DP\100036

Conserving Falklands' whale populations: addressing data deficiencies for informed management

Stanworth, Andrew | Falklands Conservation

Funding sought **£298,552.00**
Project start/end **1 Apr 2018 - 31 Mar 2021**

1. Contact Details

Q1. Lead applicant contact details

Please enter the contact details for the lead application. The lead applicant is the same as the Flexi-Grant account holder. Please note that the Flexi-Grant account holder will be the only contact point for the application.
Additionally, please add contact details for the Project Leader if this is different from the lead applicant.

Dr Andrew Stanworth

Conservation Manager
Falklands Conservation

Primary Applicant

www.falklandsconservation.com (Work)

41 Ross Road Stanley, Stanley, FIQQ1ZZ,
Falkland Islands (Malvinas) (Work)

Q2. Lead organisation contact details

Please enter the applicant organisation details

Falklands Conservation

41 Ross Rd, Stanley, Falkland Islands,
FIQQ1ZZ, Falkland Islands (Malvinas) (Work)

Q3. Lead organisation type

Please select one of the below options.

Local NGO

Please add any 'Committee Feedback' to the field below:

Please add any 'Specific Ineligibility' feedback to the field below:

Please add any 'Conditions' to the field below:

Please add any 'Positive Feedback to the field below:

2. Title, Dates & Budget Summary

Q4. Project title

Conserving Falklands' whale populations: addressing data deficiencies for informed management

Q5. Project dates

Start date:	End date:	Duration (e.g. 2 years, 3 months):
01/04/2018	31/03/2021	3 years

Q6. UKOT(s)

(See Guidance Notes)
Which UK Overseas Territory(ies) will your project be working in? You may select more than one UKOT from the options below.

Falkland Islands (FI)

*** if you have indicated a territory group with an asterisk, please give detail on which territories you are working on here:**

NA

In addition to the UKOTs you have indicated above, will your project directly benefit any other country(ies)? If so, list here.

Chile

Q7. Budget summary

Year:	2018/19	2019/20	2020/21	Total request
Amount:	£69,924.00	£105,014.00	£123,614.00	£298,552.00

Q7b. Proposed (confirmed and unconfirmed) co-financing as % of total project cost	confirmed - 32%

3. Lead Organisation Summary

Q8. Lead organisation summary

Please provide the following information on the lead organisation

What year was your organisation established/ incorporated/ registered?	1991
What is the legal status of your organisation?	◉ NGO
How is your organisation currently funded?	Funding occurs through a subvention from the Falkland Islands Government, membership fees, retail activities, donations/bequests, foundations and grant making institutions such as Darwin Initiative and EU Best. The organisation is currently still highly dependent on the latter.
Have you provided the requested signed audited/independently examined accounts? If you select "yes" you will be able to upload these. Note that this is not required from Government Agencies.	◉ Yes

Please attach the requested signed audited/independently examined accounts. The limit for any single file uploaded as supporting materials with your application is 6MB. Please ensure documents are saved in PDF form where possible in order to minimise size.

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Q9. Has your organisation been awarded Darwin Initiative funding before (for the purposes of this question, being a partner does not count)?

Yes

If yes, please provide details of the most recent awards (up to 6 examples)

Reference no.	Project leader	Title

DPLU017	Dr Andrew Stanworth	Lower plants inventory and conservation in the Falkland Islands
DPLUS023	Dr Andrew Stanworth	Building capacity for habitat restoration in the Falkland Islands
DPLUS003	Dr Andrew Stanworth	Biodiversity action planning in the Falkland Islands
19030	Dr Andrew Stanworth	Darwin Initiative's Falkland Island raptors - reducing conflicts with rural livelihoods
EIDCF019	Dr David Doxford	Inshore cetaceans of the Falkland Islands
EIDCF014	Dr David Doxford	Developing native seed mixes for habitat restoration in the Falklands

4. Project Partners

Q10. Project partners

Please list all the partners involved (including the Lead Organisation) and explain their roles and responsibilities in the project. Describe the extent of their involvement at all stages, including project development. This section should illustrate the capacity of partners to be involved in the project, and how local institutions, local communities, and technical specialists are involved as appropriate.
Please provide written evidence of partnerships. Please add fields for more partnerships, if required. Details on roles and responsibilities in this project must be given for the Lead Organisation and all project partners.

Lead Organisation name:	Falklands Conservation (FC)
Details (including roles and responsibilities and capacity to engage with the project):	Falklands Conservation (FC) will lead on project delivery utilising existing roles and a single new role - the Cetaceans Officer, which would be a specific project appointment (see below). Existing FC roles: Conservation Manager – Darwin 'Project Leader' Office Manager – Darwin 'Project Administrator' Community Engagement Manager The above roles have all been involved in the successful delivery of multiple Darwin and other grant funded projects, including several concurrent Darwin Plus awards, and would deliver any project activities prior to appoinment of the Technical Lead. The approaches and staff responsibilities taken within the current proposal mirror those utilised effectively for previous projects. FC has been delivering conservation projects in the Falkland Islands for nearly 30 years. Its organisational relationships, and those built through long-term staff roles, brings with it existing local relationships that will be used to benefit the project. FC have recently successfully delivered a one-year pilot study on whales using the existing staff and organisational structures. A Cetaceans Officer (Darwin 'Technical Lead') would be recruited (start-date 1 December 2018) who would bring substantial cetacean experience/capacity. They would be responsible for undertaking the project fieldwork, liaising with and coordinating partner involvement, coordinating the field research, and delivering the results.

Do you have partners involved in the Project?

Yes

The limit for any single file uploaded as supporting materials with your application is 6MB. Please ensure documents are saved in PDF form where possible in order to minimise size.

1. Partner Name:	British Antarctic Survey
Website address:	www.bas.ac.uk
Details (including roles and responsibilities and capacity to engage with the project):	The British Antarctic Survey (BAS) will conduct the genetic and diet analysis of sei whale tissue and faecal samples. Dr Jennifer Jackson will oversee the genetic work, measuring whale diversity and differentiation, and evaluating whale diet using prey-based DNA analysis. Dr Gabriele Stowasser will be responsible for preparing and carrying out the isotope analysis. Dr Jackson and BAS have already carried out similar work on sei whale samples collected during the pilot study in Berkeley Sound in the Falklands during 2017, and have proven capacity to engage with the project. BAS will also assist with obtaining CITES import/export permits and shipping all sei whale samples from the Falklands to the UK for analysis. They will provide advice on biopsy sample collection throughout all stages of the project.
Would you like to include a letter of support from this organisation?	◉ Yes

Letter of Support:	**The limit for any single file uploaded as supporting materials with your application is 6MB. Please ensure documents are saved in PDF form where possible in order to minimise size.**

Do you have more than one partner involved in the Project?

