



Foreign & Commonwealth Office



Department for International Development



DPLUS042 Darwin Plus: Overseas Territories Environment and Climate Fund Project Application Form

Submit by 2359 GMT Monday 21 September 2015

Please read the Guidance Notes before completing this form.

Information to be extracted to the database is highlighted blue. Blank cells may render your application ineligible

Basic Data					
1. Project Title (max 10 words)	Dolphins of the kelp: Data priorities for Falkland's inshore cetaceans.				
2. UK OT(s) involved	Falkland IslandsLetter of support from OT government attached?Yes/No				
3. Start Date:	1 st April 2016				
4. End Date:	31 st March 2018				
5. Duration of project (no longer than 24 months)	24 months				

Summary of Costs	2016/17	2017/18	Total	
6. Budget requested from Darwin	£168,099	£101,815	£269,914	
7. Total value of matched funding	£47,579	£29,819	£77,398	
8. Total Project Budget (all funders)	£215,678	£131,634	£347,312	
9. Names of Co-funders	Falkland Islands Government, Premier Oil, Austral Biodiversity, South Atlantic Environmental Research Institute, Falklands Conservation, Oregon State University, St Andrew's University, Shallow Marine Surveys Group.			

10. Name, address and contact details of lead applicant organisation (responsible for delivering outputs, reporting and managing funds)*	South Atlantic Environmental Research Institute (SAERI) Stanley Cottage, Ross Road, Stanley, Falkland Islands.
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* Notification of results will be by email to the Project Leader named in Question 12

11. Type of organisation of Lead applicant. Place an x in the relevant box.									
OT GOVT	Х	UK GOVT	UK NGO	Local NGO	International NGO	Commercial Company		Other (e.g. Academic)	Х

12. Partners in project. Please provide details of the partners in this project and provide a CV for the individuals listed. You may copy and paste this table if necessary

Details	Project Leader	Project Leader	Project Partner 1
Surname	Brickle	Augé	Munro
Forename(s)	Paul	Amélie	Grant
Post held	Director	Marine ecologist	Managing Director
Institution (if different to above)	South Atlantic Environmental Research Institute (SAERI)	South Atlantic Environmental Research Institute (SAERI)	Austral Biodiversity Ltd Consultancy (ABL)
Department	n/a	n/a	n/a
Telephone/Skype			
Email			

Details	Project Partner 2	Project Partner 3	Project Partner 4
Surname	Stanworth	Baker	Heinrich
Forename(s)	Andrew	C. Scott	Sonja
Post held	Conservation Officer	Professor and Associate Director, Marine Mammal Institute	Senior Teaching Fellow
Institution (if different to above)	Falklands Conservation (FC)	Oregon State University (OSU)	University of Saint Andrews (UoStA)
Department	Conservation Science	Fisheries and Wildlife	Sea Mammal Research Unit
Telephone/Skype			
Email			

Details	Project Partner 5
Surname	Brewin
Forename(s)	Paul
Post held	Director
Institution (if different to above)	Shallow Marine Surveys Group (SMSG)
Department	n/a
Telephone/Skype	
Email	

13. Has your organisation been awarded Darwin Initiative funding before (for the purposes of this question, being a partner does not count)? If yes, please provide details of the most recent awards (up to 6 examples).

Reference No	Project Leader	Title
DPLUS027	Paul Brickle	Marine Spatial Planning
EIDCF012	Paul Brickle	Assessing Ascension Island's Shallow Marine Biodiversity
EIDCF019	David Doxford	Inshore Cetaceans of the Falkland Islands (FC) – Challenge Award that is the genesis of this application

14. If your answer to Q13 was No, provide details of 3 contracts previously held by your institution that demonstrate your credibility as an implementing organisation. These contracts should have been held in the last 5 years and be of a similar size to the grant requested in this application. (If your answer to Q13 was Yes, you may delete these boxes, but please leave Q14)

15. Key Project personnel

Please identify the key project personnel on this project, their role and what % of their time they will be working on the project. Please provide 1 page CVs for these staff, or a 1 page job description or Terms of Reference for roles yet to be filled. Please include more rows where necessary.

