Darwin Plus:
Overseas Territories Environment and Climate Fund
Annual Report

Important note *To be completed with reference to the Reporting Guidance Notes for Project Leaders: it is expected that this report will be about 10 pages in length, excluding annexes*

Submission Deadline: 30th April 2017

Darwin Plus Project Information

Project reference	DPLUS039
Project title	Sustainable development and management of St. Helena's fisheries and marine tourism.
Territory(ies)	St Helena, South Atlantic
Contract holder institution	Environment and Natural Resources Directorate, St Helena Government
Partner institutions	Plymouth University, South Atlantic Environmental Research Institute, Georgia Aquarium, Mote Marine Laboratory, Ascension Island Government Conservation Department (AIGCD),
Grant value	£108,388.00
Start/end date of project	April 2015 – June 2017
Reporting period (e.g., Apr 2016-Mar 2017) and number (e.g., AR 1,2)	Apr 2016-Mar 2017
Project leader name	Mrs Elizabeth Clingham & Mr Gerald Benjamin
Project website/blog/Twitter	Facebook pages: Sustainable development and management of St. Helena's fisheries and marine tourism, Nature conservation, St. Helena, Georgia Aquarium and St. Helena Government
Report author(s) and date	Mrs Elizabeth Clingham

1. Project overview

St Helena is one of the most remote islands in the world. It is situated in the South Atlantic Ocean 1200 miles from Southern Africa and 1800 miles from South America.

The island's economy is dependent of British Aid. Access to the island is currently still only possible by ship, but St. Helena has now completed construction of an airport to create easier access to the island to help support economic development it was hoped that the airport would already be operational but due to technical issues it is still be fully operational. It is however hoped that the airport will be operational by the end of 2017. Two important sectors in the island's long-term goal of self-sufficiency are marine tourism and commercial fishing. The island has long been protected by its isolation, if development is not adequately informed and managed the islands relatively pristine environment is in jeopardy of being impacted. This Darwin Project is ambitious and aims to achieve the development of monitoring tools, protocols and procedures to support the sustainable management of these two key economic sectors. It aims to fill data gaps that currently exist so that management decisions are made on evidence based advice appropriate to St Helena's marine ecosystem, society, economic growth and changes that St Helena will be subjected to in the very near future

2. Project stakeholders/partners

This year has seen the project become far more active in the delivery of "on the ground work". The Marine section staff have been regularly working one to one with fisherman on their boats, regularly present at the fisheries cold store during collection of biological data, regularly assessing marine tour operators and undertaking tuna mechanical and satellite tagging. Fisherman, sports fisherman, marine tour operators, industry executives and SHG officials have supported in our tagging program, fisheries biological sample collection etc.

Financial year (1 Apr 16 - 31Mar 17)	total no. fishing trips inshore	number trips bio data recorded inshore	% trips bio data recorded inshore	no. observer trips in total	observer trips inshore	observer trips offshore	% trips observed
2016/2017	776	198	25.50%	47	42	5	6.10%

Table 1: shows the number of fishing trips undertaken by the industry for the year and the percentages covered by marine section staff for observer and biological collection.

This type of engagement with each stakeholder has been specific to the needs of each segment of the marine and fisheries sectors and have been more on a one to one basis with no official meetings specific to the project etc.

The local marine tourism community and tourist office have been fully on board with the continuation of the marine environment accreditation scheme which has also now become part of the "norm" within the industry.

The fisheries community continues to provide challenges. However, most members of the fishing community have now accepted our weekly observer trips as part of the "norm" and we continue with our one to one engagement with the fisherman as above. Most interesting to note is how fisherman have become engaged in the tagging programme. To the extent that they will bring tags in personally with their data and will not leave until they have all of the details of original tagging and basic data on size before they leave.

The month of March was again dedicated to raising awareness of the marine environment. The marine section conducted school assemblies and contributed to various lessons which included every school child from the age of 3 to 18 years old. We also hosted a marine exhibition for one week at the seafront were section staff were available to the public to talk about our work and enjoy our information displays. Every child aged between 3 and 14 visited our exhibition. The exhibition in total hosted about 1000 people (25% of St Helena population). We also hosted the viewing of a documentary (End of the Line – Charles Clover), a marine inspired games night), we did numerous radio interviews and supported various marine inspired activities throughout the month (water sports, craft sessions, etc). This was all done in an effort to reach as many audiences as possible. Please see links below.

https://www.youtube.com/watch?v=IEdeCrfs68A&feature=share

https://www.facebook.com/320819601295027/photos/a.467016160008703.106631.320819601295027/1365464080163902/?type=3&theatre

http://sthelenatourism.com/blog/march-is-marine-awareness-month/

Each project partner has delivered in their work areas as proposed. Despite the wide geographic spread of project partners communication has not been an issue. The various partners have added quality to the project outcomes to date and this has already significantly contributed to the long-term sustainable management of St Helena's Marine environment. We have also this year added additional partner support with Stanford University as per our approved change request of March 2017.

3. Project Progress

The project has made excellent progress, building on momentum generated during year one. As stated above the various work areas have now become second nature to both marine section staff and other stakeholders who are involved in fisheries and marine tourism related activities and management initiatives.

The Marine Management Plan originally an output of Darwin project 19-031 was updated based on new data generated from this project and was subsequently publically consulted on again. To that end St Helena formally declared its EEZ as a category VI marine protected area on the 14th September 2016 and the MMP was adopted and published in the St Helena Gazette: (http://www.sainthelena.gov.sh/wp-content/uploads/2013/01/EX-GAZ-No-91-2016-Marine-Management-Plan-v2.pdf).

This Darwin project is required to complete a fisheries management strategy however the work undertaken thus far has helped to initiate a much broader fisheries sector strategy (to include fisheries management) which the SHG has supported via additional professional technical assistance. The 100-page Fisheries Review and Strategy document was subject to public consultation and has now been approved by the Economic and Development Committee, with a portfolio responsibility for fisheries.

Twitter: #StHelena #Fisheries #FisheriesStrategy

Links:

https://www.facebook.com/StHelenaGovt/

https://twitter.com/StHelenaGovt

http://www.sainthelena.gov.sh/wp-content/uploads/2012/08/St-Helena-Fisheries-Strategy.pdf

St. Helena has joined the International Pole and Line foundation and has generated support from the local fisheries sector including offshore fisherman to potentially trial making the St Helena Exclusive Fishing Zone the world's first one by one fishing zone.

http://ipnlf.org/news/st-helena-to-establish-uks-first-one-by-one-only-tuna-fishery

3.1 Progress in carrying out project Activities

Project Activities have been undertaken to plan as much of it has become monthly protocol where necessary – the necessary change request submitted and subsequently approved in March caters for changes made to original application and timing. Other project activities have been completed and highlighted specifically throughout this report with the necessary supporting evidence.

