Applicant: Gamble, Amandine Organisation: Institute of Biodiversity, Animal Health & Comparative Medicine, University of Glasgow Funding Sought: £98,135.00

DPR10S2\1013

Pathogens as a threat to seabirds in the Falkland Islands

Infectious diseases are increasingly acknowledged as a threat to biodiversity conservation. In the Falklands Islands, recurrent seabird die-offs have been reported, but their cause(s) remain elusive. This project aims to investigate the presence of seabird pathogens on the archipelago, characterize their dynamics across species, space and time, as well as their impact on the local seabird populations. Based on this novel knowledge and capacity building, this project will improve surveillance and response protocols against infectious diseases in the Falkland Islands.

PRIMARY APPLICANT DETAILS

Title	Dr
Name	Amandine
Surname	Gamble
Organisation	University of California Los
	Angeles
Website (Work)	
Tel (Mobile)	
Email (Work)	
Address	

Section 1 - Contact Details

PRIMARY APPLICANT DETAILS



GMS ORGANISATION



Section 2 - Title, Dates & Budget Summary

Q3. Project title

Pathogens as a threat to seabirds in the Falkland Islands

What was your Stage 1 reference number? e.g. DPR10S1\1123

DPR10S1\1021

Q4. UKOT(s)

Which UK Overseas Territory(ies) will your project be working in?

☑ Falkland Islands (FI)

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

No Response

Q4b. In addition to the UKOTs you have indicated, will your project directly benefit any other Territories or country(ies)?

• No

Q5. Project dates

Start date:	End date:	Duration (e.g. 2 years, 3 months):
01 July 2022	30 June 2024	2 years

Q6. Budget summary

Year:	2022/23	2023/24	2024/25	Total request
Darwin funding request (Apr - Mar)	£67,075.00	£31,060.00	£0.00	£ 98,135.00

Q6a. Do you have proposed matched funding arrangements?

⊙ Yes

What matched funding arrangements are proposed?

We have secured **and the secured for the partner organisations** (**and from IBAHCM**, **and from SAERI**, **and from FC**, **and from CEFE and and from MARE**). Matched funding includes in-kind staff time, logistics to access field sites (coordinated with other research and monitoring programs), and access to laboratory equipment, IT equipment and office space. In particular, laboratory equipment acquired by SAERI in the context of the Covid19 Rapid Response scheme (CV19RR02) will be used for sample processing in the FI. Unquantifiable contributions include access to banked samples and historical data collected by the partners during the last decades.

Q6b. Proposed matched funding as % of total project cost (total cost is the Darwin request <u>plus</u> other funding required to run the project).

Q6c. If you have a significant amount of unconfirmed matched funding, please clarify how you fund the project if you don't manage to secure this?

No Response

Section 3 - Project Summary and Conventions

Q7. Summary of Project

Please provide a brief summary of your project, its aims, and the key activities you plan to undertake. Please note that if you are successful, this wording may be used by Defra in communications.

Please write this summary for a non-technical audience.

Infectious diseases are increasingly acknowledged as a threat to biodiversity conservation. In the Falklands Islands, recurrent seabird die-offs have been reported, but their cause(s) remain elusive. This project aims to investigate the

presence of seabird pathogens on the archipelago, characterize their dynamics across species, space and time, as well as their impact on the local seabird populations. Based on this novel knowledge and capacity building, this project will improve surveillance and response protocols against infectious diseases in the Falkland Islands.

Q8. Environmental Conventions, Treaties and Agreements

Please detail how your project will contribute to the aims of the agreement(s) your project is targeting. What key OT Government priorities and themes will it address and how? You should refer to Articles or Programmes of Work here. You should also consider local, territory specific agreements and action plans here.

Letters of support from UKOT Government partners/stakeholders should also make clear reference to the agreements/action plans your project is contributing towards.

The expected outputs of this project will enrich our understanding of the threat posed by pathogens to globally significant seabird populations in the FI. This novel knowledge will be used to improve response to pathogen outbreaks in the FI, in parallel with improving capacity locally through community engagement and training. This project will thus directly support the FI Environment Strategy, in particular with regard to the "Biodiversity and Ecosystem Integrity" and "Science and Innovation" objectives. Accordingly, this project is supported by the Falkland Islands Government (FIG; see Letter of Support in "Q9. Project Partners").

