



Department
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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	DPLUS042
Project title	Dolphins of the kelp: Data priorities for Falkland's inshore cetaceans
Territory(ies)	Falkland Islands
Contract holder institution	South Atlantic Environmental Research Institute (SAERI)
Partner institutions	Austral Biodiversity, Falklands Conservation, Oregon State University, University of St Andrews, Shallow Marine Surveys Group
Grant value	£269,914.00
Start/end date of project	1 st April 2016 / 30 th September 2018
Reporting period (e.g., Apr 2016-Mar 2017) and number (e.g., AR 1,2)	Apr 2016-Mar 2017 AR 1
Project leader name	Brickle Paul
Project website/blog/Twitter	Website: www.south-atlantic-research.org/research/current-research/166-dolphins-of-the-kelp-data-priorities-for-falkland-s-inshore-cetaceans Blog: www.south-atlantic-research.org/blog Twitter: @SAERI_FI Facebook: m.facebook.com/profile.php?id=1854594054830087
Report author(s) and date	Marina Costa (Project Manager - PM) and Maria Isabel Garcia Rojas (Project Officer – PO) 30 th April 2017

1. Project overview

Project overview

The near-shore waters around the Falklands islands (**Figure 1**) host a unique community of Commerson's (*Cephalorhynchus commersonii*) and Peale's (*Lagenorhynchus australis*) dolphins that exhibit an apparent year-round reliance on coastal kelp forests (**Figure 2** and **3**). Despite both species being recognised as of conservation concern under international, regional and national plans, very little is known about their populations or biology and hence vulnerability to anthropogenic threats.

Whilst offshore surveys have been conducted by the Joint Nature Conservation Committee, inshore studies has been limited to voluntary cetacean reporting, cataloguing of historical strandings and a small-scale Darwin Challenge pilot study. This lack of data on which to base management decisions has been recognised as a major threat to effective conservation and restricts inclusion into on-going national spatial planning initiatives and inshore ecosystem-based fisheries assessments.

Project aim

The aim of the 'Dolphins of the Kelp' project (hereafter DOKE) is to establish baseline data on the abundance, distribution, natural history and genetic diversity of the Falklands inshore cetacean populations. This information is essential to provide a scientific basis for conservation and ecosystem-based marine management initiatives.

The project is delivered through three complimentary work programmes: 1. island-wide transect survey, using line transect methods to estimate abundance of both species; 2. focal studies, carried out in three areas (A. Port Stanley – Port Williams – Berkeley Sound; B. Choiseul Sound; C. Port Howard – Many Branch) and using photo-identification and passive acoustic monitoring methods; 3. tissue sampling to determine genetic diversity, local population structure, and relationship to SW Atlantic contiguous continental stocks.

Study area

The study area measures 19,314 km² and covers the waters within 10km from the main two islands (East Falkland and West Falkland) as well as the 778 smaller satellite islands with the exception of Beauchêne Island lying about 54 kilometres south of the main Islands (**Figure 1**). The coastline of the Falkland Islands is complex, containing many small inlets, bays and river estuaries. The majority of the Falkland Islands coast is rocky although several sandy beaches are present. Kelp (mainly giant and tree kelp) forms extensive forests in the shallow waters extending up to 1 km from the coast in several areas.

The study area is situated on the continental shelf that extends from Patagonia. The Falkland Islands are in the southern cold-temperate zone of surface water with offshore sea surface temperatures ranging from around 6 °C in winter to 13 °C in summer. The Antarctic Convergence lies approximately 500 km to the south of the islands and 700 km to the east.

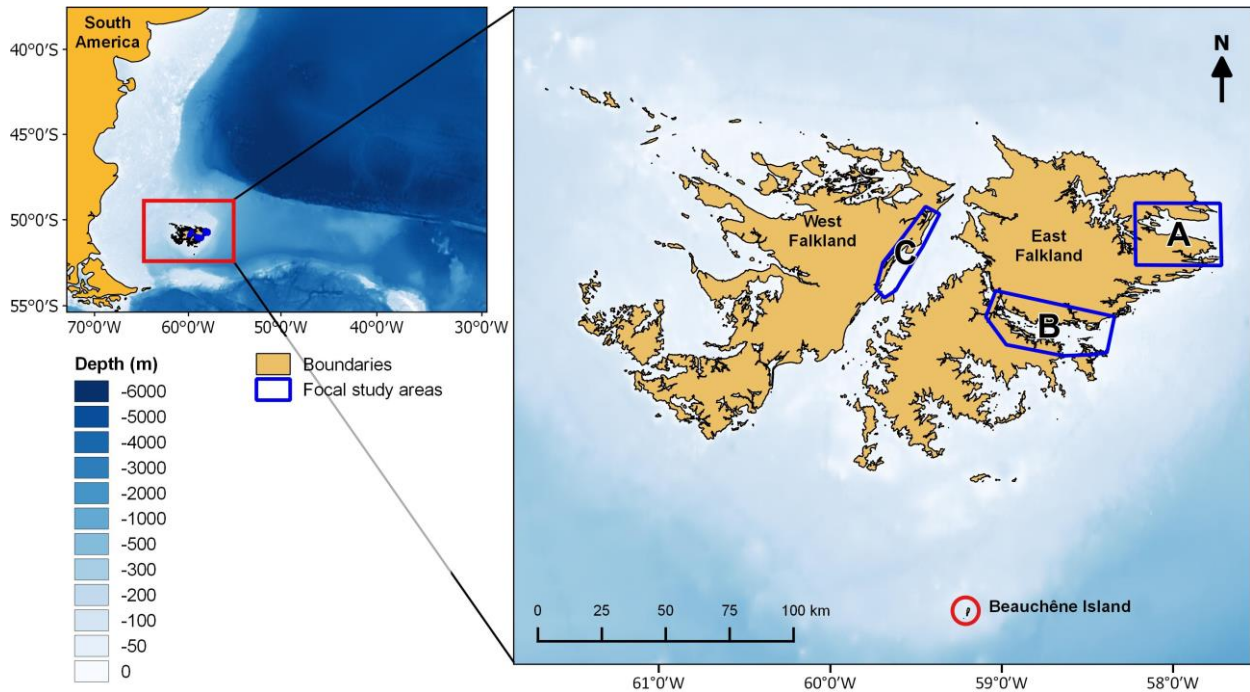


Figure 1 - Maps of the Falkland Islands and its position on the Patagonian shelf. Boundaries include waters within 10 kilometres (indicated by the buffer line) and show the study area of the Dolphins of the kelp project. The three areas selected for the focal survey are shown in blue: A. Port Stanley – Port Williams – Berkeley Sound; B. Choiseul Sound; C. Port Howard – Many Branch.

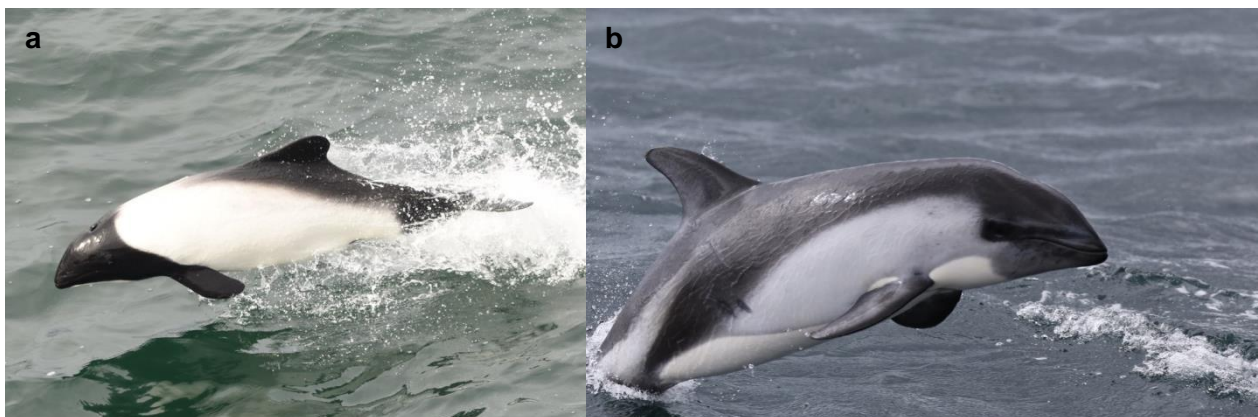


Figure 2 - Target species of the Dolphins of the kelp project: a. Commerson's dolphin (*Cephalorhynchus commersonii*), and; b. Peale's dolphin (*Lagenorhynchus australis*). Photos by SAERI.

2. Project stakeholders/partners

The project has a core stakeholder engagement component and activities, issues and solutions are periodically presented and discussed with partners and stakeholders through a locally-led iterative process.

The project partners (Austral Biodiversity, Falklands Conservation, Oregon State University, Sea Mammal Research Unit (University of St Andrews), Shallow Marine Surveys Group) form the Project Steering Group which was created at the start of the project and has met regularly to discuss progress, methodology, provide technical advice etc.

Project partners have also been directly involved in supporting the project as follows:

- Grant Munro from **Austral Biodiversity** was involved in the writing of the proposal for this project and is regularly in touch with the project staff. Grant Munro provided part of the C-POD anchoring system, the expertise to handle and maintaining the C-PODs and will provide input into data analysis. In March 2017 Grant Munro carried out four hours

training involving the DOKE staff and the two interns. The C-POD deployment locations were discussed and agreed with Austral Biodiversity.

