Applicant: **Phillips, Richard**
Organisation: **British Antarctic Survey**
Funding Sought: **£269,420.00**

DPR7P\100010

Seabird sentinels: mapping potential bycatch risk using bird-borne radar

PRIMARY APPLICANT DETAILS

Title	Prof
Name	Richard
Surname	Phillips
Organisation	British Antarctic Survey
Tel (Work)	
Email (Work)	
Address	

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS

Title	Prof
Name	Richard
Surname	Phillips
Organisation	British Antarctic Survey
Tel (Work)	
Email (Work)	
Address	

GMS ORGANISATION

Type	Organisation
Name	British Antarctic Survey
Phone (Work)	
Email (Work)	
Address	

Q3. Lead organisation type

Please select one of the below options.

⊙ UK Government

Section 2 - Title, Dates & Budget Summary

Q4. Project title

Seabird sentinels: mapping potential bycatch risk using bird-borne radar

Q5. Project dates

Start date:	End date:	Duration (e.g. 2 years, 3 months):
01 July 2019	31 March 2021	2 years, 6 months (nb. cannot enter correct end-date of 31/12/2021 in online form)

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)
- ☑ South Georgia and The South Sandwich Islands (SGSSI)

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

No Response

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

Argentina, Brazil, Uruguay, Chile

Q7. Budget summary

Year:	2019/20	2020/21	2021/22	Total request
Q7a. Request from Darwin:	£122,471.00	£72,910.00	£74,039.00	**£** 269,420.00

Q7b. Proposed (confirmed and unconfirmed) co-financing as % of total project cost	17

Section 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?	1965
What is the legal status of your organisation?	⊙ Government
How is your organisation currently funded?	British Antarctic Survey (BAS) is a component of the Natural Environment Research Council (NERC), which is part of UK Research and Innovation (UKRI). Much of the funding for BAS is from NERC (i.e. UKRI), and provided by the Department for Business, Energy and Industrial Strategy (BEIS). BAS also receives external grant income for specific projects.
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.

nerc-ukri_latest_accounts
20/08/2018
15:03:30
pdf 2.32 MB

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
DPLUS 009	Philip Trathan	Antarctic and Sub-Antarctic Marine Protected Areas: using penguin tracking data to identify candidate areas

DPLUS 054	Philip Trathan	Managing Antarctic Krill Fisheries; identifying candidate marine areas for protection
DPLUS 057	Jennifer Jackson	Where are they now? Right whales in South Georgia waters
DPLUS 069	Susie Grant	Building data resources for managing the SGSSI Marine Protected Area
No Response	*No Response*	*No Response*
No Response	*No Response*	*No Response*

Section 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.

N.B. There is a file upload button at the bottom of this page for the upload of all letters of support.

Lead Organisation name:	British Antarctic Survey

Details (including roles and responsibilities and capacity to engage with the project):	BAS has a well-established management, operations and finance infrastructure. The organisation has extensive logistics capability to support Antarctic fieldwork, and an efficient budget management system to ensure spending will be tracked appropriately, ensuring financial accountability. The BAS lead (Phillips) will have overall responsibility for overseeing project development, implementation and management. He has the capacity and appropriate experience for fully engaging with the project. He is the leader of the Higher Predators group (15 staff) in the Ecosystems programme at BAS, has a long track-record studying the ecology and conservation of seabirds (>250 peer-reviewed publications) and has led several previous projects (core BAS or externally-funded) of similar size to this project. In addition, he is involved closely with the international Agreement on the Conservation of Albatrosses and Petrels (ACAP), representing the interests of UK government bodies with devolved responsibilities for conservation of marine fauna in UK OTs and surrounding waters. Through these roles and his extensive research collaborations, he has close links with the relevant conservation NGOs in the Falklands and South America, and good contacts with staff in South American fisheries regulatory bodies (see supporting letters).
Have you included a Letter of Support from this organisation?	⊙ No
Please explain why.	Application has been signed by BAS Head of Finance. The organisation is therefore supportive, and committed to delivery

