



Department  
for Environment  
Food & Rural Affairs



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Office



Department  
for International  
Development



## Darwin Plus: Overseas Territories Environment and Climate Fund

### Final Report

**Important note** To be completed with reference to the Reporting Guidance Notes for Project Leaders:  
it is expected that this report will be a maximum of 20 pages in length, excluding annexes

#### Darwin Project Information

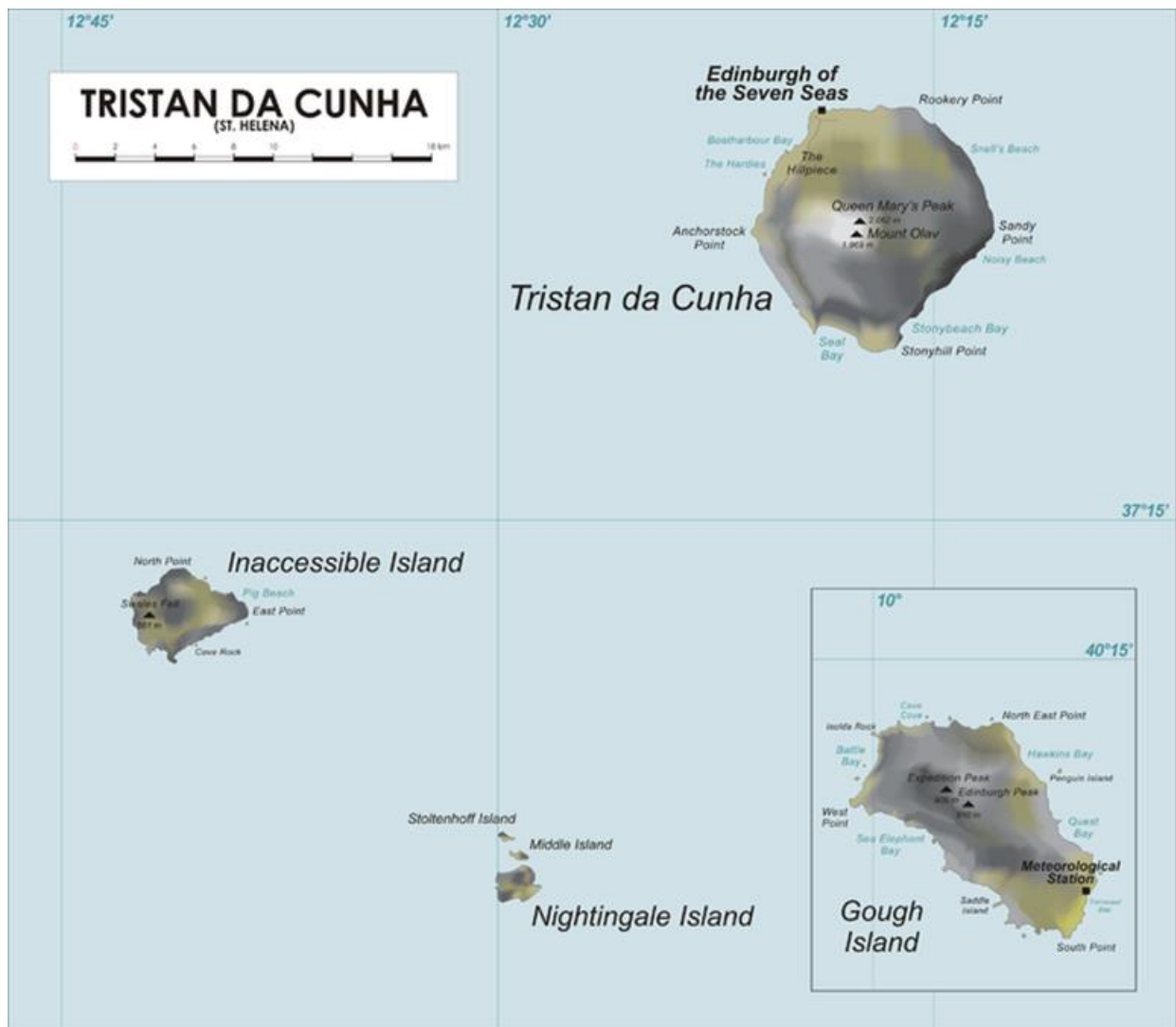
|                                   |  |
|-----------------------------------|--|
| Project reference                 | DPLUS005   |
| Project title                     | Sustainable management of the marine environment and resources of Tristan da Cunha               |
| Territory(ies)                    | Tristan Da Cunha   |
| Contract holder Institution       | RSPB   |
| Partner institutions              | James Glass – Tristan Government Fisheries Department<br>Sue Scott – Consultant Marine Biologist |
| Grant value                       | £285,673   |
| Start/end date of project         | August 2013 although start delayed by over 6 months/ end date (extended) June 2017               |
| Project leader name               | Clare Stringer Year 1 / Andy Schofield year 2 and 3  |
| Project website/Twitter/blog etc. |  |
| Report author(s) and date         | James Glass, Charles Kilgour, Sue Scott, Rob Mrowicki and Andy Schofield                         |

### 1 Project Overview

Tristan da Cunha is the world's most remote inhabited island, located almost halfway between South America and South Africa at a latitude of approximately 37.6 degrees South (see map above). Gough Island lies some 350 km to the south-east of Tristan at approximately 40 degrees south.

The Tristan lobster fishery provides 80-90% of the island's income, enabling Tristan's self-sufficiency. The islands are important for the conservation of marine wildlife, particularly seabirds, seals and cetaceans which are important for developing tourism. However, knowledge of the marine ecosystems on which the fishery depends is seriously deficient, making the current reliance on this fishery resource somewhat precarious. Recent stranding of an oil rig and a bulk carrier highlight risks from invasive aliens, oil pollution and spilt cargo, and needs for appropriate response capacity. The potential ecological impact of climate change is currently unknown and, prior to this project, little had been done to date to monitor the situation. These challenges were identified through the RSPB's long working association on Tristan (more than a decade) and through new questions being raised in relation to the fishery through its recent Marine Stewardship Council certification.

The aim of this project was to enable the Tristan Government to better manage its fisheries resource, and to draw existing information on the marine environment together into a marine & fisheries management plan. The project was intended to enable the Tristan Government to develop the capacity to respond to future marine incidents and to initiate monitoring of climate change impacts on key species. Importantly, the project also aimed to enhance Islanders' expertise enabling them to continue the work themselves beyond this project.



**Figure 1.** Tristan da Cunha is the world's most remote inhabited island, located almost halfway between South America and South Africa at a latitude of approximately 37.6 degrees South. Gough Island lies some 350 km to the south-east of Tristan at approximately 40 degrees South.

## 2 Project Stakeholders/Partners

From the outset, the Tristan da Cunha Government (particularly the Fisheries Department) has been integrally involved in its implementation. The development of this project was based on demand from Tristan, as there are questions about the lobster fishery that need to be answered in order to satisfy the Marine Stewardship Council. The Tristan government was involved in decision-making and planning for the Gough Island expedition, and has been actively involved in ongoing decisions regarding project implementation and future staffing.

The project staff worked daily with the Fisheries Department in planning, implementing and reviewing all the work carried out. In addition, the staff attended fishing committee meetings and worked closely with the Island Administration and the fishing concession holder Ovenstone Pty, who were also fully supportive of the project, to ensure that the work focused on relevant issues and could be used directly in the management process of the fishery. Ovenstone Pty made additional contributions in terms of providing survey support at much reduced rates while fishing at Gough Island.

