



Blue Belt Programme

Annual Update for Financial Year 2019/20



Marine
Management
Organisation



Centre for Environment
Fisheries & Aquaculture
Science



UK Government



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Blue Belt Programme scientist Simeon Archer-Rand lowers an underwater camera to collect images of the seabed during the 2019 Henderson Expedition. Image credit: Luke Hosty, Protect Blue.

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Introduction

The Blue Belt Programme is a UK government initiative to enhance marine protection across 4 million square kilometres of marine environment in the UK Overseas Territories.

The UK Overseas Territories are some of the most biologically interesting, and remote, places on Earth. From the vast penguin colonies of South Georgia & the South Sandwich Islands to the marine turtles of Ascension Island, the UK Overseas Territories are home to globally significant biodiversity.

The Blue Belt Programme was initially established to run from 2016-2020, with funding from the Conflict, Stability and Security Fund. Since 2016 the Blue Belt Programme has worked closely with 5 UK Overseas Territories and their dependencies to enhance the protection and management of their precious marine environments.

This flagship programme has been central to the UK government's ambition of leading action to tackle the serious global problems of overfishing, species extinction and climate change, driven by the 25 Year Action Plan and UN Sustainable Development Goals (SDG14), and the Convention on Biological Diversity.

This year of the programme has seen a new Large Scale Marine Protected Area designation, an underwater mountain twice the height of Ben Nevis added to a global map of the seafloor and the development of management and enforcement plans to tackle illegal, unreported and unregulated fishing. We have worked with local communities to raise awareness and build skills in monitoring, enforcement, and responsible tourism practices.

The Blue Belt Programme is supported by two world-leading organisations - the Centre for Environment, Fisheries and Aquaculture Science (Cefas) and the Marine Management Organisation (MMO) on behalf of the UK government. These organisations were chosen for their expertise and knowledge in the fields of marine science, management, technology and enforcement.

Over the coming year the UK Overseas Territories will build on the success of the first 4 years of the programme in partnership with Cefas and MMO and other UK government experts, while increasing on island capacity, and developing external partnerships.

We hope you enjoy reading about our recent activities and our plans for the year ahead in our annual update.

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The Blue Belt Programme, one of the UK Government's most ambitious environmental policies ever, is on course to establish 4 million square kilometres of protected and managed oceans around the UK Overseas Territories.

I congratulate the Overseas Territories, who have taken measures that not only protect and manage their waters - which are essential for their local communities - but also play a fundamental part in protecting the world's ocean, on which we all rely.

Over the last year, the Blue Belt Programme has started to develop a dedicated laboratory for marine research, tackled illegal unreported and unregulated fishing through sophisticated satellite tracking and put in place legislation to conserve and protect these unique ecosystems for future generations. It is our ambition to strengthen and expand this inspiring programme.

LORD ZAC GOLDSMITH

FCO Minister for Pacific and the Environment

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Ascension Island



Ascension Island is situated in the tropical South Atlantic surrounded by an Exclusive Economic Zone covering over 440,000 square kilometres that supports globally important marine life including large predators and green turtles. In 2019 the Ascension Island Council agreed the designation of one of the largest Marine Protected Areas in the world covering their entire Exclusive Economic Zone - ensuring the near pristine waters around Ascension will be protected for the future.

The Blue Belt Programme worked with the Ascension Island Government and the Island Council to develop and enhance marine protection across their waters.



Dolphins swimming near Ascension Island.

Strengthening governance

In August 2019, the Ascension Island Council agreed the designation of their entire Exclusive Economic Zone as a no take Marine Protected Area. The decision to designate 100% of their Exclusive Economic Zone will protect and reduce pressures on over exploited fish stocks within the zone, preserve biologically diverse marine habitats such as seamounts and ocean



Silky and Galapagos sharks observed over Grattan Seamount.

ridges, and help safeguard vulnerable species including green turtles, sharks and marlin. Inshore recreational and sports fishing will be permitted and managed under a newly developed inshore fisheries management plan.

Work undertaken by the Blue Belt Programme, and many other organisations, ensured the decision was based on the best available evidence. This evidence was compiled and presented in the Ascension Island Marine Protected Area evidence and options document in early 2019.

This evidence-based approach ensures the near-pristine marine environment

around Ascension Island will be protected and sustainably managed for future generations.

The Blue Belt Programme has worked closely with Ascension Island Government, the Crown Counsel and St Helena Attorney General's Chambers to review relevant legislation and identify different approaches to designate their Marine Protected Area and reviewed and advised on regulatory policies.

In the past year the Blue Belt Programme worked with the Ascension Island Government to progress their marine management and action plan. The plan will help Ascension Island Government sustainably manage and monitor the newly designated Marine Protected Area. The management objectives in the plan will ensure that key species, habitats, and ecological processes are protected and conserved.

Understanding and protecting biodiversity

In July 2019, the Ascension Island Government, the University of Exeter, Great British Oceans coalition and the Blue Belt Programme jointly held the first International Blue Belt Overseas Territories Symposium with funding from the Darwin Initiative.



Ascension Island Government's Diane Baum presenting at the Blue Belt Symposium.



Blue Belt Programme team member Paul Whomersley sharing findings from the RRS Discovery Expeditions at the Blue Belt Symposium.



British Antarctic Territory



The Blue Belt team participated in the development and delivery of the symposium. Attendees travelled from around the world to discuss large scale ocean management at the event held at the University of Exeter.

Speakers included Overseas Territories representatives, the Minister of State for the UK Overseas Territories, the UK government Blue Belt team, NGOs, researchers, industry professionals and more.