Globally, considering the exceptional avian community present in the FI (122 species, including 8 globally threatened species and 3 endemic species, and 23 Important Bird and Biodiversity Areas), this project will also support FIG's commitments to the Convention on Biological Diversity. In particular this project will directly address the articles 7 (Identification and Monitoring), 12 (Research and Training), 13 (Public Education and Awareness),17 (Exchange of Information) and 18 (Technical and Scientific Cooperation) of the convention. The project will also contribute to the Convention on the Conservation of Migratory Species of Wild Animals by bringing insights on the impact of pathogens carried and potentially spread by migratory species. Finally, all the genetic data generated will be managed following the Nagoya Protocol on Access and Benefit Sharing.

The Agreement on the Conservation of Albatrosses and Petrels (ACAP) has recognized the potential impact of infectious diseases on this group of seabirds, and has rightfully encouraged actions to improve knowledge and management of diseases of concern; i.e. "...review evidence for impacts of pathogens and parasites on ACAP species and effectiveness of mitigation measures" (ACAP AC7 2013); "... implement long-term disease surveillance programs" and "...thoroughly investigate albatross disease/mortality events when they occur". This project will directly address those points by (1) providing novel data on pathogen presence in and impact on albatrosses and petrels of the FI, (2) use this knowledge and capacity building to design and implement improved surveillance programs and response protocols to disease outbreaks outside of the FI will be facilitated by the wide network of collaborators of the research team. This network includes academic and conservation partners worldwide (e.g., BirdLife International, the Royal Society for the Protection of Birds, the Nature Conservancy and the National Nature Reserve of the French Southern Lands, the Wildlife Health Monitoring Group of the Scientific Committee for Antarctic Research). In particular, communication with the ACAP will be facilitated through collaborations with the Joint Nature Conservation Committee (JNCC; see Letter of Support in "Q9. Project Partners").

Section 4 - Project Partners

Q9. Project Partners

Please list all the partners involved (including the Lead Partner) 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. Please provide Letters of Support for the lead partner and each partner or explain why this has not been included.

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

Lead Partner name:	Institute of Biodiversity, Animal Health & Comparative Medicine, University of Glasgow
Website address:	https://www.gla.ac.uk/researchinstitutes/bahcm/
Details (including roles and responsibilities and capacity to engage with the project):	The University of Glasgow Institute of Biodiversity, Animal Health & Comparative Medicine (IBAHCM) is a ground-breaking multi-disciplinary research institute in the UK. It was created in 2010 to provide evidence-based to tackle many of the world's most pressing global ecological and environmental challenges. Work focuses on understanding of the complex interdependence of biodiversity, human populations and environment. IBAHCM capacity includes extensive experience managing and delivering projects, including several Darwin Initiative projects, as well as a team of project managers and an international project coordinator. The project leader, Dr Amandine Gamble, will be based at the IBAHCM. She has extensive experience in disease ecology, notably thanks to her background at the intersection between veterinary medicine and population ecology. She has co-led several projects related to wildlife health, including previous field campaigns in the FI and other subantarctic islands. IBAHCM will coordinate the project. This will notably include budget management, as well as leading meetings, monitoring and evaluation, reporting, and wider output dissemination. Dr Amandine Gamble will also participate in fieldwork and lead laboratory analyses in the FI and outside of the FI. She will also lead outreach and training events for community engagement and capacity building in the FI.
Have you included a Letter of Support from this organisation?	⊙ Yes
Have you provided a cover letter to address your Stage 1 feedback?	
Do you have partn ④Yes	ers involved in the Project?
1. Partner Name:	South Atlantic Environmental Research Institute
Website address:	https://www.south-atlantic-research.org/

Details (including roles and responsibilities and capacity to engage with the project):	South Atlantic Environmental Research Institute (SAERI) is a Falkland Island-based research institute working across the South Atlantic Islands and beyond, and focusing on environmental research and tool development for evidence-based decision making on the islands. SAERI has significant experience managing and delivering projects, including several Darwin Initiative and Darwin Plus projects. SAERI infrastructure includes laboratory equipment acquired in the context of the Covid19 Rapid Response project CV19RR02. It also includes data-management through the IMS-GIS centre, which is run by two full-time staff members, ensuring continuity in data archiving and sharing procedures. The main project partner, Dr Al Baylis, SAERI's Deputy-Director Science, has 20 years of experience in ecology and conservation biology of marine predators, and a deep knowledge of the FI ecosystems. SAERI will provide: - Administrative and logistical support for fieldwork: the collection of new biological samples will be coordinated with on-going field studies led by SAERI. - Technical support for data management: all the data generate through this project being stored and made available through the IMS-GIS centre. - Access to laboratory equipment, allowing part of the analyses to be conducted onsite. - Support for capacity building and community engagement, notably by facilitating communication with the local community.
Have you included a Letter of Support from this organisation?	