3.2 Progress towards project Outputs

Pre project there was an absence of dedicated fisheries research & marine tourism management as the local capacity was limited to basic understanding in these areas due to our long history of isolation and lack of exposure to the impacts of development on the marine environment. This project has facilitated a transformation in our understanding the importance of St. Helena fisheries and tourism development towards a much more balanced perspective which is enabling a precautionary approach to be implemented in developments an acceptance of new monitoring measures.

Capacity building - Marine Section staff trained as local fisheries observers (output 1)& Fisheries Science, management and observer outputs (outputs 2 – 5 & 8)

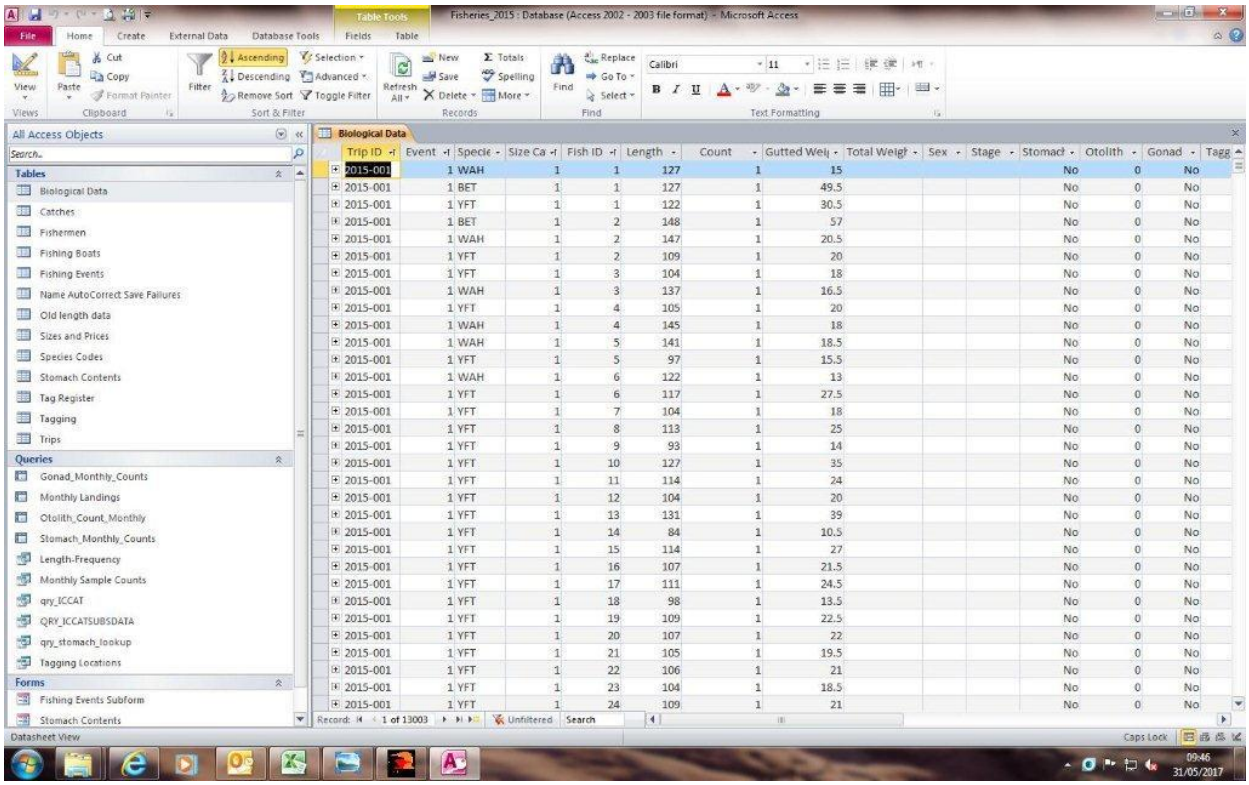
The project continues to support the capacity building of the local staff through continuous use of skills acquired as previously reported (see annex 4 – certificates of competency from Marecol). All work areas have continued as planned. Our fisheries science consultant proved an invaluable asset in supporting local capacity and mentoring of staff. As predicted this type of support was the best for the island long-term capacity building. Martin Collins (Marecol Consultancy) (since Dec 2016) is no longer employed as a fisheries consultant but local staff have been able to continue with the collection of all of the project's data requirements. It has also been unfortunate that we have lost one staff member to overseas employment but this is expected in St. Helena – nevertheless have managed to engage the services of part-time employee to transfer those skill sets to and undertake those work areas which has gone very smoothly. It is hoped that this will translate into a fulltime SHG post by the end of the project.

To date we have collected 539 (396 tuna species, 119, bait species, 24 other species) otoliths, assessed 960 gonads (707 tuna species, 185 bait species, 68 other), (31 gonads where collected and processed) from various tuna, bait and ground fish species. A visit to the Ascension Island Conservation fisheries laboratory was undertaken in August 2016.

Photos of marine section staff processing fisheries samples in AIG Fisheries Lab

The visit facilitated inter-island working relationships and shared use of their newly established fisheries lab facilities. Three local marine section staff processed all of the samples collected up to that point, we were able to prepare all otoliths for reading and successfully conducted the histological analysis of gonads (it was pleasing to note that 100% of initial gonads assessments where verified through histology). The training St Helena staff received gave us working knowledge and understanding of all elements of how fisheries biological data/specimens are processed and analysed, reinforcing that our sample collection has been undertaken correctly. This was achieved through one to one mentorship of the local staff by the AIMS project team as part of DPLUS project 021.

Our fisheries database is fully operational and is populated as soon as we are in receipt of data and verified accordingly. Cefas have been tasked with developing the interface of the fisheries database.



Picture: Screenshot of fisheries database.

