales tagged during the research. The first hugged the SE coast of South Georgia, whilst the second one headed for the South Sandwich Islands.*

It was a wonderful opportunity to be based at the historic Discovery house to conduct whale research 100 years on from the Discovery Investigations. While we did not have any sightings of southern right whales, we were able to gather lots of new information about humpback whales. We are very grateful for all the support from everyone at KEP and the museum staff at Grytviken for a memorable season!



*The team were based in Discovery House at King Edward Point.*



*Southern right whale off the south coast of South Georgia.*

## A new aerial perspective of South Georgia's coastal habitats

### Neil Golding, SAERI

Majestic wildlife, breath-taking vistas and extreme weather; these are some of the many lasting memories SAERI's Coastal Habitat Mapping project manager Neil Golding will have following his return from a month-long trip to South Georgia

Neil's trip to South Georgia was part of a wider South Georgia Heritage Trust expedition focused on 19<sup>th</sup> century sealing archaeology, which set sail on 23<sup>rd</sup> February 2019 aboard the MY *Hans Hansson*. As well as providing aerial imagery support to the South Georgia Archaeological Project, he was primarily there to collect data for the Darwin Plus (DPLUS065) Coastal Habitat Mapping project. These data were in the form of ground validation information, verifying ground cover/habitat type at various locations to train and validate computer models being used to create coastal habitat maps for South Georgia. During the expedition, the coastal mapping team collected 241 ground validation sample points.

With permission from Air Safety Support International and the Government of South Georgia & the South Sandwich Islands (GSGSSI), Neil also had a unique opportunity to map some of South Georgia's extraordinary coastal habitats with drones. The ability to collect stunning ultra-high resolution aerial imagery at up to 8mm per pixel resolution and fly missions covering 260 hectares will be of enormous benefit to the development of fine-scale habitat models/maps for the GSGSSI, a partner on the project, as well as other stakeholders.



*Preparing to fly a drone-mapping mission at Gold Head, Gold Harbour.*

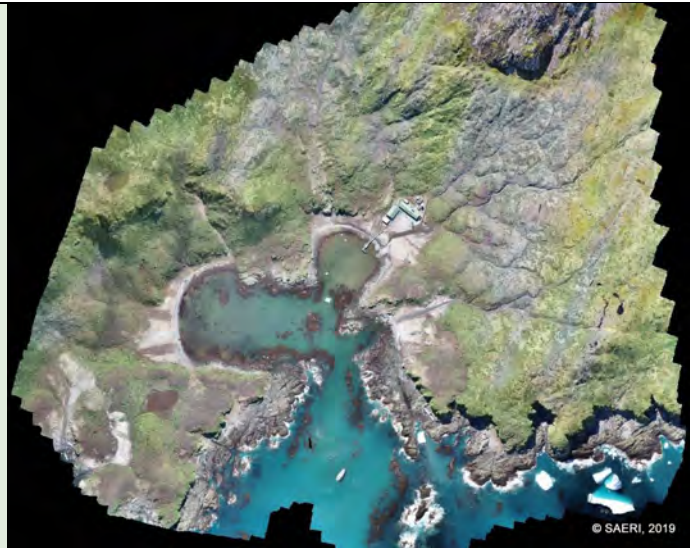
In total, the variable South Georgia weather allowed 8 drone mapping missions to be flown in areas ranging from Bird Island off the north-west tip of South Georgia to Moltke Harbour, Royal Bay, the location of the 1882-83 International Polar Year German research station which was South Georgia's first scientific research station. Other areas mapped by drone included Elsehul, Jason Harbour, Start Point (Salisbury Plain), Fortuna Bay, Albatross Cove (Cooper Bay) and Gold Harbour. Once processed, the resultant aerial photo mosaics will be made available to the wider public via the GSGSSI web-mapping portal.



*Deploying ground control points at Elsehul. These allow accurate digital elevation models to be created for specific areas, such as the area being investigated by the archaeological team of the South Georgia Archaeological Project.*



We all know that South Georgia is by no means flat! This represented a challenge to the Coastal Mapping project – how to collect high quality aerial imagery in mountainous terrain, safely? This is where technology really helped. Innovative drone mapping software allowed Neil to plan missions which would follow the terrain, allowing him to map steep glacial valley slopes and rocky outcrops safely and efficiently at a set altitude. Much of this mission planning required internet connectivity to download terrain data, and this was where the generous support of Iridium Communications and MailASail was invaluable, allowing the team to sit off the coast of South Georgia on the vessel and plan a drone mission in one of the most remote environments in the South Atlantic.