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:	BirdLife International
Website address:	http://www.birdlife.org/

Details (including roles and responsibilities and capacity to engage with the project):	BirdLife International has a long history of working to reduce albatross bycatch in fisheries worldwide through its Albatross Task Force (working with vessel crews and in ports with the fishing industry; testing and demonstrating the use of mitigation measures; collecting data on seabird bycatch rates; operating in 8 countries since 2005). As well as direct engagement with crews, BirdLife works with fishery managers at national, regional and international levels by influencing the development of agreements and measures to reduce seabird bycatch. These include the Regional Fisheries Management Organisations, FAO and Agreement on the Conservation of Albatrosses and Petrels (ACAP). BirdLife also hosts the Seabird Tracking Database (STD) which has been crucial for efficient spatial targeting of conservation efforts. Carneiro will lead on the data analysis. She has extensive experience of the analysis of tracking data, habitat modelling and quantifying of seabird-fishery overlap, as well as of communicating results to different audiences. Pearmain has expertise in processing and analysing spatial data, and currently maintains the STD; she will assist on preliminary processing of tracking data, collation of AIS/VMS and fishing effort data, extraction of remotely-sensed environmental data, and in the development of R scripts to analyse data.
Have you included a Letter of Support from this organisation?	⊙ Yes

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

⊙ No

Please provide letters of support from the lead organisation and all partners as a combined PDF.

- **Letters_of_support_Phillips**
- 20/08/2018
- 15:31:22
- pdf 2.95 MB

Section 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?
Richard Phillips	**Project Leader**	10	Checked
Ana Carneiro	Co-project leader and lead analyst	80	Checked
Lizzie Pearmain	Analytical support	20	Checked
No Response	*No Response*	*No Response*	Unchecked

Do you require more fields?

⊙ No

Please provide 1 page CVs (or job description if yet to be recruited) for the Project staff listed above as a combined PDF. Ensure CVs clearly correspond to 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.

CVs
20/08/2018
15:33:26
pdf 312.73 KB

Have you attached all Project staff CVs?

⊙ Yes

Section 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.

The project will link habitat preference, activity patterns and detections from novel bird-borne radars to quantify interactions of tracked wandering albatrosses with legal and illegal fishing vessels in the South Atlantic. Areas and periods of highest susceptibility to bycatch will be mapped for birds of different age and sex. We will engage with stakeholders to use project results for this iconic species to better target bycatch observer programmes, monitor compliance with bycatch mitigation and highlight impacts of bycatch on seabirds.

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?

Seabirds are amongst the most threatened birds in the world, often as a direct consequence of incidental mortality (bycatch) in fisheries. Assessing their susceptibility is therefore essential for effective management and conservation. Wandering albatrosses at South Georgia have declined catastrophically since the 1960s, leading to the GSGSSI-led Action Plan, and their listing as one of just nine global priority populations by the Agreement on the Conservation of Albatrosses and Petrels (ACAP), among the 100s world-wide for the 31 ACAP species. Limited vessel-based monitoring indicate that two areas of particularly high risk for wandering albatrosses are the Patagonian Shelf and subtropical convergence. Impacts of illegal fishing there and elsewhere are unknown. The project will link habitat preference, at-sea activity patterns and data from novel radar-detecting tags to quantify interactions of tracked birds with individual legal and illegal vessels (based on AIS data). This will greatly improve on previous coarse-scale analyses of overlap with fishing effort to clearly identify areas and periods of highest susceptibility to bycatch for different life-history classes (age, sex, breeding status). This directly addresses several priorities for Darwin Plus Round 7, including delivering a Blue Belt of marine protection and implementation of the government (GSGSSI) Albatross Action Plans

Q14. Methodology

Describe the methods and approach you will use to achieve your intended Outcome 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.

The overall objective is to collect data on fine-scale interactions of wandering albatrosses with legal and Illegal, Unreported and Unregulated (IUU) fishing vessels, and to combine this with models of habitat preference and data on distribution of fishing effort to map bycatch risk, as follows.