- The **Shallow Marine Surveys Group** is supporting the project scientifically (Paul Brewin is a member of the Steering Committee) and logistically (Steve Cartwright). A Service Agreement was signed in December 2016 with Steve Cartwright for the use of the rigid inflatable boat (hereafter RIB) “Baltic Warrior” to carry out the focal surveys and for the servicing of the C-PODs (the agreement is available from SAERI upon request). Steve Cartwright is also responsible for the building of some specific research equipment. One often limiting factor of cetacean research conducted from the sea is finding an experienced captain with an understanding of which factors are essential for the researchers and how their needs can be tuned to the maritime conditions of the study area. The success of the focal study is largely due to Cartwright’s extensive experience and his willingness and enthusiasm to carry out the work in the best and safest conditions possible.
- **Falklands Conservation** is providing access to their research equipment (i.e. research zodiac and two shallow C-PODs), to the volunteer database, and it is supporting the DOKE staff during volunteers training and awareness activities related to cetaceans. Andrew Stanworth, Falkland Conservation CO, is a member of the Steering Committee. DOKE staffs are regularly in contact with FC CEO and CO by meetings, email and telephone. FC is running EU BEST Sei whale project that has provided additional data for both projects, skill exchange of staff and volunteers, survey personnel flexibility and a range of gains complimentary to both projects A Cetacean Awareness Day is going to be organised in Stanley during the winter (June or July), at the end of the intense field work of the DOKE and the Sei Whale projects. The timeframe was discussed with local stakeholders to avoid overlapping with the touristic season, a very busy time for the majority of the people living in the Falklands.
- C. Scott Baker, from the **Oregon State University**, has been in touch with the Project Manager since October 2016 organizing his visit to the Falklands, the research permit, the CITES permit and the visit of the FIG veterinary officers during the sampling. The genetic survey was carried out by Baker in the three focal areas selected in January 2017 (see **Figure 1**) and by the DOKE staffs (including the interns) in the western waters of West Falkland at the end of February 2017. During his visit, Baker trained the DOKE staffs on genetic sampling and sample handling. Baker’s contribution to DOKE also includes partial support of field logistics and genetic analysis through a grant from the National Geographic Society/Waitt Foundation (with Brickle and others).
- S. Heinrich, from the Sea Mammal Research Unit, **University of St Andrews** is organising the loan of some survey equipment, and provides support during survey planning, data analyses, writing and publication. Heinrich also supervises postgraduate students who collaborate with analysis of data collected during this project.

In addition, the organisations that have provided co-funding to the project have also been proactively engaged in its delivery.

- The **Falkland Islands Government (FIG)** is a primary stakeholder and was involved in all the processes related to the releasing of the research and CITES permits as well as by directly funding the research (£10,000). The Environmental Planning Department (FIG EPD) will have an essential role during the drafting of the provisional Species Action Plan, due at the end of the project:
 - In February 2017, the carcass of a rarely sighted spectacled porpoise (*Phocoena dioptrica*) was recovered. The event triggered the discussion about the need of a protocol to apply in case of cetacean stranding (dead or alive), highlighting responsibilities and duties of the different local organizations. The Environmental Officer, Nicholas Rendell, organised a meeting including DOKE researchers, Falkland Conservation, the Fishery department, and the Veterinary department to share ideas and knowledge. The protocol is in progress.

- **Premier Oil** provided four deep waters C-PODs for passive acoustic monitoring. The value of each C-POD is £3,500 for a total of £14,000. Three C-PODs were equipped with one SD memory card each, one C-POD with two SD cards. For efficient use each C-POD should have two cards that can be swapped during servicing. Three additional cards were ordered from “Chelonia Limited – Cetacean Monitoring System” at the end of March 2017. The C-POD deployment location was discussed and agreed with Premier Oil. C-PODs were deployed in Many Branch on the 16th of April 2017

In addition wider stakeholders have been engaged as follows:

- The **local community** has been involved through the publication of two articles in the local newspaper Penguin News, four presentations, and the organization of the Cetacean Awareness Day. Updates of the project activities are available on the SAERI website (www.south-atlantic-research.org/research/current-research/166-dolphins-of-the-kelp-data-priorities-for-falkland-s-inshore-cetaceans) and SAERI Facebook page (m.facebook.com/profile.php?id=1854594054830087).
- A good relationship was established with the **Military of Defence (MOD)** in particular with the Commander Bill Dawson, chief of the Mare Harbour station that was always informed about our position and activities, allowing the use of emergency helicopter SAR if needed. The project staffs were invited by the Commander Philip Harper on board of the HMS Enterprise during a 10-day-trip to South Georgia where cetacean observation was carried out when sea conditions allowed. The HMS Enterprise crew also collected cetacean observation during two months of patrolling in the Falkland waters. The data have been uploaded to the SAERI Information Management System, Geographic Information system (IMS-GIS) data centre.

3. Project Progress

Please note that this report describes activities which took place since mid-October 2016, when the Project manager (PM) and the project Officer (PO) arrived to the Falkland Islands. Thus this “annual” report covers a period of only six months. The proposed project start date was delayed due to a late announcement of the project award and the required process for staff recruitment to the Island which can take up to 4-6 months and could only be initiated post-award announcement.. A change request form was submitted to the Darwin Initiative on the 21st of July 2016 and accepted on the 2nd of August 2016, for a 6-month extension to the project timelines.

The majority of the activities (see **Annex 1**) proposed for each of the six project outputs have been carried out within the approved timeframe.

The project was characterized by two main changes that had implications for logistics, the budget allocation, and staffing. After the approval of the proposal, a boat was acquired by the SMSG. The *Baltic Warrior* (**Figure 3**) which is a 6.5 meters rigid-hulled inflatable boat (RHIB), is equipped with two powerful outboard engines (Mercury 125 HP), two large capacity fuel tanks (100 litres each), an open stern allowing water to flow away when vessel moves, plenty of space on its bow and sides (to facilitate observation, photo-identification data collection and tool deployment at sea), and the facility to accommodate up to 6 people during surveys. This new RHIB is safer than the one considered in the original proposal, in particularly considering the remoteness of the area, the lack of a Coast Guard in the Falkland Islands, and the changeable and challenging weather conditions; The new RHIB closely aligned to the UK safety regulations at sea (although these regulations do not apply in the FI).

A drawback of the new RHIB was the increased operational cost of £400-500 per day, but this included a dedicated and licenced captain (Steve Cartwright), safety equipment, maintenance and insurance costs.

The decision to use the *Baltic Warrior* for the focal study required a readjustment in the budget. The number of days at sea was decreased from 120 to 67, the safety equipment already available on the RHIB was not purchased (i.e. life jackets, satellite phone), and the two winter

internships were cancelled. The reduction of days at sea was considered to not affect the robustness of the data collected and preliminary analyses have confirmed this.



Figure 3 - The *Baltic Warrior* was acquired by the SMSG and used for the focal area study.

Extra funds for the focal study were indirectly provided by the decision to change the observation platform for the island wide survey from a vessel to an aircraft. Initially, the vessel *Condor* was considered a suitable platform to carry out the island-wide survey using line transect methodologies. However, among the assumptions required by the transect methods, one – objects are detected at their initial location, prior to any movement in response to the observer – was particularly critical to meet. Analyses carried out on data collected during both the 2014 pilot survey and a short survey conducted this February (see **Progress 3.1**), showed that both the target species are strongly attracted to the vessel, invalidating the mentioned assumption (**Figure 4**). Another problem was that the *Condor's* maximum speed is around 7 knots, which is not enough to leave behind the dolphins once encountered. Therefore, dolphins were bowriding/following the vessel almost constantly between one sighting and the next influencing dolphin distribution, group size estimates, the recapture of the same group of animals along transects. In other projects (i.e. Canâdas *et al.*, 2004), these factors have been proved to generate abundance estimates six times higher than when dolphins do not respond to the vessel



Figure 4 – Peale's dolphin jumping in front of the *Condor* during a sighting. The strong attraction that dolphins showed to the vessel was one of the reasons that the platform utilized for the wide island survey was changed from a vessel to an airplane.

Aerial surveys not only have the advantage that usually cetaceans do not react to the platform but also that animals can be searched for in areas not reachable from a vessel (such as shallow areas, kelp forests, rivers mouths or creeks, etc.). Furthermore, aerial surveys are more cost-efficient than vessel-based ones and allow for surveys to be carried out in the best sea conditions available (during vessel surveys several days are always lost to bad weather but accounted as survey-day in the budget). Aerial-based surveys have been successfully carried out with several cetaceans including species similar to our target ones (i.e. MacKenzie & Clement 2014; Palka *et al.*, 2016).

After having carefully considered the project objectives, the study-area topography, the prevailing winds and general weather conditions, the *Condor* specification, and the behaviour of the two target species the use of the aircraft (**Figure 5**) for the island-wide survey was approved by the Steering Committee.

A consequence of the aerial survey was the impossibility to re-allocate the ten volunteers essential for the vessel observation. The training was therefore rescheduled for July, in agreement with FC, and volunteers are likely to join the focal study (see Activity 1.7-1.8).

Finally as a consequence of the late start of the project and the re-adjustment of the logistic, the C-PODs were only deployed on the 16th of April 2017 and their deployment period will be 16 months instead of the 18 scheduled.



Figure 5 – The aircraft used for the survey was a Britten-Norman BN-2B Islander from FIGAS.

References

- Cañadas, A., G. Desportes, and D. Borchers (2014). The estimation of the detection function and $g(0)$ for short-beaked common dolphins (*Delphinus delphis*), using double-platform data collected during the NASS-95 Faroese survey. *Journal of Cetacean Research and Management* 6.2 (2004): 191-198.
- MacKenzie & Clement (2014). Abundance and distribution of ECSI Hector's dolphin, New Zealand Aquatic Environment and Biodiversity Report No. 123.
- Palka, Cañadas, Donovan, Fortuna, Scheidat and Zerbini (2016). Report of the Intersessional Expert Group to Review Hector Dolphin Abundance Estimates, IWC – SMWP8.

3.1 Progress in carrying out project Activities

Output 1, the Steering Committee for the Project was formed in May 2016 and been active since this data however the draft MoU, highlighting details of roles and responsibilities of each member, was only finalised for circulation in March 2017 (**Activity 1.1**). The MoU is available upon request to SAERI. Staff recruitment was completed at the end of November 2016 when the PO relocated to Falkland Islands (**Activity 1.2-1.3** - See **Background**, p.2). Two volunteer interns, Lorna Hamilton and Connor Bamford, were recruited in October 2016 and joined the team from the 19th of January 2017 to the 11th of April 2017 (see the Feedback forms below - **Activity 1.9-1.10**). The second internship period in winter and Year 2 has been cancelled due to budget re-allocation (see section 3). The training of ten local volunteers was postponed until July 2017 (**Activity 1.8**). Volunteers will be selected from the volunteer database established and regularly updated by FC and including about 30 active volunteers (**Activity 1.6**).