2. Partner Name:	Falkland Conservations
Website address:	https://falklandsconservation.com/
Details (including roles and responsibilities and capacity to engage with the project):	 Falklands Conservation (FC) is the largest membership-based conservation charity bases on the Falkland Islands. FC has significant experience managing and delivering projects related to biodiversity monitoring and conservation, including several Darwin Initiative and Darwin Plus projects. FC is a key stakeholder of the project through its role in the FI Wildlife Disease Group, and in the deployment of responses to wildlife crisis (including oiled or injured birds). The main project partner, Dr Andrew Stanworth, has more than 30 years of experience in ecology, including 10 as conservation officer at FC. He has notably extensive experience integrating research and conservation, and has led several projects led to marine predator conservation in the FI. FC will provide: Administrative and logistical support for fieldwork. Long-term seabird demographic data collected across the archipelago. Support for capacity building and community engagement, notably by facilitating communication with the local community.
Have you included a Letter of Support from this organisation?	

3. Partner Name:	Centre for Functional and Evolutionary Ecology
Website address:	https://www.cefe.cnrs.fr/en/
Details (including roles and responsibilities and capacity to engage with the project):	The Centre for Functional and Evolutionary Ecology (CEFE) is a research institute based in France. It is managed by the National Centre for Scientific Research and Montpellier University, a leader in ecology and evolution ranked first in this field in the 2018 and 2019 Academic Ranking of World Universities. CEFE has considerable experience managing and delivering research project. In particular, the main partner, Dr Thierry Boulinier, has been leading, since 2015, a long-term research program on infectious diseases in subantarctic wildlife with funding from the French Polar Institute and the French National Agency for Research. More broadly, Dr Thierry Boulinier has more than 20 years of experience in seabird ecology and disease ecology. CEFE will provide: - Banked samples (samples collected from 1462 individual seabirds prior to this project are already available for analyses). - Access to additional equipment, completing the equipment already available in the FI, at SAERI.
Have you included a Letter of Support from this organisation?	●Yes

4. Partner Name:	Marine and Environmental Sciences Centre
Website address:	https://www.mare-centre.pt/en/mare
Details (including roles and responsibilities and capacity to engage with the project):	Marine and Environmental Sciences Centre (MARE) is one of the research institutes of the ISPA Instituto Universitário, based in Portugal. The main project partner, Dr Paulo Catry, has more than 20 years of experience in seabird ecology. He notably leads several long-term research programs, including one based in the FI focused on black-browed albatrosses. In this context, Dr Paulo Catry has acquired considerable knowledge of the FI ecosystems, and developed long-lasting collaborations with partners in the FI, including SAERI, FC and the FIG. He is also involved in large collaborative projects, such as the Atlantic Migrant research group, consisting in 20 researchers from various institutions in the UK and Portugal. MARE will provide detailed long-term ecological data (demographic, foraging and movement ecology data) collected from key study sites.
Have you included a Letter of Support from this organisation?	

5. Partner Name:	No Response
Website address:	No Response
Details (including roles and responsibilities and capacity to engage with the project):	No Response
Have you included a Letter of Support from this organisation?	O Yes O No

6. Partner Name:	No Response
Website address:	No Response
Details (including roles and responsibilities and capacity to engage with the project):	No Response
Have you included a Letter of Support from this organisation?	O Yes O No

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

No Response

Please provide a cover letter responding to feedback received at Stage 1 if applicable and a combined PDF of all Letters

of Support.

A Gamble Darwin St2 cover letter

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Section 5 - Project Staff

Q10. Project Staff

Please identify the key staff on this project, their role and what % of their time they will be working on the project. Further information on who should be classified as key project staff can be found in the guidance.

Please provide 1 page CVs for these staff, or a 1 page job description or Terms of Reference for roles yet to be filled. These should match the names and roles in the budget spreadsheet. If your team is larger than 12 people please review if they are key project staff, or whether you can merge roles (e.g. 'admin and finance support') below, but provide a full table based on this template in the PDF of CVs you provide.