Yes

2. Partner Name:	Ari Friedlaender (University of California Santa Cruz)
Website address:	https://ims.ucsc.edu/index.html and https://mmi.oregonstate.edu/btbel

Details (including roles and responsibilities and capacity to engage with the project):	Dr. Friedlaender has over 10 years of marine mammal experience and has published original research in 25 peer-reviewed journals from disciplines including: ecology, behaviour, experimental biology, conservation, biology, physiology, veterinary medicine, marine biology, and climate change. He has successfully employed suction-cup tracking technology on hundreds of occasions for research on cetacean species such as humpback and minke whales. He will provide intellectual, logistical, and material support throughout the research project including at the fieldwork planning stages. Dr. Friedlaender will help to organise tagging operations, provide members of his lab for the initial field work, support (via advice and equipment) FC staff in ongoing tagging efforts and carry out the tag data analysis. Dr. Friedlaender will also provide the suction-cup tags and all associated tagging equipment to achieve the tag study goals. He will oversee the analysis and interpretation of tag data at the end of each field season.
Would you like to include a letter of support from this organisation?	Yes
Letter of Support:	

3. Partner Name:	Phil Hammond (Sea Mammal Research Unit, University of St. Andrews)
Website address:	www.smru.st-andrews.ac.uk

Details (including roles and responsibilities and capacity to engage with the project):	Professor Hammond has been based at the Sea Mammal Research Unit since 1984, during which time he has supervised almost 40 PhD students and published over 100 peer-reviewed papers and several book chapters on marine mammal population dynamics, ecology, abundance estimates and modelling. He has taught workshops on marine mammal abundance assessments in more than 7 countries. Professor Hammond will provide advisory and statistical support for the mark-recapture photographic analysis of sei whales in the Falklands, ensuring that the most robust population estimate possible is produced for the study sites. He will provide input throughout the analysis stage at the end of each field season and will also guide interpretation
Would you like to include a letter of support from this organisation?	Yes
Letter of Support:	

4. Partner Name:	Shallow Marine Survey Group (SMSG)
Website address:	www.smsg-falklands.org

Details (including roles and responsibilities and capacity to engage with the project):	SMSG is a volunteer diver-based research organisation in the Falklands. They will be involved throughout the survey planning stage to ensure that adequate boat provision is available to the project and to advise on the best locations for deploying acoustic devices. They will provide boating support for the whale survey work, and a highly experienced crew/skipper. SMSG has previous experience in supporting cetacean research gained during Dr Weir's 2017 Falkland sei whale study as well as through an ongoing Darwin-funded Falkland dolphin research program (due to complete in 2018). In addition to boat support for the whale surveys, SMSG will also provide diver support for the acoustic deployments throughout the project. SMSG has over 10 years of marine boating and scientific diving experience in the most remote parts of the Falklands. They maintain the highest standards of safety in boating and diving, and have excellent knowledge of mitigating for the highly variable weather conditions and other marine risks. SMSG will support public outreach opportunities, and promote the project and education through regular website, Facebook and Twitter updates. The involvement of this local partner will also serve to increase overall community awareness within the Falklands.
Would you like to include a letter of support from this organisation?	◉ Yes
Letter of Support:	

5. Partner Name:	Salvatore Cerchio (New England Aquarium)

Website address:	http://explorers.neaq.org/, http://news.neaq.org/2015/10/new-video-of-nearly-unknown-whale.html http://news.neaq.org/2016/03/more-underwater-video-of-nearly-unknown.html https://www.omuraswhale.org
Details (including roles and responsibilities and capacity to engage with the project):	Dr. Cerchio will provide advice and logistical support throughout the research project including at the planning stage. He will help to organise the acoustic monitoring component of the research, providing advice and expertise on the sampling design, recording equipment and field logisitics of deployment and recovery. He will lead the analysis of sei whale vocalisations, processing all of the acoustic data for a comprehensive assessment of spatio-temporal variation in sei whale presence and vocal activity over the 2-year study period. Dr. Cerchio has 33 years of experience in the bioacoustic study of baleen whales including species similar to sei whales such as the Omura's whale. He is uniquely positioned to lead this component of the analysis.
Would you like to include a letter of support from this organisation?	◉ Yes
Letter of Support:	_____

6. Partner Name:	Caroline Weir (Ketos Ecology)
Website address:	https://www.ketosecology.co.uk/

Details (including roles and responsibilities and capacity to engage with the project):	Dr. Weir will provide project management through overall project concept and liaison with project partners, development of field methodologies, advice on field logistics in the Falklands and scientific guidance throughout the projects implementation. She has significant experience in conducting visual and acoustic cetacean work in multiple countries, often in remote environments and with logistical challenges around weather and boat availability. She has published over 50 peer-reviewed papers in scientific journals. Dr Weir's capacity to engage with the project is directly based on her previous management and implementation of sei whale fieldwork in the Falkland Islands, providing her with unique experience in the practical application of a range of field methodologies to studying sei whales.
Would you like to include a letter of support from this organisation?	◉ Yes
Letter of Support:	_____

If you require more space to enter details regarding Partners involved in the Project, please use the text field below.

Ted Cheeseman (HappyWhale.com)
HappyWhale is a citizen science initiative to crowd source marine mammal photo-identification images and to create an engaging, educational experience sharing science with the interested public. HappyWhale will solicit sei whale photo-identification images from Falkland Islands and Southern Ocean tourist visitors (such as https://happywhale.com/encounter/4875) to increase the sample size available to the FC sei whale project, and will serve as a platform and channel of communication of results to the public.

Dr Sonia Español Jiménez (Fundación MERI -www.fundacionmeri.cl)
Dr. Sonia Español (under the supervision of Dr. Gustavo Chiang, Scientific Director of MERI) will be involved in an advisory and collaborative capacity, providing input from her work on sei whales in Chile and facilitating discussion and the development of similar methodologies (particularly for acoustic work) that will allow for future comparisons between sei whale ecology in Chile and the Falklands.

5. Project Staff

Q11. Project staff

Please identify the core staff on this project, their role and what % of their time they will be working on the project.
These should match the names and roles in the budget spreadsheet.
Please provide 1 page CVs for these staff.

Name (First name, Surname)	Role	% time on project	CV attached below?
Andrew Stanworth	Project Leader	10	☑
Sal Cerchio	Acoustic Analysis	10	☑
To be appointed	Cetacean Project Officer	100	☑
Jennifer Jackson	Genetic analysis and stable isotope analysis	5	☑

Do you require more fields?

Yes

Name (First name, Surname)	Role	% time on project	CV attached below?
Steve Cartwright	Acoustic deployments and boat operations	40	☑
Ari Friedlaender	Time-Depth-Recorder tagging - monitoring and analysis	5	☑
Farrah Peck	Project Administrator	10	☑
Liz Milston	Community Engagement Manager	5	☑

Please provide 1 page CVs (or job description if yet to be recruited) for the Project staff listed above. Ensure the file is named clearly, consistent with the named individual and role above.
The limit for any single file uploaded as supporting materials with your application is 6MB. Please ensure documents are saved in PDF form where possible in order to minimise size.

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Have you attached all Project staff CVs?

Yes

6. Background & Methodology

Q12. Summary of Project

Please provide a brief summary of your project, its aims, and the key activities you to undertake. Please note that if you are successful, this wording may be used by Defra in communications e.g. as a short description of the project on GOV.UK. Please bear this in mind, and write this summary for a non-technical audience.

> Anecdotal increases in endangered sei and fin whales have been reported in Falklands' coastal waters. Key Biodiversity Areas (KBAs) are internationally-important sites for global biodiversity. Candidate KBAs (cKBAs) have been identified for baleen whale species in nearshore waters around the Islands and overlap with areas of increasing human marine activity. This project aims to evaluate two cKBA sites for whales, improve the information available to decision-makers, and engage stakeholders regarding conservation and management considerations for these and other KBAs.

Q13. Background

What is the current situation and the problem that the project will address? How will it address this problem? What key OT Government priorities and themes will it address?