(1) Quantify response distance and time spent following legal and IUU fishing vessels by juveniles, pre-breeders (>6 years-old, never bred), breeding adults (in incubation and chick-rearing), and non-breeding adults (bred previously but on sabbatical; these represent >50% of adults in this biennial-breeding species). The focus for pre-breeders, breeding and non-breeding adults is on tracking 25-30 individuals (allowing for likely high variability in distribution, including between sexes) attending the largest colony at South Georgia (Bird Island; 60% of the regional population) and foraging at sea in the southwest Atlantic. Tracking of 10 juveniles (which require remote-download devices) will be for c.9 months post-fledging, when they disperse widely in the south Atlantic to southwest Indian Ocean. We will deploy recently-developed devices that record radar, 3-D acceleration and GPS location. Breeding adults, pre-breeders and non-breeders will also be fitted with an immersion logger, providing timings of all flights and landing. With reference to satellite Automatic Identification System (AIS), Vessel Monitoring System (VMS) and radar data, we will determine the distance at which birds respond to vessels (i.e. change direction, flight height etc. based on the acceleration data), and proportion of time spent behind each vessel (therefore at risk). VMS data (GPS position every 2 hours) will be available for vessels operating in Falkland Islands, Uruguayan and Brazilian waters. AIS is obligatory for most commercial vessels, including all but small artisanal or recreational fishing vessels, and used for collision avoidance, search and rescue etc. Satellite AIS systems provide vessel details, location, speed and heading. Radar signals detected by bird-borne loggers that do not correspond with a nearby VMS or AIS signature will often originate from an IUU vessel.
(2) Assess whether a signature is detectable in GPS, acceleration and immersion data that indicates scavenging behind vessels vs feeding on natural prey. Time spent following vessels may then be determined from other GPS and immersion datasets (from this and previous seasons).
(3) Model habitat preferences of birds of different age and breeding status to predict habitat use and identify critical areas. All GPS locations, or locations where birds land, will be included in models incorporating oceanographic parameters (sea-surface temperature, chlorophyll-a, bathymetry, currents) as predictors.

(4) Overlap predicted habitat use with fine-scale data on fishing effort (reported effort by 1 deg. square, VMS or AIS data) and proportion of time spent behind vessels (susceptibility) to map bycatch risk. This will indicate where, when and from which fleets is bycatch risk is greatest for wandering albatrosses of different age, sex and status.
(5) Engage with stakeholders (fisheries management bodies and NGOs) to better target best-practice bycatch mitigation, monitor compliance and bycatch. This will be achieved by outreach, correspondence and a dedicated workshop.

For roles and responsibilities, see Q10.

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.

No Response

Section 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)**

This overall goal of the project is to better understand interactions of wandering albatrosses with legal and IUU vessels, thereby improving knowledge of bycatch susceptibility, and to use that information to provide advice to managers in UK OT and South American governments, ICCAT and NGOs. The wandering albatross is an iconic species that can be used as a sentinel and as a flagship for highlighting problems facing seabirds in general. Fisheries are the mainstay of the economies of the OTs. They have exemplary records in the last 1-2 decades of managing their own fisheries, providing the foundation for the Blue Belt programme. That initiative is intended to provide long-term protection for the marine environment but will not safeguard seabird populations from the OTs when they forage in the EEZs of Brazil, Uruguay, Argentina and Chile, and in the High Seas (under ICCAT jurisdiction).
All the South Atlantic OTs consider conservation of threatened albatrosses and other seabirds to be top priorities in their environmental strategies, including National Plans of Action for fisheries. This includes: Falklands - Conservation of Wildlife and Nature Ordinance 1999; Fisheries (Conservation and Management) Ordinance 2005; Falkland Islands FAO National Plan of Action for Reducing Incidental Catch of Seabirds In Longline Fisheries 2004.
SGSSI - Wildlife and Protected Areas Ordinance 2011; FAO International Plan of Action - Seabirds: An assessment for fisheries operating in South Georgia and South Sandwich Islands 2008. Wandering, Black-browed and Grey-headed Albatross Action Plans 2018.
Our project would address Blue Belt ambitions as well as the goals in these documents, including multiple priorities in the GSGSSI Action Plan for wandering albatross. Indeed, the UK has a specific commitment under ACAP to report on progress with this Action Plan. Our project will also help the OTs meet the Convention on Biological Diversity's Aichi Targets.
Our project is innovative and has the potential to be a "game-changer" given the capacity for identifying IUU vessels from bird-borne radar, and the potential future extension of the approach to other species. It is at