Name (First name, Surname)	Role	Organisation	% time on project	1 page CV or job description attached?
Amandine Gamble	Project Leader	Institute of Biodiversity, Animal Health & Comparative Medicine, University of Glasgow	30	Checked
Alastair Baylis	Project Partner	South Atlantic Environmental Research Institute	20	Checked
Andrew Stanworth	Project Partner	Falklands Conservation	5	Checked
Thierry Boulinier	Project Partner	Center for Functional and Evolutionary Ecology	10	Checked

Do you require more fields?

⊙ Yes

Name (First name, Surname)	Role	Organisation	% time on project	1 page CV or job description attached?
Paulo Catry	Project Partner	Marine and Environmental Sciences Centre	20	Checked
No Response	No Response	No Response	0	Unchecked
No Response	No Response	No Response	0	Unchecked
No Response	No Response	No Response	0	Unchecked

No Response	No Response	No Response	0	Unchecked
No Response	No Response	No Response	0	Unchecked
No Response	No Response	No Response	0	Unchecked
No Response	No Response	No Response	0	Unchecked

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

Ensure the file is named clearly, consistent with the named individual and role above.

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Have you attached all Project staff CVs?

⊙ Yes

Section 6 - Background & Methodology

Q11. Problems the project is trying to address

Please describe the problem your project is trying to address in terms of environment and climate issues in the UKOTs.

For example, what are the specific threats to the environment that the project will attempt to address? Why are they relevant, for whom? How did you identify these problems? How will your proposed project help?

Please cite the evidence you are using to support your assessment of the problem (references can be listed in your additional attached PDF document which can be uploaded at the bottom of the page).

Infectious diseases seriously threaten populations of many wild species [1], notably seabirds, which are among the most threatened groups of animals in the world [2,3]. For instance, populations of albatrosses and penguins in the Southern Indian Ocean have been severely declining over the last decades because of recurrent avian cholera outbreaks [4,5]. Other examples of infectious diseases threatening avian populations and endemic species include avian malaria in Hawaii and the Galapagos [6,7], Erysipelas in New-Zealand [8], or recent outbreaks of avian influenza in Israel [9]. Infectious diseases can add to, and sometimes interact with, other threats such as fishery by-catch [10], low resource availably [11], and invasive species [12]. An integrated approach of biodiversity conservation, considering several threats and their interactions, is thus necessary to improve our understanding of biodiversity decline, and to design and implement efficient mitigation strategies. When considering infectious diseases, governments and conservation agencies require a deep understanding of the processes at play (e.g., reservoir species and transmission mode) to decide whether to implement mitigation measures, and design efficient ones. Such insights can only be obtained through detailed eco-epidemiological investigations.

In the FI, a globally significant site for seabirds [13], long-term demographic monitoring led by the project partners, as well as anecdotal reports from inhabitants, have revealed recurrent seabird die-offs during the last decade [14–18]. A first challenge in infectious disease outbreak mitigation is the identification of the pathogen(s) involved. Indeed, while the characteristics of those mortality events are suggestive of infectious diseases, the causative agent(s) remain(s) to be identified in most cases [14,17,18]. When infectious agents are identified, their impact on wild populations is often poorly understood [15,16] as many infectious agents are not lethal, or not even pathogenic, to their hosts. This lack of information is an impediment to the design and deployment of coherent monitoring programs and national strategies.

In this context, the proposed project aims at:

- Aim 1. Screen seabird populations across the FI for potential pathogens, leveraging banked samples collected over the last decade as well as novel samples.

- Aim 2. Characterize the epidemiological dynamics (across species, space and time) of the detected pathogens using the data obtained in Aim 1.

- Aim 3. Test hypotheses on the ecological factors driving the epidemiological dynamics described in Aim 2 (considering notably other well-studied threats such as interactions with fisheries and invasive species), and quantify pathogen impact on seabirds using the long-term demographic data.

- Aim 4. Translate the scientific results into an improved disease surveillance and response system guided by the results from Aims 2-3, and coordinated across local actors, including conservation agencies, research teams, and the local community through community engagement and capacity building.

Through these four aims, the project will generate important baseline data regarding the presence of seabird pathogens in the FI, improve our understanding of the mechanisms at play, and improve engagement and capacity to monitor and response to future infectious disease outbreaks in the FI.