Name (First name, surname)	Role	Organisation	% time on project	1 page CV or job description attached? Yes/No
Dr Paul Brickle & Dr Amélie Augé	Project Leaders	SAERI	5%	Yes
Grant Munro	Partner	ABL	5%	Yes
Dr Andrew Stanworth	Partner	FC	2%	Yes
Prof. Scott Baker	Partner	OSU	6%	Yes
Dr Sonja Heinrich	Partner	SMRU	5%	Yes
Dr Paul Brewin	Partner	SMSG	1%	Yes
ТВА	Project Manager	SAERI	100%	Yes
ТВА	Project Officer	SAERI	75%	Yes

Project Details

16. Project Outcome Statement: Describe what the project aims to achieve and what will change as a result. (30 words max). You can copy and paste from Q26.

Establish 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.

17. 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? (200 words max)

The Falklands near-shore waters host a unique community of Commerson's and Peale's dolphins that exhibit a sympatric co-occurrence and apparent year-round reliance on coastal kelp forests. Despite both species being recognised as of conservation concern under international, regional and national plans relatively little is known about their populations or biology and hence vulnerability to anthropogenic threats. Whilst offshore surveys have been conducted by Joint Nature Conservation Committee, inshore studies has been limited to voluntary cetacean reporting, cataloguing of historical strandings and the small-scale Darwin Challenge pilot study that is the genesis of this project. 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.

The collection of baseline data on abundance, distribution, structure, residency, seasonality, habitat utilisation and identity of sub-populations through focussed island-wide, focal site and genetic study will target prioritised data-gaps identified within the national Biodiversity Action Plan, Species Action Plans, and Biodiversity framework. The three complimentary research strings will combine to provide a holistic understanding of population abundance, habitat use and population genetics, and suggest the scale at which management should be framed.

18. 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. (500 words max)

The project prioritises biological aspects of greatest conservation relevance, whilst considering the data needs of parallel marine management initiatives. The project will be delivered through three complimentary work programmes.

Island-Wide Transect Survey

A line-transect survey utilising distance sampling will provide abundance estimates and map distribution island-wide for all inshore cetacean species within 10km from shore. The Darwin pilot (EIDCF019) established the required survey effort and suitable survey protocol. Whilst focussing on Commerson's and Peale's dolphins, all cetaceans will be recorded with the survey timed to capture seasonal inshore occurrence of *endangered* sei whales (coordinating ancillary data with FC). Environmental covariates will be collected to permit a model-based assessment of abundance and to investigate drivers of distribution under scenarios of future change and within marine spatial modelling. The population and distribution data will place focal studies into perspective and allow representative sites to be selected for focal study into aspects of the biology and ecology.

Focal study

Repeat Transect Sampling

Focal studies at higher resolution but reduced scale will utilise repeat transect sampling with closing mode for photo-identification. Resource utilisation in winter and summer will be investigated through: the degree of the dolphins association with specific habitat types; behaviour and activity; and social factors. This will allow investigation of potential drivers of small-scale habitat selection in these sympatric species and highlight critical habitats.

Photo-Identification

Photo-identification of individual dolphins provides the means to study their movement patterns, site fidelity, and group social dynamics; whilst mark-recapture methods can estimate the size and survival rates of the population in the focal area. Ranging patterns can suggest the spatial range at which management should be considered, the likelihood of population separation and the vulnerability of the species to localised impacts.

• Passive Acoustic Monitoring (PAM)

Static PAM allows the temporal occurrence of dolphins at specific deployment sites to be quantified. The technique is ideally suited to remote harsh environments as data on the presence of dolphins are collected continuously irrespective of short-daylight or weather conditions which can limit visual-surveys. PAM will be used to investigate temporal drivers and potential seasonal patterns in area utilisation with 3 shallow-water units deployed inshore and 4 deep-water units nearshore.

Genetic diversity and local population structure

Genetic sampling will be conducted during the focal study to investigate genetic diversity and local population structure. This represents the first genetic characterisation of Peale's and Commerson's dolphin population within the Falklands. The work will assess the degree of genetic separation from conspecific populations in South America; the genetic diversity around the Falkland Islands, in comparison to other conspecific population and expectations for effective population size; the degree of interchange or isolation among local populations within the Falkland Islands to assess the scale of management units; and level of kinship across generations within groups to better understand population connectivity on an ecological time scale. Skin and blubber samples, collected with a small biopsy dart will be stored and archived to allow subsequent analysis for natural isotope ratios (C/N), pollutant contaminants, etc. in future associated research.

19. How does this project:

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

(500 words max)

Priority Issues:

Internationally Peale's & Commerson's dolphins are listed as: IUCN, data deficient; CMS and CITES, Appendix II.