The main stakeholders are the **people of Tristan da Cunha** whose lifestyles and livelihoods depend largely on sustainable management of the marine environment. The project involved around 5% of the population directly through participation in snorkelling/diving/marine survey and work related to the fishery. The wider population will also have the opportunity to contribute to development of the marine management plan.

The island **Administrator, and the Heads of the Fisheries and Conservation Departments** were in full support of this project, and identified specific needs to be addressed. Project leaders and partners have been in frequent discussions with them following previous projects, and following two major marine incidents which impacted on the marine environment. The Tristan Government has provided some matching funding (local costs) for marine work directly related to the stranding of the bulk carrier *Oliva* in 2011.

**Ovenstones Pty**, the fisheries concession holder, are also supportive of the project and provided survey support at much reduced rates while fishing in remoter parts of the archipelago, particularly Gough Island.

A number of **scientists** have an interest in the Tristan marine environment and have provided specialist advice and support. The members of the Tristan Biodiversity Advisory Group (T-BAG) were consulted during its implementation.

### 3 Project Achievements

#### 3.1 Outputs

| Agreed Project Outputs  |   |  |  |
|---|---|--|--|
| Output  | Indicators of success   | Status before project/<br>baseline data  | Source of information  |
| 1. Information base for sustainable marine and fishery resource management developed  | <p>Survey data for the 4 islands presented in reports by mid year 2</p> <p>Species lists compiled for the 4 islands by mid year 2</p> | <p>Little known about lobster juvenile stages</p> <p>Little knowledge on invasive species at Tristan, very limited survey undertaken around Gough</p> <p>Limited species lists</p> | <p>Survey reports</p> <p>Published papers</p> <p>Data sheets</p> <p>Species lists</p> <p>Maps of key sensitive areas</p> |
| <p><i>Actual Changes Delivered By Project:</i></p> <p>A detailed survey report was produced for Gough, which has enhanced local and international stakeholder knowledge beyond the expectations of the project. This is the first time in history that such an in-depth survey has been carried out and pulled together into one information resource. All of the primary indicators of success such as survey reports, species lists, data sheets, etc are included within the Gough Survey Report (<a href="#">Appendix A</a>).</p> <p>A detailed survey was also carried out for the three 'Northern Isles', and the data gathered through that survey were placed on file. These data were not brought together into a formal report, due mainly to staff changes after they were collected. Nevertheless, they represent a unique and highly valuable resource.</p> <p>Prior to the project, there was very little known about the biology and ecology of lobster larval and juvenile stages and the status of invasive marine species at Tristan. While there is still much to learn (with these aspects becoming a primary focus of a new, three-year Darwin project – 'Securing the future of the Tristan marine environment'), these critical knowledge gaps were addressed by the development and deployment of puerulus collectors to measure rates of lobster larval recruitment, the initiation of regular counts of larval/juvenile moults at Runaway Beach (as a higher-resolution proxy for variability in recruitment rates), and snorkel surveys of juvenile lobster abundances in shallow-water habitats across Tristan, Nightingale and Inaccessible islands. Checking the puerulus collectors on a regular basis proved to be a significant challenge, due to weather restrictions on boat and diving activities; some modifications to the design of the collectors may be required to remove the need for diver retrieval, alleviating these restrictions.</p> |   |  |  |

The main changes arising from these outputs are the development of appropriate equipment and methodologies (documented in Standard Operating Procedures) to enable the long-term monitoring of lobster larval recruitment rates and juvenile abundances, and the associated increase in local capacity to sustain this monitoring programme into the future.

The lack of knowledge of shallow-water habitats and biodiversity at Gough Island was also highlighted as a key focus for this particular output of the project, in addition to limited species lists for Tristan’s marine environment in general. Following two highly successful research expeditions to Gough Island over the course of the project, underwater surveys (with integral involvement of Fisheries Department staff) were conducted around the entire island, providing important baseline data on species distributions and relative abundances (see Gough Island survey report). These data will serve to inform future marine spatial planning via mapping of subtidal habitats and biodiversity, particularly in conjunction with more recent quantitative surveys conducted under the National Geographic Pristine Seas programme.

| <b>Output</b>   | <b>Indicators of success</b>   | <b>Status before project/baseline data</b>   | <b>Source of information</b>  |
|---|--|--|---|
| 2. Capacity built for sustainable marine & fishery management | Five islanders able to undertake marine survey work & complete survey forms, recognise potential alien species by mid year 2 | Some islanders have basic dive training (Darwin project), but little dive experience on Tristan, and therefore limited knowledge of marine communities and species. Fisheries observers in place but require further training on relevant data acquisition and processing. | Informal assessment by researchers and supervisors on Tristan.<br><br>Training records in divers’ logbooks. Dive records are attached for example/ evidence (Appendix B). |

*Actual Changes Delivered By Project:*

Training and capacity building formed one of the largest components of this project, enabling islanders to participate fully (and, ultimately, independently) in ecological monitoring activities. This is especially true, given the diversity of activities trialled and implemented during the course of the project.

Three staff members within the Fisheries Department had basic dive training prior to the start of the project, but with limited experience of the marine environment surrounding Tristan. In particular, two local divers participated in all diving activities during the project, which has improved their experience significantly. The project also funded one of the divers to undertake advanced training in Cape Town to PADI Master Scuba Diver level. Some additional instruction was provided to staff by one of the marine biologists (a PADI diving instructor) covering rescue techniques and safe diving practices. Aside from more structured training, participating in more diving in general, in different environments and under a range of conditions, is perhaps the best way to improve in-water competence – as almost 100 dives were achieved during the project (recorded in divers’ logbooks), this represents a significant extension in diving and surveying experience.

While islanders were already fully competent in the identification of species within certain groups (e.g. fishes), survey protocols also required knowledge of species within more specialist taxonomic groups, such as algae and invertebrates, for which additional training and resources were provided (including species identification guides). A monitoring manual, including Standard Operating Procedures for all main monitoring activities (see output 4 below), was produced in conjunction with providing training for the relevant Fisheries department staff in data collection techniques.

During the course of the project, island divers received personalised training by the visiting marine biologists and are now in a position to carry out field work without external support (checking/changing temperature loggers, collectors, fish counts, transects, etc). This was further enhanced by a formal drysuit training session and a diver rescue skills refresher course. They will also be in a position to support the Tristan da Cunha Government (Public Works Department) with assessing any serious problems with the entrance of the harbour (the only link to the outside world) during storms. All this is testament to the excellent training and development that has been given in the previous three seasons and is proof that Darwin projects aid valuable training and development to small overseas territories.

Species identification skills in the form of lectures focusing on the most relevant species and containing additional biological information acquired during this project have been put into practice and Fisheries staff can now participate in survey work and data collection.

A study was also carried out on the MV Edinburgh to investigate the benthic impact of the monster traps used in the lobster fishery. This study feeds back into the MSC certification of the fishery under core principle 2: Minimising Environmental Impact. The report from the study is included as [Appendix C](#).

A tagging trial and then operation was carried out to train the Tristan Fisheries department on the methodologies needed to do longer-term assessments of lobster movements, distribution and growth rates, and this work will continue as part of the lobster management plan. This trial has revealed high mortality and infection in tagged lobster, which has fed back into the marine management plan for how lobster are tagged and future work to better understand the impact of tags on lobsters.