the cutting-edge in terms of technical excellence, as the radar-detecting loggers have been deployed previously only in the Indian Ocean. Combined with accelerometers and immersion loggers, we aim to detect the signature of scavenging behind vessels. We will then use the latest statistical approaches to model habitat preferences of birds of different age, sex and breeding status and thereby identify the areas, periods and fleets from which bycatch risk is greatest. The outputs will be used at a collaborative, multi-national scale, engaging governments and NGOs to ensure efforts are much better directed at managing threats to seabirds from fisheries. Our project will also identify seabird hotspots in the southwest Atlantic which could form the basis for a network of protected areas in national and international waters. Finally, our project will provide the framework for developing partnerships between the UK OTs, South American NGOs and fisheries bodies.

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.

This project will quantify and map interactions of wandering albatrosses with fishing vessels, to better understand bycatch risk and improve management and monitoring. Stakeholders among the UK OTs are GSGSSI and Falklands government. Both are range territories for wandering albatrosses, and our results will inform their conservation advocacy and efforts, and may help refine management of the fisheries in Blue Belt waters. The UK government is a stakeholder, as signatory to ACAP given the obligation to report progress to meetings of the ACAP Advisory Committee on priorities identified in the Action Plan for the wandering albatross at South Georgia (one of nine ACAP global Priority Populations), and to CCAMLR, which focuses on ecosystem-based management of fisheries. There are multiple stakeholders among the NGOs, including BirdLife International, BirdLife Albatross Task Force and partners, Falklands Conservation, Projeto Albatroz (Brazil), and CICMAR (Uruguay), all involved in promoting seabird conservation. Other stakeholders include fisheries managers, in both national (Argentina, Uruguay, Brazil, Chile - SUBPESCA) and international bodies (ICCAT and CCAMLR). For all groups, an improved understanding of susceptibility to bycatch, including by IUU vessels, will help focus allocation of the limited resources available to improve bycatch mitigation and compliance-monitoring. Many stakeholders have provided letters of support, and regular dialogue will be maintained to ensure their continued engagement in the project, and that the recommendations are tailored to their requirements. Stakeholders will be invited to the meeting in South America in the last year of the project; many have already confirmed their interest in attending.

Q17. Institutional Capacity

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

British Antarctic Survey (BAS) is one of the six research centres of the Natural Environment Research Council (NERC), recently incorporated into UK Research and Innovation (UKRI). NERC is the leading funder of independent research, training and innovation in environmental science in the UK. For 60 years, BAS has been the leading UK institute for research into polar environments, addressing issues of global importance and helping society adapt to a changing world. With a staff of over 400 and a budget of over £40 million per annum, it is one of the foremost international practitioners in this field. BAS operates five stations, five aircraft, and two ships (for logistical support and scientific research).

The mission of BAS is to be a research-driven organisation recognised for: commitment to excellence in science; operational professionalism and innovation; as a partner of choice for science, operations and business wherever polar expertise can be applied; safely delivering complex operations in extreme

environments; commitment to environmental stewardship of the polar regions; developing our staff to reach their full potential; sustaining an active and influential presence in Antarctica on behalf of the UK, and playing a leadership role in Antarctic affairs; engagement with policy-makers, government and the public. Science at BAS is organised currently into six research programmes within the strategic framework, Polar Science for Planet Earth. This includes the Ecosystems programme, which has the goal of understanding the combined impacts of global climate-driven change and commercial fishing on polar marine ecosystems. The leader of the project proposed here (Phillips) is head of one of two groups within that programme. He has a long history of close involvement with ACAP and has convened the ACAP Populations and Conservation Status working group since the mid-2000s. He has an extensive network of contacts within the seabird research, marine conservation and fisheries communities (see supporting letters).