Regionally both are subject to a CMS small cetacean action plan that recognises the paucity of data on which to base assessment and prioritises research on:

- distribution, abundance and trends in population
- population identity
- natural history to inform on vulnerability to anthropogenic impacts

The South-West Atlantic has been identified as one of thirteen global hotspots of extinction risk for marine mammals due to current or projected anthropogenic activities.

Locally both are subject to a national SAP, and within the Biodiversity Framework defined as a priority data. The SAP identified "lack of information and awareness" as the highest risks and prioritised the following activities:

- Determine population abundance & trends implementing survey, photo-ID & PAM
- Investigate basic biology & feeding ecology
- Identify & protect habitats important to species
- Gather information on population structure and separation through genetics
- Engage in South Atlantic to determine regional abundance and population delineation.

Current SAPs expire in 2018. Gathered baseline data will permit informed assessment of conservation status, key habitats and spatial scales to derive updated achievable SAPs.

Darwin themes (bullet points 1, 4, 5, 6, 8) mirror commitments within Falklands Environmental Charter and CBD Aichi Targets. These high level thematic commitments cannot be met without a robust precursor of baseline data provision. Within economic development, outreach in conjunction with FC will provide guidance to a nascent cetacean-watch tourism sector.

Technical Excellency

The sympatric co-occurrence of two inshore dolphin species is relatively rare and their apparent shared reliance on inshore kelp perhaps unique. The holistic meshing of 3 complimentary research themes Defra, July 2015 5

allows an unprecedented insight into two unstudied apex predators that help define the conservation importance of Falklands inshore habitats. This work is supported by Dr Sonja Heinrich who brings 15-years' experience of sympatric ecological studies of Peale's and congeneric Chilean dolphins within similar coastal areas providing a model for work in the Falklands.

The first genetic sampling of Falkland cetaceans will be conducted. Prof Scott Baker, who brings 25 years' experience with conservation genetics of cetaceans, will lead on this theme. In Commerson's dolphin it will provide the first opportunity to define genetically distinct populations across the entire species range through existing research partnerships. Population identification is critical to determine isolation and the spatial scale of management; however the results will also be of evolutionary importance in determining the phylogeny of *Cephalorynchus* and *Lagenorynchus* speciation, which the lack of Falklands data has so far impeded.

Impact

The project will deliver a baseline for assessing the conservation status and susceptibility of populations prior to developing anthropogenic threats. To date SAP recommended data collection has been limited by high personnel requirements of cetacean survey. The project will leave a legacy of volunteers trained in cetacean survey and data will have relevance beyond the project in marine spatial planning and ecosystem-assessments currently hampered by lack of empirical data. Parallel studies for data utilisation are being progressed with partners.

20. 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. (250 words max)

Stakeholders were informed through a concept note highlighting the data gaps, issues and solutions the project will provide. Through feedback the project design has been a locally-led iterative process.

FIG is a primary stakeholder through responsibilities defined in SAPs, research permitting and was consulted fully and supports the project through funding (see LoS).

Cetaceans and the inshore marine environment were identified as key data gaps hampering accurate EIA assessment by the Falklands Hydrocarbons Gap Analysis. Project data will feed into industry to improve inshore EIA assessment. Premier Oil is supportive and has donated static PAM units.

Through data sharing with FC a nascent cetacean-watching tourism sector will be assisted with resources to improve informed viewing and conservation-safe vessel practises.

Community support is essential to project success especially through the use of volunteers and landowner assistance at field-sites. Significant effort will be made to regularly inform all parties and the wider community.

The PO will work closely with parallel SAERI projects to ensure data is shared and with FC to coordinate volunteer resources, training and data synergy with an EU BEST sei whale application.

External stakeholders and partners have been sourced to add technical guidance and mentoring to the project and to link work to regional researchers on conspecific populations in South America.

Stakeholders will be kept informed through direct liaison, on-line resources and local media. Partners will have access to the Project Management System which will contain progress against milestones and hold project documents on-line for comment prior to release.

21. Institutional Capacity: Describe the implementing organisation's capacity (and that of partner organisations where relevant) to deliver the project. (500 words max)

South Atlantic Environmental Research Institute

SAERI is an FIG initiative. SAERI aspires to be a world renowned, well branded environmental research institute. SAERI has the infrastructure and capacity to conduct environmental research throughout the South Atlantic. SAERI's director is an established marine scientist with many years' experience

managing and co-ordinating multi institutional research projects.

Austral Biodiversity Ltd

An independent environmental consultancy backed by 20 years of cross-sectorial experience within the Falkland Islands. Predominantly involved with environmental assessment and baseline studies for the developing oil industry sector. Provides logistical and project execution experience in cetacean research including the field components of the Darwin Challenge Fund pilot study.