The DOKE research equipment was purchased and shipped to the Falkland (**Activity 1.4**). The assessment of equipment and resources available in the Falkland Islands for cetacean survey was carried out. The list of all available equipment owned by SAERI and FC is kept, updated and shared between the organizations and researchers are allowed to use it on request. The equipment is stored in different locations and managed by each organization while a common storage is being looked for (**Activity 1.5**)

Research protocols targeting key aspects of survey activity, cetacean identification, and navigation safe and healthy procedures are being developed with some material already available on the project page of the SAERI website (www.south-atlantic-research.org) (**Activity 1.7**). Dissemination activities have been undertaken: the Project web-page was launched in November 2016 (www.south-atlantic-research.org/research/current-research/dolphins-of-the-kelp) and the page is updated monthly with articles describing activities progress and findings, cetacean resources, and project outputs (**Activity 1.11**).

Output 2 includes activities related to the delivery of transect surveys for population estimate and distribution of targeted species. Collection of existing preliminary data was finalized and has been regularly updated (**Activity 2.1**). Collated resources include: scientific papers regarding target species, cetacean species in the southern oceans, survey methods, cetacean and marine conservation (all papers are organized in a Zotero library available at SAERI); cetacean-related data from previous SAERI projects (including stranding data, whales and cetaceans FIGAS reporting, result from local knowledge distribution on the whale and data from the pilot survey carried out in 2014); shape files with map distribution of Commerson's dolphins, Peale's dolphins and Sei whale were obtained from the IUCN website.

Survey planning has been carried out and contracts have been assured on this regard (**Activity 2.2**) with: SMSG for the use of the zodiac in the focal and genetic studies (**Output 3**); Michael Clarke for the use of the vessel *Condor* for a short explorative survey off the coast of West Falkland (**Output 3**); FIGAS for the use of the airplane for the aerial survey. Other survey platforms occasionally used or to be used include the fibre-glass boat of Bill Pole-Evans (for the C-PODs deployment) and the FC zodiac.

Defining the island-wide survey design has covered a significant part of this Output. Several different surveys were attempted, modifying internal parameters (total transect length, angle, number of strata, etc.), in order to identify the best viable option with regard to the target species, study area, available budget, survey platform characteristics and logistics of the area. The final survey design was generated using free Software Distance 6.2. and is available on request. The design included 27 hours of effective survey time plus 25 hours off effort flights (allowing movements between transects, strata and airport) for a total of 52 hours of platform rental time. Considering an average of six hours per flight (i.e. the maximum time flight allowed by one pilot), the survey required nine days (**Activity 2.4-2.5**). The aerial survey plan and protocol were sent to and approved by the Steering Committee in February 2017. Further observations from land or using a drone will be carried out in the future to estimate important survey parameters, such as availability bias (i.e. the proportion of time that an animal may be submerged at such a depth as to be unavailable for visual observation and count during the passage of the survey platform).

Output 3, deals with repeat transect focal study at selected study sites. Three areas/locations were identified for the focal study (see **Figure 1 – Activity 3.1**): A. Port Stanley, Port Williams, Berkeley Sound; B. Choiseul Sound; C. Port Howard/Many Branch. The three areas were selected based on: previous knowledge about the presence of at least one of the two target species; area accessibility; and survey feasibility during both seasons (considering limited daylight hours in winter). The decision to select three areas from the beginning of the project instead of two was based on the necessity to have a minimum of three sampling occasion for each site allowing for more robust mark-recapture analyses (**Activity 3.4-3.5**).

The first survey was undertaken at three selected sites in November-December 2016 (see **Figure 1 - Activity 3.4**). A transect-based survey for the focal study was carried out in the area A (**Activity 3.2**). By using this approach, clear constraints were highlighted mainly due to: kelp distribution and tidal movement (that continually required change of speed and direction with respect to the planned transects); strong dolphin attraction to the RHIB resulting in animals being dragged away from their initial position and possibly re-sighted on multiple transects; extremely coastal distribution of the dolphins. Transect-based routes were therefore discarded for areas B and C where an *ad libitum* navigation was preferred. This latter approach proved to be more applicable and efficient, also allowing navigation areas to be selected depending on favourable weather conditions, in particular for the area C where surveys must be planned at least one week in advance.

An explorative survey was conducted on board of the vessel *Condor* from the 21st of February to the 1st of March in the coastal waters of the West Falklands (from Carcass Island to New Island to Weddell Island and back to Carcass Island along the coast). The aim of the survey was to investigate target species distribution and identify potential high density spots for Commerson's dolphins and Peale's dolphins in an area never surveyed before for cetaceans.

Protocols, risk assessment/safe-working practises, and field work reports are available from SAERI upon request.

A passive acoustic monitoring (PAM) survey (**Output 4**) was set up in one of the focal study areas (**Activity 4.1**). Six C-POD units (out of seven expected) were available. Five units, two for shallow waters and three for deep waters were deployed in Many Branch in the West Falkland on the 16th of April 2017. One of the deep units was kept as spare to facilitate regular maintenance - every 3 months - and in case one unit is lost at sea.

Many Branch Point was preferred to the other areas on the following grounds:

- In Many Branch only Commerson's dolphins are present.
- C-PODS do not allow for discrimination of the target species due to the considerable overlap of the acoustic characteristics of both species; therefore positioning C-PODs in areas where the two species are present would not have allowed species-specific interpretation of the collected data.
- A large number of dolphins appear to use Many Branch site regularly.
- The study will contribute to define possible use of this - relatively small - area by Commerson's dolphins (feeding, resting, socializing, etc.), that could represent a good model for larger areas (such as Port Howard, Port North, Johnson Harbour, etc.).
- There is no vessel traffic interfering with the C-POD recordings, the animals' distribution, and the safety of the C-PODs.
- Many Branch Point has the appropriate size to be covered considering the number and detection range of the C-PODs available for this study.
- Logistic is relatively easy (vessel availability and accommodation on site) reducing costs and time spent at sea.

Photo-identification data collection (**Output 5**) was carried out during the first focal study at the three sites and during the *Condor* expeditions (**Activity 5.2**). The method has proved to be successful with both species allowing the identification of 49 marked individual of Peale's dolphins and about 300 marked individual of Commerson's dolphins, the majority in Port Howard/Many Branch (about 230 individuals). Several recaptures of the same individuals have been made suggesting that the data can be used for mark-recapture analyses (**Activity 5.4**). Photo-identification data collection carried out from land was attempted but this proved not feasible. The photo-identification database has been set up and for the Peale's dolphins will be available in July on the SAERI website (**Activity 5.1**).

Genetic focal study activities (**Output 6**) were completed successfully. Biopsy collection was carried out by Professor Scott Baker and, after appropriate training, by the SAERI staff. Under terms of the initial research license, this allowed for the collection of 60 samples of Commerson's dolphins in the three focal study areas and 60 samples of Peale's dolphins in Port Williams and Berta's Beach in the East Falkland and New Island, Beaver Island, Weddell Island and Shallow Harbour in the West Falkland (**Activities 6.1-6.2**).

3.2 Progress towards project Outputs

Report on how overall progress has been made towards the project Outputs and how likely the project is to achieve them by its close. Address each Output in turn, identifying the baseline condition, change recorded to date, and the source of evidence for this change. Please comment on how you are measuring the Output indicators and whether these are still the best indicators. Please substantiate comments with evidence and use indicators to support progress towards Outputs.

All outputs are steadily progressing and are likely to be achieved by the end of the project. A slight delay is observed for the awareness part of **Output 1** (Capacity building for cetacean research). Due to the change of observation platform from vessel to aircraft, the volunteers required as vessel observers were not involved. Volunteer training was postponed to July 2017. Progress has been positive for the first internship that was successfully carried out. Development of awareness activities has been in any case assiduous throughout the project

advancement. Progress can be traced on the dedicated project section, ID resources availability - and regular updates - on DOKE website (www.south-atlantic-research.org/research/current-research/166-dolphins-of-the-kelp-data-priorities-for-falkland-s-inshore-cetaceans) (**Activity 1.7**), regular interactions with local community through the Penguin News and public presentations.

Field work actions, included in **Outputs 2** (island-wide aerial survey), **3** (focal study sites), **5** (photo-identification) and **6** (genetic diversity analysis) are all progressing as planned.

Field activities related to **Output 4** (Passive acoustic monitoring focal study) have been postponed to April 2017. Most likely, the only effect of this delay is the reduction of deployment time for the C-PODs from 18 to 16 months. This change is not believed to affect expected results.

3.3 Progress towards the project Outcome

The main project outcome is to produce robust scientific data about the distribution and abundance of Commerson's and Peale's dolphins, their spatial use and genetic diversity to update the Species Plan for Cetacean presented in the 2008. During the 6 month duration of this project the three complimentary work programmes forming the core of the DOKE project (see **Project aim**) have been partially or fully carried out, and preliminary analyses show that sufficient data are being collected (about 6000 km of cetacean observation in good sea conditions, about 280 sightings of 8 cetacean species, about 14,000 pictures for photo-identification analyses, about 50 Peale's and 300 Commerson's dolphins identified as individuals) to inform conservation status for the two target species.

Areas where dolphins seem particular abundant have been identified providing a good base for future research and management actions. For Commerson's dolphins the Falkland Sound appears important, in particularly the area of Port Howard, Bold Cove, and Many Branch on the eastern side of the West Island. For Peale's dolphins two areas have been identified as commonly used: Port Williams in the East Falkland and New Island/Bald Road-Loop Ridge in Weddel Island.

Data collected during the field work season is being analysed and following completion will be archived in the South Atlantic Data Management System for us in larger-scale projects such as the Marine Spatial Planning/Ecosystem Assessment project.

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

One of the most important results the project will provide is the first genetic characterization of Commerson's and Peale's dolphins around the Falkland Islands. The islands are geographically isolated from continental populations by several hundred miles of open ocean and both species appear to be island-dependent, resident year-round and are frequently observed foraging in the dense kelp forests within a few hundred meters off shores. The genetic samples were collected in January-February 2017, using a minimally intrusive biopsy dart. The analyses of these samples will allow estimating of diversity and divergence using previous published results from continental populations and, in the case of Commerson's dolphins, to the subspecies described from the Kerguelen Islands in the Indian Ocean. If genetically different from other populations, the Falkland Island Commerson's and Peale's dolphins will become an essential environmental asset not only for the Falkland Islands and the UKOTs but also at regional and global scales.