An assessment of the observer programme operated by the fisheries department on the MV Edinburgh was carried out throughout the project and an updated format for observer reports and the introduction and training of bycatch monitoring as part of the observer's duties have now been implemented. Training on data handling, analysis and storage were also given to key department employees. As a result an updated version of the license agreements and fishing regulations issued to trawlers and longliners operating in the Tristan da Cunha Maritime Zone have been implemented by the fisheries department in accordance with best practice, UK law and Regional Fisheries Management Organisation (RFMO) guidelines.

| <b>Output</b>                                      | <b>Indicators of success</b>   | <b>Status before project/<br/>baseline data</b>   | <b>Source of information</b>  |
|--|--|---|---|
| 3. Capacity increased for marine incident response | Five personnel trained on survey/response following an incident by quarter 1 of year 2<br><br>Detailed contingency plan produced and consulted locally by mid year 2 | Draft contingency plan for marine incidents revised, but requires refinement and consultation. No training locally. | Refined contingency plan including broader issues as well as alien species<br><br>Diving records/logs |

*Actual Changes Delivered By Project:*

This output has been completed in the majority and a marine incident plan is in production and oil spill contingency plan has been produced by the project team in conjunction with Katrine Herian (Tristan da Cunha Policy Officer) and Estelle van de Meuwe (oil spill response specialist). The oil spill response is attached as Appendix D and the marine incident plan will be provided as soon as it is completed.

A sound invasives protocol to guide the Tristan Fisheries Department has also been developed. The status of non-native species introduced by the rig grounding at Tristan and the MV Oliva wreck at Nightingale have been re-assessed by continued surveys at the respective sites, during which no new non-native species were identified.

However, many more specimens of the non-native South American silver porgy (*Diplodes argenteus argenteus*) have been noted, with shoals of >50 seen in the vicinity of the entrance of the harbour. Specimens were obtained at Tristan for gut contents analysis, and some have been sent for analysis in Brazil. This species is no longer only occasionally observed during dedicated sampling excursions and is becoming much more abundant in certain areas around the islands, making it much easier to capture than at the beginning of the project. They were also observed at Inaccessible Island in 2017 by the National Geographic scientific team, although have not been observed there by island divers.

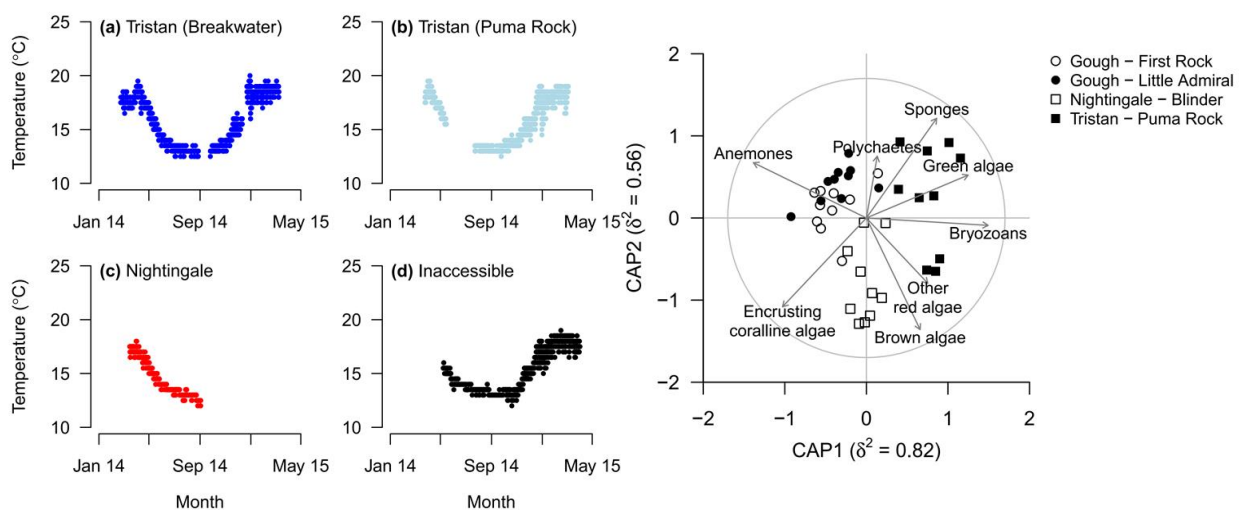
Recognising the importance of other key species in the dynamics of marine communities around Tristan, the monthly sampling which began with this project to start characterising the reproductive cycles of sea urchins (*Arbacia dufresnii*) will continue with the new Darwin project.

| Output   | Indicators of success   | Status before project/<br>baseline data   | Source of information                        |
|--|---|---|--|
| 4. Capacity to assess effects of climate change in the marine environment enhanced | Methodology developed and tested by EOP<br><br>Five islanders trained in the implementation of the methodology by EOP | Very limited information on basic processes such as seasonal changes and interactions between key species | Methodology document<br><br>Training report. |

**Actual Changes Delivered By Project:**

The output above was achieved and surpassed.

The primary objective here was to implement standardised, repeatable methodologies for monitoring the marine environment over extended timescales. This was achieved through the establishment of a core monitoring programme incorporating intertidal transects (macroalgal species cover), and subtidal quadrat photography (sessile species abundances) and transect-based counts (kelp and mobile species densities). Further, in addition to collection of biological data, temperature data are now being collected from monitoring sites at all four islands with the use of continuous data loggers (Figure 2). Together, these data constitute an important baseline against which to assess future change in the marine environment.



**Figure 2.** Examples of outputs from subtidal monitoring data collected from Tristan da Cunha islands. (A) Physical – temperature data from continuous data loggers; (B) Biological – ordination plot representing differences in benthic community composition among sites, determined using data from fixed quadrat photography.

Overall, subtidal monitoring sites were established within boulder and rock wall habitats at six different sites across all four islands (with temperature loggers deployed at the same sites plus an additional site at Tristan), and intertidal transects were established at two accessible sites on Tristan. The distance between islands, combined with unexpected bad weather (particularly outside of the main summer months), severely restricts the total number of surveys that can be performed on a regular basis – yet it is hoped that this network of sites can be expanded slightly during the subsequent Darwin project, to obtain better coverage of the archipelago. Further, accurately determining seasonal changes in a range of biological and ecological parameters demands the collection of data with a greater temporal resolution than that which may be realistically achievable at Tristan (i.e. comprehensive surveys performed at least every 3 months throughout the year), except in cases where data can be collected remotely (e.g. data logging, underwater video, remote sensing). Focussing on the longer-term (i.e. inter-annual) component of environmental monitoring, therefore, may be of greater use here.

A variety of other data collection methods and sub-projects were trialled, including in-situ diver-based counts and Baited Remote Underwater Video (BRUV) for determining relative abundances of fish species, sampling invertebrate biodiversity within cobble habitats and kelp holdfasts, characterising sea urchin reproductive cycles, and tank-based experiments for quantifying interactions of lobsters with other key species. While many of these were necessary to develop workable procedures for the proposed monitoring programme, others represent additional scientific outputs (reflecting the expertise of the marine and fisheries scientists involved in the project) relevant to enhancing baseline biodiversity data and improving fisheries management strategies. For example, additional work was undertaken to characterise the invertebrate assemblages inhabiting intertidal macroalgae (a putative key food source for juvenile lobsters; see scientific report being produced by consultant) and to test the effects of different kinds of tags on lobster performance and mortality (tagging experiment results report being produced by consultant Charles Kilgour).