Falklands Conservation

Established in 1991, FC seeks to protect the Falkland Islands and its environment for future generations. It is a charitable NGO working in conservation science, advocacy, outreach and education. It works closely with FIG through a Memorandum of Understanding to undertake national responsibilities within environmental monitoring. FC has successfully managed projects funded by OTEP, Defra, RSPB and WWF.

Shallow Marine Surveys Group

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 Falkland Islands' shores and within all South Atlantic Overseas Territories.

Marine Mammal Institute, Oregon State University

The Marine Mammal Institute is dedicated to sustaining a diverse multi-disciplinary research and graduate training directed towards the conservation and management of marine mammals, particularly endangered or threatened species. The MMI mission is to conduct, assimilate and communicate research concerning the ecology, genetic diversity and population dynamics of marine mammals by way of collaborative, fundamental and applied research programs. The MMI has 19 employees, including 3 principal investigators (faculty), 8 research assistants, 2 administrative staff, 1 vessel captain/port engineer, and 5 temporary and student employees.

Sea Mammal Research Unit, University of Saint Andrews

The Sea Mammal Research Unit (SMRU) is a NERC delivery partner embedded within the Scottish Oceans Institute and the School of Biology at the University of St Andrews. SMRU received the Queen's Anniversary Prize in 2011 for promoting best practice in the health and governance of the ocean environment and developing monitoring mechanisms and practical solutions to track and conserve marine mammal populations and ecosystems. The impact of SMRU science was rated highly during the last Research Excellence Framework in 2014 for which SMRU delivered 4 out of 6 impact case studies of the School of Biology with 90% of all being judged 4* (2nd best in the UK). SMRU has 25 permanent academic and research staff and provides world-class graduate training to ~ 40 MSc and PhD students, and is thus ideally suited to provide not only scientific guidance but the training and capacity building required to develop a remaining programme legacy.

APPLICANTS SEEKING £100,000 OR OVER SHOULD PROCEED TO QUESTION 26

APPLICANTS SEEKING LESS THAN £100,000 YOU MAY SKIP QUESTION 26

26. 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.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact:			1
Inshore marine resources, habitats and sp the long-term maintenance of biodiversity		on a sustainable basis within an ecosystem	based planning approach that ensures
Outcome: 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. (Max 30 words)	 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. 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. 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. 	 0.1 Submission of provisional SAP to FIG Environmental Planning Committee (FIG EPD) with baseline data appendix to Species Action Plan. 0.2 Prioritised research plan submitted to FIG EPD along with SAP. 0.3 Data received and meta data catalogue updated accordingly by SAERI IMS & GIS centre. 	 0.1 Outputs 2-6 provide sufficient timely data to inform on conservation status. Local stakeholders engage in SAP drafting for which focussed meetings and tele-conferencing of external stakeholders has been accounted for in budget. 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. 0.2 As above. 0.3 None as funding and personnel are confirmed through MoU with FIG.
Outputs:	Staff	Staff	Staff
1. Capacity Building for cetacean research.	1.1 x2 Project Staff employed and in place by end May 2016 for 2 years.	1.1 Contract of employment with SAERI.	1.1 Project partners assist in recruitment and vetting in timely manner to ensure qualified staff with capacity to train others.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	Volunteers	Volunteers	Volunteers.
	1.2 Volunteer database with 20 names held within FC & SAERI specific to scientific field work with capacity for maintenance.	1.2 Volunteer database on SAERI mainframe with maintenance included in staff job description / contract (Office Administrator).	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 inleade
	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.	 1.3 Training course attendance and feedback forms recorded from attendees, field survey log. 1.4 x2 interns present within Falklands during 4 month field season and on SAERI records and volunteer insurance. 	 biological experience within islands. 1.3 Training will be coordinated with FC to obtain synergy with sei whale project and maximise numbers and availability. 1.4 Effective promotion and recruitment with partner organisation and others. Has been discussed and potential
	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).	1.5 Inventory of central store and equipment available for cetacean research held by SAERI & FC.	 confirmed during project planning. 1.5 Access to be shared between SAERI & FC of project capital equipment and coordinated.
	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.		Awareness
	Awareness	Awareness	1.6 The draft cetacean-ID guide proved
	1.6 Cetacean ID resources distributed to lodges and operators (x20) and available on-line and downloaded (x30	1.6 Print shop distribution and web-page statistics.1.7 Web-page, blog and facebook page	popular during the pilot study and upgraded version will be promoted and distributed.
	times).	statistics	1.7 Web-page set up to record statistics
	1.7 Web resources available on-line for cetacean ID, volunteer protocols, non-	1.8 Copy of news articles within local media.	and updates linked to Falklands community news pages.
	technical general interest articles & project outputs and accessible by volunteers and community (x visits / month).		1.8 None - during the pilot survey high levels of interest were shown by all media outlets representing a high level of community interest and engagement.
	1.8 Published 4 articles in local media		