The symposium provided a unique opportunity for collaboration between the various agencies, academic institutions, organisations, and UK Overseas Territories involved in delivering the Blue Belt Programme. The symposium sessions facilitated knowledge exchange between managers, who now support and learn from each other.

Supporting sustainable fisheries management

Over the last year the Blue Belt Programme worked with the Ascension Island Government to create a compliance and enforcement strategy focusing on tackling illegal, unreported and unregulated fishing.

The Blue Belt Team also looked at technologies which may support Ascension Island's compliance and enforcement actions during the bespoke technology roadmap assessment.



Above: Ascension Island black fish and below: a porcupine fish in Ascension Island waters

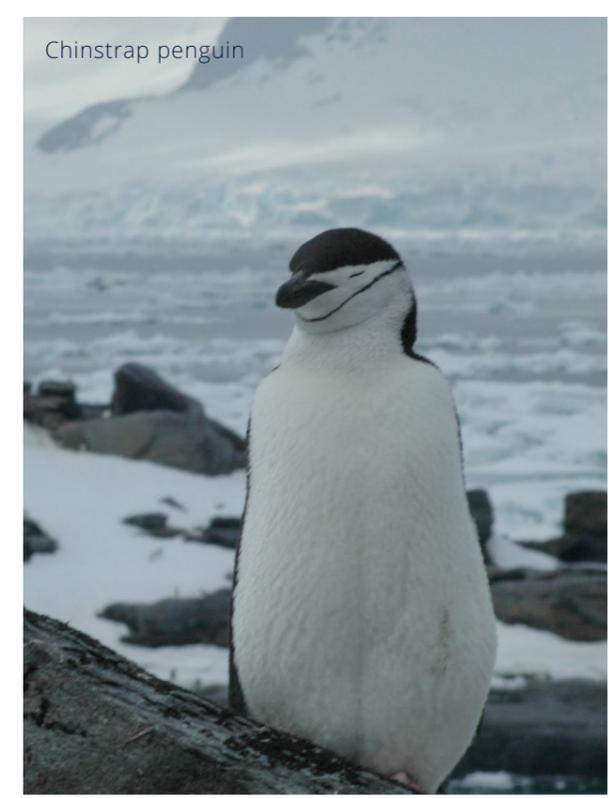
“ The designation of Ascension Island's highly protected large scale Marine Protected Area will ensure that the near pristine marine environment around Ascension will be safeguarded for future generations. **ASCENSION ISLAND COUNCIL** ”

The waters around the British Antarctic Territory are amongst the most productive in the Southern Ocean, supporting large populations of krill, which feed larger predators, such as baleen whales, penguins and seals.

A fishery for Antarctic krill operates during the austral summer, and there is a small research fishery for the valuable Antarctic toothfish. Both are managed by an international body, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). The first CCAMLR Marine Protected Area was created near the South Orkneys in 2009, based on a scientific rationale presented by the UK.

Supporting sustainable fisheries management

Over the past year the Blue Belt Programme has continued their partnership with the British Antarctic Survey on marine science and advice on management in the British Antarctic Territory. Over the coming year the partnership will focus on the assessment and provision of management advice on krill.



Chinstrap penguin

“ Since the adoption of the South Orkney Islands Southern Shelf Marine Protected Area, the UK has been a leading advocate for the designation of Marine Protected Areas across the Southern Ocean. By helping demonstrate the effectiveness of Marine Protected Areas and through ongoing improvement of surveillance capabilities in the high latitudes, the Blue Belt Programme underpins the UK's ambition to expand the network of Marine Protected Areas around Antarctica. **JANE RUMBLE** UK Commissioner to CCAMLR and Deputy Commissioner for British Antarctic Territory ”

British Indian Ocean Territory



The British Indian Ocean Territory (BIOT) is in the central Indian Ocean surrounded by a 640,000 square kilometre maritime zone. BIOT's small islands and atolls support globally significant biodiversity. A no-take Marine Protected Area was declared in BIOT in 2010, with a low level of recreational fishing allowed in the territory.

The Blue Belt Programme works closely with the BIOT Administration to enhance marine protection and environmental conservation across the territory.

Supporting compliance and enforcement

The Blue Belt Programme continues to provide valuable intelligence in support of a multi agency operation involving Marine Resource Assessment Group (MRAG), BIOT Administration and the European Maritime Safety Agency (EMSA), to intercept, detain, and prosecute vessels fishing illegally in BIOT's Exclusive Fishing Zone.

For example, this work was central to the successful detention of a vessel in January 2020. After detecting the illegal activity, the Blue Belt Programme provided on going intelligence and live operational support to the Senior Fisheries Protection Officer on board the patrol vessel. This information coupled with Copernicus Maritime Surveillance satellite imagery provided by EMSA enabled the patrol team to locate and detain the vessel at short notice. Blue Belt Programme has set up and run frequent and comprehensive

surveillance across the territory, supplied new equipment to support enforcement activities and built relationships between the BIOT Administration and external organisations to improve daily patrol operations.

Managing the impacts of other human activities

The BIOT Marine Protected Area includes vast coral reefs and deep seagrass beds. Human activities on Diego Garcia have the potential to impact these vulnerable habitats through the accidental release of contaminants into the lagoon and outer coasts.



Water samples were collected from Diego Garcia

The BIOT Administration were keen to prevent any impacts, and highlighted water monitoring as a priority under the Blue Belt Programme. In April 2019, the Programme supported the BIOT Administration in the collection of water samples from around Diego Garcia. The samples were returned to the UK for analysis by specialist laboratories.