> Anecdotal evidence suggests that endangered sei whales are increasing in Falklands waters and vulnerable southern right whales have recently over-wintered. There is considerable interest in whales throughout the local community. Increasing whale numbers provide opportunities for tourism development, but increased human marine activities, such as oil development or tourism, could pose heightened risks.
>
> Development of Marine Spatial Planning (MSP) in the Falklands has faltered. Direct approaches for establishing Marine Protected Areas (MPAs) have raised considerable concerns among stakeholders regarding the selection of suggested sites and associated management proposals.
>
> This project aims to ground discussions about MSP, MPAs and Environmental Impact Assessments (EIA) in the context of the importance of inshore areas (candidate Key Biodiversity Areas, cKBAs) for whales and managing human marine activities alongside increasing whale occurrence.
>
> KBAs are mentioned as ‘Key Sites’ within the ‘Falkland Islands Ecoregions, Habitats, Species and Sites Strategy’ under the current Biodiversity Framework (FIBF). Outputs would be relevant to the ‘Sustainable Resource Use Strategy' also being developed, work towards objectives in the current Cetacean Species Action Plan and EU BEST Ecosystem Profile, and inform a Falkland Islands Government (FIG) wildlife legislation review, and subsequent EIAs. Dietary study may also inform ecosystem approaches to fisheries management.

Q14. Methodology

Describe the methods and approach you will use to achieve your intended outcomes and impact. Provide information on how you will undertake the work (materials and methods) and how you will manage the work (roles and responsibilities, project management tools etc). Give details of any innovative techniques or methods.

A multi-disciplinary approach will be used to collect the key information relevant to achieving practical management and spatial conservation measures for endangered sei and other whales in the Falklands. All fieldwork will be licensed by the Falkland Islands Government and will follow ethical protocols.

Two study sites encompassing candidate Key Biodiversity Areas (cKBAs) are proposed (Figure 1): (1) Berkeley Sound, where a 2017 feasibility study occurred; and (2) Falkland Sound, which has not been studied for whales to date.

BOAT SURVEYS
The boat survey work will incorporate:
1. Visual survey work, to assess the spatial distribution and group size/composition of cetaceans, and identify their underlying habitat preferences;
2. Focal follows, to investigate dive times and collect behavioural data to understand use of the sites by whales;
3. Photo-identification, to assess population size, inter-annual site fidelity, movements and social affiliation. The collection of multi-year data will facilitate the first mark-recapture abundance analysis for sei whales in Falkland waters.
4. Faecal sampling, to examine whale diet and potentially extract whale DNA;
5. Biopsy sampling, to collect small tissue samples for genetic and stable isotope analysis; and
6. Time-depth-recorder (TDR) tagging, using short-term non-invasive suction-cup tags to provide information on foraging and dive behaviour. This innovative technique has not been attempted previously on sei whales.

ACOUSTIC MONITORING
The project will carry out the first acoustic monitoring of large whales in nearshore Falkland waters, using statically-deployed "SoundTrap" devices for two full years at Berkeley Sound, Port William, and Falkland Sound. The temporal occurrence of vocalising whales will be assessed for each site and the viability of this technique for long-term monitoring evaluated.

ANALYSIS
A multi-organisation partnership will carry out the core work:
1. Falklands Conservation will manage the project, conduct the boat work and deploy/recover the acoustic devices. The photo-identification analysis will be carried out with advice from the Sea Mammal Research Unit.
2. The British Antarctic Survey will conduct genetic analysis to measure: (i) diversity; and (ii) differentiation from calving grounds via amplification of mitochondrial DNA control region sequences and microsatellite genotypes. They will also carry out prey-based DNA assessment of the faecal samples and isotope analysis of the blubber samples.
3. The University of California Santa Cruz will initiate the tagging protocols. They will conduct the analysis of tag data to assess sei whale foraging behaviour.
4. Salvatore Cerchio will analyse the acoustic data to examine whale call rates over time at the sites, and thus assess whale temporal occurrence.

LOCAL ENGAGEMENT
Falklands Conservation will increase local awareness, engagement and capacity with

regard to sei whales via:
1. The production of local and international media articles (including TV, radio, social media and scientific papers) to increase awareness about the project.
2. Meetings with key stakeholders (including decision-makers, Government departments, yacht owners and landowners adjacent to the study areas) to ensure that they are engaged and understand the significance of the work.
3. Encouragement of stakeholder and volunteer participation in the boat surveys.
4. Capacity-building activities including training volunteers in cetacean field skills.

If necessary, please provide supporting documentation e.g. maps, diagrams etc., using the File Upload below.
The limit for any single file uploaded as supporting materials with your application is 6MB. Please ensure documents are saved in PDF form where possible in order to minimise size.

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7. Objectives, Stakeholders & Sustainability

Q15. Project Objectives

How does this project:

- Deliver against the priority issues identified in the assessment criteria
- Demonstrate technical excellence in its delivery
- Demonstrate a clear pathway to impact in the OT(s)

The project aims to increase understanding of two marine cKBAs designated for endangered whale species, by assessing them against international criteria for non-statutory site designation and therefore delivering measurable environmental outcomes. Project outputs will aid in understanding how to mitigate potential impacts through management of marine activities and policy development. As such, the project contributes to Round 6 Priority Improving Marine Conservation, protection or management. Development of monitoring techniques (e.g. photo-identification and acoustic monitoring) will inform industry Monitor-and-Manage approaches, to facilitate sustainable development policies and practices, also a Round 6 Priority.

The project delivers on, or will contribute to a range of existing national commitments:

• The FIBF identifies ‘Natural resource use’ (including offshore hydrocarbons) and ‘Visitors/tourism’ as ‘medium Priority Threats’ to FI biodiversity, and ‘Lack of awareness’ and ‘Uncertainty or lack of information’ as priority ‘Cross-cutting Issues’.

• KBAs are ‘Key Sites’ within the FIBF. A strategic target is that ‘the majority of ‘Key’ sites and areas are conserved by 2020.’ Under the Islands’ EU BEST Ecosystem Profile, cKBAs are highlighted as a priority for research due to their potential to qualify for full KBA status.

• The Falkland Island (FI) Cetacean Species Action Plan (CSAP) has the objective of maintaining the protection of cetaceans in Falkland Island waters from human threats, in order to aid the global protection and recovery of populations. The project contributes several targets including target 12 ‘Nominate important locations for protection’.

• This work contributes to the Convention on Biological Diversity, through identifying components of biological diversity important for conservation and sustainable use and monitoring those components.

There is strong local commitment to the project from the FIG Environmental Planning Department and Department of Mineral Resources, as well as the main developing industry operator Premier Oil. Local partner support includes SMSG.

The project outputs should support good decision-making in FIG policy and process, and would be pertinent to development of MSP and MMA policy. The information will feed a review of the CSAP but also a planned review of the FI wildlife legislation by FIG, embedding informed decisions in any review process. EIA is highly significant to the developing hydrocarbons industry in the Islands – the knowledge developed through the project will aid good decision-making during future processes.

Tourism is the second largest contributor to the FI economy, and is strongly-based on

wildlife. The project outputs would support delivering more informed and sustainable wildlife tourism experiences into the future, contributing to improved environmental services, sustainability and capacity building.

The technical excellence of the project delivery is assured by the use of a highly-experienced project team including top international whale researchers in the fields of genetics, tagging, mark-recapture analysis and acoustics. The team has a demonstrated track record in carrying out innovative whale field research to high scientific standards. Falklands Conservation pioneered sei whale research in the Falklands and that previous experience ensures a high likelihood of project success.