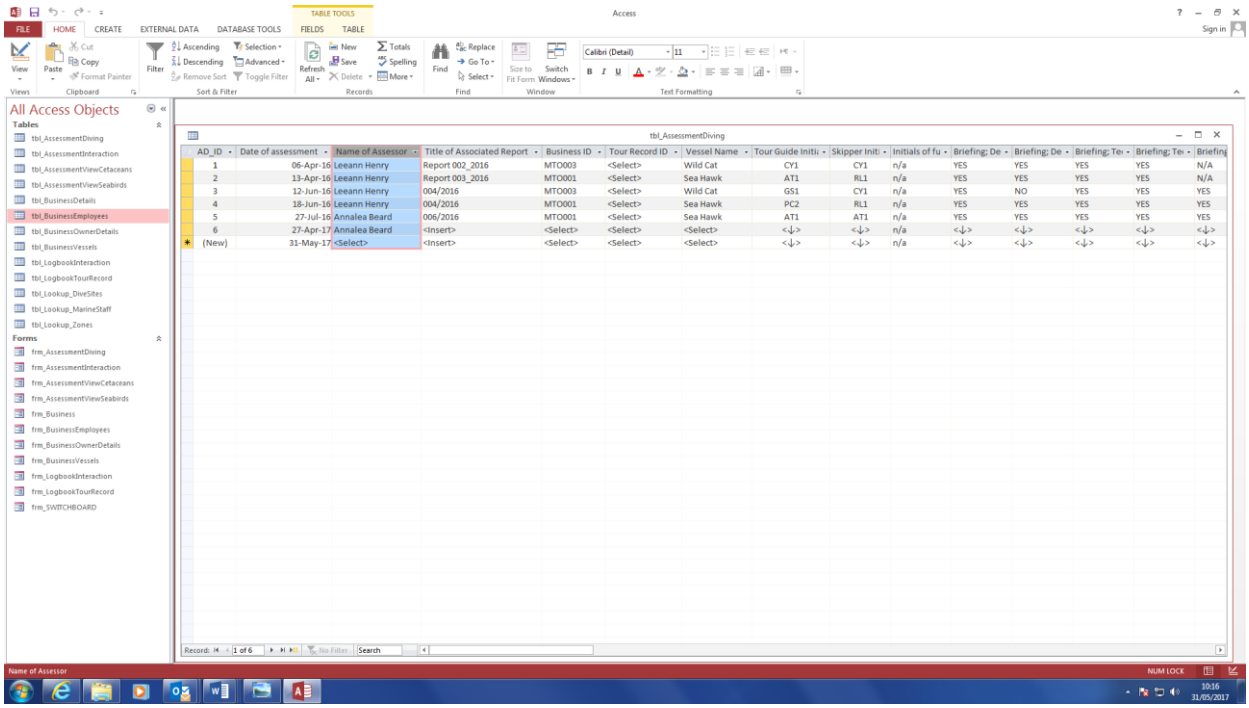
Tuna tagging has been extremely successful. To date 733 tuna had been successfully tagged we have had 93 tags returned by local fisherman. The Stanford University team arrived in September 2016 and successfully undertook satellite tagging of 12 tuna and the collection of tissue samples for isotope analysis. (Please see interim report at Annex 5)

Pictures above: Stanford University team successfully deploying satellite tags and collecting tissue samples of yellowfin tuna.

A fisheries legislative review committee was established in May 2016 to review and update St Helena's fisheries related ordinances towards establishing on fisheries Law and set of Regulations to give effect to such law and ensure it is consistent with commitments made under the Marine Management Plan and Fisheries Sector Strategy. It is hoped that the new legislation can be developed and enacted by December 2017.

Reporting by observers of marine based tourism compliance and human interaction with marine species (Output 6)

The marine environmental accreditation scheme continues and assessments have been undertaken with each operator each month. Assessments are recorded via a checklist and written report and entered into a dedicated marine accreditation database (See Annex 6 for example reports). Operators have demonstrated compliance thus far on tour operations however are struggling to familiarise themselves with filling in and submitting logbooks. The Project Manager continues to represent marine based initiatives through participation in the island Tourism Development Committee. Our Marine environment accreditation scheme has become the template for other accreditation initiatives on island. Under the Environmental Protection Ordinance the accreditation will be a mandatory component of a marine tour operator's licence which is planned to be formally adopted by August 2017.



Picture: Screenshot from marine environmental accreditation scheme assessment database

Establish comprehensive information regarding whale shark and cetaceans in St Helena's waters (including data on identification photos (eco ocean), biological data and tagging (whale sharks only) (Output 7)

Since dedicated fieldwork began in January 2016 two satellite tags have prematurely come of whale sharks as they exceeded the crush depth of tags. Live data tags continue to excite whale sharks followers, notably when one shark surfaced a few hundred meters from the Ascension coast. Acoustic receivers were recovered in May 2016 and has provided some evidence that whale sharks do indeed stay in St Helena waters longer that previously though. Still awaiting results from archival tagging in Yr. 2 Quarters 3 & 4. As a result of the work generated in year one we were able to get local support from Enterprise St. Helena to undertake fieldwork in 2017.

To characterize the whale shark population at St Helena we used a range of techniques during two expeditions to the island in January 2015 and January 2016, including satellite and acoustic telemetry, laser photogrammetry, and computer aided photographic Identification. Results from the expeditions and past records in a SHG sightings database showed that the aggregation is seasonal and strongly focused in the summertime. It consists of equal numbers

of adult male and female whale sharks with an average body length of 9.5m. From 323 encounters, we identified 120 unique individuals during the expeditions, 88% of the total number of unique animals identified at St Helena to date (135). We tracked movements of a subset of animals at, around and away from the island using satellite and acoustic telemetry. The tagged whale sharks typically remained at the island from January May and then dispersed away into the central Atlantic. We confirmed connectivity between St Helena and Ascension and also Nigeria in the Gulf of Guinea. One tag never reported via satellite but washed up on a beach in Brazil. At St Helena, all tagged animals dove daily and very consistently to maximum depths of around 600m. Away from the island the dives were much deeper; one animal dove beyond the maximum sensor depth of the tag (1,832m) eleven times, and to over 1,000m more than 40 times. The reason for these dives remains unknown. The animals spent about 40% of their time at the surface and around 25% of their time between 20 and 200m depth. The reason for the preference for that depth stratum is also unknown at this point. A preponderance of circumstantial evidence supports the idea that St Helena is a breeding ground for whale sharks, the only one known in the world. It is therefore a critical habitat for the species. An ecotourism code of conduct has been put in place by SHG and, assuming the aggregation continues to be reliable year over year, it has tremendous potential to be a jewel in the tourism crown for the people of St Helena and something that should be treasured and protected accordingly. The findings have been described in Annex 17.

Marine ecosystem services assessment (Outputs 9 to 11)

A full ecosystem service valuation has been completed for fisheries and marine tourism activities on St Helena. Fieldwork undertaken in March/April 2016 included a short residency of Plymouth University staff with the Environmental Management Division, a stakeholder workshop and meetings with key representatives to access data sources and build capacity for ecosystem service assessments.

An ecosystem service valuation report has been written. This includes a quantitative and qualitative valuation of indicators of the social and economic benefits associated with fisheries and tourism activities and assessment against long term trends in the data (where appropriate).

Guidelines to Support the Future Application of Social and Economic Assessment Methods to Inform Marine Management and Planning have been developed for St Helena.

Capacity building materials have been developed to share key findings with St Helena Stakeholders though a series of planned webinars in June 2017.