Temperature loggers to help assess the potential impacts of climate change are in place at four locations around the Tristan Islands (Puma Rock – Tristan, Blinder – Nightingale, First rock and Admirals – Gough Island). These are downloaded on an annual basis at the more remote islands (Gough) and quarterly at the Northern islands. This should give a vastly improved insight into seawater temperature changes across the whole Tristan group and a baseline to work from as the lifespan of these loggers will far outlive the end of the project and has therefore given Tristan a legacy to monitor its waters climatically albeit at a very small sample of sites at present.

Photographic transects are now well established at Gough Island and Tristan to monitor and then establish any climate-influenced changes through habitat change or species assemblage changes.

SeaSearch training was given to all the dive team on Tristan by the project's lead diver, this was aimed to develop Tristan's monitoring in line with other Atlantic territories so that climatic changes can be compared within regions.

Kelp distribution, which may be a key indicator to climatic changes, has now been mapped via satellite GIS imagery and is now in the process of being ground-truthed. This project will be ongoing and will be yet another legacy that was initially afforded by the Darwin project. Further information on the climatic work carried out will be provided in the section of the Tristan Marine Monitoring and Management Plan covering climate change – see Output 5 below.

| Output  | Indicators of success   | Status before project/ baseline data   | Source of information   |
|---|---|--|---|
| 5. Marine management plan developed for Tristan da Cunha  | <p>National workshops well attended by all local stakeholders including scientific, conservation, fisheries and general public</p> <p>External consultation process completed EOP</p> <p>Management plan document completed EOP</p> | Several projects on marine environment carried out in the past and several ongoing; however nothing being done to consolidate these into a coherent action plan. | <p>Workshop report</p> <p>Management plan</p> <p>Government website</p> |
| <p><b>Actual Changes Delivered By Project:</b></p> <p>This output has not yet been finalised. However a draft plan is almost complete and will be forwarded to Darwin when finished by the independent marine scientist. Major workshops have been held: two days of scientific workshop hosted by RSPB involving over 30 participants, many of whom are key scientists with long experience of working in the Tristan marine environment; and a subsequent day at the FCO with again over 30 participants to take forward recommendations from these workshops, and with additional guidance towards options for possible MPAs for Tristan. These recommendations and outcomes will now be taken back to the island and presented as a move towards better marine and fisheries management and will also form the backbone to the Tristan da Cunha 2020 Marine Protected Area designation.</p> |   |  |   |

### 3.2 Outcome

The intended project outcome was as follows:

*“The project will increase our understanding of the functioning of the marine ecosystems of the Tristan islands, and local capacity will be built to take better informed decisions on the sustainable management of the lobster resource and conservation of the wider marine environment, including tackling threats from the introduction of alien species, pollution from shipping incidents and climate change. The Tristan da Cunha Government will continue implementing surveys once project is completed in scientifically robust way and the management plan developed by the project will be utilised and adhered to by Tristan Government and resource users.”*

*Increased understanding* – The project resulted in the collection of detailed data on the biodiversity and structure of nearshore marine ecosystems at all four main islands (species lists, specimens collections, survey reports). Importantly, this work has laid the foundations for tracking change in the marine environment, and for further enhancing our understanding of marine ecosystem functioning – most importantly, feeding directly into the next Darwin marine project and contributing to the solid scientific basis required for the future establishment of marine protection.

*Improved local capacity* – In combination with scientific data, local capacity for management of the marine environment has been improved (with all four members of the Tristan Fisheries Dept) by training, largely related to ecological monitoring, including the practical involvement in all aspects of data collection. This training will have to be continually consolidated within the Tristan fisheries dept and budget will need to be allocated for this and the ongoing monitoring work so a robust dataset can be collated over the next few years. There are still knowledge



gaps in terms of the status of invasive species and the susceptibility of marine ecosystems to climate change, which proved difficult to address during the current project (particularly owing to the limited temporal duration of survey work), but which are key components of the following Darwin project.

*Continued monitoring* – Continuation of monitoring of subtidal habitats established within this project will continue as part of the fishery departments annual work programme and will also feature in the next Darwin project, which also aims to strengthen and broaden the current monitoring programme, with extra focus on invasive species (owing to an unanticipated increase in the abundance of the South American silver porgy in Tristan’s waters) and the extent and vulnerability of critical kelp forest habitats (owing to the availability of remote sensing data).

*Management plan* – A major output that remains in draft and will be shared with Darwin when completed by the consultant.

### Risk Identification

| <i>Description of the risk</i>   | <i>Likelihood of risk (H/M/L)</i> | <i>Impact of risk (H/M/L)</i> | <i>Steps the project will take to reduce or manage the risk</i>  |
|--|-----------------------------------|-------------------------------|--|
| <b>No suitable researcher(s) recruited</b>   | L                                 | H                             | Recruiting suitable researchers is key to the project. A rigorous selection procedure will be applied with islanders involved in process; as well as scientific credentials, selection criteria to include self-sufficiency, experience of and ability to work in challenging conditions and to be opportunistic, ability to work, communicate and socialise with islanders. Project partner able to take on some aspects of project if only one good candidate found.   |
| <i>Did risk occur? (How was this dealt with and what impact did it have on the project?)</i> |                                   |                               | Initially this was a challenge and did give the project team and Tristan stakeholders a difficult start to the project which had to be delayed by over six months. This was due to difficulties in recruiting and then berth spaces within Tristan's limited number of available berths for workers to actually get access to the Islands. This was discussed with Darwin and a change request was submitted and accepted which solved the issue by giving more time. Having to recruit different researchers for the second part of the project rather than being able to retain researchers throughout also affected project continuity, although this was partially offset by benefitting from different skills. Working in such isolated and remote regions is always challenging for recruitment and access to the Islands. |
| <b>Researcher/s unable to cope with working on Tristan</b>                                   | M                                 | H                             | Rigorous selection procedure (see above). In the event that one researcher leaves Tristan prematurely, one of the partners (already familiar with conditions on Tristan) may be prepared to complete the project.  |
| <i>Did risk occur? (How was this dealt with and what impact did it have on the project?)</i> |                                   |                               | This risk did not occur although some difficulties with actual arrival and departure times to and from Tristan were encountered.   |

| <i>Description of the risk</i>   | <i>Likelihood of risk (H/M/L)</i> | <i>Impact of risk (H/M/L)</i> | <i>Steps the project will take to reduce or manage the risk</i>   |
|--|-----------------------------------|-------------------------------|---|
| <b>Conditions unsuitable for surveys or landing fieldwork parties</b>                        | H                                 | H                             | Experience with running short projects on Tristan has shown that adverse weather for working at sea is always a potential problem and will affect safe landings on islands. This project has been specifically designed with the main researchers resident on Tristan for an extended time to maximise the opportunities for completing the field programme.  |
| <i>Did risk occur? (How was this dealt with and what impact did it have on the project?)</i> |                                   |                               | The first Gough survey was unable to work on the south side of the island because of adverse sea conditions, but a second trip a year later was able to fill in gaps. This risk was minimised due to good planning, well considered contingency planning and researchers spending extended periods of time on island for up to six months per year to maximise resources and opportunities.   |
| <b>Transport unavailable</b>   | H                                 | H                             | As transport to and from Tristan is reliant on fishing ships with only 12 passenger spaces, and islanders (especially medevacs) take precedence, transport for project personnel is a constant problem. However with a longer-term project spread over 2 years, ship spaces can be booked well in advance to minimise this risk. The new annual Gough takeover ship which visits in September/October has more passenger spaces. Transport to Gough is even more difficult, but the project has the support of the fishing ship operators, who will do their best within commercial constraints to assist the survey.                               |
| <i>Did risk occur? (How was this dealt with and what impact did it have on the project?)</i> |                                   |                               | There were minor delays with transportation for the research team over the duration of the project although with good island support and a flexible team this was kept to a minimum. The Gough survey could have been seriously compromised by being one scientific diver short because of lack of ship spaces, potentially resulting in half the number of survey sites, but this was balanced out by an extended fishing period around the island, enabling greater coverage.   |
| <b>Islanders unavailable for survey support and training</b>                                 | M                                 | H                             | Availability of islanders for survey support and training is a potential problem, because there is always other work to do on Tristan. However this has been discussed with relevant heads of department, and training specifically requested by the Fisheries Department. Project workloads will be provisionally agreed in the early stages of the project. It is essential that islanders see the project as valuable, and this will be an important concept for the researcher to communicate while on Tristan. Appointing two biologists for mutual fieldwork support and for completing diving operations also partly addresses this problem. |
| <i>Did Risk Occur? (How was this dealt with and what impact did it have on the project?)</i> |                                   |                               | There were no issues with this as the project had complete support from the Tristan government and the Tristan Fisheries Department.  |