BirdLife International (BLI) consists of 121 conservation organisations, with more than 10 million members and supporters. BLI Partners work together in a collaborative, coordinated fashion across national boundaries to conserve birds, their habitats and global biodiversity. The BLI Marine Programme was established in 1997 and has since been driving global seabird conservation efforts, making major inputs to sustainable fisheries management through the reduction of bycatch, and seabird data compilation and analysis to support Marine Protected Area (MPA) designation and other forms of marine management. BirdLife has unparalleled experience of integrating information on birds, often derived from many disparate sources, and of setting up large scale, multi-sourced databases. More specifically the co-project leader (Carneiro) has a wide experience of delivering conservation outputs from these tools, including white-paper reports to Regional Fisheries Management Organisations, hotspot analyses to feed into national and international marine spatial planning and MPA exercises, and scientific publications. The extensive network of contacts of the project and co-project leaders as well as their involvement in international treaties and other fora that develop strategies for reducing anthropogenic threats to seabirds should maximise the impact and conservation-related applications of the results

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?

Sustainability will be ensured by the project leaders and other stakeholders through their ongoing involvement with fisheries management and conservation bodies. The project website will remain online, with information on the results and specific conservation management recommendations. Papers submitted to working groups will remain a resource for consideration at subsequent meetings, including those envisaged for the Ecosystems sub-committee of ICCAT, and ACAP (see Q26-27). The scientific papers will be open access and serve the same purpose. Any resulting changes to priorities/actions identified in the GSGSSI Wandering Albatross Conservation Action Plan will be revisited as part of its regular review, and also considered at ACAP meetings, which is a requirement for all nine ACAP Priority Populations. The recommendations from the stakeholder meeting will remain open for review and monitoring of progress by GSGSSI, ACAP and other stakeholders. These activities will be supported by other funding streams/mechanisms including Birdlife Albatross Task Force which supports observers and provides mitigation advice; BirdLife Global Seabird Programme, which attends all ICCAT Ecosystems sub-committee meetings; JNCC and BAS core funding which supports the attendance of the project leader (Phillips) at ACAP.

Section 8 - Funding and Budget

Q19. Budget

Please complete the appropriate Excel spreadsheet, 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

- **R7 D+ Budget form for projects under £100,000**
- **R7 D+ Budget form for projects over £100,000**

Please refer to the Finance Guidance for Darwin and IWT 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.

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21/08/2018
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xlsx 61.99 KB

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)

BAS will co-finance this project by: waiving the majority of the usual overheads for the project leader; contributing time (10% FTE) of a field assistant at Bird Island to assist with the tracking work; waiving the costs (salary and overheads; 3% FTE in each year) of a website developer (to ensure maximum web-presence and social media reach) and a satellite-AIS specialist to process the vessel AIS data; providing fieldwork accommodation and food (standard rate of £350/day at Bird Island for 80 days); laptop and software licenses for the project leader. BirdLife will co-finance by providing staff time and T&S for their representatives at working groups to present our working papers at fisheries meetings.

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
No Response	*No Response*	*No Response*	*No Response*	*No Response*

No Response	*No Response*	*No Response*	*No Response*	*No Response*
No Response	*No Response*	*No Response*	*No Response*	*No Response*
No Response	*No Response*	*No Response*	*No Response*	*No Response*

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.

n/a

Do you require more fields?

⊙ No

Section 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?

Management of funds allocated to BAS will be overseen by the Project Leader, who has previously managed projects of comparable and larger size. BAS is a component part of NERC, which is a government body and part of UK Research and Innovation (UKRI). Supervision and regular review of the budget allocation will be BAS Finance Department, which will set up a separate cost centre. Orders for equipment, and all T&S claims will be controlled by the Shared Business Centre (SBS), which conforms to UK government procurement and expenses rules. There will be an overall audit at the end of the project.