The most essential information required for any conservation action is the knowledge of population size and how it is distributed in time and space. Cetaceans are an important part of the environmental asset of any country and estimates of abundance are needed to access the status of populations and in case of conflict with human activities, to determine mortality levels that do not affect population viability (e.g. setting annual removal levels such as bycatch limits). There is no information on the number of dolphins and whales in Falkland Island territorial waters. The DOKE project will provide the first abundance estimates for cetacean species encountered in the coastal waters of up to 10km. These data will provide the baseline against

which population trends can be assessed in the future. The coastal waters of the Falkland Islands are still in a relatively pristine state and the information collected during the DOKE might represent a rather unique example worldwide of how cetacean populations behave and thrive before any substantial human impacts.

3.5 Monitoring of assumptions

The monitoring assumptions (see Annex 2) were carefully considered and still hold true. In particular, the awareness of the remoteness of the area triggered the change of the RHIB for the focal survey which led to modifications in the project, as explained in Section 3.

4. Monitoring and evaluation

Some of the detail around methods employed to internally monitor and evaluate the project have been picked up in other sections (in particular section 3), however an overview is provided here.

- The **Outputs and Activities** are being delivered as outlined in the logframe in the application form, therefore they are directly linked to the overall **project Outcomes**. The indicators that are specific to the overall project outcomes (updates species action plan and research plan) will be delivered in the next stage of the project.
- The **indicators of achievements** (both qualitative and quantitative) are measured via the ongoing reporting process. These are verified as outlined in the logframe and the detail of this is provided in section 3. The Steering Committee oversees this reporting and verification.
- **The monitoring and evaluation plan** is being implemented as outlined in the project document; there have been no changes at this stage. Key points to report against this as follows:
 - The overall **steering committee** is given regular updates and reports, and provides technical advice and support. Quarterly meetings have been established.
 - Trello was initially being used as the **online project management and file-sharing system**, but it is likely that this will migrate to sharepoint or basecamp as the documentation associated with the project scales up.
 - A **Memorandum of Understanding** (see **Activity 1.1**) has been finalized between the partners outlining the obligations and roles of all parties in delivering this project. The project changes (see Section 3) and progress have been presented and discussed by the steering committee in February 2017. The next meeting is due in June 2017.

5. Lessons learnt

There are a number of areas of the project that have worked particularly well.

The cooperation of the partners and the international stakeholders was and is a major key to the success of the project. The DOKE is a pioneering, large and articulate project and given its dependency on a number of external factors, has to be adjustable and adaptable. The quick and strong support received by the Darwin Initiative team allowed the field activities to be carried out in time and in the best way possible contributing to the success of the project.

One of the key lessons learnt was around lead in time for recruitment of the team.

The timing of the recruitment was such that the Project Manager (PM) was recruited to arrive to the Falkland Islands six months into the project schedule. The time-schedule for the arrival of further team members was decided before the PM was in post and therefore project adjustments had to be made around permanence of staff already recruited. Therefore we

recommend that in the future, projects on the Falkland Islands should build in a longer lead in time for PM recruitment (c. 6 months), with key project activities and any other recruitment scheduled after that.

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

Not applicable - The previous review was the Half Year Report that was submitted before the majority of the activity had taken place as it was only 10 days after the PM arrived to the Falklands.

7. Other comments on progress not covered elsewhere

The design of the project has been enhanced over the last year and there have been changes to the research methodology that have been discussed in detail in section 3.

The main difficulties encountered over the year and how they were dealt with have been discussed earlier and are summarised here:

- The timing of the recruitment of the PM and staff in relation to the timing of project deliverables: the length of time taken to recruit the PM and staff was longer than anticipated, combined with the seasonality of the species being studied, there was a very intense 6 month period (second half of year 1) for the Darwin Plus team. A change request for a six month extension was submitted and approved.
- Weather – the nature of the weather on the Falklands is such that survey planning needs to be very flexible and can often happen ad hoc on the weekend. It isn't easy to 'plan' in this context, and has been addressed through the significant flexibility from the Darwin Plus team and the strong relationships they have built with the transport providers.

Risks – the main risk to the project at this stage continues to be the weather during field seasons. The most appropriate systems and relationships have now been established to be able to go out into the field at short notice to take advantage of weather windows of opportunity as and when they occur.

8. Sustainability and legacy

During these second six months several activities have been carried out to make the project as visible as possible (see **Annex 3**). The efforts made to involve local people resulted in: the plan to organize a Cetacean Awareness Day in Stanley; collaboration with the military in term of safety at sea, data collection, and training; participation in a biological class at the Community school in Stanley. More interest and participation is expected after the Cetacean Awareness Day at the end of July.

The catalogue for Peale's and Commerson's dolphins identified in area A is available on the SAERI website, allowing the community to match their dolphin pictures and to participate in the research. Due to the unexpected number of Commerson's dolphins in area C, the catalogue will be available soon.

In terms of delivery against our planned exit strategy as outlined in section 27 of the application form:

- The **recruitment and training of local volunteers** was not feasible for this field season, but will be pro-actively developed for the next field season. Although not formal training, the pilot of the plane and the captain of the ship are both local, and have been actively involved in some of the cetacean spotting.

- Currently we are still in the ‘data **collection**’ **stage**, over the next year, the data will be collated and analysed and shared, providing the evidence base for future planning.
- The **development of student projects** to allow complimentary analyses of the data sets for distinct aspects is in progress with our academic partners into the MoU to formalise this.
- The next year of the project will work towards further developing **collaborations** with South American partners to identify population structure of the dolphin species using genetic analyses.

9. Darwin identity

In these six months a series of activities have been carried out to publicize the project (see **Annex 3**). Clause 28 of the Darwin terms and conditions¹ have been addressed in publicity and the Darwin Initiative logo has been displayed with the funding entity clearly separated from the DOKE project.

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			-37*	See below comment
Consultancy costs	0.00	0.00	0	N/A
Overhead Costs			0	N/A
Travel and subsistence			-50**	See below comment
Operating Costs			-86†	See below comment
Capital items			-2	N/A
Others (batteries, shipping and mailing costs, disposable gloves and knives, ropes, cable ties mailing costs, other consumables)			-84††	See below comment
TOTAL				

* £13,500 was expensed (salary costs for Scott Baker’s visit in January 2017), however, the partner invoice has not yet been received.

¹ The grantee is required to acknowledge **when publicising the work programme**, in reports etc, that it has been grant aided by the Darwin Initiative through UK Government funding and to use the Darwin Initiative logo wherever possible. In addition, project leaders are expected to advise the Department about any UK media/news stories before they are published. Where part of a larger programme, a Darwin project should be easily identifiable. Profile is important to the future of the Darwin Initiative.

** The programme made use of two interns whose return travel was delayed to the first week in April in order to complete aerial surveys – which were conducted subject to Falkland Islands weather conditions and resulted in the need for some flexibility. Invoice received and being processed. Value: £1,608.

Attendance to an international conference had been scheduled for Y1, however, the project manager and officer only arrived in November and due to the seasonality of the project and the weather conditions, so is deferred to Y2 in order to complete the surveys. Value: £1,900.

£2,500 was expensed (flight costs for Scott Baker's visit in January 2017), however, the partner invoice has not yet been received.

+ After the arrival of the project manager and following consultation with the steering committee, a second change request was submitted for a variation in the survey platform (from vessel to airplane) and the requisite budget adjustment. In particular, the project asked that funds were concentrated in March-April to cover the cost of the aerial survey. The request was approved in March 2017. Unfortunately due to aircraft availability and weather conditions in the Falkland Islands, not all of the aerial surveys were able to be conducted within the desired timeframe. Those conducted in March have been invoiced but not paid. However, many were completed in April, and we have the invoice for this, and the outstanding is being completed. We have therefore processed the invoice for £46,852, with £13,727.65 still to be paid. Total value: £60,580.

C-pod equipment and parts was also moved to April due to the delay in the aerial surveys, this has been invoiced and paid. Value: £1,540.60.

There are also incidentals that we have not received invoices for. Value: £460.

†† We were informed by Scott Baker that the genetic analysis will only be completed in October 2017, and therefore £5,000 is deferred according to this information. The remaining difference of £81.12 was invoiced in April.

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

Project summary	Measurable Indicators	Progress and Achievements April 2016 – March 2017	Actions required/planned for next period
<p>Impact</p> <p>Inshore marine resources, habitats and species of the Falkland Islands are managed on a sustainable basis within an ecosystem based planning approach that ensures the long-term maintenance of biodiversity</p>		<p>NA – Field work is still going on</p>	
<p>Outcome</p> <p>Established baseline data on the abundance, distribution, natural history and genetic diversity of the Falklands inshore cetacean populations to provide a scientific basis for conservation and ecosystem-based marine management initiatives</p>	<p>0.1 Biologically assessed Conservation Status and updated SAP available to ensure population-units have sufficient numbers, geographic distribution, genetic diversity and habitat to provide a stable population.</p> <p>0.2 Prioritised research plan published and available to mesh identified needs for future research and meshing of project data into planning initiatives, EIAs, etc.</p> <p>0.3 Project data are held within the South Atlantic Information Management and GIS Centre for inclusion within national planning i.e. Marine Spatial</p>	<p>0.1 Data about presence and distribution of Commerson’s and Peale’s dolphins are consistent and of good quality. Although field work is still carrying on, preliminary analyses show that the quality and quantity of the data is sufficient for the analyses we intend to carry out (for number of sightings made for the two target species, number of individuals identified, number of recapture, quality of the sea state but essential information about abundance, area with high concentration of animals, their movements and reproductive seasons have been collected.</p> <p>0.2 NA – Field work is still going on</p> <p>0.3 NA – Field work is still going on – the data will be added to the SA information management and GIS centre when it has been collated and</p>	<p>In term of key actions for the next periods these include:</p> <ul style="list-style-type: none"> - Complete the aerial survey. - Carry out the analyses to estimate abundance and distribution of the target species. - Carry on with the seasonal focal follow surveys and the matching. - Reporting and paper writing. <p>- Writing proposals for future research.</p> <p>- Clean the data, prepare the metadata and submit the data.</p>