Q12. Methodology

Describe the methods and approach you will use to achieve your intended Outcome and contribute towards your Impact. Provide information on:

- How you have analysed historical and existing initiatives and are building on or taking work already done into account in project design. Please cite evidence where appropriate.
- The rationale for carrying out this work and a justification of your proposed methodology.
- How you will undertake the work (materials and methods).
- How you will manage the work (role and responsibilities, project management tools etc.)

(This may be a repeat from Stage 1 but you may update or refine as necessary)

This project is structured into four work-packages (WP) corresponding to the four project aims (Figure 1).

WP1: data collection. To obtain an extensive picture of pathogen occurrence and distribution across the FI, we will leverage banked samples collected by the project team over the last decade (samples from 1462 individual seabirds already available at the CEFE partner for laboratory analyses; Figure 1, top-left panel; Table 1). We will also collect new samples collected in parallel with ongoing scientific programs led by the SAERI, FC and MARE partners in order to increase the species, spatial and temporal coverage of the project, allowing us to detect potential variations in pathogen prevalence across conditions (1000 new samples expected). Considering the scarcity of data on seabird pathogens in the FI [18], we will target pathogens known to affect other seabird populations worldwide. We will primarily focus on Pasteurella multocida, influenza viruses, paramyxoviruses, flaviviruses, coronaviruses, and Toxoplasma gondii. Considering the wide distribution of theses infectious agents, we are confident about detecting several ones. In particular, pilot data collected by the project leader already suggest that potentially pathogenic paramyxoviruses circulate in the seabirds in the FI. To improve detection probability and prevalence estimate accuracy, as well as value for money, we will use a two-step approach based on two complementary analyses: we will first screen blood samples for antibodies using immunoassays (informing on past exposure [19]), then we will screen cloacal swab samples for infectious agent genetic material using polymerase chain reaction (PCR; informing on current infection status [5]), with a focus on sites with antibody-positive individuals. Because immunoassays are generally more sensitive (more likely to detect positive individuals) than PCR is [20], this efficient approach avoids wasting resources screening by PCR samples from populations not exposed to the infectious agent of interest.

WP2: descriptive analyses. To accurately infer individual infection history and, ultimately, pathogen prevalence at the population scale, we will integrate together the immunoassay and PCR data (obtained in WP1) using state-of-the-art statistical tools, such as Bayesian hierarchical models [21] and integrated models [22]. We will then map pathogen distribution and explore variations across host species, space (at the scale of the colony, island, and archipelago), time (within and between seasons). We will also consider other individual factors potentially impacting history such as age-class

and sex.

WP3: hypothesis testing. To better understand the causes and consequences of pathogen circulation in the seabirds of the FI, we will investigate the relationships between the observed epidemiological patterns (described in WP2) and long-term ecological data collected by the MARE partners (notably demography [17,23,24] and movement ecology [25,26]. In particular, we will explore relationships between epidemiological and demographic patterns (are high infectious agent prevalences associated with die-offs [5,19]). If none of the detected infectious agents is associated with any indication of poor health in seabirds (such increased mortality or decrease breeding success), future work could use the banked samples to investigate other potential causes of mortality, such as exposure to other infectious agents or to pollutants. In such a scenario, this project would nevertheless provide solid foundations to improve future responses to seabird mortality events or breeding success crashes by allowing such responses to focus on more likely causes. We will also explore associations between infectious agent prevalences and other indicators of population health such as nestling growth rates and divorce rates [27,28]. We will also explore whether pathogen prevalence is associated with host community composition (e.g., monospecific versus mixed colonies, and presence versus absence of invasive mammals), or host movement ecology (e.g., movements and community connectivity [29,30]).

WP4: translation, capacity building and community engagement. We will build upon the results obtained in WP2-3 to design an improved disease surveillance program tailored to FI, that enables a faster detection and identification of pathogens in the FI wildlife (Figure 2). We will disseminate project findings through outreach activities and workshops targeting all the actors of the surveillance network. Outreach events will notably aim at increasing awareness about wildlife pathogens in the community, as well as the importance of following biosafety and reporting protocols. Workshops will notably aim at training local project partners (SAERI and FC staff, as well as FIG veterinary staff, but also other stakeholders such as island managers and frequently visiting scientists) in field and laboratory methods for surveillance of and response to future infectious disease outbreaks.