Reports (annex 7-9)

Capacity building materials (Annex 18)

An academic paper for peer review has been written based on the marine ecosystem services assessment for St Helena to present a transferable framework to determine the exposure of ecosystem service benefits to risk of loss (risk exposure) to enable the integration of ecosystem service benefits into decision making for sustainability.

3.3 Progress towards the project Outcome

As reported above.

The three complimentary work programmes have been essential and we have been successful in facilitating improvement in long-term strategic management of St Helena's marine management. Local capacity to conduct fisheries science has improved and is enabling the collection of the necessary data for comprehensive fish stock assessment which in turn is contributing to a well-managed fishery. Monitoring and compliance marine tourism management schemes are in place using research on anthropogenic influences on the marine ecosystem from tourism activities.

Assessment of the ecosystem services has been undertaken and the social and economic benefits associated with developing marine based industries to pre-empt potential risk have facilitated proactive management strategies.

3.4 Project support to environmental and/or climate outcomes in the UKOTs

This project has facilitated the commencement of a fisheries science program which was limited pre-project. Local capacity has been significantly increased as all marine conservation staff have acquired the necessary practical skill to collect and collate high quality data sets and biological samples.

A marine tourism environmental accreditation scheme and assessment has been created which is a tool designed for long-term management of marine tourism and its associated impacts.

We have been able to compliment both sectors with eco-system services assessments with a view to informing and supporting marine planning on St Helena in order to protect biodiversity and the associated benefits for human wellbeing. The ecosystem service assessment has been designed to be transferable to other UKTOs.

3.5 Monitoring of assumptions

Most of the risks identified in the original application has held true and our last annual report highlights the actions we have taken to address these and it would appear that the approach taken has allowed the project to run smoothly. We did not highlight loss of project staff as a significant risk however, this year we have lost a key project staff member to employment on Ascension. Nevertheless we have been fortunate to have been able to replace him with another staff member who has embraced the work and picked up very quickly. Access issues which continue to affect St. Helena (no air access and unavailability of the RMS ship for a period of unscheduled dry docking) have had knock on effects for the marine section as a whole as – one marine section staff left the island for overseas leaves and was unable to get back to the island for 6 weeks after the date she was supposed to be back on island. Local staff were very stretched during this time. Limited observer trips were undertaken as a result and fewer trips made to the cold store.

We have been able to react appropriately as risks present themselves as we have clear target of achievements and a dedicated team.

4. Monitoring and evaluation

Financially the project is managed within the SHG financial regulations which allows for accurate management of accounts.

With the creation of the fisheries database and marine accreditation database queries are run on a need bases and compared against set project targets to ensure that minimum data requirements have been met each month.

The original Darwin application is used as a reference document and regularly reviewed by the project manager to ensure an up to date status. Project status is also reviewed with senior ENRD management.

There has been no effort in this year in co-ordinating all project partners as one group but rather as groups appropriate to the work area that has needed to be undertaken.

5. Lessons learnt

Stakeholder engagement for a project of this nature must not be underestimated in small communities especially those like St. Helena where exposure to environmental pressures on our marine and fisheries sectors are not always visible. This means acceptance or recognition of change is not always an easy message to convey as local stakeholders who tend to look at many issues in a local context rather than a global one and short term goals are often more appealing than long-term ones. Additionally it is local culture for knowledge of these sectors to be guarded closely by some, and local stakeholders who often are not receptive or open to anyone they perceive to be outside of their community. To that end we have given much of our time to help stakeholders understand what we are doing through the project and why we are undertaking the activities. Due to the nature of the work we have been able to give the main stakeholders one to one information sessions and feedback. This has required much change for them especially the

fisherman – thankfully the working relations have evolved and science has been accepted and co-operation has been beneficial and enjoyed.

We have also learnt that this project was written to overachieve or was far too ambitious originally hence the change requests and reported on in my last annual report. In an effort keep our project application budget submission low we unintentionally set key project salaries too low to attract the right people to some of the project's job. In the fisheries industry we have found from our experience and feedback that it would appear professionals willing to share their practical experience are more readily accepted over academics as facilitators of change.

One of the key lessons also learnt during this project is the importance of exposure visits early on in the project delivery for local staff we found that it helped to put the work in context creating a reference point and better networking.

Future projects from St. Helena will most likely be higher in value to attract the right technical staff and appreciate the number of local staff requirements and that all projects from St. Helena need a 3 month mobilisation phase (as a minimum),

Social media use from any SHG led project is limited by in house IT Policy. SHG computers are not allowed to use sites such as Facebook, twitter and various blogs which makes social media submission sporadic as they are often done by project staff from home. In addition social media use on St. Helena is still in its infancy and will take time to become a key communication tool.

6. Actions taken in response to previous reviews (if applicable)

Added this report are the job descriptions of the fisheries science consultant and the certificates produced by Marecol to provide evidence of delivery of output and activities which was not provided in our last annual report. We have also created a project Facebook page to increase of social media presence.

7. Other comments on progress not covered elsewhere

This project has been significantly enhanced by the engagement of the fisheries science consultancy because they are able to take a more holistic approach to our work programmes and the fishing industry as a whole. This has added value and respect to the nature of our work and is changing perception of the importance of marine conservation within the fishing industry and the future of these work areas.

8. Sustainability and legacy

Locally the project profile remains high. Within the local community the various schemes (tuna tagging, Whale Shark photo ID submissions, and marine accreditation) have created much interest. St. Helena's recent MPA designation and development of fisheries sector strategy have both endorsed the need for and commitment to the continuation of the work started as result of this project.

The marine section has built stronger working relationships with the fishing industry as we have been able to communicate the importance of science in the development of the sector. Many fishermen often see team members and ask for updates. The Marine tourism community has accepted the Accreditation Scheme and is proud to be a part of it.

Most importantly the project outputs to date have given marine conservation and fisheries a stronger voice within the SHG and political arena. The project outputs have facilitated the development of four key members of staff in becoming more confident and competent fisheries scientists. The establishment of the tuna tagging scheme has been a significant achievement. This programme links to similar initiatives in the Atlantic as a component of the International Commission for the Conservation of Atlantic Tunas tagging programme and will be maintained beyond the life of the project. Increased fisheries science activities has added to the profile of St Helena fisheries product and is now been seen as a necessary tool to developing the industry sustainability. International organisations such as the international pole & Line foundation have

also recognised this and this has helped secure new projects to sell the unique St Helena's fisheries narrative and support the development of the sector.

See Link: http://ipnlf.org/news/st-helena-to-establish-uks-first-one-by-one-only-tuna-fishery

9. Darwin identity

To date the project has had considerable local & international media coverage via newspaper articles and radio interviews and we have created a project specific facebook page (https://www.facebook.com/St-Helena-Fisheries-Marine-Tourism-Darwin-Project-1112109018861550/) and the Georgia aquarium continues to regularly post blogs etc. We also hosted our local marine awareness month during the month of March.