The samples were tested for nutrients, heavy metals, contaminants, E. coli and toxicology. The results from the analysis will act as a baseline for future monitoring of the waters around Diego Garcia ensuring that the pristine environment is well managed and protected.

A busy shipping lane passes through BIOT's Marine Protected Area. If a passing vessel were to hit a coral reef the impact could be devastating to the marine environment. To address this concern, the Blue Belt Programme commissioned OceanMind

to analyse shipping traffic in the Marine Protected Area and identify high risk areas. This information will form the basis of further advice to the BIOT Administration in developing their marine pollution response plans to protect these sensitive habitats.



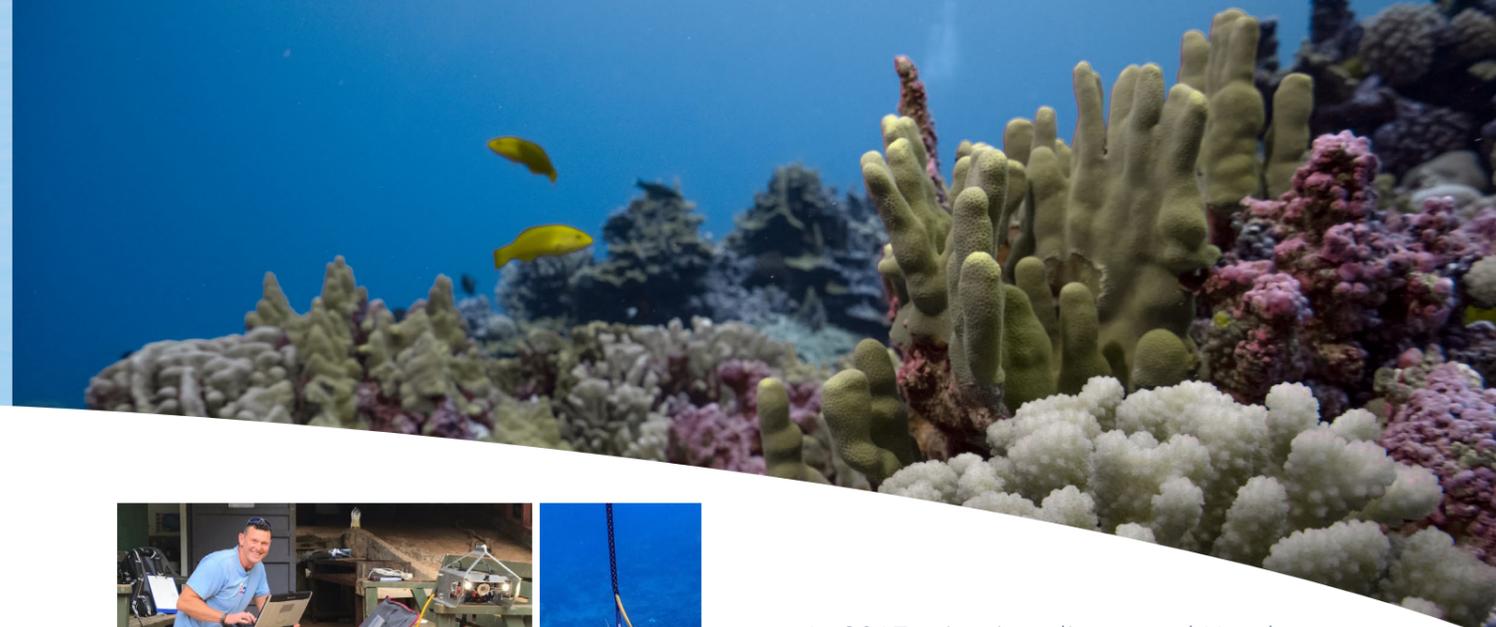
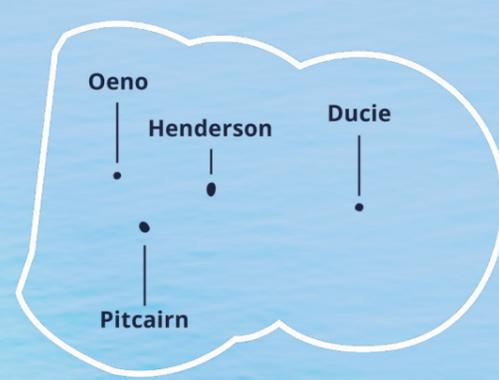
A red footed booby in BIOT.

“ The Blue Belt Programme continues to provide significant benefits to BIOT's intelligence gathering capabilities in tackling the threat of illegal, unregulated and unreported fishing. Through satellite monitoring and threat analysis they have improved our situational domain awareness and directly assisted in the detention of criminal vessels. Working with key industry partners, they are also assisting the BIOT Administration in long term enforcement planning.

BIOT ADMINISTRATION

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Pitcairn Islands



The Pitcairn Islands are in the South Pacific Ocean with one of the largest Exclusive Economic Zones in the world and are home to a range of biodiversity from hundreds of species of fish to exceptionally preserved coral ecosystems. The four islands are surrounded by a no-take Marine Protected Area covering over 830,000 square kilometres though artisanal fishing rights are held by the small island population.

The Blue Belt Programme works closely with the Government of the Pitcairn Islands to enhance marine protection in their waters.

Strengthening governance

Over the last year the Blue Belt Programme supported the Government of the Pitcairn Islands to develop a management plan for their Marine Protected Area. The plan was based on feedback from a community consultation workshop and meetings with the Government of the Pitcairn Islands. The management plan will ensure the Marine Protected Area is effectively managed over the next 5 years and a draft has been shared with the community for feedback.