	Planning/Ecosystem Assessment	processed during the next reporting year.	
Output 1. Capacity Building for cetacean research.	<p>Staff 1.1 x2 Project Staff employed and in place by 20th October 2016 for 2 years.</p> <p>Volunteers 1.2 Volunteer database with 20 names held within FC & SAERI specific to scientific field work with capacity for maintenance.</p> <p>1.3 x10 local volunteers provided with training in cetacean ID, survey methodology, distance estimation, safe boat operations, HSE (through classroom introduction and field work teaching component) and partake in survey.</p> <p>1.4 Established protocols for x2 per annum volunteer-ship interns from external bodies and partner organisations (during programme and a new personnel resource for the future).</p> <p>1.5 x1 central communal store of cetacean survey and volunteer safety equipment established sufficient for 6 person survey teams for current and future research.</p>	<p>Staff 1.1 Project manager contracted for 2 years and project office for 18 months with SAERI. Contract available upon request to SAERI. Progress indicator appropriate.</p> <p>Volunteers 1.2 FC established and manages the volunteer database in the Falklands Islands. The database includes about 30 active volunteers with different scientific background and field work skills. The project manager can contact FC if/when there is a request for specific volunteers. Progress indicator appropriate.</p> <p>1.3 Due to the change of the observation platform from vessel to airplane, the field work passed from about 60 days at sea to 52 hours of flight. A maximum number of 4 people was allowed in the aircraft to maximise flying time, and the interns were chosen to be on board as observers because of their previous experience. The training of 10 local volunteers will be carried out before and during the next field works, the focal follow surveys planned for winter and summer 2017 and winter 2018. Progress indicator appropriate.</p> <p>1.4 The first internship was carried out successfully. Protocols to receive the interns were put in place and are available for future interns. The second internship was cancelled to cover increased vessel cost for the focal-follow survey. It was necessary to use a larger vessel that was aligned as much as possible to the UK safety regulations at sea (although these regulations do not apply in place in FI); this vessel also proved to be a more suitable platform to conduct the survey in the sea conditions we expected to find in the FI. Progress indicator appropriate.</p> <p>1.5 The three on island organisations partnering in the project (SAERI,FC and SMSG) have stores for the research and safety equipment and share an updated list of the items available and usable for research, if not already booked. Progress indicator appropriate.</p>	

	<p>Awareness</p> <p>1.6 Cetacean ID resources distributed to lodges and operators (x20) and available on-line and downloaded (x30 times).</p> <p>1.7 Web resources available on-line for cetacean ID, volunteer protocols, non-technical general interest articles & project outputs and accessible by volunteers and community (x visits / month).</p> <p>1.8 Published 4 articles in local media and 1 television news segment on Falklands news during project.</p>	<p>Awareness</p> <p>1.6 ID resources for all cetacean species will be distributed at the end of July 2017 to the lodges and operators, in time for the next tourist season. Progress indicator appropriate.</p> <p>1.7 On the project page of SAERI website the following materials are available: three specie ID cards (see 1.6); two Penguin News article (see 1.8). In July 2017 more material will be available (see Annex 3 for the complete list). Progress indicator appropriate.</p> <p>1.8 Two articles have been published on the local newspaper, the Penguin News, in December 2016 and March 2017, and are available to download on the project page of SAERI website (see link at the beginning). In February 2017, a meeting with the Falkland Island Television (FITV) was organised to plan a TV report for July 2017, when the FITV crew will be able to join the researcher for field work. Progress indicator appropriate.</p>
<p>Activity 1.1 Insert activities relevant to this output Steering group formed from Partners, MoU signed detailing roles and responsibilities.</p>	<p>MOU has been drafted and circulated to partners for comment. It is anticipated that it will be signed in April.</p>	
<p>Activity 1.2 1.2 Project Manager (PM) & Project Officer (PO) job descriptions finalised by Steering Group and advertised internationally (partners assisting in recruitment publicity and applicant vetting).</p>	<p>Completed</p>	
<p>Activity 1.3 PM and PO recruited through interview, appointed, if not local relocate to Falkland Islands (allowance has been made for recruitment advertising, telephone interviews and relocation allowance / flights).</p>	<p>Completed.</p>	
<p>Activity 1.4 Current FI equipment and resources for cetacean survey assessed and resources compiled (what, who and where) with lacking equipment sourced through in-kind partner loan or sourced, purchased and freighted for project. Allowance has been made for ordering and freight times to the Falklands.</p>	<p>Completed.</p>	
<p>Activity 1.5 Current equipment located in central pooled store and inventoried equipment list</p>	<p>Completed (see indicator 1.5).</p>	

held. Where central pooling is unfeasible (Zodiac & RIB) agreement signed with partner/owner for availability.	
<p>Activity 1.6</p> <p>Volunteer database established and maintained in partnership with Falklands Conservation (FC), public media announcement and focussed targeting of personnel with biological training such as at FIG fisheries department. During the summer period in Falklands availability may at times be difficult and allowance is made for use of x2 interns to form the core of the volunteer group. Strong liaison with FC established in recruitment and training to mesh with potential parallel study on sei whales</p>	<p>Completed (see indicator 1.2)</p> <p>Volunteer database continually updated by FC.</p>
<p>Activity 1.7</p> <p>Volunteer training resources established including cetacean ID guide, step-wise survey protocols, safe boating practises, HSE guidelines – provided and available in printed format and on-line.</p>	<p>In progress (see indicator1.3).</p>
<p>Activity 1.8</p> <p>Training given to x10 local volunteers incorporating class-room taught introduction and field-example at local location. Experience and instruction given in distance estimation.</p>	<p>In progress (see indicator1.3).</p>
<p>Activity 1.9</p> <p>Volunteer intern recruitment established with academic partners with capacity for x2 intern positions per annum / field season.</p>	<p>Completed.</p> <p>The second internship has been cancelled (see indicator1.4).</p>
<p>Activity 1.10</p> <p>Volunteer intern recruitment and arrival.</p>	<p>Completed.</p>
<p>Activity 1.11</p> <p>Project web-page creation with on-going maintenance to include monthly update with general interest progress article, field blogs and final posting of project outputs. During periods of field survey at remote sites update may be limited but blog progress will be posted when available to provide community update.</p>	<p>Completed.</p> <p>Maintenance and updates in progress.</p>
<p>Activity 1.12</p> <p>Regular update of local media with non-technical summary of activities and findings to promote project and awareness of inshore cetaceans. Penguin News (local newspaper) and FITV (local television station).</p>	<p>Completed.</p> <p>Updates in progress (see indicator1.7-1.8).</p>
<p>Activity 1.13</p> <p>Cetacean ID guide, summary project data and vessel procedures shared with FC to incorporate outreach to nascent cetacean watching enterprises and viewing</p>	<p>In progress (see indicator 1.6-1.7).</p>

clients to increase profile and understanding of inshore cetaceans.		
Output 2. Island-wide Transect Survey Island-wide population estimate and species distribution maps for Commerson's dolphin, Peale's dolphin and sei whale and model of abundance.	2.1 60 day island-wide vessel based transect survey undertaken and completed by April 2017.	2.1 The island-wide aerial survey is in progress with 8 survey days out of the nine planned, already carried out. The remaining survey will be carried out as soon as the weather conditions will improve. The aerial report will be available on the website on May 2017. Progress indicator appropriate.
	2.2 Island-wide population estimate and distribution maps for Commerson's dolphin, Peale's dolphin and sei whale published by July 2017 and available to stakeholders and FIG EPD.	2.2 NA – Due at the end of 2017.
	2.3 Environmental and habitat covariant model of abundance at island-wide scale published by Dec 2017 and available to stakeholders and FIG EPD.	2.3 NA – Due at the end of 2017.
	2.4 Data available to marine planning and EIA assessments.	2.4 NA – Due at the end of 2018
Activity 2.1 Review and collation of all extant data-sources on inshore cetaceans from disparate sources with archiving in one central location, secured within SAERI IMS & GIS centre.		Completed and continually updated.
Activity 2.2 Vessel availability and dates confirmed at earliest opportunity. A suitable vessel has been confirmed in planning however alternative vessels are limited and early confirmation will ensure vessel availability and that any maintenance periods are conducted in advance of requirements.		Completed.
Activity 2.3 Review and design confirmation of island-wide transect survey based upon pilot survey results. Design and procedures signed off by steering group.		Completed.
Activity 2.4 Survey execution plan and logistics including personnel, resources, timings, data collection protocols and HSE risk assessments and safe-working practises. Work practises and HSE applicable to the conditions of the Falklands and of sufficient standard to meet responsibilities to volunteers and academic institutions.		Completed.

<p>Activity 2.5 60 day island-wide survey conducted in Feb/Mar 2017 to best coincide with seasonal sei whale occurrence inshore to maximise the ancillary benefits of the survey beyond the focal species of Commerson's dolphin and Peale's dolphin.</p>	<p>In progress. The aerial survey was carried out on the days 18th, 19th, 25th of March and 2nd, 6th, 9th, 17th and 23rd of April 2017. One day is missing and will be carried out as soon as weather conditions will allow for.</p>
<p>Activity 2.6 Analysis of results and publication of findings (August – January 2018).</p>	<p>In progress; due at the end of 2017.</p>
<p>Activity 2.7 Final report circulated to all local stakeholders and FIG EPD.</p>	<p>In progress; due at the end of 2017.</p>
<p>Activity 2.8 Storage of data and preparation of meta-data files with SAERI IMS & GIS centre.</p>	<p>In progress; at the end of 2018.</p>
<p>Output 3. Repeat transect focal study at 3 focal study sites. Data on finer-scale spatial drivers of distribution, seasonal occurrence and key habitats.</p>	<p>3.1 Field survey undertaken at 3 focal study sites during summer and winter periods (Nov/Dec 2016; Jun/Jul 2017, Nov/Jan 2017/18).</p> <p>3.2 Data on habitat association and key habitats for protection presented at completion of project.</p> <p>3.3. Data on seasonal patterns of occurrence between summer and winter survey periods presented at completion of project.</p> <p>3.1 First field survey undertaken in three selected sites (see Figure 1 and 3.1) in November and December 2016. The first focal study report is available on the website. An exploratory expedition in the western part of West Island was carried out with the vessel Condor in February. Progress indicator appropriate.</p> <p>3.2 NA – Due at the end of 2018.</p> <p>3.3 NA – Due at the end of 2018.</p>
<p>Activity 3.1 Selection of 1 primary site and 1 secondary site for focal study in Year 1 based upon the results from the Darwin pilot study. A further 1-2 sites will be defined in Year 2 subject to the findings of the island-wide survey conducted in the first summer field season.</p>	<p>Completed. The Condor expedition was also carried out (see indicator 3.1).</p>
<p>Activity 3.2 Design of repeatable focal area transect surveys and sampling protocol. Signed off by peer review of steering group.</p>	<p>Completed.</p>
<p>Activity 3.3 Fieldwork execution plan including personnel, resources, accommodation, timings and bookings, data collection protocols, HSE risk assessment and safe-working practises for all components of focal study. Work practises and HSE applicable to the conditions of the Falklands and of sufficient standard to meet responsibilities to volunteers and academic institutions.</p>	<p>Completed.</p>