Q16. Project Stakeholders

Who are the stakeholders for this project and how have they been consulted (include local or host government support/engagement where relevant)? Briefly describe what support they will provide and how the project will engage with them.

Falkland Islands Government
FIG Department of Mineral Resources (DMR) (oil industry regulator) and Environmental Planning Department are key stakeholder and decision makers, to be engaged througout the project. The were provided with a project concept note and are both are supportive of the proposed project (see LoS). His Excellency the Governor was provided with the project proposals and provided supportive comment.

Local stakeholders/partners
Representatives of FIG, Falkland Island Fishing Company Association, Falkland Islands Tourist Board, the South Atlantic Environmental Research Institute and the local community were informed of the project proposal at the Environment Committee meeting (21st September 2017); feedback was supportive.
Premier Oil, a key stakeholder with regard to proposed oil transfers in Berkeley Sound, confirmed their support (see LoS). Local stakeholders will be engaged throughout via meetings and emailed project updates.

International stakeholders/partners
PP Jackson is Chair of the Southern Hemisphere sub-committee of the International Whaling Commission (IWC) and will facilitate international recognition of the project at the IWC annual meetings. The IUCN Cetacean Specialist Group are strongly in support of the project (see LoS). PP Jackson is conducting whale work in South Georgia with support from the GSGSSI, facilitating data exchange with another OT. PP Español will provide similar links with sei whale studies in Chile. PP Cheeseman will upload images to the citizen science website happywhale.com and communicate project results to the Antarctic tourism industry.

Q17. Institutional Capacity

Describe the lead organisation's capacity (and that of partner organisations where relevant) to deliver the project.

FC have successfully delivered 8 Darwin Initiative awards and have nearly 30 years organisational experience in delivering wide-ranging environmental projects in the Falklands. It has recently delivered a pioneering feasibility sei whale study under the

EU-BEST programme, demonstrating capacity to deliver this proposed extended whale work with the existing staffing structure and organisational facilities.

BAS/NERC laboratories are equipped to carry out high-quality DNA and isotope research. BAS have been instrumental in producing science underpinning selection and design of South Atlantic marine protected areas. Dr Jackson is Chair of the IWC's Southern Hemisphere subcommittee and has conducted multiple assessments of recovering whale populations. She will coordinate genetic work at BAS, measuring whale diversity and differentiation, and assessing whale diet using DNA and isotope analysis techniques.

Dr. Friedlaender brings experience from a long-term and world-class marine mammal tagging program to the project. He and his lab have tagged over 500 individuals from roughly 20 species over the past 15 years and have developed many of the analytical tools to quantify underwater behaviour of cetaceans from multi-sensor tag data. This project is a direct extension of his ecological work on baleen whales around the world.

Dr. Cerchio has 33 years of experience in the acoustic analysis of large baleen whale species across five ocean basins. He is currently involved in long-term passive acoustic assessments of the spatio-temporal occurrence of Omura's and blue whales in the Indian Ocean. He is working with NOAA to study acoustic behaviour in North Atlantic sei whales, and has already begun to develop automated detectors for the species.

SMRU is part of the Scottish Oceans Institute at the University of St Andrews. SMRU has an international reputation for quantitative analysis of field data to increase knowledge and understanding of distribution, abundance, population dynamics and behaviour of marine mammal populations and to inform conservation and management. SMRU staff provide scientific guidance and training in a suite of field and analytical methods.

SMSG has a successful track record of gaining competitive research funding in the fields of sub-tidal marine ecology, biodiversity, conservation, and fisheries science. SMSG is headed by a core group of experienced biologists and divers who carry out marine ecological research that contributes to local and regional conservation policy initiatives. The scope of the work includes the splash zone, inter-tidal and sub-tidal of Falklands' shores and all South Atlantic Overseas Territories.

HappyWhale has to date received over 60,000 marine mammal photographs from over 1,600 contributors, with effective outreach to the Antarctic tourism community resulting in high-quality images from expedition field staff and participants. The HappyWhale user group serves as a meaningful avenue of science communication for project results.

Dr. Weir has two decades of experience conducting scientific cetacean fieldwork, compiling photo-identification catalogues and establishing field projects on endangered cetacean species in remote and challenging geographic areas. With FC, she established and managed the only sei whale research project carried out in the Falklands to date, and has unique experience of biopsying, faecal sampling and photo-identification of this species.

Q18. Sustainability

How will the project ensure benefits are sustained after the project has come to a

close? If the project requires ongoing maintenance or monitoring, who will do this and how will it be funded?

> The project will address core data-deficits identified in the FIBF and the Cetacean Species Action Plan to produce legacy elements including:
> (1) evidence-based management and policy-development;
> (2) awareness-raising of important marine species and sites, and the threats they face; and
> (3) potential options for mitigating impacts.
> These will have long-term impacts on community perception, interest and decision-making in the Falklands.
>
> Project data will be published and used to assess whether two cKBAs proposed for endangered whales warrant full KBA status. If so, FC will continue furthering this process with the KBA Partnership and local Falklands' stakeholders following the project completion. In doing so, the project will confer benefit to other cKBAs and existing KBAs in the Islands, further informing decision-making for MSP, MMA and EIA in the future. The project data and methods are likely to set the standard for ongoing industry ‘Monitor and Manage’ requirements for KBAs.
>
> All project outputs will be open access, made freely-available online (e.g. through HappyWhale.com and the FC website), and disseminated to decision-makers and stakeholders (at Environment Committee meetings and in reports). Metadata will be provided to the IMS-GIS data centre ensuring ongoing availability after the project timeframe. Peer-reviewed scientific publications are expected.

8. Funding and Budget

Q19. Budget

Please complete the appropriate Excel spreadsheet linked below, which provides the Budget for this application. Some of the questions earlier and below refer to the information in this spreadsheet. Note that there are different templates for projects requesting over and under £100,000 Darwin Plus budget.
R6 D+ Budget form for projects under £100,000
R6 D+ Budget form for projects over £100,000
Please refer to the Finance Guidance for more information.
N.B.: Please state all costs by financial year (1 April to 31 March) and in GBP. Budgets submitted in other currencies will not be accepted. Use current prices – and include anticipated inflation, as appropriate, up to 3% per annum. The Darwin Initiative cannot agree any increase in grants once awarded.
Please upload your completed Darwin Plus Budget Form Excel spreadsheet using the field below.

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Q20. Co-financing

Are you proposing co-financing?

Yes

Secured
Provide details of all funding successfully levered (and identified in the Budget) towards the costs of the project, including any income from other public bodies, private sponsorship, donations, trusts, fees or trading activity, as well as any your own organisation(s) will be committing.
(See “Finance for Darwin & IWT” and the "Guidance for Applicants" documents)

Falklands Conservation - £7,570
Univ. of Calafornia Santa Cruz - £84,300
BAS - £30,329
SMSG - £7,000
Caroline Weir - £4,500
Ted Cheeseman - £4,500

Total co-financing - £138,199

Unsecured
Provide details of any co-financing where an application has been submitted, or that you intend applying for during the course of the project. This could include co-financing from the private sector, charitable organisations or other public sector schemes.

Date applied for	Donor Organisation	Amount	Currency code	Comments

Please give brief details including when you expect to hear the result. Please ensure you include the figures requested in the Budget Spreadsheet as Unconfirmed funding.

> NA

Do you require more fields?