The Blue Belt Programme created a new monitoring and research plan. The plan is directly related to Pitcairn Islands' management plan for their Marine Protected Area. The plan provides tools for the territory to assess the progress of new management actions. The Blue Belt team also provided advice on the drafting of new Marine Conservation Regulations and ballast water guidance to underpin the management of the Marine Protected Area.

Managing the impacts of other human activities

The Blue Belt Programme funded Olive Andrews from Conservation International and Ben Parangi from Whales Alive to visit the Pitcairn Islands. Olive and Ben gave the

local community training to help them put the Pitcairn Islands' whale watching code of conduct into action, developed with help from the Blue Belt Programme. Most of the island's residents attended the public presentation. They also held a detailed meeting with potential whale watching operators, highlighting best practice from other islands in the Pacific Ocean and offering practical guidance on how to approach whales without disturbing them. The training received positive feedback.

The Blue Belt Programme also worked with the Government of the Pitcairn Islands and the RSPB to develop an interpretation board. The board will be placed on the new whale watching platform under construction on one of the headlands on Pitcairn Island. The board provides visitors with information about humpback whales and the different types of seabird that they might see from the platform.



Demonstration of the size of a baby whale during whale watching training.

Understanding and protecting biodiversity

In January 2020, the Blue Belt Programme



Blue Belt team member Paul Whomersley preparing the drop down camera system for the marine survey.

undertook a joint expedition to Pitcairn Island with JNCC, the Joint Nature Conservation Committee. The survey studied marine habitats and the health and extent of coral communities using satellite imagery and a drop-down camera system. Using expertise from on-island staff the team collected over 10 hours of seabed videos and 4,000 still images around Pitcairn Island.

The data was analysed by the Blue Belt team to provide advice for a new permanent mooring on Pitcairn Island. The mooring will help reduce the potential damage caused by vessels anchoring around the island and lower the fuel consumption of the island's supply vessel. Data from the survey will also feed into the management of the waters around Pitcairn and act as a baseline data set for assessing the changing conditions of the corals.

During the survey, the team trained local staff and community members in environmental monitoring techniques. They demonstrated equipment, practiced deployment techniques, and shared health and safety advice. The training will support ongoing monitoring of their Marine Protected Area.

In 2017 scientists discovered Henderson Island had the world's highest recorded density of plastic rubbish. In June 2019, the Blue Belt Programme provided financial support and scientific expertise towards the Henderson Expedition.

Over 11 days the team captured over 4,000 images of the seabed, collected six tonnes of rubbish, and undertook several experiments on the impact of the plastic waste. During the expedition, a Blue Belt Programme team member mapped the extensive coral reefs surrounding the island and gathered sand samples for microplastics analysis. Information from the Henderson Expedition helped inform Pitcairn Island's management plan.



Clockwise: samples for microplastic analysis, waste on the beach, Blue Belt scientist Simeon Archer-Rand viewing the footage from the underwater cameras.

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The Blue Belt programme is an extremely important piece of work for Pitcairn and our outer islands. The benefits have been enormous by providing resources, expertise and training spanning across different marine fields. The work has enabled us to fill in gaps and obtain much needed work which normally we wouldn't be able to achieve. The Blue Belt programme has been a success and I hope continues for many years.

MICHELE CHRISTIAN

Government of Pitcairn Islands

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St Helena

St Helena

St Helena is an isolated oceanic island, located in the sub-tropical South Atlantic, surrounded by a Marine Protected Area encompassing the island's entire Exclusive Economic Zone - an area over 440,000 square kilometres. St Helena's waters support a range of marine life including endemic and migratory species such as whale sharks, humpback whales and turtles.

The Blue Belt Programme works closely with the St Helena Government to enhance marine protection across their waters.

Strengthening governance

The Blue Belt Programme has worked closely with St Helena Government and the Attorney General's Chambers to provide advice on new fisheries policies. The new policies are closely aligned to the aims of St Helena's Marine Protected Area and will now be used to inform legislation. This will give St Helena's Marine Enforcement Officer the necessary powers to do their job.

The Blue Belt Programme has also provided funding to support the marine crown counsel in St Helena. The crown counsel will work closely with others in the Attorney General's Chambers and the Island Council committees to support development of policy and legislation to help St Helena, Ascension Island and Tristan da Cunha effectively manage and enforce their waters.

Supporting compliance and enforcement

The communities of small islands rely heavily on fisheries for both subsistence catches and for the revenue generated by

fishing licenses and concessions. Ensuring the long-term sustainable use of marine resources for the UK Overseas Territories has been an important part of the Blue Belt Programme.

The St Helena Government appointed a new Marine Enforcement Officer this year with funding provided by the Blue Belt Programme. The Marine Enforcement Officer works with the St Helena Government to ensure compliance with the new fisheries legislation and other legislation. They will also deliver local training to support effective enforcement.

Supporting sustainable fisheries management

The Blue Belt Programme has reviewed data and assessed stock status for several important species, including grouper, tuna and small fish used for bait. The team worked closely with the St Helena Government and the local commercial fishing feet to collect the necessary data and have offered advice on sustainable fisheries management.

Tuna is the most important species for the local fishery and has been commercially caught in St Helena for decades. Last year over 2,300 tuna were tagged in St Helena waters for the Blue Belt Programme

and International Commission for the Conservation of Atlantic Tunas (ICCAT) tuna tagging projects. These ongoing projects monitor local stock levels and help assess how many tunas reside in St Helena's waters as the seasons change. During the 2019 *RRS Discovery* Expedition, the Blue Belt Programme visited important tuna fishing grounds in St Helena. The team studied the behaviour of tuna prey in these areas to understand why particular areas are so popular with tuna.