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	and 1 television news segment on Falklands news during project.		
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 July 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.
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. 	 2.4 None as funding and personnel are confirmed through MoU with FIG. 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. Daylength and weather conditions have been allowed for. 3.2 & 3.3. None as funding and

Project summary	Measurable Indicators	Means of verification	Important Assumptions
			personnel are confirmed through MoU with FIG
4. Passive acoustic monitoring focal study at one of the focal study sites. Data on temporal drivers of distribution and seasonal sensitivity.	 4.1 C-Pod PAM units (x7) deployed at 1 site for 18 months. 4.2 Analysis of temporal occurrence by habitat type and temporal drivers (season, month, diel and tidal) presented by recorded attendance. 	 4.1 Survey log submitted to PMS and deployment periods detailed in final report submitted to FIG EPD. 4.2 Receipt from FIG EPD. Receipt and meta data from SAERI IMS & GIS centre. 	 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. 4.2 None as funding and personnel are confirmed through MoU with FIG.
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.	 5.1 Centralise photo-ID database established on the islands with SAERI IMS & GIS centre. 5.2 Photo-ID conducted at 3 distinct sites over 2 summer seasons and 1 winter period. 5.3 Spatial ranging analysis of ranging patterns of same animal sightings. 5.4 Mark-recapture population estimate for dolphin populations at focal study sites. 	 5.1 MoU internally within SAERI for provision of database. 5.2 Photos entered on populated database at SAERI with statistics on entry numbers. 5.3 Receipt from FIG EPD. Receipt and meta data from SAERI IMS & GIS centre. 5.4 Receipt from FIG EPD. Receipt and meta data from SAERI IMS & GIS centre. 	 5.1 Internal agreement between project staff and SAERI. 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. 5.3 & 5.4 None as funding and personnel are confirmed through MoU with FIG.
 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 50 samples. 6.2 Training in biopsy sampling given to x2 project staff and x2 volunteers. 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 	 6.1 Field report detailing any reactive reactions submitted to FIG EPD. 6.2 Training feedback forms collated. 6.3 Receipt from FIG EPD. 6.4 Receipt of storage. 6.5 Final data archived with international digital repository ie GenBank with receipt and access. Receipt and meta data from SAERI IMS & GIS centre. 	 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. 6.2 Dates scheduled in advance to confirm volunteer availability. Project staff will be given experience and can subsequently assist with training. 6.3 Sufficient sample sizes obtained

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	sampled sites.		(see above)
	 6.4 Physical samples held and available for potential future studies and analysis (including natural isotopes, contaminants, etc.). 6.5 Genetic sequencing held in digital 		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.
	archives and nationally and internationally within Open access databases (e.g. GenBank) .		6.5 International storage is standardised and available being encouraged by peer review journal whilst national storage is confirmed through MoU with FIG.
Activities (each activity is numbered	I according to the output that it will contribute towa	ards, for example 1.1, 1.2 and 1.3 are	contributing to Output 1)
1.0 Capacity Building & Awarenes	s for Cetacean Research		
1.2 Project Manager (PM) & Project applicant vetting).1.3 PM and PO recruited through interand relocation allowance / flights).	ners, MoU signed detailing roles and responsibiliti Officer (PO) job descriptions finalised by Steering erview, appointed, if not local relocate to Falkland ces for cetacean survey assessed and resources	Group and advertised internationally (recruitment advertising, telephone interviews
	and freighted for project. Allowance has been mad		
1.5 Current equipment located in cer partner/owner for availability .	tral pooled store and inventoried equipment list he	eld. Where central pooling is unfeasible	e (zodiac & RIB) agreement signed with
biological training such as at FIG fish	and maintained in partnership with Falklands Cons leries department. During the summer period in Fa eer group. Strong liaison with FC established in re	alklands availability may at times be di	ficult and allowance is made for use of x2
1.7 Volunteer training resources esta printed format and on-line.	blished including cetacean ID guide, step-wise su	rvey protocols, safe boating practises,	HSE guidelines – provided and available in
1.8 Training given to x10 local volunt estimation.	eers incorporating class-room taught introduction	and field-example at local location. Ex	perience and instruction given in distance
1.9 Volunteer intern recruitment esta	blished with academic partners with capacity for x	2 intern positions per annum / field sea	ason.
1.10 Volunteer intern recruitment and			
	on-going maintenance to include monthly update ote sites update may be limited but blog progress		