### 3.3 Long-term strategic outcome(s)

As described throughout this report, the project has achieved all of the outputs and more throughout the project period. The Tristan Fisheries Department now has a vastly improved understanding of its fishery and the data it has and the Tristan lobster. This combined with the National Geographic Pristine Seas Expedition and the next Darwin project that has just commenced will have a monumental change on the knowledge, sustainability and future of the Islands fishery and its long-term ensured sustainable certification and future protection.

The project has greatly enhanced the awareness of marine environmental issues on the island, particularly with respect to fisheries management and dealing with marine incidents. As mentioned above it has also greatly contributed to discussions leading to decisions on MPA designation.

## 4 Sustainability and Legacy

There has been strong awareness in the Tristan community of the project and the work being conducted as part of it. During the first year, islanders attended presentations about the project at the Tourism Department and School and during the latter phase, an additional talk was given at the School assembly.

Sustainability has been significantly enhanced with capacity-building in skills and knowledge of the TCD and Fisheries Department staff members. Such focussed and dedicated dive training for the TCD staff would otherwise be almost impossible for them to attain in such a remote position. Ensuring local divers are well equipped and trained and confident in their skills is the key factor in ensuring the sustainability of this work in the future. The legacy of this project will continue to give social, economic, ecological and technical benefits as this project's results will underpin future conservation and fisheries management plans.

In particular, this project has laid the foundations for a subsequent Darwin project aimed at deepening our understanding of the consequences of climate change and invasive species on Tristan's marine environment, in particular the potential impacts on the lobster fishery.

As there is a direct link between these two successive projects, the equipment and expertise acquired from this project will feed straight into the next. This also ensures the development and continuation of marine monitoring programmes, and further directed training in the specifics of managing fisheries and marine protected areas.

Training provided by this project has ensured that Tristanians are now better able to continue marine research, respond to marine incidents and manage fisheries with minimal input from outside, but with an increased network of expert contacts for support if required. Nothing that was planned throughout the project period has ended when this current Darwin has finished. There is a continued legacy within the next Darwin project and this has opened the door and is paving the way to a huge amount of ongoing research that will last until at least 2020 when Tristan will be able to announce its science-based marine protection regime throughout its EEZ. This would probably not have happened without this Darwin project and its support.

The supply of a new rigid hulled inflatable RHIB vessel, the *Jasus tristani* (the Latin name for the Tristan spiny lobster), partly funded by this project, together with diving and survey equipment, has made an immense difference to the success of this project and will assist in future projects' sustainability.

Tristan is so small that limitations in equipment and numbers of people are real restrictions in terms of carrying out basic work such as monitoring. This extra boat is the only RHIB owned by the Fisheries Department and should significantly assist with the monitoring of the marine environment in future. It has already made more than 50 trips (to a hire value of some £12,500) and has assisted the Fishery Patrol vessel when it had engine failure. It also acted as a rescue boat when the Police RHIB broke down whilst rescuing another vessel at the back of the island.

This is now a long-term legacy as the resource of the *Jasus tristani* will enable the Tristan Fisheries Department to carry on delivering first class scientific monitoring of the Tristan marine environment well beyond the end of the project. It also allows departmental independence and facilitates further training opportunities.

## 5 Lessons learned

Tristan is quite unique in its situation as the remotest inhabited island group in the world and this brings specific challenges to project management. This project benefitted from the experience of previous Darwin projects on Tristan, so that project managers were aware of the major challenges and could attempt to address these at the planning stage. In particular, appointing staff suited to work on Tristan, transport to and from the island, and poor internet were continuing challenges throughout this project. Being unable to appoint personnel that were available for the duration of both fieldwork seasons on Tristan did compromise continuity of work, and lack of ship spaces affected the Gough survey. On the plus side, having a dedicated vessel and equipment provided by this and previous Darwin projects, a core team of Tristanian Fisheries Department staff dedicated to the project, and willing assistance from the fishing company were huge bonuses enabling efficient and cost-effective project work.

Broader issues that helped to overcome these problems include the following.

- The project design was broad, which allowed the biologists to direct the research to their experience. This uses the biologists' strengths and allows room for adapting the project as you go along. However, it is important to build in time to allow overlap/handover between different teams to avoid loss of momentum and knowledge and to avoid confusion about the purpose of some of the work, thus improving continuity.
- As the research adapted to the requirements of the stakeholders and the Tristan environment the budget requirements also changed and it would have been useful to have money available for unforeseen equipment like crevice collectors and lobster tanks which took a lot of the staff's time constructing.
- Finally, the logistical challenges faced during this project emphasise how difficult it can be to adhere to project timescales on an extremely remote island, where weather and transport restrictions can quickly set you back 2–3 months. Time is critical and it is also critical to build in a substantial amount of contingency for this. Changes in shipping schedules, last minute berth changes due to medevacs or weather can suddenly have real impacts on the project timelines; for example a single berth change may suddenly cost the project six months of crucial time and rescheduling. This is also difficult as it then immediately has a knock on effect to financial management as it is very easy with somewhere so remote to suddenly need large changes to carry over funds due to long delays.

It has to be said that Darwin have been unbelievably understanding and accommodating in all the issues that we have had over the project period and it is as much credit to them and their flexibility as well as the Tristan Fisheries staff that the project has been such a success.

### 5.1 Monitoring and evaluation

A major change in project design occurred as a result of being unable to source a sufficiently qualified fisheries biologist for the first fieldwork season, despite the post being advertised well in advance. Biological and fisheries work had to be rescheduled because of this; fortunately we were able to appoint a good fisheries biologist for an extended period during the second season.

The design of the 2014 Gough subtidal survey, which was planned with 4 biologist divers working as two pairs, had to be rethought as there were only ship spaces for 3 divers as transport to Tristan. For safe diving this meant only one dive team instead of two, so that only half the potential number of sites could be surveyed. Fortunately, an extended fishing period at Gough meant a longer stay, so that survey goals were in fact achieved. Now that Tristanian divers have been trained up (and took part in the second Gough survey in 2015), extra support divers should be less of a problem in the future.

## 5.2 Actions taken in response to annual report reviews

All comments that were received from Annual and Half Year reports were fed back to the project team and discussed. All comments were found to be useful and constructive and all were taken into account by the project.