In the past year, the Blue Belt Programme has also trained the St Helena Government marine section team in several tuna tagging techniques, developing on island skills and capability.



Blue Belt scientist Serena Wright tagging and releasing tuna with the local fishing industry



Working with St Helena Government marine section team on tuna tagging techniques.



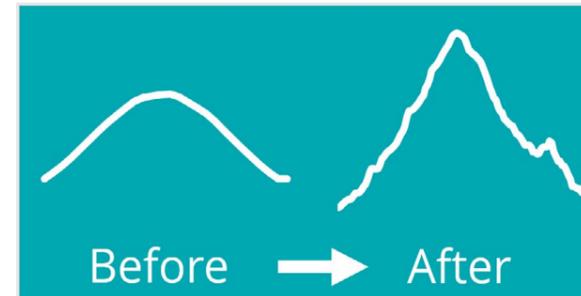
Samples collected during the *RRS Discovery* Expedition 100 to St Helena and Tristan da Cunha.

Understanding and protecting biodiversity

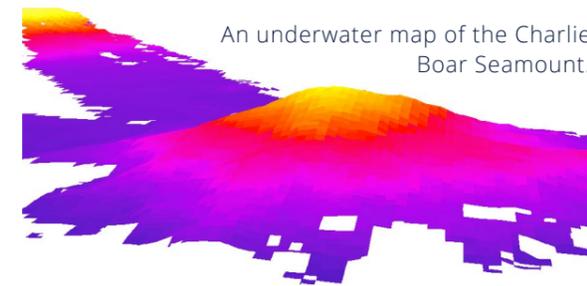
Large scale surveys raise the profile of marine protection within the local community, provide opportunities for increased stakeholder engagement and raise awareness of ongoing marine conservation and protection programmes.

Over the last year the Blue Belt Programme analysed the key findings from the 2019 *RRS Discovery* Expedition 100. Physical specimens, oceanographic samples, and camera footage provided a wealth of data about St Helena's environment. Oceanographic data showed the phytoplankton were most productive 100m below the surface of the water. At this depth they could access both nutrient rich deep waters and sunlight. Phytoplankton sustain the productivity of marine food webs in St Helena. The cameras and trawls revealed important deep-water communities including cold-water coral reefs and coral gardens, which offer refuge to many deep-sea species.

In December 2019, an underwater mountain in St Helena was added to a global map of the seafloor by the International Hydrographic Organisation. The underwater structure, known as a seamount, is twice the height of the UK's tallest mountain and is over 2,500 metres high. It was mapped during the joint British Antarctic Survey and Blue Belt Programme survey to St Helena and Tristan da Cunha on the *RRS James Clark Ross* in 2018.



The team saw a 400 x increase in resolution of the seamount after taking their measurements.



An underwater map of the Charlie Boar Seamount.

During the marine survey the team were taken to the approximate location of the seamount by St Helena fishermen. Scientists used a technique called 'swath bathymetry' to construct a picture of the seamount. Residents of St Helena held a competition to find a name for the seamount. The winning entry of the Charlie Boar Seamount, was the nickname of Mr Charles Henry – a local fishermen, sailor and merchant seaman who passed in 2018.

The Blue Belt Programme is also funding a new laboratory development in St Helena to enable safe and effective marine science studies and monitoring on the island. The St Helena Government hopes this new laboratory will be a centre for excellence

and Southern Ocean hub for marine science. In the last year, the planning application has been approved and building work is now underway.

Managing the impacts of other human activities

The Blue Belt Programme supported the St Helena Government develop management strategies for sand extraction and marine tourism activities. These strategies include advice on new licensing systems, long-term monitoring plans and development of new regulations to prevent impacts from human activities on important marine wildlife and habitats.

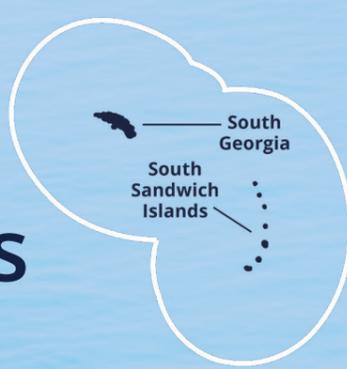


Whale sharks in St Helena

“ We are really pleased to hear of the commitment to extend the Blue Belt Programme, it has been a real positive for St Helena and delivered some key successes across the science, compliance and enforcement fields and guidance for marine management policy. We are really looking forward to the opportunities this fresh commitment can bring, helping to ensure our Marine Protected Area is managed sustainably to the best of our ability. ”

ST HELENA GOVERNMENT

South Georgia & the South Sandwich Islands



South Georgia & the South Sandwich Islands (SGSSI) are a sub-Antarctic archipelago in the Atlantic sector of the Southern Ocean with a Marine Protected Area covering over 1.2 million square kilometres. The Government of SGSSI established their Marine Protected Area in 2012 and made further enhancements in 2018 after a five-year review of the area. The territory is home to exceptional wildlife including vast penguin colonies and migrating whales.

The Blue Belt Programme works closely with the Government of SGSSI to enhance marine protection across their waters.

Understanding and protecting biodiversity

In 2018 the Government of SGSSI extended their Marine Protected Area following the first five-year review of the area. The Marine Protected Area review identified a lack of information about the deep-water benthic environment in South Georgia & the South Sandwich Islands. This information is needed to understand the potential risk to vulnerable species from fishing using deep-water longlines - the only benthic fishing gear allowed in the Marine Protected Area.