Funds allocated to BirdLife International will be managed by the co-project leader and supervised by BirdLife Finance Department. Carneiro has experience managing the budget of an EU H2020 Research and Innovation programme of comparable size. BirdLife manages budgets of multiple grants of this size or greater every year.

Q22. Financial Management Risk

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.

The budget is for salaries and associated overheads, equipment and other costs associated with fieldwork, satellite-AIS subscription, travel and subsistence.

All equipment purchases will be within the strict UK government procurement rules, controlled through the UKRI SBS ordering system, which requires initial quotations and payment of invoices upon receipt of goods, minimising the risk of fraud.
Travel and subsistence costs are for project staff to do fieldwork, attend meetings, and to gather relevant stakeholders at a workshop in South America to discuss how the results of the project can be fed into

better targeting of bycatch mitigation, and monitoring of compliance and bycatch rates. Travel and subsistence claims will be submitted through the UKRI SBS or BirdLife expenses claims systems; both require that all employee and non-employee claims are submitted with receipts, minimising the risk of fraud.

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.

Staff costs based on standard organisational pay-scales (some overheads waived by BAS). Journal charges are for 2 open-access papers. Fieldwork T&S, clothing, medical, Sea Survival certificate and associated UK travel are standard; see https://www.bas.ac.uk/science/opportunities-for-polar-fieldwork/preparing-a-funding-proposal-to-nerc/antarctic-logistics-funding-proposal-costs/ Tracking devices are the cheapest/only available with the required functionality (including remote-download xARGOS-trackers for juveniles/nonbreeders). Target is c.100 individuals (multiple life-history stages; see Q14), hence the number required. Other T&S and registration fees are for Carneiro at a UK and international conference. Satellite-AIS fees (to allow data export) are set by the commercial provider and already discounted. T&S for the workshop based on economy flights, mid-range hotels and standard rates; the location will be South America to increase attendance and minimise travel time and costs.

This project benefits greatly from existing tracking data collected in multiple previous field campaigns (cost £50-100K), but requires new fieldwork (with radar loggers) and analyses. Other BirdLife staff attending fisheries-bycatch meetings will present our working papers, providing considerable savings in T&S. The stakeholder workshop represents a timely opportunity to generate improvements in bycatch monitoring and management. The main assumption is of sufficient time for analyses, but the expertise of our staff is high and should ensure completion within the time-frame.

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.

New tracking data will be made available online through the BirdLife International Seabird Tracking Database http://www.birdlife.org/news/tag/seabird-tracking-database.

Papers submitted to working groups will be open access if permissible. Papers published in scientific journals will be open access (two papers anticipated; charges for colour figures and OA per paper of £1500). The project will embrace the principles of open science, and we will provide access to our analytical framework, software routines and results as requested (often a condition of publication in the peer-reviewed scientific literature). Results and consequent management changes will be communicated in a dedicated project website, BAS and BirdLife social media feeds and at conferences to encourage interest. We anticipate widespread public interest in the project given the iconic nature of the study species, a particular focus in recent years on marine conservation, and the novelty of using bird-borne radar to detect legal and illegal vessels. We will capitalise on the particular expertise of the BAS and BirdLife media offices, which have excellent links with UK, European and South American journalists to ensure our results have a high public profile. Articles will also be posted on other websites, including Latest News at www.acap.aq.

Q25. Safeguarding

See Guidance Note 3.7

Projects funded through Darwin Plus must fully protect vulnerable people all of the time, wherever they work. In order to provide assurance of this, we would like projects to ensure they have the appropriate safeguarding policies in place. Please check the box to confirm you have relevant policies in place at that these can be available on request.

Checked

Section 10 - Logical Framework

Q26. 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:

Population declines of wandering albatrosses from South Georgia will slow or reverse, and species conservation status will improve due to more effective management.