The Darwin logo has been used on all published material (posters, press releases, local TV educational videos, activity books) as well as in newspaper articles. When radio interviews were given reference was always given to the work being funded by the Darwin Initiative. The project continues to be referred to as the Marine Darwin project locally, and the project vehicle is also referred to as the "Darwinator".

Due to the small population of St Helena and outreach of the project a large percentage of people on island will be familiar with the Darwin Initiative from Government staff, councillors, the general public, school children and stakeholders for the project.

More specifically new work areas such as tuna tagging and whale shark photo ID submissions has required public participation for those that have contributed to our appeals. T-shirts and mugs bearing the Darwin logo and scheme logo have been offered as thank you gifts and often worn with pride by recipients.

Social media sites such as Facebook have been an avenue for posting any of the above publications (see Facebook pages: Nature conservation, St. Helena, Georgia Aquarium and St. Helena Government).

10. Project Expenditure

Table 1: Project expenditure during the reporting period (1 April 2016 – 31 March 2017)

Project spend (indicative) in this financial year	2016/17 D+ Grant (£)	2016/17 Total actual D+ Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs			0	Budget on target as per change request submitted March 2017
Consultancy costs			0	Budget on target as per change request submitted March 2017
Overhead Costs			0	Budget on target as per change request submitted March 2017
Travel and subsistence			0	Budget on target as per change request submitted March 2017

Operating Costs			0	Budget on target as per change request submitted March 2017
Capital items			0	Budget on target as per change request submitted March 2017
Others (Please specify)			0	Budget on target as per change request submitted March 2017
TOTAL	**108,388.00**	108,388.00		

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2016-2017 – <u>if appropriate</u>

Project summary	Measurable Indicators	Progress and Achievements April 2016 - March 2017	Actions required/planned for next period
Impact The project will deliver a baseline for assessing economic and social changes in the marine environment firmly set on a science foundation needed for effective fisheries and marine tourism management. Fishing is an important recreational and commercial activity on St. Helena, so evidence-based decision-making will contribute significantly towards sustainable local economic development. The project will establish St. Helena's fisheries science and stock assessment framework and build on marine tourism management. It will leave a significant legacy in terms of local capacity, data management systems and national governance to be sustained long after the project.		This project has made a positive impact through contributing towards quantifying the impact on our marine biodiversity. We now have the management tools for monitoring the human impact on the marine environment to compare to the biological resources available and their use complimented by ecosystems services assessment which is evidence of the holistic management approach being taken. These tools and protocols are now in place and will be used to facilitate evidence based decision making with regards to management of our marine environment. The science data collected has already added value to St. Helena resources and stakeholder are on board with the management initiatives as a result. As evidence through this decribed throughout thus report and more specifically indicated in the collums and below.	[redacted]
Outcome Three complimentary work programmes are essential for successful achievement of long-term strategic advances within St Helena's marine management. Outputs 1 to 5 will establish the local capacity to conduct fisheries science; facilitating the collection of the necessary data for	Please see details below	Please see details below	Please see details below

comprehensive stock assessment contributing to a well-managed fishery. Outputs 6 to 8 will ensure monitoring and compliance of established marine tourism management schemes. Research will be conducted on anthropogenic influences on the marine ecosystem from tourism activities. Outputs 9 to 11 will assess the ecosystem services and quantify the social and economic benefits associated with developing marine based industries to pre-empt potential risk and facilitate proactive management strategies.			
Output 1. Capacity building - Marine section staff trained as local fisheries observers.	Fisheries Consultant appointed. Originally: Fisheries Scientist appointed – change request approved. Minimum of 2 local project staff trained by AIG and Falkland Fisheries as observers and in fisheries data and sample collection.	Output completed. See Annex 4 (Marecol certificates of competence), Falkland island fisheries exposure visit report and year one report for evidence.	
Activity 1.1 Appointment of *consultant* (originally fisheries scientist – approved change request)		Completed. See Annex 11 (Fisheries science consultant contract)	
Activity 1.2, Appointment of marine observer (local post).		Completed. Employee appointed to project July 2015 – See Annex 12 (Marine conservation Worker Job description) and year one report for evidence	
Activity 1.3, Training of local project staff in fisheries observer programs, data collection gonad staging and otolith collection, preparation and reading by FIG and AIG.		Completed. See Annex 12 (Marecol certificates), Also see Annex 13 (Falkland island fisheries exposure visit report and year one report).	
Output 2. Assessment of inshore and offshore commercial fisheries undertaken.	Data mining activity completed. Observer database, log book and protocols set up and in place.	Setup work completed. See year one report for evidence. Observer database established in December 2015 and revised in March 2016. (year one report - Annex 3 pages 32 - 43).	

	Observer presence on all local inshore commercial vessels 4days per month *(originally 10 days/month – change request approved)* Observer presence on all offshore vessels 1 trip per month *(Originally 30% of time – change request approved)* Database set up and populated. Stock assessment and fisheries management plan produced.	Logbooks issued to all offshore vessels and, when returned, data are added to the database. (Logbook template & guidance notes for fisherman- Annex 14) Observers deployed on inshore and offshore vessels as relevant to the local capacity (offshore – once per month since November 2015 to present; inshore (commercial/sports)- 4 times/ month). See Annex 15 (example observer reports) Fisheries database is populated upon receipt of data (year one report – Annex 3 for record sheets and checking procedures) Database screen shot see pg 5 above) http://www.sainthelena.gov.sh/wp-content/uploads/2012/08/St-Helena-Fisheries-Strategy.pdf
Activity 2.1. Collate and review all fisheries data, including catch and effort data, and any biological or environmental data available for both inshore and offshore catches.		Completed.
Activity 2.2. Establish observer database, produce observer manual		Completed. As reported in year one report.
Activity 2.3. Review offshore logbooks		Ongoing. Will form part of final project report in September 2017.
Activity 2.4. Observer presence on inshore, offshore and sports fishing vessels		Completed. As above
Activity 2.5. Geospatial analysis of existing data		Ongoing: Geospatial data layer available: Fishing ground maps (see Annex XX), Seabird tracking data. Will form part of final project report in September 2017
Activity 2.6. Development of predictive models to attempt to explain patterns of distribution and abundance		Ongoing. Will form part of final project report in September 2017.
Activity 2.7. Deployment of at least 500 mechanical tags and 16 PAT tags on pelagic fish (tuna and marlin) from sport fishing and offshore commercial vessels.		Completed. Tagging statistics: 733 tuna had been successfully tagged, 93 tags returned.