*An albatross's view of Bird Island from 100m above ground level. The Bird Island Research Station can be seen in the centre of the image. It is possible to see individual Wandering Albatross sitting on their nests on the high-resolution orthomosaic*

The DPLUS065 Coastal Habitat Mapping project is grant aided by the Darwin Initiative through UK Government funding. Support is also provided through the Falkland Islands Government Environmental Studies Budget. The project is using recently available satellite imagery alongside other spatial data and local expert knowledge to develop the first island-wide broad-scale coastal margin (terrestrial, intertidal and subtidal) habitat maps for South Georgia & the Falklands. In specific areas of interest, fine-scale habitat maps using high-resolution satellite and drone imagery are also being created. These habitat maps will create an essential baseline for South Georgia, providing a sound basis for use in future planning, decision-making and monitoring.

GSGSSI has been an integral partner of this three-year project led by SAERI. Other partners include Falkland Islands Government, Oregon State University, JNCC and the Shallow Marine Surveys Group. The project is due to conclude in March 2020.

This work could not have happened without support from the wider South Georgia Archaeological Project expedition. Thanks go to South Georgia Heritage Trust, Bob Burton from the South Georgia Association, Cambridge Archaeological Unit (University of Cambridge), Iridium Communications and MailASail, National Geographic, Quixote Expeditions, Gifford Hickey, Dion Poncet & Oliver Prince.

You can find out more about the DPLUS065 Coastal Habitat Mapping project by visiting our website: <https://www.south-atlantic-research.org/research/terrestrial-science/coastal-mapping-project/> or contact the project manager directly on [ngolding@saeri.ac.fk](mailto:ngolding@saeri.ac.fk)



## The loss of sealers' history at King Edward Point by Bob Burton

On 2nd May, 1902, J. Gunnar Andersson of Otto Nordenskjöld's Swedish Antarctic Expedition walked up the slope behind the newly-named Maiviken (May Cove), through a pass he named Bore Valley and discovered a cove, hitherto unknown and almost cut-off from Cumberland Bay by an 'immense terminal moraine'. As a geologist, Andersson was drawn to the moraine where he was surprised to find a large green-painted boat, 30 feet long and 11 feet wide, undecked and with a centreboard. As he searched around, he found clear indications that this had been a major site for the 19<sup>th</sup> century sealing industry. There was a heap of bricks and seven cast-iron 'boilers' (or trypots). One bore the inscription 'Johnson & Son Wapping Dock London'. As a result of these finds Andersson called the cove Boiler Bay – Grytviken in Swedish.

As we all know, Grytviken attracted the attention of C.A. Larsen, the captain of Nordenskjöld's expedition ship *Antarctic*, as a prime site for a whaling station. After he established the station in 1904, the Norwegian whalers called the moraine headland Sauodden (Sheep Point) while the British called it King Edward Point (KEP) and established their administrative settlement there. Over the course of the next century virtually all the remains of what had been a major centre of the sealing industry have been destroyed – often deliberately.

We are lucky that a few photographs were taken, one of the boat by Andersson himself. The boat, usually described as a shallop, was used for taking gangs of sealers to seal colonies on other beaches and bringing back blubber for processing in the trypots. Some time after the British settlement of KEP, the boat was filled with stones and sunk off the beach to make the foundation for a small jetty. For many years it could be seen at low tide. Wouldn't a 19<sup>th</sup> century sealers' boat have made a marvellous exhibit in the South Georgia Museum and a wonderful source of information for marine historians!



*The 19<sup>th</sup> century boat found by J Gunnar Andersson that was used to make a jetty.*

The trypots have also disappeared from KEP except for a few fragments. The two at Grytviken (one inscribed Johnson & Son) probably came from KEP, as did the one outside the Scott Polar Research Institute in Cambridge and another that is believed to be somewhere in London. Two broken trypots could be seen in shallow water along the track from KEP until recently. The fate of the rest is unknown but in the BAS Club Newsletter for 1982, Leo Harrison Matthews, a *Discovery* Investigations biologist wrote "I hear that by the order of some ignorant vandal all [trypots] that remained were smashed up a few years ago and the pots thrown into the sea 'to make the place tidy'. Shame on the Philistines".



*This photo, taken at KEP in the early 1960s, was labelled 'tryworks' by the seal inspector Bill Vaughan. It is the only known record of these tryworks and sheds little light on its construction.*

A couple of days later, Andersson walked around the cove and came across a small group of wooden grave markers, of which three were still legible and dated to the 19th century. This spot below Gull Lake was subsequently used as a cemetery by the whalers. The original graves are now commemorated by replica markers although it is doubtful that the rectangular surrounding kerbs mark the true location of the interments. At least this part of the cove's 19th century history has been preserved. Thankfully, the Government of South Georgia now guards the remainder of the island's heritage, as much as the ravages of time, weather and trampling seals allow.