> No

9. Financial Controls, Value for Money & Open Access

Q21. Financial Controls

Please demonstrate your capacity to manage the level of funds you are requesting. Who is responsible for managing the funds? What experience do they have? What arrangements are in place for auditing expenditure?

Falklands Conservation has both a UK Honorary Treasurer and a FI Honorary Treasurer who oversee our funds in the UK and FI respectively. The CEO is responsible for day-to-day financial management, overseen both by the UK and FI trustees (who are reported to on a quarterly basis) and our auditors (Wilkins Kennedy, with offices in London and Stanley). Organisational accounts are audited annually.

FC uses the software TAS for tracking income and expenditure, which is reconciled on a monthly basis; the FI Office Administrator is responsible for input in relation to FI income/expenditure, and the UK Executive Officer for UK income/expenditure.

Annual turnover is of the order of £0.5m, half of which is designated project funds. FC has successfully managed externally funded projects from Darwin, OTEP, Defra, RSPB, WWF and EU BEST.

Q22. Financial Management Risks

Explain how you have considered the risks and threats that may be relevant to the success of this project, including the risks of fraud or bribery.

Fraud and bribery are not considered significant risks for FC or partners. Organisational contracts and staff policy clearly outline acceptable and unacceptable practices.

Having undertaken similar projects, the main risks identified are:
• Working with mobile marine species – presence is not guaranteed;
• Adverse weather – limiting the available fieldwork time;
• Locating suitable survey platforms – boat availability is limited in the Falklands;
• Difficulty recruiting appropriate personnel –challenging role and remote conditions;
• Changing decision-makers – short, 2-year contracts in the Falklands cause loss of continuity; and
• Analysis timeframe - may take longer than envisaged.

To minimise these risks, the project will:
• Collect data over two seasons to allow for variable whale occurrence;
• Plan fieldwork to allow for periods of adverse weather, based on previous experience of whale work in the Falklands;
• Ensure maximum availability of a suitable boat by including SMSG as a committed project partner;
• Recruit candidates of sufficient cetacean expertise and proven compatibility with living in small, remote communities;
• Continually engage with decision-makers especially during periods of staff transition; and
• Balance fieldwork, analysis and reporting/output time to ensure maximum success in

project delivery.

Q23. Value for money

Please explain how you worked out your budget and how you will provide value for money through managing a cost effective and efficient project. You should also discuss any significant assumptions you have made when working out your budget.

Budget calculations are based on costs and experience from a 2017 whale feasibility study in the Falklands. Individual service providers/partners have inputted on specific costs for equipment, salary and analysis. Best-price quotes were adopted, and current exchange rates were used to convert USD into GBP. Marine projects are inherently costly, particularly in challenging marine environments such as the Falklands. However, key value-for-money elements include:
• Site choice. Berkeley Sound and Falkland Sound are the closest cKBAs to the capital Stanley, and thus offer more cost-effective options for marine surveys compared with more remote cKBAs;
• Platform choice. The 2017 pilot study indicated that small boats were the most cost-effective and logistically-valid method out of the three platforms trialled (shore, boat and aircraft).
• Project partners. Several very experienced project partners offering excellent value for money. Most are providing match funding and equipment to reduce the costs.
• Innovative methods. Year-round acoustic monitoring is proposed, which should provide continual temporal information on whale occurrence during periods of adverse winter weather that would make other survey options prohibitively costly.
• Added value. Information generated will inform decision-making, industry monitoring methodologies and future research, both locally and globally, for many years.

Q24. Outputs of the project and Open Access

All outputs from Darwin Plus projects should be made available on-line and free to users whenever possible. Please outline how you will achieve this and detail any specific costs you are seeking from Darwin Plus to fund this.

All project outputs including the photo-identification catalogue, reports and project updates would be freely available for download from the Falklands Conservation website and, where appropriate, from the project partner websites. Reports and updates would also be sent to project stakeholders via email and FIG Environmental Committee meetings at regular intervals.

Information will be disseminated to the general public and the wider international audience via regular updates on FC and project partner social media sites. Whale photo-identification images would be available through the online portal HappyWhale.com and thus be accessible internationally to citizen scientists. Local project awareness-raising would also occur via Falkland Islands TV and Radio services.

Reports would be submitted to the scientific community via the International Whaling Commission. Darwin Plus funding would be used to cover the publication fees for making two scientific papers Open Access in peer-reviewed journals.

All project data will be held on the FC server, and the metadata will be submitted to the IMS-GIS data centre (http://www.south-atlantic-research.org/info/ims-gis-data-centre-home) for UK Overseas Territories in the South Atlantic to ensure that the data can be easily discovered and accessed into the future.

Genetic data generated by the project will be published through Genbank (DNA sequence data) or Datadryad (microsatellite genotype data).

10. Logical Framework

Q25. Logical Framework

Darwin Plus projects will be required to report against their progress towards their expected outputs and outcome if funded. This section sets out the expected outputs and outcome of your project, how you expect to measure progress against these and how we can verify this.
Annex D and Annex E in the Guidance Notes provides helpful guidance on completing a logical framework, including definitions of the key terms used below.

Impact:

> A better understanding of the Falkland Islands marine environment that will inform good decision-making for marine conservation and management by the Falkland Islands' community and those who represent it.

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions

Outcome: Decision-makers, including community representatives, have up-to-date, robust data allowing them to make better informed, evidence-based decisions for conservation and management of Key Biodiversity Areas and the wider marine environment.	0.1 Project outputs and recommendations are documented in an accessible format and provided to the FIG Environmental Committee which has government, industry sector and community representatives (FIG EPD). 0.2 Project data are stored on the FC server and metadata are submitted to the IMS-GIS data centre.	0.1 Project Report (open access) documenting the project activities, outputs and recommendations is included as an agenda item for the FIG Environmental Committee. 0.2 File listing on FC server and metadata catalogue entries on IMS-GIS centre website.	0.1 The report is reliant on a successful fieldwork component, which in turn relies on weather conditions, project planning and whale presence. Planning and budgeting to incorporate weather downtime should limit these risks. The recruitment of an experienced cetacean researcher to coordinate the fieldwork should maximise fieldwork outputs and ensure relevance of the report. 0.2 None.

Output 1: Awareness, engagement, outreach and capacity building Information on the project aims, activities and conclusions is provided to the Falklands Community along with opportunities for fieldwork involvement. Decision-makers and stakeholders are engaged with the project and can access information to inform decision making. Capacity to deliver future whale projects is increased.	In accordance with the project timetable: AWARENESS 1.1 FC publications (3 x articles in the FC Magazine and 2 x articles in the FC Newsletter). 1.2 FC digital media (website project page established; weekly Tweets and Facebook posts). 1.3 Local media (3 x Penguin News articles, 1 x Falkland Islands Radio Service interview and 1 x Falkland Islands TV interview). 1.4 Scientific publications (2 x peer review papers submitted to on-line journals; photo-identification data submitted to HappyWhale.com). 1.5 Presentations (1 x public	1.1 Copies of articles in media and reports. 1.2 Access to digital media sites and statistics. 1.3 Copies of articles or links to online TV features. 1.4 URLs for publishers sites. 1.5 Photos and electronic copies of presentations. 1.6 Copy of final Technical Report (open access). 1.7 Copies of meeting minutes. 1.8 and 1.9 Copies of meeting minutes and electronic updates. 1.10 Copies of participation photos and record of attendance. 1.11 Copies of training material and attendees list. 1.12 Copies of participation	1.4 Submission of peer reviewed papers depends on field results and timeframe for analysis. Papers should at least have reached the late preparation stages by the project deadline. 1.7, 1.8 and 1.9. Time availability can limit participation by steering group members, decision-makers and stakeholders. Bi-annual meetings should be possible, as well as meetings via Skype and the circulation of electronic updates. 1.10. Commitments and short-notice fieldwork may limit attendance of volunteers and decision-makers for outreach activities. Early discussion

	talk; 1 x school visit). 1.6 Dissemination of final project findings (electronic copy of technical report available for download and circulated to decision makers and stakeholders). ENGAGEMENT 1.7 Steering Group established with update meetings held no less than twice per year. 1.8 Decision-makers (bi-annual meetings with FIG Heads-of-Department, Members of Legislative Assembly). 1.9 Stakeholders (users and adjacent landowners of Berkeley Sound and Falklands Sound) updated before during and after fieldwork activities. 1.10	photos and record of attendance. 1.13 Copy of equipment list. 1.14 Database file stored at FC.	and well circulated information will aim to maximise attendance.	