It was previously recommended that one diver (currently certified as a Master Scuba Diver) be trained up to Divemaster level. As mentioned in the response to the review, the most effective means of achieving this would be an internship with a diving centre, with the appropriate materials (and extended period of time) to fulfil the course requirements while participating in ongoing diving activities. Although the minimum number of logged dives required for enrolment on the course is 40 (with 60 being the minimum number for certification), this is a very small number to be able to claim in-water competence, particularly at a professional level. Therefore, it was recommended that the candidate focusses on gaining additional diving experience (including survey work, which offers its own unique logistical and technical challenges). Obtaining funding for extended dive training (including to Divemaster level) could be a worthwhile goal for the future. In terms of general diving safety on Tristan, limits and guidelines have been adhered to consistently, and islanders are well aware of the remoteness of the island and the difficulties involved in medical repatriation. Further expansion of diving activities may warrant the establishment of a dive officer role in the future.

The second annual project review flagged up lack of progress on two items - the Marine Incident Contingency, and a Marine Management Plan for Tristan. The former has not been progressed, partly due to illness of the author (Sue Scott, now substantially recovered), but it is hoped to continue this work shortly. However it has already proved useful in draft form; one of its key recommendations, of a PSSA or similar for Tristan, is being assessed as part of the work towards an MPA for Tristan. In the meantime, a specific Oil Spill response plan has been drafted following the Oliva spill, and it may be appropriate to combine these into an overarching document.

The Marine Management Plan for Tristan is ongoing, and is currently nearing completion. Again, Sue Scott's illness affected work on this, which had to be taken up by other project staff. This document also ties in with plans for an MPA, and it is important to get this right with full consultation with stakeholders, so this process will continue during the next Darwin project.

## 6 Darwin Identity

The Darwin Initiative has been acknowledged on all reports, popular articles and scientific papers arising from the project, and the Darwin logo used wherever possible.

A description of the project (including acknowledgement of funding from the Darwin Initiative) was published on the official Tristan da Cunha website and in the February 2015 edition of the Tristan da Cunha newsletter, both of which reach global audiences. The Darwin Initiative logo has been used on species identification training presentations and The Darwin Initiative logo has been used at local events held on Tristan (for both of the current running projects on Tristan), and in the profile on the [www.tristandc.com](http://www.tristandc.com) website.

This project was a distinct project with a clear identity; however it built on previous Darwin projects which laid essential groundwork by providing equipment, expertise, training and awareness of the Darwin Initiative on Tristan. It also linked in with other scientific work part-funded by Darwin, notably the British Antarctic Survey cruise in 2013 which sampled deep biota from the Tristan islands, and was advised by project partners. A major summary report on the Tristan marine environment and biota, financed by the PEW Trusts and now used as a major background resource, was authored by Sue Scott and drew heavily on information and experience gained on Darwin projects. Thus the Darwin projects have, and will continue to have, significant spin-off products beyond the original planned programme.

Tristanians are very familiar with the Darwin Initiative, from marine and terrestrial projects run within both Conservation and Fisheries Departments since 2004. The Initiative is seen on the

island as an important source of funding for conservation and fisheries research, providing equipment, outside expertise, and training as a significant legacy for the island, and the projects are well-known to island heads of departments and councillors. Other islanders and school children are also familiar with the Darwin name from local presentations and training from Darwin staff. One of the Tristan Conservation Department boats is named the *Darwin Express*.

## 7 Finance and administration

### 7.1 Project expenditure

| Project spend (indicative) since last annual report | 2016/17 Grant (£) | 2016/17 Total actual Darwin Costs (£) | Variance % | Comments (please explain significant variances) |
|---|-------------------|---------------------------------------|------------|---|
| Staff costs   |                   |                                       |            |   |
| Consultancy costs                                   |                   |                                       |            |   |
| Overhead Costs                                      |                   |                                       |            |   |
| Travel and subsistence                              |                   |                                       |            |   |
| Operating Costs                                     |                   |                                       |            |   |
| Capital items                                       |                   |                                       |            |   |
| Others  |                   |                                       |            |   |
| <b>TOTAL</b>  |                   |                                       |            |   |

| Staff employed (Name and position)                   | Cost (£) |
|--|----------|
| Charles Kilgour, Researcher (marine biologist)       |          |
| Andy Schofield, RSPB Project Leader                  |          |
| James Glass, Tristan staff (Project Leader, Tristan) |          |
| Other Tristan Staff (6 staff, various mixed roles)   |          |
| Sarah Glass/ Tanya Green, Tristan staff (admin)      |          |
| <b>TOTAL</b>   |          |

| Consultancy – description of breakdown of costs   | Other items – cost (£) |
|---|------------------------|
| Satellite mapping of kelp<br>Sue Scott, project partner<br>Marine sample preparation and sequencing |                        |
| <b>TOTAL</b>  |                        |

| Capital items – description | Capital items – cost (£) |
|-----------------------------|--------------------------|
|                             |                          |
| <b>TOTAL</b>                |                          |

| Other items – description | Other items – cost (£) |
|---------------------------|------------------------|
| Audit                     |                        |
| <b>TOTAL</b>              |                        |

## 7.2 Additional funds or in-kind contributions secured

| Source of funding for project lifetime              | Total (£) |
|---|-----------|
| Tristan government – RIB, tags, staff costs etc     |           |
| RSPB – travel and staff costs (including overheads) |           |
|   |           |
|   |           |
|   |           |
| <b>TOTAL</b>  |           |

| Source of funding for additional work after project lifetime | Total (£) |
|--|-----------|
| See second Darwin+ project (DPLUS062)                        |           |
|  |           |
|  |           |
|  |           |
|  |           |
| <b>TOTAL</b>   |           |

**Annex 1** Project’s original (or most recently approved) logframe (if your project has a logframe), including indicators, means of verification and assumptions. N.B. Insert your full logframe. If your logframe has changed since your application and was approved by a Change Request the newest approved version should be inserted here, otherwise insert the Stage 2 logframe. 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](mailto:Darwin-Projects@ltsi.co.uk) if you have any questions regarding this.

| Project summary   | Measurable Indicators  | Means of verification  | Important Assumptions |
|---|--|--|-----------------------|
| <b>Impact:</b>  |  |  |                       |
| <b>Outcome:</b>   |  |  |                       |
| <b>Outputs:</b><br><b>1. Information base for sustainable marine &amp; fishery management developed</b> | 1.1 Research on the biology of Tristan lobster (larval and juvenile stages) completed to assist fishery management<br>1.2 Status of alien introductions from rig and <i>Oliva</i> wreck established<br>1.3 Shallow subtidal sites surveyed on Gough by diving (complementing EIDP023 work on “top islands”)<br>1.4 Identification of Tristan marine species by experts is continued and species lists are compiled | 1.1 An ongoing programme of lobster research has been forged and all activities to date can be seen in the attached marine & fisheries management plan.<br>1.2 Status of alien species has now been well documented and continues to be monitored especially with regards to the silver porgy.<br>1.3 Shallow sub tidal surveys were successfully carried out at Gough Island. For full survey report and results see the attached Gough Island survey report attached as Appendix A and compiled by Sue Scott.<br>1.4 Full species lists and identification by experts was carried out for all the Islands dived at and surveyed (Gough plus the three ‘Northern Isles’). |                       |