If necessary, please provide supporting documentation e.g. maps, diagrams, and references etc., as a PDF using the File Upload below.

- A Gamble Darwin St2 supporting doc
- 菌 10/01/2022
- © 22:50:36
- pdf 204.39 KB

Section 7 - Stakeholders and Beneficiaries

Q13. 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 has been developed in collaboration with the primary stakeholder sectors: government (FIG), conservation (FC, JNCC and SAERI) and research (SAERI and visiting scientists such as the CEFE and MARE partners). All collaborators were consulted (via email or online meetings) as part of the project development.

IBAHCM will be responsible for the overseeing distribution and regulated use of primary project products to key stakeholders. The partnership with FC and SAERI, and the regular consultations with FIG and JNCC will help facilitate the dissemination and uptake of the project products. In particular, FC and SAERI will facilitate the engagement of island managers and inhabitants, tourism operator and visiting scientists.

During the project, the primary stakeholders (FIG, FC, JNCC, SAERI) will engage through quarterly meetings, notably via the existing FI Wildlife Disease Group. The project team will meet with the other stakeholders (island managers and inhabitants, tourism operators and visiting scientists) during dedicated biannual events organized, in parallel with outreach events and workshops. All the meetings will be organized with a hybrid format (in-person and online, e.g., via conference calls), notably in order to allow inhabitants of remote islands to attend. Other asynchronous communication channels will be used to engage with stakeholders not able to attend live meetings. Those will include publications of meeting recordings and notes, monthly online publication of project updates, exchanges through online and phone surveys with relevant stakeholders, and the possibility to send signed or anonymous messages to the project team with questions, suggestions

Q14. Institutional Capacity

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

IBAHCM is a multi-disciplinary research institute in the UK. It was created in 2010 to provide evidence-based to tackle many of the world's most pressing global ecological and environmental challenges. Work focuses on understanding of the complex interdependence of biodiversity, human populations and environment. IBAHCM capacity includes extensive experience managing and delivering projects, including several Darwin Initiative projects. IBAHCM maintains a research portfolio of about £44m, about 40% of which in partnership with overseas organizations. A team of project managers and an international project coordinator help with the management of these projects.

The project leader, Dr Amandine Gamble, will be based at the IBAHCM. She has extensive experience in disease ecology, notably thanks to her background at the intersection between veterinary medicine and population ecology. She has co-led several projects related to wildlife health, including previous field campaigns in the FI.

The project involves two local institutions, SAERI and FC, which both have experience managing and delivering projects, including Darwin Initiative and Darwin Plus projects. The involvement of these local partners will facilitate the communication and uptake of the project products with and by the local stakeholders. It will also allow the project to use onsite infrastructures such as databases and laboratory equipment.

The two academic partners, CEFE and MARE, both have extensive experience managing and delivering research projects in collaboration with conservation partners, notably in the FI. They will provide additional resources not available onsite such as access to laboratory equipment, as well as banked samples and historical data.

Q15. Project beneficiaries

Who will your project benefit? You should consider the direct benefits as a result of your project as well as the broader indirect benefits which may come about as a result of your project achieving its Outputs and Outcome. The measurement of any benefits should be included in your project logframe.

This project will deliver important tools that will directly benefit the FI government and conservation institutions by improving community engagement and local capacity for the surveillance and response to infectious disease outbreaks in seabirds. This work will notably address several aims of conventions of relevance to the FI. In particular, the project will provide:

- Improved protocols for infectious disease surveillance and response based on the scientific results obtained as part of the project.

- Training to improve disease detection and identification by FI stakeholders. This will notably allow FI-based institutions to lead epidemiological investigations without depending on visiting researchers. The FI will nevertheless benefit from the network of infectious disease experts the academic partners (in particular IBAHCM and CEFE) are part of, notably via the Wildlife Health Monitoring Group of the Scientific Committee for Antarctic Research).

- Baseline data for future work on infectious diseases in the FI, notably work aiming testing potential mitigation strategies. Overall, this project will contribute to progressing towards a better understanding and management of seabird health, and give FI-based institutions the tools to do so.

Section 8 - Gender and Change Expected

Q16. Gender (optional)

How is your project working to reduce inequality between persons of different gender? At the very least, you should be able to provide reassurance that your proposed work is not increasing inequality. Have you analysed the context in which you are working to see how gender and other aspects of social inclusion might interact with the work you are proposing?