Project Summary	Measurable Indicators	Means of Verification	Important Assumptions

Outcome: Improve understanding of susceptibility of wandering albatrosses to bycatch by legal and illegal vessels. Map areas and periods of highest risk to better target bycatch mitigation and fisheries observer programmes.	0.1 Areas, periods and fleets of highest susceptibility of wandering albatross to bycatch recognised by fisheries regulatory bodies and incorporated into their management decisions. 0.2 Better advocacy strategies and allocation of resources to target bycatch mitigation and compliance-monitoring.	0.1 Results of the project will be communicated to stakeholders via email, teleconferences and, if appropriate, in person. Key stakeholders will be invited for a workshop at the end of the project. 0.2 Workshop report with agreed recommendations for improved bycatch management including targeting of resources to monitor bycatch rates and compliance with recommended mitigation will be widely shared. 0.3 Consult expert opinion and peer-review process.	Tracked birds will have contact with vessels. In a preliminary study (Indian Ocean) using similar devices, 79.5% of loggers attached to birds detected vessels. VMS or AIS data will be available for the tracking period. This project combines multiple sources of access to vessel locations. Stakeholders will engage with the project. Discussions throughout the project will be made to ensure engagement of stakeholders and viability of the actions.
Output 1: 1. Understand fine-scale attendance patterns of wandering albatrosses of different age, sex and breeding status to legal and illegal fishing vessels.	1.1 Find the distance at which wandering albatrosses respond to vessels and proportion of time spent behind each legal and IUU vessel.	1.1 Consult expert opinion and peer-review process.	Tracked birds will have contact with vessels. In a preliminary study (Indian Ocean) using similar devices, 79.5% of loggers attached to birds detected vessels.

Output 2: 2. Model habitat preferences of wandering albatrosses of different age, sex and breeding status	2.1 Relationship between species and oceanographic variables. 2.2 Predictive maps of wandering albatross distribution and high-density hotspots.	2.1 Models will be validated by performance metrics using withheld data. 2.2 Consult expert opinion and peer-review process.	Seabird data will correlate with environmental data and models will have good predictive capacity. There is ample evidence that seabirds select habitats based on oceanographic cues. Additionally, large sample sizes, correct choice of oceanographic variables and the use of appropriate methods will minimize the chances of poor model performance.
Output 3: 3. Identification of the areas, periods and fleets from which bycatch risk is greatest for wandering albatrosses of different age, sex and breeding status	3.1 Maps of the overlap of predicted habitat use with fine-scale data on fishing effort (reported effort by 1 deg. square, VMS or AIS data) and proportion of time spent behind vessels. 3.2 Maps quantifying the risk of birds from each fleet and in different periods.	3.1 Consult expert opinion and peer-review process.	Fine-scale data will remain available and vessels will be detected by loggers (see above).

Output 4: 4. Dissemination and application	4.1 Results and recommendations shared with stakeholders to inform their conservation advocacy and efforts. 4.2 Data deposited in global databases. 4.3 Reports/papers to working groups of fisheries bodies. 4.4 Publish two manuscripts. 4.5 Share results via websites and conferences.	4.1 Results and recommendations available for OT governments, other countries, and local and international NGOs. Workshop with the main stakeholders. 4.2 Datasets available online. 4.3 Working papers discussed at fisheries meetings. 4.4 Manuscripts accepted for publication. 4.5 Monitor number of visitors to the website and interest in the project at conferences.	Manuscripts will be accepted for publication. Working group papers will be discussed as relevant for particular agenda items. The novelty and relevance of the study for the conservation of wandering albatrosses will make it a priority in conservation or policy journals, and for consideration by fisheries management bodies.
Output 5: *No Response*	*No Response*	*No Response*	*No Response*

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.

1.1 Organise fieldwork logistics.
1.2 Collect and compile fisheries and tracking data (i.e. radar, 3-D acceleration, GPS location, and immersion data).
1.3 Data analysis to determine the distance at which wandering albatrosses respond to vessels (i.e. change direction, flight height etc. based on acceleration data), and proportion of time spent behind each vessel.
1.4 Assess whether a signature is detectable in GPS, acceleration and immersion data that indicates scavenging behind vessels vs feeding on natural prey. If so, quantify time spent following vessels from other GPS and immersion datasets (from the current and previous seasons).
2.1 Extract oceanographic data at appropriate spatial and temporal scales.
2.2 Build and evaluate habitat models.
2.3 Generate predictive maps of distribution of wandering albatrosses of different age, sex and breeding status.
3.1 Calculate temporal and spatial overlap between predicted distributions of wandering albatrosses and fishing effort. Identify areas and times of greatest interaction (and therefore bycatch risk).
4.1a Share results and recommendations with stakeholders.