To address the information gap the Blue Belt Programme conducted several projects in the territory. The 2019 *RRS Discovery* Expedition 99 to the South Sandwich Islands produced a wealth of data. This data has been used to develop models which predict and map areas around the islands that are likely to contain vulnerable species. The maps will be used to advise the Government of South Georgia & the South Sandwich Islands on the effectiveness of current restrictions on longline fishing.



The deep water cameras recorded fishing operations and some of SGSSI's rich biodiversity

Blue Belt Programme funded miniature cameras and GoPro systems have been successfully deployed on over 500 longline sets across the territory to monitor fishing operations. The cameras are monitoring the movement of the fishing lines as they settle and are retrieved.

The cameras also monitor seabed characteristics and the species that reside in fishing areas. The results showed most fishing occurs in muddy or sandy areas where very few, if any, species are at risk.

The information collected by the fishing industry using their lines will be used to develop a risk framework used for management of their activities, developing and enhancing the protection of the Marine Protected Area. This information will also be used in the global standard Marine Stewardship Council review.

Supporting sustainable fisheries management

SGSSI's sustainable fisheries for toothfish, icefish and krill, managed in accordance with the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), are internationally recognised as outstanding examples of ecosystem based fisheries management. Over the past year the Blue Belt team have supported the Government of SGSSI develop a compliance and enforcement framework to support implementation of the legislation.

Supporting compliance and enforcement

The Blue Belt Programme organised the installation of an acoustic sensor, provided by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), on a British Antarctic Survey (BAS) mooring in SGSSI. The acoustic sensor aims to detect mechanical noise from vessels. The device could potentially identify illegally operating vessels that have turned off their positioning equipment to avoid detection. The data from the trial will be analysed next year once the sensor is collected.

In July 2019, a vessel engaged in potential illegal fishing was detected in South Georgia & the South Sandwich Islands. The Blue Belt team worked with the Government of SGSSI and OceanMind to identify the vessel. The vessel was inspected by fisheries officers in South Georgia, following a pursuit, and again by Indonesian authorities. The Government of SGSSI and the Blue Belt team alerted the international community through INTERPOL. This resulted in an international response through an Interpol coordinated investigation involving 5 countries and CCAMLR. Blue Belt provided advice and support for the investigation.



Using satellite surveillance to monitor vessels in the waters around SGSSI: Image credit Oceanmind.

“ The Blue Belt Programme is making a significant contribution to the conservation and management of the highly biodiverse waters around South Georgia & South Sandwich Islands. The programme has improved our knowledge of our deep sea benthic biodiversity; informed the science that underpins the management of our world-class sustainable use Marine Protected Area; and crucially, supported our efforts to enforce the protection of our waters from illegal fishing. ”

NIGEL PHILLIPS CBE
HM Commissioner for South Georgia & the South Sandwich Islands

Tristan da Cunha



Tristan da Cunha is an isolated archipelago in the South Atlantic, comprising four main islands and an Exclusive Economic Zone covering over 750,000 square kilometres. Many species in Tristan da Cunha's highly productive waters are endemic, having evolved in complete isolation, and depend on Tristan da Cunha's marine environment. The Tristan da Cunha Island Council are finalising their Maritime Protection Zone design across their Exclusive Economic Zone, which will be announced later in the year.

The Blue Belt Programme works with the Tristan da Cunha Island Council to enhance marine protection across their waters.

Strengthening governance

The small community is highly dependent on a healthy marine environment to support its Marine Stewardship Council certified rock lobster fishery, which provides about 80% of the island's income, enabling it to be self-sustaining. The marine life of the islands and offshore seamounts are also of high conservation importance.

Over the last 4 years the Blue Belt Programme has improved knowledge of Tristan da Cunha's inshore, seamount and open ocean ecosystems and identified key habitats, species and threats. In the last year, the Blue Belt Programme worked closely with the Tristan da Cunha Island Council and external partners to inform their decision on a marine protection strategy based on best available evidence. The Blue Belt team produced several advisory reports with input from various stakeholders, attended meetings and spent six weeks on island supporting the Island Council in finalising their decision.

In 2020 the Tristan da Cunha Island Council will make a decision based on the on how to protect Tristan da Cunha's important

marine biodiversity and features. A number of options have been put to the council for consideration based on the latest scientific evidence. Their protection strategy will include measures for their inshore area, the highly productive seamounts and wider open ocean, ensuring the community is able to continue making a living from well-managed fisheries.

In their marine protection strategy, the Tristan da Cunha Island Council will include measures to protect highly sensitive seafloor habitats like deep-sea corals and sponges to protect the sensitive ecosystems in Tristan da Cunha.

In the last year the Blue Belt Programme completed a policy gap analysis to help identify the most appropriate legislative approach to underpin the developing



The Wave Dancer arriving in Tristan da Cunha.

strategy and highlight any current or future human activities not covered by existing legislation.

Supporting sustainable fisheries management

In the last year, the Blue Belt Programme finalised the first stock assessment for Tristan da Cunha's main commercial whitefish species – the bluenose warehou. This evidence informs the seamount fisheries management plan that is being developed to support healthy and sustainable fisheries in Tristan da Cunha.

The fisheries patrol boat for Tristan da Cunha, Wave Dancer, is one of the island's most important assets. It is used for fishery patrols, scientific research, crew transfer, oil spill response and emergency response and rescue. The Wave Dancer was transported to the UK for refurbishment in 2018 and underwent 6 months of repairs, including replacement engines.

During the refurbishment Tristan Fishery Department staff visited the UK to take part in the refurbishment and receive training. Training was given in compliance and enforcement, at-sea survival techniques, and all aspects of vessel maintenance to ensure the Wave Dancer remains in good condition on island.