The project team working on the development and delivery of this project involves both women and men. All the project products will be made freely available to anyone, independently of gender or other individual characteristic such as ethnicity or socio-economic background. When organizing events involving the community (outreach events and workshops) we target women and men equally by using complementary announcement channels (online blog, radio and newspaper advertising, mailing lists), and participation will be open to anyone independently of gender. Consideration will

also be given to ensure that project products to not promote gender bias. For instance, we will use inclusive language and diverse illustrations. The same consideration will be given to other individual characteristics such as ethnicity or socioeconomic background. For instance, project products will also be translated in at least four different languages to increase their impact within and outside of the FI community.

Q17. Change expected

Detail the expected changed this work will deliver. You should identify what will change and who will benefit a) in short-term (i.e. during the life of the project) and b) in the long-term (after the project has ended). Please describe the changes for the environment and, where relevant, for people in the OTs, and how they are linked.

There is accumulating evidence that infectious disease outbreaks recurrently affect the wild fauna of the FI. However, research on infectious diseases on the archipelago is still limited, and the identity of the pathogens involved in these outbreaks, as well as their impact on their hosts, remain elusive. Indeed, some studies have revealed the presence of some potential pathogens such as paramyxoviruses and poxviruses, but these studies often only provide incomplete pictures (no identification of the pathogen involved, or "snapshot" study), preventing conclusions regarding the dynamics of those pathogens. This knowledge gap hinders our ability to decide whether mitigation measures should be implemented, and how they should be implemented.

This project will directly lead to the following changes on the short-term:

- Significant increase in knowledge on pathogens in seabirds of the FI.
- Identification of data gaps and research priorities.
- Obtention of baseline data for future studies aiming at assessing the impact of global change on epidemiological dynamics.
- Capacity building and community engagement through knowledge transfer, workshops and outreach events.
- Improved disease response program.
- Development of guidelines for proactive pathogen surveillance.
- Enriched understanding of the threats faced by seabirds globally.

- Enriched understanding of pathogen emergence and spread in wildlife, representing a substantial contribution to the field of disease ecology beyond the study system.

On the long-term, notably thanks to local and international collaborations, we expect:

- Improved collection of long-term data series.
- Accelerated identification of pathogens involved in disease outbreaks.
- Continuous increase in knowledge on pathogens in seabirds of the FI, as well as threats faced by seabirds globally.
- Evidence base for decision makers on when and how to implement mitigation measures against infectious disease outbreaks in wildlife.

Q18. Pathway to change

Detail the expected changes this work will deliver. You should identify what will change and who will benefit a) in the short-term (i.e. during the life of the project) and b) in the long-term (after the project has ended). Please describe the changes for the environment and, where relevant, for people in the OTs, and how they are linked.

By bridging an important knowledge gap on seabird pathogens, this project will represent a solid foundation for future eco-epidemiological investigations. It will hence contribute in the short- and long-term to an improved understanding of the threats posed by pathogens to seabirds, and how to monitor and mitigate them.

A series of concrete changes will be implemented as part of the translation phase of the project (WP4). The procedure for unusual observation reporting (managed by the FI Wildlife Disease Group) will be revised based on the project results, improving reactive data collection in the long-term. The FI will be integrated into the Wildlife Health Monitoring Group of the Scientific Committee for Antarctic Research, facilitating future proactive data collection and compilation. We will engage the community by increasing awareness about wildlife pathogens through outreach events, and build capacity locally by training local partners to disease ecology methods (e.g., laboratory analyses). Finally, we will collaborate with the Joint Nature Conservation Committee to develop guidance for seabird pathogen monitoring relevant beyond the FI.

These actions will define a lasting functional framework for wildlife pathogen monitoring in the FI, based on strong local and international collaborations, and ensuring the perennity of the initiated changes.

Q19. Exit strategy

State how the project will reach a stable and sustainable end point, and explain how the outcomes will be sustained, either through a continuation of activities, funding and support from other sources or because the activities will be mainstreamed in to "business as usual". Where individuals receive advanced training, for example, what will happen should that individual leave?

The project will equip the FI with skills and resources to efficiently monitor and respond to seabird diseases and maintain high scientific standards. In particular, we will train local staff to disease ecology methods and concepts with a "train-the-trainer" model, to ensure continuity after the end of the project. The baseline data produced as part of this project will also be foundational to future assessment of seabird health in the FI.