| Project summary   | Measurable Indicators  | Means of verification  | Important Assumptions |
|---|--|--|-----------------------|
| <p><b>2. Capacity built for sustainable marine &amp; fishery management</b></p> | <p>2.1 Training provided for a range of islanders in marine survey work, data collection, recognition of potential alien species, as well as building dive experience of local divers.</p> <p>2.2 Training provided for fisheries officers in data acquisition and processing</p> <p>2.3 Training provided for conservation officers in seabird tracker attachment and data processing</p> | <p>2.1 Islanders have received training throughout the project in marine monitoring and survey work as well as dive training and alien species monitoring</p> <p>2.2 Training was provided in data handling and requisition by all the teams that visited the island, including the cleaning and streamlining of existing data and establishing new datasets/ databases.</p> <p>2.3 Training was provided for the Tristan Conservation Department on the attaching, programming and downloading of GPS satellite trackers for seabird tracking purposes. Staff trained by the project lead were Trevor Glass (Head of Conservation Department) and Julian Repetto and George Swain (Tristan Conservation Officers)</p> |                       |
| <p><b>3. Capacity increased for marine incident response</b></p>                | <p>3.1 Detailed contingency plan produced and consulted locally</p> <p>3.2 Local personnel trained on survey/response following a future incident</p>  | <p>3.1 A detailed contingency plan was revised from a previous draft. An updated oil response plan has been formalised and is attached as an appendix.</p> <p>3.2 The Tristan fisheries department is now well equipped to monitor and survey for future incidents such as ship collision following protocols established post Oliva incident.</p>   |                       |

| Project summary  | Measurable Indicators   | Means of verification   | Important Assumptions |
|--|---|---|-----------------------|
| <p><b>4. Capacity to assess effects of climate change in the marine environment enhanced</b></p> | <p>4.1 Toolkit and methodology developed and tested to monitor the impact of climate change on the marine environment.</p> <p>4.2 Training of selected islanders involved in marine survey work.</p>  | <p>4.1 Methodologies developed include long term temperature loggers deployed and these will continue to monitor sea temperature at several locations around the islands for several years to come building a robust long term dataset. A long term monitoring of kelp extent via satellite images and groundtruthing is also being developed as a long term monitoring tool.</p> <p>4.2 Two members of the fisheries dept are now fully trained in the methodologies adapted by this project and will continue this data gathering and consolidate experience for several years to come.</p> |                       |
| <p><b>5. Marine management plan developed for Tristan da Cunha</b></p>                           | <p>5.1 National workshop organised and held to develop management and zonation plan for the marine environment that draws together previous and ongoing data and studies</p> <p>5.2 Consultation process with external marine experts in the UK</p> | <p>5.1 A national workshop was organised after the end of the project as part of Tristan's MPA aspirations. It was known that this workshop would go ahead just before the end of the project and it was decided not to run two but use this opportunity to capitalise on all the researchers, partners and stakeholders being in one place at a three day workshop held at RSPB and FCO.</p> <p>5.2 A full consultation process has been carried out and has proved invaluable to feed this in to the greater aspiration of the future Tristan MPA discussions and work programme.</p>       |                       |

## Annex 2 Report of progress and achievements against final project logframe for the life of the project (if your project has a logframe)

| Project summary   | Measurable Indicators                         | Progress and Achievements for the life of the project  |
|---|---|--|
| <b>Impact:</b><br>Insert <b>agreed</b> project Impact statement   |   | Report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity e.g. steps towards sustainable use or equitable sharing of costs or benefits  |
| <b>Outcome</b> Insert <b>agreed</b> project Outcome statement   | Insert <b>agreed</b> Outcome level indicators | Report on progress towards achieving the project purpose, i.e. the sum of the outputs and assumptions  |
| <b>Output 1.</b><br><b>1. Information base for sustainable marine &amp; fishery management developed</b>                    |   |  |
| Activity 1.1 Research on the biology of Tristan lobster (larval and juvenile stages) completed to assist fishery management |   | 1.1 Research on the biology of juvenile stages was initiated, and is reported in the marine management plan. This work is being continued by islanders.  |
| Activity 1.2. Status of alien introductions from rig and <i>Oliva</i> wreck established                                     |   | 1.2 Surveys at the rig and <i>Oliva</i> wreck sites revealed no evidence of alien settlement. Work on establishing the diet and reproductive biology of the invasive porgy is ongoing.   |
| Activity 1.3. Shallow subtidal sites surveyed on Gough by diving (complementing EIDP023 work on “top islands”)              |   | 1.3 Shallow sub tidal surveys were successfully carried out at Gough Island. For full survey report and results see the Gough Island survey report attached as Appendix A and compiled by Sue Scott.   |
| 1.4 Identification of Tristan marine species by experts is continued and species lists are compiled                         |   | 1.4. Identifications of major animal groups (sponges, nudibranchs, gastropod molluscs, hydroids) and algae (geniculate corallines) was completed. Work on bryozoans and other algae is ongoing. Specimens have been for genetic studies for several groups of animals and seaweeds. Species lists have been completed for Gough and the top islands. |

| Project summary   | Measurable Indicators | Progress and Achievements for the life of the project  |
|---|-----------------------|--|
| <b>Output 2.</b><br><b>Capacity built for sustainable marine &amp; fishery management</b>   |                       |  |
| Activity 2.1. Training provided for a range of islanders in marine survey work, data collection, recognition of potential alien species, as well as building dive experience of local divers. |                       | 2.1 Islanders have received training throughout the project in marine monitoring and survey work as well as dive training and alien species monitoring   |
| Activity 2.2 Training provided for fisheries officers in data acquisition and processing  |                       | 2.2 Training was provided in data handling and requisition by all the teams that visited the island, including the cleaning and streamlining of existing data and establishing new datasets/databases  |
| Activity 2.3 Training provided for conservation officers in seabird tracker attachment and data processing  |                       | 2.3 Training was provided for the Tristan Conservation Department on the attaching, programming and downloading of GPS satellite trackers for seabird tracking purposes. Staff trained were Trevor Glass (Head of Conservation Department) and Julian Repetto and George Swain (Tristan Conservation Officers) |
| <b>Output 3. Capacity increased for marine incident response</b>  |                       |  |
| <b>Activity 3.1</b> Detailed contingency plan produced and consulted locally  |                       | 3.1 A draft marine alien contingency plan produced by Sue Scott in 2008 has been revised and expanded to incorporate other marine incidents and look at preventative measures. This has not yet been consulted locally.  |
| <b>Activity 3.2</b> Local personnel trained on survey/response following a future incident  |                       | 3.2 The Tristan fisheries department is now well equipped to monitor and survey for future incidents such as ship collision following protocols established post Oliva incident.   |
| <b>Output 4. Capacity to assess effects of climate change in the marine environment enhanced</b>  |                       |  |

| Project summary   | Measurable Indicators | Progress and Achievements for the life of the project  |
|---|-----------------------|--|
| <b>Activity 4.1</b> Toolkit and methodology developed and tested to monitor the impact of climate change on the marine environment.   |                       | 4.1 Methodologies developed include long term temperature loggers deployed and these will continue to monitor sea temperature at several locations around the islands for several years to come building a robust long term dataset. A long term monitoring of kelp extent via satellite images and groundtruthing is also being developed as a long term monitoring tool.             |
| <b>Activity 4.2</b> Training of selected islanders involved in marine survey work.  |                       | 4.2 Two members of the fisheries dept are now fully trained in the methodologies adapted by this project and will continue this data gathering and consolidate experience for several years to come  |
| <b>Output 5 Marine management plan developed for Tristan da Cunha</b>   |                       |  |
| <b>Activity 5.1</b> National workshop organised and held to develop management and zonation plan for the marine environment that draws together previous and ongoing data and studies |                       | 5.1 A national workshop was organised after the end of the project as part of Tristan's MPA aspirations. It was known that this workshop would go ahead just before the end of the project and it was decided not to run two but use this opportunity to capitalise on all the researchers, partners and stakeholders being in one place at a three day workshop held at RSPB and FCO. |
| <b>Activity 5.2</b> Consultation process with external marine experts in the UK   |                       | 5.2 A full consultation process has been carried out and has proved invaluable to feed this in to the greater aspiration of the future Tristan MPA discussions and work programme.   |