Activity 2.8. Fisheries management plan produced. Licensing conditions updated where appropriate		Completed'. Fisheries Sector Strategy Plan. See Link http://www.sainthelena.gov.sh/wp-content/uploads/2012/08/St-Helena-Fisheries-Strategy.pdf
Output 3. 1. Age growth and reproductive biology of *bait and commercial fish species is significantly advanced.** ***originally *main inshore and offshore* – change request approved**	At least 600 otoliths samples collected with related length weight and maturity data. 50 gonad samples will be processed for histological examination. *To investigate methods to establish* growth curves, annual reproductive cycles and age-at maturity of at least 2 *baitfish* species established.* *Originally: Growth curves, annual reproductive cycles and age-at maturity of at least 2 commercially exploited inshore fish species established. – change request approved*	*Ongoing. See details below.*
Activity 3.1 At least 600 otoliths collected *in preparation for sectioning, processing, validation and reading* (Originally At least 600 otoliths sectioned, processed, validated and read – change request approved)		Have collected 539 (396 tuna species, 119, bait species, 24 other species) otoliths (231 otoliths have been sectioned). Evidence: fisheries database.
Activity 3.2 At least 600 gonads, assessed for reproductive status. A subsample (50) fixed stained and sectioned. Condition and gonad indices analysed		Have assessed 960 gonads (707 tuna species, 185 bait species, 68 other) (29 Gonads where processed and read) from various tuna, bait and ground fish species. Evidence: Fisheries database
Activity 3.3 *To investigate methods to establish growth curves, annual reproductive cycles and age-at-maturity of tuna and bait species.** **Originally Establishment of growth curves, annual reproductive cycles and age-at-maturity for at least 2 commercially-exploited species – change request approved.*		New project partner CEFES supporting in exploring options to investigate methods to better deliver on this project output. Will be reported in final project report.
Output 4. By catch risk assessments for seabirds, turtles and sharks in commercial fishing fleet are established.	Observer deployed on fishing vessels. SHG observer receives seabird data collection training from FIG Geospatial analysis of seabird tracking data in conjunction with catch data are conducted to examine potential overlaps.	Completed. As reported in year 1 report.

	Different fishing methods assessed for by catch levels by observer monitoring.	
Activity 4.1 Observer training in seabird data collection		Completed. As reported in year one report. An ongoing work area during observer deployment and reporting.
Activity 4.2, Geospatial analysis of seabird tracking data in conjunction with catch data are conducted to examine potential overlaps		See annex 16 (Seabird tracking data map)
Activity 4.3, Different fishing methods assessed for by catch levels by observer monitoring.		Pole & Line, Rod and line and hand line have been the only methods used on island all data captured in observer reports.
Activity 4.4 Section on bycatch (and any necessary mitigation methods) included within fisheries management report. Licensing criteria updated where appropriate		Completed. As reported in year one report
Output 5. A fisheries management plan for management and on- going monitoring of St. Helena's fishery is developed and implemented.	Report produced detailing methodology and management strategies for St Helena fishery. All standard at sea recording forms produced and filed in specific folder.	Fisheries sampling protocol completed. As reported in year one report. Management strategies recommended http://www.sainthelena.gov.sh/wp-content/uploads/2012/08/St-Helena-Fisheries-Strategy.pd as highlighted above.
Activity 5.1 Plan produced detailing methodology and management strategies for St Helena fishery. Licensing conditions updated where appropriate		As above
Activity 5.2, Folder exists containing all data recording forms		As Above
Output 6. Reporting by observer of marine based tourism compliance and human interaction with marine species..	1 x local observer appointed. Local observer training in data collection. Each local operator is observed 3 times per season during whale shark tours Each local operator is observed once each month during dive operation tours. Each local operator is observed twice a year during cetacean tours.	Ongoing. Marine environment accreditation reported in year one. Assessments have been undertaken however, access issues and unfavourable sea conditions during peak seasons for various tours over this last year have inhibited marine tour operator's abilities to offer marine based excursions. Marine tourism assessments have mostly been undertaken for scuba diving tours and whale shark interaction trips.
Activity 6.1 Marine observer trained.		As above

Activity 6.2, Assessment of each marine tourism operator (sports fishing, diving, whale shark tours and cetacean trips) conducted with report on compliance and including analysis of data collected		Scuba Diving, whale shark and cetacean assessments undertaken (Annex 6 show examples of various assessment reports and database screenshot above on page 6)
Output 7. Establish comprehensive information system regarding whale shark and cetaceans in St. Helena's waters (including data on identification photos (eco ocean), biological data and tagging (whale sharks only)	60 days dedicated to collection of whale shark data during peak season. Successful deployment of 8 satellite tags on whale sharks. Collection of 8 genetic tissue samples Local promotion of photo identification pictures from tourists/locals of whale sharks and cetaceans Collation, analysis and management of photo records (including submission to ECO-OCEAN – see www.whaleshark.org) Educational video produced	Work completed in year one and reported as such. This work area however was undertaken also in 2017 with financial support received from local tourist office. Project partner Georgia Aquarium to completed analysis by June 2017.
Activity 7.1 Deployment of 8 PAT tags on whale sharks.		Completed. As reported in year one report. Analysis completed by June 2017 please see progress report Annex 17).
Activity 7.2, Collection of biological & photographic data of all whale sharks seen (size, sex, T-zone) and submission to Eco-ocean		Completed. As reported in year one report. This has also now become an addition to recurrent work schedule for marine section.
Activity 7.3, Tag data retrieved and analysed by experts. Scientific publication produced		Project partner to completed analysis by June 2017
Activity 7.4 Species action plan created for whale shark.		Environmental policy for whale shark (*Rhincodon typus*), Devil ray (*mobula tarapacana*) and cetacean interaction activities on St. Helena Island to minimise risk of injury and disturbance adopted in September 2016 as part of marine management plan. Species Action plan to be completed by June 2017.
Activity 7.4 Cetacean photo records collated and analysed		Ongoing. As reported in year one report
Output 8. Deployment of mechanical & PSAT tags on marlin and tuna	12 PSAT tags deployed. *Originally: 16 tags deployed: 8 in winter 8 in summer (change request approved)*	See details below.
Activity 8.1 Tag data retrieved and analysed. Scientific publication produced .		Tuna tagging has been extremely successful to date 733 tuna had been successfully tagged we have had 93 tags returned by local fisherman. The Stanford University team arrived in September 2016 and successfully undertook