	Volunteers, stakeholders or decision-makers included on fieldwork trips (10 people). CAPACITY-BUILDING 1.11 Cetacean field skills training event. 1.12 On-boat field training for volunteers (10 volunteers). 1.13 Equipment catalogue available for future survey work . 1.14 Volunteer database expanded.		

Output 2: Key Biodiversity Area (KBAs) assessment. An assessment of the applicability of two candidate KBAs to qualify for full KBA status in Berkeley Sound (sei and fin whales) and Falkland Sound (sei whales only) is provided to the Environment Committee.	In accordance with the project timetable: 2.1 Collection of field data to document whale occurrence in the Berkeley Sound and Falkland Sound cKBAs in order to address current data gaps. 2.2 The whale datasets will be assessed against the qualifying KBA criteria to determine whether the KBAs may qualify for full status. 2.3 The current spatial extents of the Berkeley Sound and Falkland Sound cKBAs (based on two decades of anecdotal sighting data) will be considered in relation to the documented whale occurrence to assess whether the spatial limits are appropriate for	2.1 A Project Report (open access) documenting project activities, outputs and recommendations. 2.2 A KBA report containing an evaluation of the two cKBAs for managing whales will be produced and submitted to the KBA Partnership. 2.3 As 2.2.	2.1 Weather, vessel availability and whale presence may limit fieldwork success. However, experience from the pilot study indicates that all can be overcome with adequate planning. 2.2 and 2.3 Assessing KBA status may be limited by lack of global population size data for sei and fin whales, which could hinder application of the criteria. The criteria used to assess KBAs may alter over the project timeframe. Communications will need to be maintained with the KBA partnership.

	managing the whale populations.		

Output 3: Focal studies of baleen whales at two cKBAs. Completed focal studies of baleen whales at two sites. Increased information on the spatio-temporal distribution of whales. Production of the first mark-recapture abundance estimates at two cKBAs. Assessment of underlying habitat use in association with foraging ecology. Overall increased understanding of when, where, why and how many whales are present in the Falkland marine environment to inform marine spatial planning and management.	In accordance with the project timetable: DISTRIBUTION 3.1 Focal studies conducted at Berkeley Sound and Falkland Sound cKBAs during two whale seasons (January to May 2019 and 2020), with extended season to July 2019 and 2020 at Berkeley Sound. 3.2 Cetacean sighting data collected in the field and analysed to produce spatio-temporal distribution maps and a species habitat assessment. 3.3 Spatial and temporal data made available to marine planning and EIA Assessments, and to the KBA process. ABUNDANCE	3.1 Receipts from boat charters, existence of datasets and reporting. 3.2 As 3.1. Production of Project Report (open access) including species distribution maps. 3.3 Copy of meta-data submitted to the IMS-GIS data centre. Final Project Report disseminated to decision-makers, stakeholders and the IUCN KBA partnership. 3.4 Presence of photo-identification catalogues on website (link provided) and images available at online portal HappyWhale for wider international outreach and cross-matching with other geographic areas. 3.5 Mark-recapture abundance	3.1 and 3.2. Boat-based survey work can be limited by weather and boat availability. These have been accounted for based on previous experience of weather downtime during cetacean work, and sourcing of a suitable boat from a confirmed project partner (SMSG). 3.2 Sightings data may be limited by weather (see 3.1) or absence of the species. Boat survey work has been planned for the key temporal period of whale occurrence. 3.5 Mark-recapture analysis is dependent on the acquisition of an adequate sample size of whales and suitable high-quality images. The

	3.4 Whale photo-identification study carried out at both sites. A catalogue of distinct individuals produced for Falkland Sound. New animals added to the existing Berkeley Sound catalogue and re-sightings examined. Catalogues available to all stakeholders. 3.5 Mark-recapture population estimate produced for sei whales at both sites using photo-identification data, and published to inform the KBA process. FORAGING ECOLOGY 3.6 Collection of 60 whale faecal samples in the field at both sites over both seasons. 3.7 DNA-based identification of whale diet using PCR-amplification and	estimates provided in the Project Report (open access). 3.6 Images of faecal sampling in progress provided in the Project Report (open access). Metadata submitted to IMS-GIS data centre. 3.7 Receipts from BAS of analysis costs and production of final Technical Report. 3.8 Receipts from tagging fieldwork, and photographs of tagging efforts in the Falklands. 3.9 Receipts from field visit by tagging expert and documentation (images, video) of practical and theoretical tag method training. 3.10 Production of open access Project Report available online.	pilot study indicated that this should be feasible. 3.6 The target of 60 samples is based on the pilot study. Actual collection will vary according to number of whales, their behaviour and weather. 3.8 TDRs have not previously been deployed on sei whales and this study is therefore a pilot. The tagging team are highly-experienced with similar species.	

	Illumina sequencing, followed by identification of prey using DNA databases. 3.8 Deployment of short-term suction-cup time-depth-recorder (TDR) tags on whales to measure dive parameters and feeding events. 3.9 Training of FC staff in deployment and recovery of TDR tags. 3.10 Project Report including outline of whale foraging behaviour in the Falkland Islands with implications for distribution and management.		

Output 4: Establishment of a passive acoustic monitoring (PAM) study of baleen whales at three sites. An assessment of temporal whale presence and also the validity of long-term monitoring of baleen whales using PAM.	In accordance with the project timetable: 4.1 "Sound Trap" passive acoustic monitoring devices will be deployed at three study sites (Berkeley Sound, Port William and Falkland Sound) for two full years to collect data on whale temporal occurrence. 4.2 Acoustic data analysis carried out to assess the temporal variation of sei whale (as "call rate", e.g. calls per day) at the sites over the two year period. 4.3 Assessment of the applicability of PAM for the long-term monitoring of baleen whales in the Falklands.	4.1 Copies of datasets will be stored on the FC server and metadata submitted to the IMS-GIS centre. Deployment periods and data analysis will be presented in the Project Report (Open Access). 4.2 Data analysis results will be presented in the Project Report (Open Access). 4.3 An assessment of the use of PAM for baleen whale monitoring will be presented in the Project Report (Open Access).	4.1 Static acoustic devices deployed for long periods may malfunction or may be lost to weather or due to interaction with kelp beds. The mooring system design will limit risk by eliminating surface equipment. Mooring sites will be carefully-selected. Spare devices will be available in the event of loss. Device maintenance will occur at 4-month intervals to limit the overall impact of any periods of lost data. 4.2 The time required for acoustic analysis will depend on the effectiveness of the automatic detection classifiers (which in turn depend on ambient noise levels within the sites). If longer than

			anticipated, analysis may need to be limited to a subset of the total data (e.g. 18 months instead of two years).