## Annex 3 Standard Measures

| Code                     | Description   | Totals (plus additional detail as required)  |
|--------------------------|---|--|
| <b>Training Measures</b> |   |  |
| 1                        | Number of (i) students from the UKOTs; and (ii) other students to receive training (including PhD, masters and other training and receiving a qualification or certificate) | This project did not include any certificated training   |
| 2                        | Number of (i) people in UKOTs; and (ii) other people receiving other forms of long-term (>1yr) training not leading to formal qualification                                 | 2 fisheries officers were trained in survey diving techniques and dive safety<br><br>1 Senior fisheries officer was trained in the monitoring and control of foreign fishing vessels<br><br>4 fisheries observers were trained in onboard fisheries data collection, data management and storage |
| 3a                       | Number of (i) people in UKOTs; and (ii) other people receiving other forms of short-term education/training (i.e. not categories 1-5 above)                                 | 2 fisheries officers were trained in lobster research in confined areas<br><br>2 shore-based fisheries officers were trained in data management and storage  |
| 3b                       | Number of training weeks (i) in UKOTs; (ii) outside UKOTs not leading to formal qualification   | c 60 weeks of training carried out by the project scientists in Tristan and onboard the fishing vessels and fisheries department boats   |
| 4                        | Number of types of training materials produced. Were these materials made available for use by UKOTs?   | Data management and handling guidance materials; dive survey methodologies. These are available for all OTs to use and were developed in collaboration with other UKOTs.   |
| 5                        | Number of UKOT citizens who have increased capacity to manage natural resources as a result of the project  | 8 staff of the fisheries department on TdC which participated in the training from visiting scientists   |
| <b>Research Measures</b> |   |  |
| 9                        | Number of species/habitat management plans/strategies (or action plans) produced for/by Governments, public authorities or other implementing agencies in the UKOTs         | TdC's Marine Management Plan will come out of this project. This includes the strategies for a number of species/habitats.<br><br>Two fisheries licensing conditions were developed for TdC.   |
| 10                       | Number of formal documents produced to assist work in UKOTs related to species identification, classification and recording.  | A species list for TdC was updated and is included in the forthcoming management plan  |

| <b>Code</b>                   | <b>Description</b>   | <b>Totals (plus additional detail as required)</b>   |
|-------------------------------|--|--|
| 11a                           | Number of papers published or accepted for publication in peer reviewed journals written by (i) UKOT authors; and (ii) other authors                       | One – please see Annex 4 below   |
| 11b                           | Number of papers published or accepted for publication elsewhere written by (i) UKOT authors; and (ii) other authors                                       | This project did not include any papers published outside of TdC   |
| 12b                           | Number of computer-based databases enhanced (containing species/genetic information). Were these databases made available for use by UKOTs?                | The fisheries database was updated on TdC but is not publicly available due to data protection of commercial data.<br><br>The marine species list for TdC was updated and will be available publicly and by other UKOT's |
| 13a                           | Number of species reference collections established. Were these collections handed over to UKOTs?  | The report on the surveys at Gough has established a baseline on marine species abundance and diversity at Gough and will be available publicly and by other UKOTs   |
| 13b                           | Number of species reference collections enhanced. Were these collections handed over to UKOTs?   | The marine species list for TdC was updated and will be available publicly and by other UKOT's   |
| <b>Dissemination Measures</b> |  |  |
| 14a                           | Number of conferences/seminars/workshops/stakeholder meetings organised to present/disseminate findings from UKOT's Darwin project work                    | Major Blue Belt science and MPA workshop took place in the UK (RSPB & FCO) in July 2017, bringing together a wide range of Tristanian & UK stakeholders.   |
| 14b                           | Number of conferences/seminars/workshops/stakeholder meetings attended at which findings from the Darwin Plus project work will be presented/ disseminated | The work carried out under this project was presented in both the workshops in July 2017   |
| <b>Physical Measures</b>      |  |  |
| 20                            | Estimated value (£s) of physical assets handed over to UKOT(s)   | * Please see starred note below  |
| 21                            | Number of permanent educational/training/research facilities or organisation established in UKOTs  | 0  |
| 22                            | Number of permanent field plots established in UKOTs   | 16 underwater monitoring plots (4 per island)  |
| 23                            | Value of resources raised from other sources (e.g., in addition to Darwin funding) for project work  | 0  |

## Annex 4 Publications

| Type *<br>(e.g. journals,<br>manual, CDs) | Detail<br>(title, author, year)  | Nationality of<br>lead author | Nationality of<br>institution of<br>lead author | Gender of lead<br>author | Publishers<br>(name, city)                    | Available from<br>(e.g. weblink, contact address,<br>annex etc) |
|---|--|-------------------------------|---|--------------------------|---|---|
| Journal -<br>scientific paper             | Hydroids<br>(Cnidaria:Hydrozoa)<br>from Tristan da<br>Cunha and St.<br>Helena. Horia R.<br>Galea. <i>Marine<br/>Biodiversity<br/>Records</i> 8, 2015 |                               | French  |                          | Marine Biological<br>Association of the<br>UK | doi:10.1017/S1755267215001256                                   |
|   |  |                               |   |                          |   |   |
|   |  |                               |   |                          |   |   |
|   |  |                               |   |                          |   |   |

**Please note: Several more publications and papers will stem from the outputs and results of this project. This publication record table can be updated as these are published.**



## Annex 5 Darwin Contacts

|                               |   |
|-------------------------------|---|
| Ref No                        | DPLUS005  |
| Project Title                 | <b>Sustainable management of the marine environment and resources of Tristan da Cunha</b> |
| <b>Project Leader Details</b> |   |
| Name                          | Andy Schofield  |
| Role within Darwin Project    | Project Leader  |
| Address                       |   |
| Phone                         |   |
| Fax/Skype                     |   |
| Email                         |   |
| <b>Partner 1</b>              |   |
| Name                          | James Glass   |
| Organisation                  | Tristan da Cunha Government Fisheries Department  |
| Role within Darwin Project    | Project implementation on island  |
| Address                       |   |
| Fax/Skype                     |   |
| Email                         |   |
| <b>Partner 2</b>              |   |
| Name                          | Charles Kilgour   |
| Organisation                  | Now with Ocean Mind, Satellite Applications Catapult                                      |
| Role within Darwin Project    | Fisheries scientist on-island   |
| Address                       |   |
| Fax/Skype                     |   |
| Email                         |   |
| <b>Partner 3</b>              |   |
| Name                          | Sue Scott   |
| Organisation                  | Independent marine consultant   |
| Role within Darwin Project    | Expert marine scientist with longstanding experience of Tristan                           |
| Address                       |   |
| Fax/Skype                     |   |
| Email                         |   |