		satellite tagging of 12 tuna and the collection of tissue samples for isotope analysis. See Annex 5 (interim report)
Activity 8.2, Species action plan created for marlin		Marlin have not been caught since the commencement of the project, so tagging is unlikely to be possible. Mechanical tags have been deployed on yellowfin and skipjack tuna and. Species action plan for marlin to be addressed by July 2017. No marlin have been caught since the project started.
Output 9. Application of marine ecosystem services assessment (incl. social and economic benefits)	Delivery of an ecosystem services assessment, including an estimate of the social and economic benefits derived from the ecosystem services..	Completed. Activity 11.2 to be completed by June 2017. See annexes 7-9.
Activity 9.1 Ecosystem services assessment focused on fisheries and tourism activities.		Completed. As above
Activity 9.2, Report describing the methods and results of the ecosystem services assessment, including an assessment of social and economic benefits associated with fisheries and tourism activities.		Completed. As above
Output 10. Development and application of future marine management scenarios	Management measures that protect ecosystem function whilst generating enhanced social and economic benefits are identified.	Completed. As above
Activity 10.1 Local stakeholder workshops to develop realistic scenarios to test the application of a range of plausible future marine management measures.		Completed. As above
Activity 10.2, Recommendations for future marine management measures to protect the marine ecosystem whilst supporting the realisation of social and economic benefits.		Completed. As above
Output 11. Marine Ecosystem Service Assessment and Marine Planning capacity building programme	A minimum of 10 people trained in ecosystem service assessment to support marine planning and management.	Marine Ecosystem Service Assessment completed. See Annexes 7-9 Marine Planning capacity building programme to be completed by June 2017.
Activity 11.1 Written guidelines to support the future application of social and economic assessment methods to inform marine management and planning		Completed. As above

Activity 11.2, Development of a tailored capacity building programme focused on marine ecosystem service assessment to inform marine management and planning.	The delivery of the capacity building programme focused on marine ecosystem service assessment still needs to be undertaken. Ecosystems services assessment capacity building via webinars by June 2017 as advised and approved in change request

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed) - – <u>if appropriate</u>

N.B. if your application's logframe is presented in a different format in your application, please transpose into the below template. Please feel free to contact Darwin-Projects@ltsi.co.uk if you have any questions regarding this.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: The project will deliver a baseline for assessing economic and social changes in the marine environment firmly set on a science foundation needed for effective fisheries and marine tourism management. Fishing is an important recreational and commercial activity on St. Helena, so evidence-based decision-making will contribute significantly towards sustainable local economic development. The project will establish St. Helena's fisheries science and stock assessment framework and build on marine tourism management. It will leave a significant legacy in terms of local capacity, data management systems and national governance to be sustained long after the project. .			
Outcome: Three complimentary work programmes are essential for successful achievement of long-term strategic advances within St Helena's marine management. Outputs 1 to 5 will establish the local capacity to conduct fisheries science; facilitating the collection of the necessary data for comprehensive stock assessment contributing to a well-managed fishery. Outputs 6 to 8 will ensure monitoring and compliance of established marine tourism management schemes. Research will be conducted on anthropogenic influences on the marine ecosystem from tourism activities. Outputs 9 to 11 will assess the ecosystem services and quantify the social and economic benefits associated with developing marine based industries to pre-empt potential	Please see details below	Please see details below	Please see details below

risk and facilitate proactive management strategies.			
Output 1 Capacity building - Marine section staff trained as local fisheries observers.	1.1Fisheries scientist appointed. Minimum of 2 local project staff trained by AIG and Falkland Fisheries as observers and in fisheries data and sample collection.	Fisheries consultant contract completed and signed. See Annex 11. Visit to Falkland Island Fisheries undertaken see Annex 13.	With new project partners introduced this year; Stanford University and CEFES local capacity will continue to be enhanced and developed.
Output 2 Assessment of inshore and offshore commercial fisheries undertaken.	Data mining activity completed. Observer database, log book and protocols set up and in place. Observer presence on all local inshore commercial vessels 4 days/month Observer presence on all offshore vessels 1 day/month Database set up and populated. Stock assessment and fisheries management plan produced.	As above. As above: Logbook template produced and issued to fisherman. Protocol set out in "St. Helena fisheries sampling protocol" (See Annex 14 for logbook templates and fisherman guidance notes). As above. See Annex 15 for sample observer reports. As Above. Protocol set out in "St. Helena fisheries sampling protocol" (See Annex 3 of year one annual report). As above. Fisheries sector strategy completed see link :http://www.sainthelena.gov.sh/wp-content/uploads/2012/08/St-Helena-Fisheries-Strategy.pdf	Much of this work is being implemented. Logbook submissions from inshore vessels is still and outstanding issue. However, with the development of the fisheries industry under the Fisheries Sector Strategy and a new reporting licensing requirement proposed under the new Fisheries Ordinance it is hoped that more effort can be focused on this issue to encourage logbook entry and submission. Fisheries Sector Strategy has been endorsed by SHG which set the bases for continuous development of these work areas.
Output 3 Age growth and reproductive biology of bait and commercial fish species is significantly advanced.	At least 600 otoliths collected in preparation for sectioning, processing, validation and reading	As above	Samples have been collected through the life of the project and will continue to be collected. It is hoped that new project partner CEFES will support in the analysis of these valuable samples and datasets.

	50 gonad samples will be processed for histological examination. To investigate methods to establish growth curves, annual reproductive cycles and age-at-maturity of tuna and bait species.		
Output 4 By catch risk assessments for seabirds, turtles and sharks in commercial fishing fleet are established.	Observer deployed on fishing vessels. SHG observer receives seabird data collection training from FIG Geospatial analysis of seabird tracking data in conjunction with catch data are conducted to examine potential overlaps. Different fishing methods assessed for by catch levels by observer monitoring.	As Above	Observer program is set to continue. The Marine Management Plan demands 100% observer coverage of any long lining fishing. During the last three months of the project all datasets will be compiled and the necessary data layers will be collated to undertake geospatial analysis by the end of the project.
Output 5 A fisheries management plan for management and on- going monitoring of St. Helena's fishery is developed and implemented	Report produced detailing methodology and management strategies for St Helena fishery. All standard at sea recording forms produced and filed in specific folder.	As above. Fisheries sector strategy completed see link :http://www.sainthelena.gov.sh/wp-content/uploads/2012/08/St-Helena-Fisheries-Strategy.pdf As Above. Protocol set out in "St. Helena fisheries sampling protocol data sheet etc" (See Annex 3 of year one annual report).	Fisheries Sector Strategy endorsed by SHG showing commitment St. Helena has to developing St. Helena fisheries and fisheries science programs. St. Helena's recent MPA declaration, Marine Management Plan adoption and the support expected from the Blue Belt Initiative further supports ongoing monitoring.
Output 6 Reporting by observer of marine based tourism compliance and human interaction with marine species.	1 x local observer appointed. Local observer training in data collection. Each local operator is observed 3 times per season during whale shark tours	As above.	This work area d has already been integrated into recurrent work areas for the marine section.