4.1b Organise workshop in South America with main stakeholders.
4.2 Deposit tracking data into BirdLife online Tracking Database.
4.3 Prepare reports for working groups.
4.4 Prepare manuscripts for publication in peer-reviewed journals.
4.5a Attend national and international conference to present results.
4.5b Make results available via websites for public dissemination.

Section 11 - Implementation Timetable

Q27. 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

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.

Once you have completed your implementation timetable please upload it using the file upload tool below.

R7_DPlus_-__Implementation_Timetable
20/08/2018
16:55:38
xlsx 13.15 KB

Section 12 - Monitoring and Evaluation

Q28. 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.

Phillips will be responsible overall for M&E. Phillips and Carneiro will be in contact daily or weekly as necessary to discuss the fieldwork, analyses, interpretation and communication with stakeholders. Formal meetings will be held monthly to review progress, outputs, short and long-term objectives, challenges and budgeting. As soon as results are available, they will be communicated to stakeholders via email,

teleconferences and, if appropriate, in person. Their feedback will be requested, as will their requirements for tailored analyses (for example for communication within their organisations or for working group meetings). Key stakeholders will be invited to a workshop to agree recommendations for improved bycatch management including targeting of resources to monitor bycatch rates and compliance with recommended mitigation. Communication with the wider network of overseas policy-makers and conservation NGOs will be by email, through attendance at international meetings, and by tabling of reports for working groups of fisheries commissions, ACAP and CCAMLR. All science outputs will also be evaluated when formalised as reports for working groups by soliciting feedback from those groups, when presented as oral papers at conferences, and when submitted as manuscripts to scientific journals through the peer-review process.

Financial monitoring will be by the BAS Finance office, with an audit at the end of the project.

Number of days planned for M&E	60.00
Total project budget for M&E (this may include Staff and Travel and Subsistence Costs) (£)	
Percentage of total project budget set aside for M&E (%)	4.00

Section 13 - Certification

Certification

On behalf of the

company

of

British Antarctic Survey

I apply for a grant of

£269,419.00

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 enclose one page CVs for key project personnel and letters of support.**
- **I enclose the most recent 2 sets of signed and audited/independently verified accounts.**

Checked

Name	Margaret Clark
Position in the organisation	Head of Finance
Signature (please upload e-signature)	**Mags_sig** 20/08/2018 17:00:09 jpg 2.88 KB
Date	20 August 2018

Section 14 - Submission Checklist

Checklist for submission

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

We would like to keep in touch! Please check this box if you would be happy for the lead applicant (Flexi-Grant Account Holder) and project leader (if different) to be added to our mailing list. Through our

mailing list we share updates on upcoming and current application rounds under the Darwin Initiative, Darwin Plus and our sister grant scheme, the IWT Challenge Fund. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share our quarterly project newsletter. You are free to unsubscribe at any time.

Checked

Data protection and use of personal data
Information supplied in this application form, including personal data, will be used by Defra as set out in the latest copy of the Privacy Notice for Darwin, Darwin Plus and the Illegal Wildlife Trade Challenge Fund available **here**. This Privacy Notice must be provided to all individuals whose personal data is supplied in the application form. Some information, but not personal data, may be used when publicising the Darwin Initiative including project details (usually title, lead organization, location, and total grant value) on the GOV.UK and other websites.

Information relating to the project or its results may also be released on request, including under the 2004 Environmental Information Regulations and the Freedom of Information Act 2000. However, Defra will not permit any unwarranted breach of confidentiality nor will we act in contravention of our obligations under the General Data Protection Regulation (Regulation (EU) 2016/679).