The Wave Dancer arrived in Tristan da Cunha in December 2019. The vessel is now back in action patrolling the northern islands, serving as a platform for scientific studies and providing the community with an emergency response vessel.



The Blue Belt team worked with the Tristan Fishery Department staff to transfer skills.

Cross Territory



Managing the impacts of other human activities

Despite being home to the world's remotest settlement, Tristan da Cunha is in the middle of two busy shipping routes as vessels cross between Southern Africa and South America. This resulted in a disastrous maritime accident in 2011. The resulting oil spill devastated wildlife, particularly the Northern rockhopper penguins. Tristan da Cunha's lobster fishery also had to close for several months.

The Blue Belt team worked with the Tristan da Cunha Island Council to identify areas of heavy shipping traffic, exploring ways to keep vessels away from their sensitive inshore habitats. In April 2020 Recommended Areas to Be Avoided, agreed through the Blue Belt Programme, were implemented by the UK Hydrographic Office. The areas appear on all paper and electronic Admiralty Charts and extend out 25nm from the Tristan northern island cluster and Gough Island. Marine traffic will be continuously monitored to measure effectiveness.

Understanding and protecting biodiversity

In the last year, the Blue Belt Programme used evidence from the Blue Belt Programme/BAS marine surveys on the *RRS James Clark Ross* and the *RRS Discovery* to help inform Tristan da Cunha's marine protection strategy. The survey studied several seamounts in Tristan da Cunha - collecting data on the fish and crustacean communities living in the water column and the ecosystems on the seafloor.



Tristan da Cunha Environmental Policy Officer Stephanie Martin discussing Blue Belt Programme/BAS marine surveys during the Blue Belt Symposium.

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The Blue Belt Programme has been a valuable partner to help Tristan da Cunha develop its marine protection strategy. Our long-term relationship has been a strong foundation on which to support our project to help ensure the unique biodiversity of the archipelago for the future population of the planet.

JAMES GLASS

Chief Islander Tristan da Cunha

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Much of the work of the Blue Belt Programme applies across several, or all, of the UK Overseas Territories (UKOTs). The Blue Belt Programme works in partnership with agencies, non-government organisations and local communities to develop, implement and enforce marine management strategies within UKOT waters.

Understanding and protecting biodiversity

To support our cross-cutting work on minimising the risk from marine invasive non-native species (INNS), the members of the Blue Belt Programme team worked with JNCC on a collaboration on behalf of the GB Non-Native Species Secretariat (NNSS) to develop a Marine Biosecurity Toolkit for the UK Overseas Territories.

The Marine Biosecurity Toolkit provides practical guidance to the UK Overseas Territories to reduce the risk of introducing marine INNS and to identify any marine species that may already exist in their waters. The toolkit contains identification guides, risk assessment tools and more.

Environmental data collected through the programme is being made available through the Cefas Data Hub and other relevant data sources. The data will add to our wider understanding of the regions and ensure that stakeholders have access to the best data for future decision making.

Supporting sustainable fisheries management

The Blue Belt Programme worked across the UK Overseas Territories to develop data management procedures with each territory, ensuring important environmental and fisheries data is safely and securely stored.

New environmental databases have been created for Pitcairn Island and the team built a new fisheries database for St Helena's Marine Department and Tristan da Cunha Fisheries Department. The Blue Belt Programme provided new servers and laptops for Tristan da Cunha, St Helena and Pitcairn Island and trained local staff in using the databases to aid in the collection and safe storage of data.

Supporting compliance and enforcement

The global loss of illegal, unreported and unregulated fishing has been estimated to be upwards of \$23 billion USD. Illegal fishing is a worldwide problem that many UK Overseas Territories face.

The UK Overseas Territories have limited resources and staff capacity to manage illegal, unreported and unregulated fishing on such a large scale. Most of the UK Overseas Territories the Blue Belt Programme works with lack access to fisheries patrols vessels. A risk-based approach, combined with the use of commercially available satellite technology and trialling of novel and effective new technologies has been adopted to deliver effective surveillance and enforcement of these large scale Marine Protected Areas.

The Blue Belt Programme created baseline compliance risk profiles for each Blue Belt UK Overseas Territory in 2017-18. Since then, the team have regularly refined the profiles to ensure the territories are

deploying assets, such as patrol vessels, to areas at greatest risk of illegal fishing.

Over the past year the Blue Belt Programme worked with OceanMind (Catapult) on satellite surveillance and Automatic Identification System (AIS) monitoring operations over several UK Overseas Territories. The Blue Belt Programme also worked with the European Maritime Safety Agency (EMSA) to develop a process to rapidly obtain satellite images across the UKOTs on a reactive basis.

Satellite surveillance provides a sophisticated evidence base to allow the Blue Belt team to work with the UK Overseas Territories to address the threats. Information is collated in a secure database then fed back into the risk profiling process.

During 2019/2020 surveillance operations, the Blue Belt Programme provided live operational support in eight operations in Tristan da Cunha, Ascension and St Helena with vessel patrol support provided for SGSSI and BIOT. In the same time period, the Blue Belt Programme generated 286 intelligence reports from a range of sources including AIS, various satellite sources and third parties. This is almost double that of the previous year. Intelligence is information about a potential offence that is assessed and reviewed.

In the past year, the Blue Belt Programme created a Blue Belt Surveillance and Intelligence Hub - a centralised point to collate, analyse and disseminate



Working with ZSL to trial long-range unmanned aerial vehicles for maritime surveillance.

intelligence to the UK Overseas Territories. The hub provides the following functions: surveillance, intelligence management, international enforcement liaison, enforcement capacity building, assistance with international obligations and data management for compliance and enforcement records.