Project summary	Measurable Indicators	Means of verification	Important Assumptions
1 13 Cetacean ID quide summary project	data and vessel procedures shared with EC	to incorporate outreach to pascent cetaces	an watching enterprises and viewing

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 (Apr – Jul 2017).

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.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
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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.

27. 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? (200 words max)

The project focuses on filling key data gaps, establishing baselines against which future change can be monitored and building local expertise. Project data will enable provision of evidence-based advice to FIG strategic planning, including extension of current SAPs beyond 2018 to incorporate data-derived conservation assessment.

Trained volunteers experienced in survey technique are essential to meet potential future SAPrecommended activities or future research. The project prioritises the recruitment and training of local volunteers who will form a core resource.

In addition to project deliverables data will feed into a range of ancillary analyses. The wide project partnership and role of SAERI as the Falklands GIS and data archive will ensure data are available for and included within current and future spatial planning and marine management assessments. The partnership with SMRU and OSU will develop student projects to allow complimentary analyses of the data sets for distinct aspects. This has been committed to in project planning however the project will develop a prioritised research strategy to encourage uptake of opportunities.

The project partnership has already facilitated networking, technical support and capacity building that will only be strengthened, especially in a regional management context with collaborations in the SW Atlantic on population identification.

28. 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. (200 words max)

SAERI is contracted by FIG to host and manage the GIS data hub for the Falklands and to archive environmental meta-data derived from researchers operating under FIG granted research permits. Data security and data access protocols (defining ownership, access limitations and data resolution) are already in place. The single centralised location and standardised request procedure maximise the profile and accessibility of extant data. SAERI is ideally placed to ensure and promote the promulgation and utilisation of project derived data.

Where appropriate, for example genetic sequencing, digital archiving will be conducted with providers such as GenBank or Dryad.

The project will have a specific website hosted by SAERI to provide project updates, outputs, and volunteer resources. All project partners also have their own web-sites which will be linked and updated with non-technical progress articles and also specific scientific results derived from the project.

Output of peer-reviewed journal articles within the timeframe of the project is problematic due to review timelines generally running beyond programme employment periods. Submission will be encouraged and correct formats of project reports ensured to minimise additional work for submission. This will be extended to any ancillary analysis and reports derived from project data by project partner studentships.

29. Monitoring & Evaluation: How will the project be monitored and who will be responsible? Will there be any independent assessment of progress and impact? When will this take place, and by whom? (250 words max)

The project will be implemented as a partnership between SAERI, FC, OSU, SMRU and SMSG with an overall steering committee of partner members. This partnership balances organisations that have a science focus in ensuring that the scientific integrity of work is audited and also a conservation focus to ensure that the conservation needs and aims are met. An online project management and file-sharing system will be established to ensure all partners have access to relevant documents and targets, irrespective of geographic location.

A Memorandum of Understanding between the organisations and partners will articulate the obligations and roles of all parties in delivering this project.

The project will be managed by the steering committee that will assess progress on a guarterly basis

against targets established during project inception.

The Project Manager will present a quarterly budget for approval to the steering committee and submit quarterly financial reports against those budgets. Accounting will be managed as an auditable restricted fund. Allowance has been made for final Darwin audit if required.

Summary reports will be provided to FIG Environmental Committee through FIG EPO and to the Darwin Initiative to maintain engagement as stakeholders and meet financial reporting requirements.

The project completion report is after the project is over and is linked to the final payment.

30. 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?)

SAERI is supported by the financial management facilities of the Falkland Islands Government. Grant payments will be administered through FIG with project expenditure tracked by SAERI's office and accounts manager as a restricted fund. FIG accounts are independently audited on an annual basis. The accountancy system and management controls have been proven through previous grant and funding awards of similar magnitude.

Allowance is made for independent Darwin audit.

The Project Manager will present a quarterly budget for approval to the programme steering committee and submit quarterly financial reports tracking performance against those budgets.

Please complete the separate Excel spreadsheet which provides the Budget for this application. Some of the questions earlier and below refer to the information in this spreadsheet. If you are requesting over £100,000 from Darwin Plus, you must complete the full spreadsheet.