	Each local operator is observed 4 times per year during sports fishing tours Each local operator is observed once each month during dive operation tours. Each local operator is observed twice a year during cetacean tours.		
Output 7 Establish comprehensive information system regarding whale shark and cetaceans in St. Helena's waters (including data on identification photos (eco ocean now wildbook), biological data and tagging (whale sharks only)	60 days dedicated to collection of whale shark data during peak season. Successful deployment of 8 satellite tags on whale sharks. Collection of 8 genetic tissue samples Local promotion of photo identification pictures from tourists/locals of whale sharks and cetaceans Collation, analysis and management of photo records (including submission to ECO-OCEAN – see www.whaleshark.org) Educational video produced	Completed. With the support of project partners we actually deployed 30 satellite tags. We also installed a small acoustic array and have deployed 20 Acoustic tags (See Annex 5 of year one annual report and annex 17 for progress report.)	By July 2017 project partner Georgia Aquarium will conduct analysis of all data collected and a formal report produced of all data findings and production of educational material.
Output 8 Deployment of mechanical & PSAT tags on marlin and tuna	12 tags deployed:	See Annex 5	By final project reporting project partner Stanford University will conduct analysis of all data collected and a formal report produced of all data findings and peer review journals.
Output 9 Application of marine ecosystem services assessment (incl. social and economic benefits)	Delivery of an ecosystem services assessment, including an estimate of the social and economic benefits derived from the ecosystem services.	See Annex 7	
Output 10 Development and application of future marine management scenarios	Management measures that protect ecosystem function whilst generating enhanced social and economic benefits are identified.	See Annex 8	

Output 11 Marine Ecosystem Service Assessment and Marine Planning capacity building programme	A minimum of 10 people trained in ecosystem service assessment to support marine planning and management.	See Annex 9	The delivery of the capacity building programme focused on marine ecosystem service assessment will be delivered via webinars by June 2017.

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1 Appointment of fisheries scientist
1.2 Appointment of marine tourism observer (local post)
1.3 Training of local project staff in fisheries observer programs, data collection gonad staging and otolith collection, preparation and reading by FIG and AIG.
2.1Collate and review all fisheries data, including catch and effort data, and any biological or environmental data available for both inshore and offshore catches.
2.2Establish observer database, produce observer manual
2.3Review offshore logbooks
2.4Observer presence on inshore, offshore and sports fishing vessels
2.5Development of predictive models to attempt to explain patterns of distribution and abundance
2.6 Deployment of at least 500 mechanical tags and 16 PAT tags on pelagic fish (tuna and marlin) from sport fishing and offshore commercial vessels.
2.7 Fisheries management plan produced. Licensing conditions updated where appropriate
2.8 Age growth and reproductive biology of main inshore and offshore commercial fish species is significantly advanced.
3.1 At least 600 otoliths sectioned, processed, validated and read
3.2 At least 600 gonads, assessed for reproductive status. A subsample (50) fixed stained and sectioned. Condition and gonad indices analysed
3.3 By catch risk assessments for seabirds, turtles and sharks in commercial fishing fleet are established.
4.1 Observer training in seabird data collection
4.2 Geospatial analysis of seabird tracking data in conjunction with catch data are conducted to examine potential overlaps
4.3 Different fishing methods assessed for by catch levels by observer monitoring.
4.4 Section on bycatch (and any necessary mitigation methods) included within fisheries management report. Licensing criteria updated where appropriate.
5.1 Plan produced detailing methodology and management strategies for St Helena fishery. Licensing conditions updated where appropriate
5.2 Folder exists containing all data recording forms
6.1 Marine observer trained.
6.2 Assessment of each marine tourism operator (sports fishing, diving, whale shark tours and cetacean trips) conducted with report on compliance and including analysis of data collected.
7.1 Deployment of 8 PAT tags on whale sharks.
7.2 Collection of biological & photographic data of all whale sharks seen (size, sex, T-zone) and submission to Eco-ocean
7.3 Tag data retrieved and analysed by experts. Scientific publication produced
7.4 Species action plan created for whale shark.
7.5 Cetacean photo records collated and analysed

8.1 Tag data retrieved and analysed. Scientific publication produced

8.2 Species action plan created for marlin.

9.1 Ecosystem services assessment focused on fisheries and tourism activities.

9.2 Report describing the methods and results of the ecosystem services assessment, including an assessment of social and economic benefits associated with fisheries and tourism activities.

10.1 Local stakeholder workshops to develop realistic scenarios to test the application of a range of plausible future marine management measures.

10.2 Recommendations for future marine management measures to protect the marine ecosystem whilst supporting the realisation of social and economic benefits.

.11.1 Written guidelines to support the future application of social and economic assessment methods to inform marine management and planning

11.2 Development of a tailored capacity building programme focused on marine ecosystem service assessment to inform marine management and planning.

Annex 3 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Supplementary evidence has been sent to Darwin projects via dropbox . They are as follows:

Annex 4:	Marecol certificates of competencies for marine section staff.
Annex 5:	Stanford University interim report : Using Tracers in Muscle to Examine Movements and Feeding of Yellow fin Tuna at Saint Helena Island
Annex 6:	Marine environment accreditation reports
Annex 7:	MARINE ECOSYSTEM SERVICES ASSESSMENT OF ST. HELENA
Annex 8:	PART 2: ECOSYSTEM SERVICE VALUATIONS, FUTURE DEVELOPMENT THRESHOLDS AND MANAGEMENT
Annex 9:	GUIDELINES TO SUPPORT THE FUTURE APPLICATION OF SOCIAL AND ECONOMIC ASSESSMENT METHODS TO INFORM MARINE MANAGEMNT AND PLANNING
Annex10:	Media Coverage summary
Annex 11:	Contract – Fisheries Science Consultant
Annex 12:	Job Description – Marine environment Worker & Letter of appointment
Annex 13:	Exposure visit to Falkland Island Government Fisheries Department Report 17th– 28th August 2015
Annex 14:	Fisheries logbooks and guidance notes
Annex 15:	Fisheries observer (Inshore & Offshore) observer reports
Annex 16:	Maps of fishing grounds and seabird foraging areas.
Annex 17:	Whale Shark work progress report
Annex 18:	Ecosystems Services capacity building materials

Important Links:

Marine Management Plan:
(http://www.sainthelena.gov.sh/wp-content/uploads/2013/01/EX-GAZ-No-91-2016-Marine-Management-Plan-v2.pdf).

Fisheries Sector Strategy:
http://www.sainthelena.gov.sh/wp-content/uploads/2012/08/St-Helena-Fisheries-Strategy.pdf

International Pole & Line Foundation:
http://ipnlf.org/news/st-helena-to-establish-uks-first-one-by-one-only-tuna-fishery

Other Important reference documents (not supplied)

Darwin plus: Annual Report. (reporting period Apr 2015-Mar 2016) & Annexes

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	