Output 5: Genetic diversity and isotope study. A study to clarify the population identity, structure and genetic diversity of Falkland whales, and determine appropriate scales for management units. An evaluation of the trophic role and diet of whales in the Falklands.	In accordance with the project timetable: 5.1 Biopsy tissue sampling carried out during boat surveys at two cKBAs to collect up to 50 skin/blubber samples per species. Other samples acquired where possible from strandings, faecal matter and bone extraction. 5.2 DNA extraction of samples, and laboratory analyses to identify the sex, mitochondrial DNA diversity and individual identity of each whale using microsatellite loci. 5.3 Stable isotope analysis of tissue samples to investigate diet and trophic level. 5.4 Report and	5.1 Physical presence of stored samples. Documentation of biopsy attempts (photos and video) in the field. Full description of biopsy work (including responses of animals) in final (open access) genetic Technical Report. 5.2 Invoice for payment from the organisation (BAS) carrying out the proposed analysis work. Report outlining analysis methods and results. 5.3 As 5.2 5.4 The Project Report will include the genetic and stable isotope results and will be distributed to Darwin and all stakeholders. 5.5 Physical presence of stored samples. Metadata	5.1 Collection of samples from fast-moving rorquals is challenging and less than 50 samples may be acquired in practice. Smaller sample numbers will still have relevance for the management of Falkland whales, and will be merged with a small number of existing samples and those collected from other sources (e.g. bones). 5.6 Due to limited time available for genetic analysis (due to export and shipment) this stage may happen after the final Darwin reporting, i.e. after March 2021. However, there will be a commitment to complete this stage. An update will be provided in the final Technical Report and

	interpretation of tissue analysis results. 5.5 Duplicate samples stored in the Falklands and made available for additional future studies (e.g. contaminants). 5.6 Genetic data generated by the project will be published as open access via a platform such as Genbank (DNA sequence data) or Datadryad (microsatellite genotype data).	submitted to the IMS-GIS centre. 5.6 Receipts of submission into the genetic data platform.	links can be provided to where the data will appear post-submissi on.

Do you require more Output fields?
It is advised to have less than 6 Outputs since this level of detail can be provided at the Activity level.

No

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. Each new activity should start on a new line.

1. AWARENESS, ENGAGEMENT, OUTREACH AND CAPACITY BUILDING.
1.1 The Technical Lead (TL) will liaise with the Community Engagement Manager (CEM), regarding the nature, timing and composition of magazine and newsletter articles aimed at raising awareness of the project and its aims, outputs and recommendations.
1.2 A specific project web-page will be established at the beginning of the project describing the project and its aims, and where outputs/reports can also be accessed. Weekly Tweets and Facebook posts of project activities/stories will occur.

1.3 The Technical Lead will liaise with the CEM to communicate with local media for article placement and reporting/documentary opportunities, again raising awareness of the project and its aims, outputs and recommendations.
1.4 Photo-identification images will made available online through the portal HappyWhale.com, which ‘engages citizen scientists to identify individual marine mammals, for fun and for science.’ This will ensure international open access to photo-identification material and may produce re-sightings of individual whales within the Falklands and further afield. Peer-reviewed scientific publications will be submitted to open access scientific journals.
1.5 The TL will liaise with the CEM to contact the school regarding visit opportunities to educate and engage younger community members about the project. At least one public presentation will provide a forum for information provision, but also an opportunity for the local community to ask questions about the project.
1.6 Once fieldwork and data analysed are complete, a draft Project Report detailing the project activities and findings will be circulated to decision-makers and stakeholders for comment before finalising and issue.
1.7 A Steering Group will be established and terms-of-reference agreed. Bi-annual meetings will be planned and deliverables to the Steering Group at such meetings established; this will include monitoring and evaluation activities.
1.8 Appropriate project staff (depending upon the technical requirements) will communicate with decision-makers (bi-annually, as possible) regarding the development of the project findings and implications in the context of MSP, MMAs and EIA.
1.9 Appropriate project staff (depending upon the technical requirements) will communicate with stakeholders regarding the project activities and aims ahead of fieldwork commencement, with updates on progress during the project and draft outputs for comment towards project completion.
1.10 The TL will liaise with the CEM to utilise the volunteer database and local media to provide maximum opportunity for people to experience fieldwork trips during the field season.
1.12 The TL will liaise with the CEM to utilise the volunteer database and local media to host a training event.
1.13 The FC Office Manager will hold an inventory of equipment that may be used for future cetacean work.
1.14 The CEM will maintain and update the FC volunteer database to facilitate volunteer engagement and training opportunities.

2. KEY BIODIVERSITY AREA (KBAS) ASSESSMENT
2.1 Collection of field data to address data gaps. Please see individual Activities listed under 3, 4 and 5.
2.2 On completion of field data collection and data analyses, an assessment will be made of whether the two cKBAs may qualify for full KBA status based on documented whale occurrence at each site in relation to the qualifying criteria for KBA status.
2.3 On completion of field data collection and data analyses, an assessment will be made of whether the current spatial limits of the Berkeley Sound and Falkland Sound cKBAs reflect the documented spatio-temporal distribution of whales, and whether they are appropriate for long-term management of mobile marine predators such as baleen whales.
2.4 The Technical Report containing the assessments in 2.2 and 2.3 will be produced and circulated to decision-makers, stakeholders and the IUCN KBA partnership.

3. FOCAL STUDIES OF BALEEN WHALES AT TWO SITES
3.1 Survey planning. Including the scheduling of boat survey work (including timing and field methods, with input from project partners), refining of study areas in Berkeley Sound and Falkland Sound, and preparation of boat/crew for field seasons.

Preparation of field equipment. Development of HSE risk assessments. Updating of volunteer database for marine work.
3.2 Boat-based survey work carried out between January and July 2019 and 2020 in Berkeley Sound (32 days per year), and between February and May 2019 and 2020 in Falkland Sound (20 days per year). Planned to coincide with peak expected temporal occurrence of sei and southern right whales in the region. Photo-identification, faecal sampling and tagging efforts to occur throughout boat survey work. A FIG permit (Research Licence No: R11/2017) is already in place for non-invasive whale work over this period.
3.3 Initial field visit by experienced whale time-depth-recorder (TDR) tag expert for four weeks during February 2019 to oversee initial tagging efforts. At least 1 staff member at FC trained in tag deployment and recovery. The tagging work will be dependent on acquiring a permit from the FIG Environmental Planning Department (FIG is supportive of the project concept note).
3.4 Processing and storage of faecal samples at a suitable facility in the Falkland Islands.
3.5 Compilation of photo-identification images into catalogues per species (and perhaps by site) and logging of associated meta-data. Quality-control of photo-identification catalogues. Images of distinctive whales provided to HappyWhale and incorporated into the HappyWhale online portal for international access and matching potential.
3.6 Analysis of photo-identification datasets to examine for re-sightings (including internationally via HappyWhale). Photo-identification mark-recapture analysis carried out.
3.7 Analysis of boat survey effort and cetacean sightings data - compilation of GPS track logs into spreadsheets, and GIS projects produced. Habitat parameter analysis.
3.8 Analysis of TDR tag data and production of interpretative report.
3.9 Export of faecal sample subset shipped to the UK via BAS vessel (or alternative means, e.g. aircraft).
3.10 Prey-based DNA analysis of faecal samples using PCR-amplification and Illumina sequencing (followed by identification of prey using DNA databases) carried out at BAS to investigate whale diet and interpretive report produced.
3.11 Production of final Technical Report (open access) including species distribution maps showing spatio-temporal distribution and habitat, discussion of foraging ecology, and the results of tagging work, faecal sample analysis and photo-identification. Report made open access and disseminated to decision-makers and stakeholders (including IUCN KBA regional coordinators).
3.12 Boat survey meta-data submitted to the IMS-GIS data centre. Data archived on FC server.