31. 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. (200 words max)

Budget was calculated on the basis of actual costs incurred by SAERI and FC in managing similar projects with significant fieldwork components. Cetacean research based on visual survey is resource intensive utilising vessels and 4-6 people for extended fieldwork periods. Despite these costs the project is considered very good value for money.

The project has been designed around the availability and limitations of existing vessel capacity for focal study. Investment in these capital items would have precluded survey at both island-wide and focal scales. As each answer distinct questions and are critical to overall understanding this prioritisation of fieldwork and data components is considered value for money comparative to the data output. Partners and industry will provide equipment at cost or in-kind and significant staff time.

The project will have one full 2-year Project Manager supported by a second field officer once fieldwork starts, matching personnel requirements to work programmes. The programme will benefit significantly from volunteers but allowance is made for two full-time internship volunteers to form the core basis of the volunteer team. Recruitment and training of volunteers and OT staff capacity building provides benefit beyond the duration of the project adding to overall cost-benefit of the project.

32. Provide a project implementation timetable that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project

	Activity	No of							Year	1											Year	2				
		Months	Α	М	J	J	Α	S	0	Ν	D	J	F	Μ	Α	Μ	J	J	Α	S	0	Ν	D	J	F	Μ
Output 1	Capacity Building, Awareness, Training Volunteer Capacity																									
1.1	Steering group formed and MoU signed	1																								
1.2	Project staff recruitment	1																								
1.3	Project staff in place in Falkland Islands	1																								
1.4	Catalogue of current FI survey resources	2																								
1.5	Survey equipment and volunteer safety equipment in pooled communal equipment store with inventory (inc. source, purchase, freight of capital items)	4																								
1.6	Volunteer database established (and subsequently maintained through project)	2 / 20																								
1.7	Volunteer training resources & course format, inc. FI Cetacean ID guide & survey protocols	1																								
1.8	Volunteer training in ID, methodology, distance estimation & safe boat operations (training also given on survey) 2-day course in designated windows.	4																								
1.9	Volunteer Intern procedures established	2																								
1.10	Volunteer Interns Recruitment (x2)	4																								
1.11	Project web-page established (& maintained)	2 / 22																								
1.12	Regular update of local media	22																								
1.13	Identification guide distributed. Cetacean-safe vessel practises established in partnership with FC and cetacean-watch tourism operators	4																								
Output 2	Island-wide transect survey Island-wide population estimate and distribution																									
2.1	Collection, review & archiving of current data	2																								
2.2	Vessel dates and availability confirmed	1																								
2.3	Verification & design of island-wide survey	4																								
2.4	Survey execution plan (boat confirmed in advance 2.2)	2																						7	Ţ	

	Activity	No of							Year	1											Year	2				
		Months	Α	Μ	J	J	Α	S	0	Ν	D	J	F	М	Α	М	J	J	Α	S	0	Ν	D	J	F	Μ
2.5	Island-wide boat-based transect survey (60 days)	2																								
2.6	Analysis of results and publication of findings	3																								
2.7	Final report circulated	1																								
2.8	Data archived with SAERI IMS & GIS centre	1																								
Output 3	Focal Studies – Repeat transect sampling Habitat association and spatial patterns of occurrence																									
3.1	Selection of focal area study sites for Year 1 (1) and Year 2 (2)	4			1	1														2	2					
3.2	Survey design of repeatable transect surveys	4																								
3.3	Fieldwork execution plan (Years 1 & 2)	2							1												2					
3.4	Field based study at focal sites (Year 1 sites) summer / winter / summer	7								1	1						1	1				1	1	1		
3.5	Field based study at focal sites (Year 2 sites) summer only	3																				2	2	2		
3.6	Analysis of data detailing patterns of occurrence, habitat association and key habitats	8																								
3.7	Final report circulated	1																								
3.8	Data archived with SAERI IMS & GIS centre	1																								
Output 4	Focal studies – Passive Acoustic Monitoring Temporal patterns of occurrence																									
4.1	Selection of one focal study site for PAM	2																								
4.2	Servicing of C-pods on 4-month deployment schedule	6																								
4.3	Analysis of temporal occurrence by habitat type and temporal drivers	10																								
4.4	Define periods of increased utilisation and coastal sensitivity	2																								
4.5	Final report circulated	1																								
4.6	Data archived with SAERI IMS & GIS centre	1																								
Output 5	Photo-ID study of residency, dispersal ranging patterns, population structure, recruitment, etc.																									