<p>Activity 3.4 Field based study in year 1 at primary site and reduced effort at secondary site to encompass x2 summer seasons (2 months each) and x1 winter season (reduced sampling dependent upon weather). See timeline for clarity. Sufficient field data collection periods have been planned for to allow for weather conditions limited survey with weather downtime. Sites will be chosen to minimise the influence of weather by allowing survey in different zones depending upon wind direction. If severe attractive motion of dolphins to the survey boat platform occurs limiting the validity of habitat association survey will be supported by shore based observation and theodolite tracking which has the same resource cost.</p>	<p>In progress. The first summer focal study was completed in November-December 2016.</p>
<p>Activity 3.5 Identification of additional focal sites for Year 2 – sampling in Year 2 will be repeated at the primary and secondary sites determined within Year 1, but survey will be extended to additional sites in Year 2 if required. Additional sites only survey in the second year. See timeline for clarity.3.6</p>	<p>Completed.</p>
<p>Activity 3.6 Collation and data analysis of results detailing patterns of occurrence, seasonality, level of association to habitats and identifying key habitats for protection.</p>	<p>In progress; due at the end of 2018.</p>
<p>Activity 3.7 Final report circulated to all local stakeholders and FIG EPD.</p>	<p>NA – Due at the end of 2018</p>
<p>Activity 3.8 Preparation of meta-data files, submission and archiving of data in secure storage with SAERI IMS & GIS centre.</p>	<p>In progress; due at the end of 2018.</p>
<p>Output 4. Passive acoustic monitoring focal study at one of the focal study sites. Data on temporal drivers of distribution and seasonal sensitivity.</p>	<p>4.1 C-Pod PAM units (x7) deployed at 1 site for 18 months.</p> <p>4.2 Analysis of temporal occurrence by habitat type and temporal drivers (season, month, diel and tidal) presented by recorded attendance.</p> <p>4.1 Six C-Pods available. Due to the delay of the effective starting date of the project, the C-Pod will remain at the site for 16 months instead of 18. Progress indicator appropriate.</p> <p>4.2 NA – Due in September 2018</p>
<p>Activity 4.1 Selection of 1 focal study site (primary or secondary site determined in 3.1) for (x7) C-pod deployments in varying water depths and habitats for 18 month period.</p>	<p>Completed.</p>
<p>Activity 4.2 Servicing of C-Pods on 4 month deployment schedule. Flexibility in deployment</p>	<p>NA – Due in July 2017, October/November 2017, January/February 2018, June</p>

duration will assist in ensuring vessel availability for servicing visits.		2018, September 2018. See 4.1.
<p>Activity 4.3 Analysis of temporal occurrence by habitat type and temporal drivers (season, month, diel and tidal). Loss of 1 or 2 units would limit but not preclude analysis. The pilot survey has field trialled different mooring configurations to remove kelp fouling issues and no units have been lost.</p>		NA – Analyses will begin after the first deployment. Final report due in September 2018.
<p>Activity 4.4 Define periods of increased utilisation and seasonal sensitivity for susceptibility to risks and for EIA.</p>		NA – Analyses will begin after the first deployment. Final report due in September 2018.
<p>Activity 4.5 Final report circulated to all local stakeholders, FIG EPD and PMS.</p>		NA – Due in September 2018
<p>Activity 4.6 Data submitted and data receipt from SAERI IMS & GIS centre.</p>		NA – Data submission will begin after the first deployment. Final report due in September 2018.
<p>Output 5. Photo-identification focal study at 3 focal study sites for residency, dispersal, population structure & recruitment and population estimate. Residency, ranging patterns and spatial scale of movement with reference to susceptibility to localised impacts and appropriate scale of management units.</p>	<p>5.1 Centralise photo-ID database established on the islands with SAERI IMS & GIS centre.</p>	<p>5.1 The centralization of the database is in progress. The photo-ID database will be handled in at the end of the project. Progress indicator appropriate.</p>
	<p>5.2 Photo-ID conducted at 3 distinct sites over 2 summer seasons and 1 winter period.</p>	<p>5.2 The first focal study has been conducted at three sites (see Figure 1 – Activity 3.1) in November/December 2017 (first summer). Photo-identification has been carried out during 101 sightings (72 of Commerson’s, 28 of Peale’s and 1 of orcas) and a total of 14,391 pictures have been selected for the analyses. See 5.1. Progress indicator appropriate.</p>
	<p>5.3 Spatial ranging analysis of ranging patterns of same animal sightings.</p>	<p>5.3 In progress – Due in September 2018</p>
	<p>5.4 Mark-recapture population estimate for dolphin populations at focal study sites.</p>	<p>5.4 In progress – Due in September 2018</p>
<p>Activity 5.1 Establish Photo-ID & fin database. Unpopulated database established within SAERI.</p>		<p>In progress (see indicator 5.1). Only the first focal study has been carried out.</p>
<p>Activity 5.2 Photography during survey, processing and archived GIS geo-tagged images to ID / GIS databases. Populated database held at SAERI. Assumes sufficient weather and boat conditions for photography. Weather downtime accounted for in</p>		<p>In progress (see indicator 5.1).</p>

planning.		
Activity 5.3 Spatial analysis of ranging patterns of same animal sightings.		In progress. Only the first focal study has been carried out.
Activity 5.4 Mark-recapture population estimate for dolphin populations at focal study sites.		In progress. Only the first focal study has been carried out.
Activity 5.5 Final report circulated to all local stakeholders, FIG EPD and PMS.		NA – Due in September 2018.
Activity 5.6 Data submitted and receipt from SAERI IMS & GIS centre.		In progress. Only the first focal study has been carried out.
Output 6. Genetic diversity focal study at 2 of the focal study sites Population identification between South American con-specifics and potential sub-populations within the Falklands. Defining scale of management units	6.1 Biopsy collection conducted at 2 sites in first year to target 60 samples for each species.	6.1 Biopsy collection was carried out in the three locations selected (see Figure 1) by Dr Scott Baker from the 3 rd to the 12 th of January 2017. Sixty samples of Commerson's dolphins and 30 samples of Peale's dolphins were collected. During the <i>Condor</i> expedition in the west (see section 3.1) another 30 samples of Peale's dolphins were collected by the DOKE project staff. After obtaining the appropriate CITES permits from FIG, the samples were sent to the Hatfield Marine Science Center, Oregon State University, USA, on the 8 th of April 2017. Progress indicator appropriate.
	6.2 Training in biopsy sampling given to x2 project staff and x2 volunteers.	6.2 Scott Baker trained the DOKE project staff and the FIG veterinary Steve Pointing during his visit in January 2017; the project staff trained the interns in February 2017. Progress indicator appropriate.
	6.3 Report and interpretation of results detailing genetic separation of populations from South America and Kerguelen Islands, and the degree of internal genetic separation into Falklands sub-populations between sampled sites.	6.3 NA - Was due in September 2017 but has been postponed of six months.
	6.4 Physical samples held and available for potential future studies and analysis (including natural isotopes, contaminants, etc.).	6.4 NA - Was due in September 2017 but has been postponed of six months.

	6.5 Genetic sequencing held in digital archives and nationally and internationally within Open access databases (e.g. GenBank).	6.5 NA - Was due in September 2017 but has been postponed of six months.
Activity 6.1	Training visit of experienced biopsy darter (x6 local people trained).	Completed.
Activity 6.2	Collection of small biopsy samples in conjunction with focal studies in Year 1 at primary and secondary focal study sites. Sufficient weather and boat conditions for collection of biopsy samples mitigated by accounting for weather downtime in planning. Dependent upon permit for collection of biopsy samples from Environmental Planning Office, Government of the Falkland Islands. This is currently in review and FIG has been fully included in the design of the current project from conception and is supportive of it.	Completed.
Activity 6.3	Field collection report on any reactive behaviours.	In progress. Due in mid-May 2017.
Activity 6.4	Laboratory Analysis of Samples at Oregon State University.	In progress. Samples shipped and arrived to US on the 14 th of April 2017. Analyses will require 6 months.
Activity 6.5	Report and interpretation of results detailing genetic separation of Falkland populations from South America and Kerguelen Islands, degree of internal genetic separation within Falklands sub-populations.	NA – Was due in September 2017 but has been postponed of six months.
Activity 6.6	Final report circulated to all local stakeholders, FIG EPD and PMS.	NA - Was due in September 2017 but has been postponed of six months.
Activity 6.7	Data submitted and receipt from SAERI IMS & GIS centre.	NA - Was due in September 2017 but has been postponed of six months.
Activity 6.8	Return and archiving of physical samples for potential future studies and analysis (including natural isotopes, contaminants, etc.) Final decision to be taken on whether sample security and ease of access for study is best met by storage in Falklands or alternative facility.	NA – Due in 2018.
Activity 6.9	Genetic digital sequencing data archived with international repository, e.g. GenBank.	NA – Due in 2018.