4. PASSIVE ACOUSTIC MONITORING (PAM) STUDY OF BALEEN WHALES AT THREE SITES
4.1 Selection of specific sites for "SoundTrap" deployment within the three focal sites, via reconnaissance trips by SMSG divers to locate suitable seabed areas where the acoustic deployments are most likely to remain on location and in quiet environments (i.e. minimal masking).
4.2 Design and construction of suitable moorings.
4.3 Initial deployment of "SoundTrap" devices by boat at the three focal sites in September 2018 (weather dependent).
4.4 Maintenance visits by boat to recover, download data and redeploy "SoundTraps" at 4-monthly intervals for a two year period. Two-year deployments to ensure year-round temporal data are collected on whale species.
4.5 Acoustic data sent for analysis in batches at 4 to 12 month intervals over the two-year period. Analysis of sei whale call rates (whale calls per hour or day, depending on data suitability) will be ongoing throughout the deployment and

post-deployment period to develop and apply automated call detectors. If the total dataset is too extensive or time-consuming (e.g. due to uncontrollable masking of the sound files) then analysis will be reduced to a manageable subset of data (e.g. 18 months instead of 2 years).
4.6 Production of final analysis and reporting of the acoustic dataset and evaluation of the applicability of PAM for long-term monitoring of baleen whales in the Falklands. Report circulated to decision-makers and stakeholders.
4.7 PAM meta-data submitted to the IMS-GIS data centre. Data archived on FC server.

5. GENETIC DIVERSITY AND ISOTOPE STUDY
5.1 Collection of biopsy tissue samples from boat during two field seasons at the Berkeley Sound and Falkland Sound cKBAs. Dependent on acquiring a permit from the FIG Environmental Planning Department (previous permits have been granted and FIG is supportive of the project concept note). Opportunistic collection of additional genetic samples using other methods (e.g. stranded whales, faecal samples and extraction from bones) throughout the study. Collection of supporting data on biopsy attempts, including photo-identification and behavioural responses.
5.2 Processing and storage of tissue samples at a suitable facility in the Falkland Islands.
5.3 Acquisition of required international export/import permits for the samples from FIG, UK and CITES.
5.4 Export of sample subset shipped to the UK via BAS vessel (or alternative means, e.g. aircraft). Duplicate sample sub-set remains in the Falklands for future analysis.
5.5 Genetic and isotope analysis carried out at BAS to investigate genetic diversity and trophic level.
5.6 Interpretive report of genetic and isotope results produced and disseminated to decision-makers and stakeholders.
5.7 Genetic meta-data submitted to the IMS-GIS data centre. Data archived on FC server.
5.8 Genetic digital sequencing data archived with international repository, e.g. GenBank.

11. Implementation Timetable

Q26. Provide a project implementation timetable that shows the key milestones in project activities

Please complete the Excel spreadsheet linked below to describe the intended workplan for your project.
Darwin Plus Implementation Timetable XLS
Please add columns to reflect the length of your project.
For each activity (add/remove rows as appropriate) indicate the number of months it will last, and fill/shade only the quarters in which an activity will be carried out.

_____ _____	

12. Monitoring and Evaluation

Q27. Monitoring and evaluation (M&E) plan

Describe, referring to the Indicators above, how the progress of the project will be monitored and evaluated, making reference to who is responsible for the project's M&E.
Darwin Initiative projects are expected to be adaptive and you should detail how the monitoring and evaluation will feed into the delivery of the project including its management. M&E is expected to be built into the project and not an 'add' on. It is as important to measure for negative impacts as it is for positive impact.

The Project Lead will have overall project accountability; however, project delivery will be overseen and managed by the establishment of a Steering Group. This will comprise the project Partners that each bring with them a wealth of expertise and experience to monitor and evaluate project progress against the logframe and timetable. It is aimed that this will extend to include FIG representatives, such as the Environmental Planning Officer. Meeting of the Steering Group and Technical Lead will occur at least bi-annually, but more often as appropriate to address any specific issues; however, the involvement of the partners in project elements will ensure they have more regular oversight. At Steering Group meetings the Technical Lead will provide an project update including a budget summary from the Project Admminstrator. Any significant change-requests on budget, timing, or logframe will be agreed by the Steering Group and liaison with Darwin Initiative representatives will occur through the Technical Lead to ensure complete oversight.

Within Falklands Conservation weekly meetings will be held between FC project staff to allow opportunity for updates on project progress or any likely issues. This will facilliatate finer scale monitoring and evaluation of and by the Lead Organisation. Darwin M & E reporting (spend predictions and half-yearly and annual reports will be delivered by the FC staff: Project Lead, Technical Lead, Project Administrator and Community Engagement Manager.

The Project Lead and Project Administrator will be in constant communication to ensure appropriate tracking of buget lines and any administrative challenges.

Broader, external feedback on overall progress, or specific relevant elements of it, will be gained through communication with relevant stakeholders

Accounting will be managed as an auditable restricted fund.

Number of days planned for M&E	150
Total project budget for M&E (this may include Staff and Travel and Subsistence Costs)	£19,507.00
Percentage of total project budget set aside for M&E (%)	6.5

13. Certification

Q28. Certification

On behalf of the

trustees

of

Falklands Conservation

I apply for a grant of

£300,000.00

in respect of all expenditure to be incurred during the lifetime of this project based on the activities and dates specified in the above application.

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful.
(*This form should be signed by an individual authorised by the applicant institution to submit applications and sign contracts on their behalf.)*

- I have uploaded CVs for project principals and letters of support.
- I have uploaded our most recent signed audited/independently verified accounts and annual report (if appropriate).

☑

Name	Esther Bertram
Position in the organisation	CEO
Signature (please upload e-signature)	_____
Date	09/10/2017

If this section is incomplete the entire application will be rejected.

14. Submission Checklist

Checklist for submission

	Check
Have you read the Guidance documents, including the 'Guidance Notes for Applicants' and 'Finance Guidance'?	☑
Have you read, and can you meet, the current Terms and Conditions for this fund?	☑
Have you provided actual start and end dates for your project?	☑
Have you provided your budget based on UK government financial years i.e. 1 April – 31 March and in GBP?	☑
Have you checked that your budget is complete, correctly adds up and that you have included the correct final total at Q7?	☑
Has your application been signed by a suitably authorised individual?	☑
Have you uploaded a 1 page CV for all the Project Staff (listed at Q11) on this project, including the Project Leader?	☑
Have you included a letter of support from the applicant organisation, main partner(s) organisations and the relevant OT Government?	☑
Have you uploaded a signed copy of the last 2 years annual report and accounts for the lead organisation, or provided an explanation if not?	☑
Have you checked the Darwin Plus website to ensure there are no late updates?	☑