A first iteration training package is now available on the MMO's learning management system, covering all aspects of enforcement officer training. During the recent drone trial in British Indian Ocean Territory, the Blue Belt team worked collaboratively with the MRAG Senior Fisheries Protection Officer to film a comprehensive training scenario that will form the basis of the next iteration. Officers from Tristan da Cunha also actively participated in fisheries protection work in the UK aboard patrol vessel *Ocean Osprey*, giving them a practical, first-hand training experience.

Technology

The Blue Belt Programme is collaborating with the Zoological Society of London (ZSL) to trial long-range unmanned aerial vehicles (UAVs) for maritime surveillance. Over the past year trials have taken place in the British Indian Ocean Territory and Uganda. The trials highlighted both the potential that drones offer, and the challenges associated with the application of the technology to gather evidence in UK Overseas Territories.



Blue Belt Programme team member Dan Ward testing a long-range unmanned aerial vehicle.



Blue Belt Programme team member Katie McPherson presenting at the technology roadmap workshop.

Over the last year the Blue Belt Programme worked with Marine South East to produce bespoke technology roadmaps. The roadmaps look at current and future technologies the UK Overseas Territories may want to adopt to support the management of their marine waters. New technologies include tethered platforms used at high risk locations which could carry multiple sensors for the detection of vessels.

In February 2020 UK Overseas Territories representatives, government, the technology industry and non-government organisations attended a technology roadmap workshop to discuss the next steps and possible collaborations.

World leading, innovative partnerships

The Programme has a strong emphasis on leaving the UKOTs with a user-friendly and cost effective satellite surveillance legacy to be used in effective marine management. This year the Blue Belt Programme completed a project with computer software firm SCISYS Group to determine whether low-cost, or free, satellite data could be used to provide surveillance across the UK Overseas Territories. A prototype analysis tool has been built and trialled in Tristan da Cunha.

Regional Fisheries Management Organisations

This year the Blue Belt Programme continued to work across Regional Fisheries Management Organisations (RFMOs). This includes continued assistance and advice to support the UK Overseas Territories implementation of International Commission for the Conservation of Atlantic Tunas (ICCAT) requirements.

The Blue Belt team progressed a detailed implementation gap analysis of all the UK Overseas Territories legislation against their ICCAT obligations. The UK Overseas Territories have also improved the accuracy and speed in which they submit data, such as shark catch reports, to the ICCAT commission. These positive steps were noted by the chair of the compliance committee at the ICCAT commission meeting.

“ We partnered with the Blue Belt Programme to create a user friendly and sustainable portal for vessel detection using low-cost satellite data at a 10m resolution. Our hope is that this can be moved to a Beta operational service by the end of this financial year providing the UK Overseas Territories with a simple and effective means of monitoring activity in their waters. ”

COLIN WALES

Technology partners SCISYS (now part of CGI Group)

Future ambition

Over the past four years the Blue Belt Programme has enhanced marine protection across 4 million square kilometres of marine environment in the UK Overseas Territories.

This flagship programme has been central to the UK government's ambition of leading action to tackle the serious global problems of overfishing, species extinction and climate change, driven by the 25 Year Action Plan and UN Sustainable Development Goals (SDG14), and more recently by the UK's commitment to ensure 30% of the world's oceans are protected by the end of the decade in 2030.

2020 represents a milestone year or "super year" for the world's oceans: the commencement of the UN's Decade of the Ocean Science (UNDOS), the Convention of Biological Diversity (CBD) conference and the year of climate action in the run up to the 2021 United Nations Framework Convention on Climate Change (COP26) conference.

In recent months, the unprecedented challenge of the COVID-19 pandemic has had severe economic and societal global consequences. However, UK government remains committed to protecting the international environment and the Blue Belt Programme and the UK Overseas Territories will continue to play a major part in enabling this ambition.

The one-year Blue Belt Programme extension will contribute to the global aspiration to protect, manage and conserve vast areas of the marine environment within this important decade of the sea.

In the one-year Blue Belt Programme extension, funded by the Foreign and Commonwealth Office and Defra, Cefas and the MMO will continue to work closely with UK Overseas Territories and external partners to:

- **Support implementation of management plans, and ongoing monitoring, compliance and enforcement to ensure that the pristine, unique and highly diverse marine environments will be conserved and sustainably managed into the future.**
- **Demonstrate the effectiveness of the current marine protected areas and comprehensive management regimes.**
- **Further build capacity and skills in the Overseas Territories, by supporting infrastructure, training and in-country roles to ensure a long term programme legacy.**
- **The programme will also, where possible, seek to support new UK Overseas Territories who wish to join the programme and gather evidence to demonstrate the benefits of the Blue Belt Programme considering wider ocean issues including climate change and plastic pollution.**



“ The Blue Belt Programme would like to extend a massive thank you to all those involved in the success of the first 4 years of the programme and those involved in creating this brochure.

THE BLUE BELT TEAM ”

For more information about the Blue Belt Programme:

Web: www.gov.uk/government/publications/the-blue-belt-programme

Email: Bluebelt@cefas.co.uk

Twitter: [@UKGovBlueBelt](https://twitter.com/UKGovBlueBelt)

Blog: marinedevelopments.blog.gov.uk/category/blue-belt

Research: gov.uk/government/publications/the-blue-belt-programme

Cover image taken during the Henderson Expedition, credit: Luke Hosty, Protect Blue