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

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
<p>Impact:</p> <p>Inshore marine resources, habitats and species of the Falkland Islands are managed on a sustainable basis within an ecosystem based planning approach that ensures the long-term maintenance of biodiversity (Max 30 words)</p>			
<p>Outcome:</p> <p>Established baseline data on the abundance, distribution, natural history and genetic diversity of the Falklands inshore cetacean populations to provide a scientific basis for conservation and ecosystem-based marine management initiatives.</p>	<p>0.1 Biologically assessed Conservation Status and updated SAP available to ensure population-units have sufficient numbers, geographic distribution, genetic diversity and habitat to provide a stable population.</p> <p>0.2 Prioritised research plan published and available to mesh identified needs for future research and meshing of project data into planning initiatives, EIAs, etc.</p> <p>0.3 Project data are held within the South Atlantic Information Management and GIS Centre for inclusion within national planning i.e. Marine Spatial Planning/Ecosystem Assessment.</p>	<p>0.1 Submission of provisional SAP to FIG Environmental Planning Committee (FIG EPD) with baseline data appendix to Species Action Plan.</p> <p>0.2 Prioritised research plan submitted to FIG EPD along with SAP.</p> <p>0.3 Data received and meta data catalogue updated accordingly by SAERI IMS & GIS centre.</p>	<p>0.1 Outputs 2-6 provide sufficient timely data to inform on conservation status.</p> <p>Local stakeholders engage in SAP drafting for which focussed meetings and tele-conferencing of external stakeholders has been accounted for in budget.</p> <p>Annual scheduling of committee meeting dates is currently unknown and hence final approval may fall outside project completion dates however once entered into the approval process the draft SAP should progress with FIG and SAERI permanent staff.</p> <p>0.2 As above.</p> <p>0.3 None as funding and personnel are confirmed through MoU with FIG.</p>
<p>Output 1</p> <p>Capacity Building for cetacean research.</p>	<p>Staff</p> <p>1.1 x2 Project Staff employed and in place by 20th October 2016 for 2 years.</p>	<p>Staff</p> <p>1.1 Contract of employment with SAERI.</p>	<p>Staff</p> <p>1.1 Project partners assisted in recruitment and vetting in timely manner to ensure qualified staff with capacity to train others.</p>

	<p>Volunteers</p> <p>1.2 Volunteer database with 20 names held within FC & SAERI specific to scientific field work with capacity for maintenance.</p> <p>1.3 x10 local volunteers provided with training in cetacean ID, survey methodology, distance estimation, safe boat operations, HSE (through classroom introduction and field work teaching component) and partake in survey.</p> <p>1.4 Established protocols for x2 per annum volunteer-ship interns from external bodies and partner organisations (during programme and a new personnel resource for the future).</p> <p>1.5 x1 central communal store of cetacean survey and volunteer safety equipment established sufficient for 6 person survey teams for current and future research.</p> <p>Awareness</p> <p>1.6 Cetacean ID resources distributed to lodges and operators (x20) and available on-line and downloaded (x30 times).</p> <p>1.7 Web resources available on-line for cetacean ID, volunteer protocols, non-technical general interest articles & project outputs and accessible by volunteers and community (x visits / month).</p> <p>1.8 Published 4 articles in local media</p>	<p>Volunteers</p> <p>1.2 Volunteer database on SAERI mainframe with maintenance included in staff job description / contract (Office Administrator).</p> <p>1.3 Training course attendance and feedback forms recorded from attendees, field survey log.</p> <p>1.4 x2 interns present within Falklands during 4 month field season and on SAERI records and volunteer insurance.</p> <p>1.5 Inventory of central store and equipment available for cetacean research held by SAERI & FC.</p> <p>Awareness</p> <p>1.6 Print shop distribution and web-page statistics.</p> <p>1.7 Web-page, blog and facebook page statistics</p> <p>1.8 Copy of news articles within local media</p>	<p>Volunteers</p> <p>1.2 Assistance and coordination with FC (project partner) to share and coordinate existing volunteer register and capacity. Targeted recruitment to those with biological experience within islands.</p> <p>1.3 Training will be coordinated with FC to obtain synergy with sei whale project and maximise numbers and availability.</p> <p>1.4 Effective promotion and recruitment with partner organisation and others. Has been discussed and potential confirmed during project planning.</p> <p>1.5 Access to be shared between SAERI & FC of project capital equipment and coordinated.</p> <p>Awareness</p> <p>1.6 The draft cetacean-ID guide proved popular during the pilot study and upgraded version will be promoted and distributed.</p> <p>1.7 Web-page set up to record statistics and updates linked to Falklands community news pages.</p> <p>1.8 None - during the pilot survey high levels of interest were shown by all media outlets representing a high level</p>
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	and 1 television news segment on Falklands news during project.		of community interest and engagement.
Output 2 Island-wide Transect Survey Island-wide population estimate and species distribution maps for Commerson's dolphin, Peale's dolphin and sei whale and model of abundance.	2.1 60 day island-wide vessel based transect survey undertaken and completed by April 2017. 2.2 Island-wide population estimate and distribution maps for Commerson's dolphin, Peale's dolphin and sei whale published by July 2017 and available to stakeholders and FIG EPD. 2.3 Environmental and habitat covariant model of abundance at island-wide scale published by Dec 2017 and available to stakeholders and FIG EPD. 2.4 Data available to marine planning and EIA assessments.	2.1 Daily operation production report submitted to PMS immediately post survey. 2.2 Receipt from FIG EPD. 2.3 Receipt from FIG EPD. 2.4 Receipt and meta data from SAERI IMS & GIS centre.	2.1 Vessel availability has been confirmed but as there are few alternatives early confirmation of a replacement will allow scheduling and minimise any maintenance risks in advance of survey. Weather downtime allowance has been incorporated in duration. 2.2 Pilot survey has defined sampling effort and protocols to ensure statistically robust results. 2.3 Sufficient animals and covariates collected for analysis. Pilot study determined encounter rate and sampling based upon this. 2.4 None as funding and personnel are confirmed through MoU with FIG.
Output 3 Repeat transect focal study at 3 focal study sites. Data on finer-scale spatial drivers of distribution, seasonal occurrence and key habitats.	3.1 Field survey undertaken at 3 focal study sites during summer and winter periods (Nov/Dec 2016; Jun/Jul 2017, Nov/Jan 2017/18). 3.2 Data on habitat association and key habitats for protection presented at completion of project. 3.3. Data on seasonal patterns of occurrence between summer and winter survey periods presented at completion of project.	3.1 Daily operation production report submitted to PMS immediately post field survey work. 3.2 Receipt from FIG EPD. Receipt and meta data from SAERI IMS & GIS centre. 3.3 Receipt from FIG EPD. Receipt and meta data from SAERI IMS & GIS centre.	3.1 Pilot project results allow definition of sample sites in first year with additional sites determined after island-wide survey. Weather downtime has been allowed for in survey periods. Sites selected to minimise weather/sea-state impacts. Vessel attraction may influence results however a number of alternative sampling regimes are available to reduce influence and will be confirmed and applied. Winter work will be of lower effort. Day-length and weather conditions have been allowed for. 3.2 & 3.3. None as funding and

			personnel are confirmed through MoU with FIG
<p>Output 4</p> <p>Passive acoustic monitoring focal study at one of the focal study sites.</p> <p>Data on temporal drivers of distribution and seasonal sensitivity.</p>	<p>4.1 C-Pod PAM units (x7) deployed at 1 site for 18 months.</p> <p>4.2 Analysis of temporal occurrence by habitat type and temporal drivers (season, month, diel and tidal) presented by recorded attendance.</p>	<p>4.1 Survey log submitted to PMS and deployment periods detailed in final report submitted to FIG EPD.</p> <p>4.2 Receipt from FIG EPD. Receipt and meta data from SAERI IMS & GIS centre.</p>	<p>4.1 Loss of some units would limit the level of data but not preclude analysis. Pilot survey has modified moorings to reduce kelp fouling and no units have been lost. Winter conditions may limit winter servicing however flexibility in deployment periods allow scheduling for vessel availability and weather.</p> <p>4.2 None as funding and personnel are confirmed through MoU with FIG.</p>
<p>Output 5</p> <p>Photo-identification focal study at 3 focal study sites for residency, dispersal, population structure & recruitment and population estimate.</p> <p>Residency, ranging patterns and spatial scale of movement with reference to susceptibility to localised impacts and appropriate scale of management units.</p>	<p>5.1 Centralise photo-ID database established on the islands with SAERI IMS & GIS centre.</p> <p>5.2 Photo-ID conducted at 3 distinct sites over 2 summer seasons and 1 winter period.</p> <p>5.3 Spatial ranging analysis of ranging patterns of same animal sightings.</p> <p>5.4 Mark-recapture population estimate for dolphin populations at focal study sites.</p>	<p>5.1 MoU internally within SAERI for provision of database.</p> <p>5.2 Photos entered on populated database at SAERI with statistics on entry numbers.</p> <p>5.3 Receipt from FIG EPD. Receipt and meta data from SAERI IMS & GIS centre.</p> <p>5.4 Receipt from FIG EPD. Receipt and meta data from SAERI IMS & GIS centre.</p>	<p>5.1 Internal agreement between project staff and SAERI.</p> <p>5.2 Not all dolphins need be identifiable. Analysis of photos suggests sufficient numbers of Commerson's, with lesser number of Peale's, will be identifiable to provide for analysis.</p> <p>5.3 & 5.4 None as funding and personnel are confirmed through MoU with FIG.</p>
<p>Output 6</p> <p>Genetic diversity focal study at 2 of the focal study sites</p> <p>Population identification between South American con-specifics and potential sub-populations within the Falklands.</p> <p>Defining scale of management units</p>	<p>6.1 Biopsy collection conducted at 2 sites in first year to target 60 samples from each species.</p> <p>6.2 Training in biopsy sampling given to x2 project staff and x2 volunteers.</p> <p>6.3 Report and interpretation of results detailing genetic separation of populations from South America and Kerguelen Islands, and the degree of internal genetic separation into Falklands sub-populations between</p>	<p>6.1 Field report detailing any reactive reactions submitted to FIG EPD.</p> <p>6.2 Training feedback forms collated.</p> <p>6.3 Receipt from FIG EPD.</p> <p>6.4 Receipt of storage.</p> <p>6.5 Final data archived with international digital repository i.e. GenBank with receipt and access. Receipt and meta data from SAERI IMS & GIS centre.</p>	<p>6.1 Allowance made for weather downtime and if unable to collect during first sampling period training will be given to local operatives for continuation during focal studies.</p> <p>6.2 Dates scheduled in advance to confirm volunteer availability. Project staff will be given experience and can subsequently assist with training.</p> <p>6.3 Sufficient sample sizes obtained (see above)</p>

	<p>sampled sites.</p> <p>6.4 Physical samples held and available for potential future studies and analysis (including natural isotopes, contaminants, etc.).</p> <p>6.5 Genetic sequencing held in digital archives and nationally and internationally within Open access databases (e.g. GenBank).</p>		<p>6.4 Final decision to be taken on whether sample security and ease of access for study is best met by storage in Falklands or alternative facility to encourage these additional analyses.</p> <p>6.5 International storage is standardised and available being encouraged by peer review journal whilst national storage is confirmed through MoU with FIG.</p>
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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)

1.0 Capacity Building & Awareness for Cetacean Research

1.1 Steering group formed from Partners, MoU signed detailing roles and responsibilities.

1.2 Project Manager (PM) & Project Officer (PO) job descriptions finalised by Steering Group and advertised internationally (partners assisting in recruitment publicity and applicant vetting).