	Activity	No of							Year	1						Year 2							\neg			
		Months	Α	М	J	J	Α	S	0	Ν	D	J	F	М	Α	м	J	J	Α	S	0	Ν	D	J	F	М
5.1	Establish photo-ID database	2																								
5.2a	Photo-ID whilst on location in focal areas	7																								
5.2b	Image processing and archiving	14																								
5.3	Spatial analysis of ranging patterns	2																								
5.4	Mark / recapture population estimate of study sites	2																								
5.5	Final report circulated	1																								
5.6	Data archived with SAERI IMS & GIS centre	1																								
Output 6	Genetic biopsy sampling for population identification																									
6.1	Training visit of experienced biopsy field scientist + field collection	2																								
6.2	Collection of biopsy samples (if sample size not obtained further samples in Year 2)	5																								
6.3	Field survey report on any reactive behaviours	2																								
6.4	Laboratory Analysis	4																								
6.5	Report & Interpretation of results on genetic differentiation of populations	4																								
6.6	Final report circulated to stakeholders & FIG EPD	1																								
6.7	Data archived with SAERI IMS & GIS centre	1																								
6.8	Physical samples archived for future analysis	1																								
6.9	Genetic sequencing digitally archived with GenBank	1																								
Outcome	Conservation Assessment																									
0.1	Conservation Status based upon biological data generated in Outputs 2-6	2																								
0.2	Focussed stakeholder liaison locally, teleconference with partners (mid-term and pre-completion)	6																								
0.3	SAP – Evidence based renewal beyond 2018 (provisional Yr 1, finalised at completion on full data)	6																								
0.4	Prioritised research plan for continuation (provisional Yr 1, finalised at completion on full data)	6																								
0.5	Final sign-off of SAP and submission to FIG								1	1	1				1											

CERTIFICATION

(*delete as appropriate)

On behalf of the trustees/company* of South Atlantic Environmental Research Institute

I apply for a grant of £269,914 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 lead institution to submit applications and sign contracts on their behalf.)

- I enclose CVs for key project personnel and letters of support. •
- I enclose the most recent 2 years of signed and audited/independently • verified accounts.

Name (block capitals)	Dr Paul Brickle
Position in the organisation	Director

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2	Date:	21-09-2015
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If this section is incomplete the entire application will be rejected. You must provide a real (not typed) signature. You may include a pdf of the signature page for security reasons if you wish. Please write PDF in the signature section above if you do so.

Application Checklist for submission

	Check
Have you read the Guidance Notes?	~
Have you checked the Darwin Plus website immediately prior to submission to ensure there are no late updates?	~
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 on the top page of the application?	~
Has your application been signed by a suitably authorised individual ? (clear electronic or scanned signatures are acceptable in the email)	~
Have you included a 1 page CV for all the key project personnel ?	~
Have you included a letter of support from the applicant organisation , <u>main</u> partner(s) organisations and the relevant OT Government?	~
Have you included a copy of the last 2 years' annual report and accounts for the lead organisation?	✓

Once you have answered the questions above, please submit the application, not later than midnight **2359 GMT Monday 21 September 2015** to <u>Darwin-Applications@ltsi.co.uk</u> using the first few words of the project title **as the subject of your email**. If you are e-mailing supporting documentation separately please include in the subject line an indication of the number of e-mails you are sending (e.g. whether the e-mail is 1 of 2, 2 of 3 etc). You are not required to send a hard copy.

DATA PROTECTION ACT 1998: Applicants for grant funding must agree to any disclosure or exchange of information supplied on the application form (including the content of a declaration or undertaking) which the Department considers necessary for the administration, evaluation, monitoring and publicising of Darwin Plus. Application form data will also be held by contractors dealing with Darwin Plus monitoring and evaluation. It is the responsibility of applicants to ensure that personal data can be supplied to the Department for the uses described in this paragraph. A completed application form will be taken as an agreement by the applicant and the grant/award recipient also to the following:- putting certain details (i.e. name, contact details and location of project work) on the Darwin Initiative and Defra/FCO/DFID websites (details relating to financial awards will not be put on the websites if requested in writing by the grant/award recipient); using personal data for the Darwin Initiative postal circulation list; and sending data to Governor's Offices outside the UK, including posts outside the European Economic Area. Confidential information relating to the project or its results and any personal data may be released on request, including under the Environmental Information Regulations, the code of Practice on Access to Government Information and the Freedom of Information Act 2000.