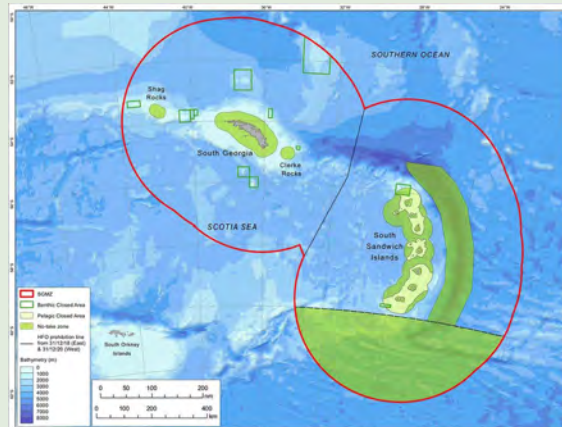


*The original location of sealers' grave markers below Gull Lake.*

## South Georgia & the South Sandwich Islands MPA Enhancements Announced

The Government of South Georgia & the South Sandwich Islands (GSGSSI) has announced a range of additional measures for its Marine Protected Area (MPA), which will greatly enhance the protection and conservation of the Territory's rich marine biodiversity. Drawing on the recommendations arising from the recent 5-yearly review of the South Georgia and & South Sandwich Islands Marine Protected Area, GSGSSI will extend the current Marine Protected Area legislation across its entire 1.24m km<sup>2</sup> Maritime Zone.

No-take zones (NTZ), which will be closed to all commercial fishing activity, will be expanded to cover 23% (284,000 km<sup>2</sup>) of the MPA; an area which greatly exceeds the size of the UK. This new NTZ network covers key biodiversity hotspots at the South Sandwich Islands and protects the globally significant and unique South Sandwich trench. In addition, a precautionary two month extension to the seasonal closure of the highly regulated fishery for Antarctic krill will limit fishing to the winter period between May and September, to reduce potential competition between the fishery and krill predators such as seals and penguins during their breeding seasons.



*The revised South Georgia & South Sandwich Islands Marine Protected Area.*

Director of Fisheries & Conservation, Mark Belchier stated: "The range of enhancements to the MPA announced by GSGSSI in December 2018 arose from substantial discussion among stakeholders during a (the first) 5-year review of the MPA. Over 200 scientific papers and reports published since 2012 relevant to the management of the SGSSI marine environment, were considered by the review panel comprising marine scientists, NGOs and representatives from the fishing industry and tourism sectors. The resulting measures have greatly increased the area of the MPA in which all commercial fishing activity is prohibited to 23%."

## South Georgia Association News

**Autumn Event in Plymouth on October 19<sup>th</sup> 2019.** The SGA Autumn Event will be held at the Duke of Cornwall Hotel, Plymouth in association with the Devon & Cornwall Polar Society. The hotel is well known for its connection with Shackleton, who stayed there before departure of the Imperial Trans-Antarctic Expedition. The event will include lunch & dinner, talks on “Sir Alister Hardy’s legacy”, “Remote medicine at South Georgia” and a talk by Anne Strathie, author of *Birdie Bowers* and *Captain Scott’s Marvel*. There will be an exhibition of artwork by Theo Crutchley-Mack and the photographs of Oliver Prince.



**SGA seeks a new auditor.** SGA has been fortunate to receive the services of Keith Holmes as auditor since 2011. Keith is now wishing to stand down, so we are seeking a replacement auditor. If anyone in the membership would be interested please contact: [sgatreasurer111@gmail.com](mailto:sgatreasurer111@gmail.com) for further information.

## South Georgia News

**A Conservation Management Plan (CMP) for Grytviken** has been published by the GSGSSI. The document has been prepared by heritage consultants Purcell following recommendations from the SGSSI Heritage Framework Strategy. Grytviken was the first shore-based whaling station on South Georgia and is now the focal point for South Georgia’s 10,000 seasonal visitors who all pass through during their visit to the island.



*Grytviken, showing the church and the Nybrakke (New Barracks).*

**The biosecurity detector dog programme extended by GSGSSI.** This follows a successful pilot programme, where specially trained dogs were deployed on vessels bound for South Georgia tasked with detecting rats and mice. By ensuring there were no stowaway rodents on board, or among cargo, the dog team effectively made sure that no rodents could re-invade South Georgia

**The GSGSSI 2017 Financial Statements** were published in February 2019 and show a surplus of £1.3 million for the year. Expenditure was £5.3 million, with the main costs being the patrol vessel, operation of KEP, fisheries research and staff salaries. Revenue from the toothfish fishery (£4.8 million) dominates the revenue.

**Editor’s Note:** The South Georgia Association newsletter is produced twice a year, in April and November. Contributions should be submitted, at least one month before publication, to the editor: Martin Collins (Email: [only1martincollins2@gmail.com](mailto:only1martincollins2@gmail.com)).