1.3 PM and PO recruited through interview, appointed, if not local relocate to Falkland Islands (allowance has been made for recruitment advertising, telephone interviews and relocation allowance / flights).

1.4 Current FI equipment and resources for cetacean survey assessed and resources compiled (what, who and where) with lacking equipment sourced through in-kind partner loan or sourced, purchased and freighted for project. Allowance has been made for ordering and freight times to the Falklands.

1.5 Current equipment located in central pooled store and inventoried equipment list held. Where central pooling is unfeasible (zodiac & RIB) agreement signed with partner/owner for availability .

1.6 Volunteer database established and maintained in partnership with Falklands Conservation (FC), public media announcement and focussed targeting of personnel with biological training such as at FIG fisheries department. During the summer period in Falklands availability may at times be difficult and allowance is made for use of x2 interns to form the core of the volunteer group. Strong liaison with FC established in recruitment and training to mesh with potential parallel study on sei whales.

1.7 Volunteer training resources established including cetacean ID guide, step-wise survey protocols, safe boating practises, HSE guidelines – provided and available in printed format and on-line.

1.8 Training given to x10 local volunteers incorporating class-room taught introduction and field-example at local location. Experience and instruction given in distance estimation.

1.9 Volunteer intern recruitment established with academic partners with capacity for x2 intern positions per annum / field season.

1.10 Volunteer intern recruitment and arrival.

1.11 Project web-page creation with on-going maintenance to include monthly update with general interest progress article, field blogs and final posting of project outputs. During periods of field survey at remote sites update may be limited but blog progress will be posted when available to provide community update.

1.12 Regular update of local media with non-technical summary of activities and findings to promote project and awareness of inshore cetaceans. Penguin News (local newspaper) and FITV (local television station).

1.13 Cetacean ID guide, summary project data and vessel procedures shared with FC to incorporate outreach to nascent cetacean watching enterprises and viewing clients to increase profile and understanding of inshore cetaceans.

2.0 Island-wide Transect Survey

- 2.1 Review and collation of all extant data-sources on inshore cetaceans from disparate sources with archiving in one central location, secured within SAERI IMS & GIS centre.
- 2.2 Vessel availability and dates confirmed at earliest opportunity. A suitable vessel has been confirmed in planning however alternative vessels are limited and early confirmation will ensure vessel availability and that any maintenance periods are conducted in advance of requirements.
- 2.3 Review and design confirmation of island-wide transect survey based upon pilot survey results. Design and procedures signed off by steering group.
- 2.4 Survey execution plan and logistics including personnel, resources, timings, data collection protocols and HSE risk assessments and safe-working practises. Work practises and HSE applicable to the conditions of the Falklands and of sufficient standard to meet responsibilities to volunteers and academic institutions.
- 2.5 60 day island-wide survey conducted in Feb/Mar 2017 to best coincide with seasonal sei whale occurrence inshore to maximise the ancillary benefits of the survey beyond the focal species of Commerson's dolphin and Peale's dolphin.
- 2.6 Analysis of results and publication of findings (August – January 2018).
- 2.7 Final report circulated to all local stakeholders and FIG EPD.
- 2.8 Storage of data and preparation of meta-data files with SAERI IMS & GIS centre.

3.0 Repeat Transect Surveys at 3 focal study sites

- 3.1 Selection of 1 primary site and 1 secondary site for focal study in Year 1 based upon the results from the Darwin pilot study. A further 1-2 sites will be defined in Year 2 subject to the findings of the island-wide survey conducted in the first summer field season.
- 3.2 Design of repeatable focal area transect surveys and sampling protocol. Signed off by peer review of steering group.
- 3.3 Fieldwork execution plan including personnel, resources, accommodation, timings and bookings, data collection protocols, HSE risk assessment and safe-working practises for all components of focal study. Work practises and HSE applicable to the conditions of the Falklands and of sufficient standard to meet responsibilities to volunteers and academic institutions.
- 3.4 Field based study in year 1 at primary site and reduced effort at secondary site to encompass x2 summer seasons (2 months each) and x1 winter season (reduced sampling dependent upon weather). See timeline for clarity. Sufficient field data collection periods have been planned for to allow for weather conditions limited survey with weather downtime. Sites will be chosen to minimise the influence of weather by allowing survey in different zones depending upon wind direction. If severe attractive motion of dolphins to the survey boat platform occurs limiting the validity of habitat association survey will be supported by shore based observation and theodolite tracking which has the same resource cost.
- 3.5 Identification of additional focal sites for Year 2 – sampling in Year 2 will be repeated at the primary and secondary sites determined within Year 1, but survey will be extended to additional sites in Year 2 if required. Additional sites only survey in the second year. See timeline for clarity.
- 3.6 Collation and data analysis of results detailing patterns of occurrence, seasonality, level of association to habitats and identifying key habitats for protection.
- 3.7 Final report circulated to all local stakeholders and FIG EPD.
- 3.8 Preparation of meta-data files, submission and archiving of data in secure storage with SAERI IMS & GIS centre.

4.0 Passive Acoustic Monitoring

- 4.1 Selection of 1 focal study site (primary or secondary site determined in 3.1) for (x7) C-pod deployments in varying water depths and habitats for 18 month period.
- 4.2 Servicing of C-Pods on 4 month deployment schedule. Flexibility in deployment duration will assist in ensuring vessel availability for servicing visits.

4.3 Analysis of temporal occurrence by habitat type and temporal drivers (season, month, diel and tidal). Loss of 1 or 2 units would limit but not preclude analysis. The pilot survey has field trialled different mooring configurations to remove kelp fouling issues and no units have been lost.

4.4 Define periods of increased utilisation and seasonal sensitivity for susceptibility to risks and for EIA.

4.5 Final report circulated to all local stakeholders, FIG EPD and PMS.

4.6 Data submitted and data receipt from SAERI IMS & GIS centre.

5. Photo-identification study for residency, dispersal, population structure & recruitment and population estimate.

5.1 Establish Photo-ID & fin database. Unpopulated database established within SAERI.

5.2 Photography during survey, processing and archived GIS geo-tagged images to ID / GIS databases. Populated database held at SAERI. Assumes sufficient weather and boat conditions for photography. Weather downtime accounted for in planning.

5.3 Spatial analysis of ranging patterns of same animal sightings.

5.4 Mark-recapture population estimate for dolphin populations at focal study sites.

5.5 Final report circulated to all local stakeholders, FIG EPD and PMS.

5.6 Data submitted and receipt from SAERI IMS & GIS centre.

6. Genetic diversity

6.1 Training visit of experienced biopsy darter (x6 local people trained).

6.2 Collection of small biopsy samples in conjunction with focal studies in Year 1 at primary and secondary focal study sites. Sufficient weather and boat conditions for collection of biopsy samples mitigated by accounting for weather downtime in planning. Dependent upon permit for collection of biopsy samples from Environmental Planning Office, Government of the Falkland Islands. This is currently in review and FIG have been fully included in the design of the current project from conception and is supportive of it.

6.3 Field collection report on any reactive behaviours.

6.4 Laboratory Analysis of Samples at Oregon State University.

6.5 Report and interpretation of results detailing genetic separation of Falkland populations from South America and Kerguelen Islands, degree of internal genetic separation within Falklands sub-populations.

6.6 Final report circulated to all local stakeholders, FIG EPD and PMS.

6.7 Data submitted and receipt from SAERI IMS & GIS centre.

6.8 Return and archiving of physical samples for potential future studies and analysis (including natural isotopes, contaminants, etc.) Final decision to be taken on whether sample security and ease of access for study is best met by storage in Falklands or alternative facility.

6.9 Genetic digital sequencing data archived with international repository, e.g. GenBank.

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

The following supplementary material is available/will be available soon on the SAERI website or upon request:

- Presentations on board of the HMS Enterprise during a trip to South Georgia: “Cetacean an introduction” and “Dolphins of the kelp” both of 45min one on the 26-27th of January 2017 → Upon request – A reduced pdf version is available on the project website.
- Presentation to the Stanley Community School (about 160 students attended): “Dolphins of the kelp” 40min done on the 30th of March 2017 → Upon request – A reduced pdf version is available on the project website.
- Presentation at the Chamber of Commerce, Stanley: “Hear about Falkland flipping dolphins” 45min, done on the 20th of April 2017 → Upon request – A reduced pdf version is available on the project website.
- Technical Research Protocols: 1. Focal Follow Study, 2. Condor Survey, 3. Aerial Survey, 4. HMS Enterprise Expedition to South Georgia, 4. Matching, Individual Distinctiveness and Picture Quality → Protocols 2 and 3 are available on the website; the other protocols will be available soon.
- Field Reports: Focal and Genetic Survey, Condor Expedition, Aerial Survey, HMS Enterprise Expedition to South Georgia, Dolphin Reaction to Genetic Sampling → Available soon, upon request.
- Minutes of the third Steering Committee Meeting, including meeting agenda and document approved → Available upon request.
- Working experience for a student: on the 3rd of April 2017 SAERI staff spent a day with a 14 years old student inducting him into the work with cetaceans.
- Intern’ training: writing protocol, genetic sampling, use of the software Logger 2000, Distance 6.2, Mark 8.1 and Release.
- Three Specie identification cards including Commerson’s dolphin, Peale’s dolphin and orca (available on the website) → Available on the project website.
- Interview with Bettina Wurche in February 2017; an article has been published on the German blog “MEERTEX” (scienceblogs.de/meertext/2017/04/20/auf-wal-survey-mit-hms-enterprise-im-suedatlantik/); the English version will be soon available on the project website (www.south-atlantic-research.org/research/current-research/dolphins-of-the-kelp).
- Interview with the Brazilian journalist Daniela Chiaretti in March; an article will follow on the newspaper “Valor Economico”.
- Two articles on the local newspaper, the Penguin News, in December 2016 and March 2017 → Available on the project website.

Furthermore, about 14,000 pictures useful for photo-identification have been collected, three Logger databases have been generated with navigation and sighting information (Condor survey, HMS Enterprise expedition, and aerial survey), and five excel databases have been generated (Focal study and genetic survey, Sighting summary, Genetic Summary, Species Matching, Photo-id database). In February 2017, a meeting with the Falkland Island Television (FITV) was organised to plan a TV report for July 2017, when the FITV crew will be able to join the researcher for field work.

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, material on the website or upon request
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.	