Spin-off projects could focus on the testing of mitigation strategies against infectious diseases, notably considering potential interactions between invasive species and pathogen dynamics in wild communities.

Q20. Ethics

Outline your approach to meeting Darwin's key principles for ethics as outlined in the guidance note. Additionally, are there any human rights and/or international humanitarian law risks in relation to your project? If there are, have you carried out an assessment of the impact of those risks, and of measures that may be taken in order to mitigate them?

This project will follow the ethical recommendations of the University of Glasgow. This includes:

- Ethics for animal handling. In particular, all the staff involved in animal handling will be highly trained, and capture and sample collection protocols will be (or have been for banked samples) validated by relevant ethical committees, including the FIG, and the institutions and local governments of the partners involved in sample collection.

- Safety in animal and biological sample handling to avoid harm to the people and the animals, as well as pathogen transmission.

- Ethics in research practices, including zero tolerance for fraud.

The ethical guidelines and research permits will be made available to all the project partners, as well as to the public via the project website.

Section 9 - Budget, Risk Management & Funding

Q21. 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 budget templates for grant requests under £100,000 and over £100,000.

- Budget form for projects under £100,000
- Budget form for projects over £100,000

Please refer to the **Finance Guidance** for more information.

Please ensure you include any co-financing figures in the Budget spreadsheet to clarify the full budget required to deliver this project.

NB: Please state all costs by financial year (1 April to 31 March) and in GBP. Darwin Plus cannot agree any increase in grants once awarded.

A Gamble Darwin St2 budget

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Q22. Financial Risk Management

This question considers the financial risks to the project. Explain how you have considered the risks and threats that may be relevant to the successful financial delivery of this project. This includes risks such as fraud, bribery or corruption, but may also include the risk of fluctuating foreign exchange, delays in procurement or recruitment and internal financial processes such as storage of financial data.

The lead organization, IBAHCM, and more broadly the University of Glasgow, gas a long track record of managing large projects, including in the OTs. We are familiar with financial risks and have experience managing multimillion-pound projects in the past. The budget was reviewed by the project partners, which all have experience leading similar projects. We will use fully transparent contracts and use other accounting procedures already in place at IBAHCM. We consider the risks of fraud and bribery associated with this project low as we will work with known suppliers. However, we will use our standardized financial policies and procedures including counter-fraud and anti-corruption policy, to ensure such external and internal risks are routinely reviewed as the project is implemented.

IBAHCM has a team of project managers and technical specialists who will help the project team oversee the effective implementation of the project. We also have a number of individuals who would be capable of delivering the project output if there was staff turnover within the duration of the project (which is unexpected).

In addition, COVID-19 risks have been carefully considered and catered for in budget planning, including higher travel costs, testing costs, and potential quarantine costs.

Q23. Funding

Q23a. Is this a new initiative or a development of existing work (funded through any source)?

• Development of existing work

Please provide details:

This project represents a new initiative although it builds upon previous projects.

Previous projects conducted in the FI include small discrete studies aiming at characterizing the dynamics of a unique infectious agent, in a unique host species, in a unique site, and/or a unique year. The banked samples used in this project were collected as part of such studies. This includes two projects led by the project leader in 2017 and 2018 (funded by the FIG and Shackleton Scholarship Fund respectively). The present project is the first epidemiological study proposing an extensive dataset, considering samples collected across species, space and time, and screened for several pathogens. It is also the first to integrate ecological and epidemiological data, and to explicitly consider community engagement and capacity building.

This project also builds upon the equipment acquired by SAERI in the context of the Covid19 Rapid Response project CV19RR02. It also draws upon the results of parallel, complementary, research projects conducted on other subantarctic islands, and will serve as a foundation of recently funded project aimed at investigating interactions between native and non-native species across subantarctic islands (CEFE and IBAHCM, funded by the French Polar Institute and the French National Agency for Research).

Q23b. Are you aware of any other individuals/organisations/projects carrying out or applying for funding for similar work?

⊙ No

Section 10 - Finance

Q24. 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?

The University of Glasgow, which hosts the IBAHCM, is a public-sector body bound by the rules and standards required of UK government organisations, including independent audit of its accounts and governance by the National Audit Office, and following the guidelines of the Audit and Risk Committee. The University of Glasgow has formal corporate monitoring and reporting processes in place, including internal audit review of control systems, and all project work is subject to an internal quality assurance system. IBAHCM has established a specific project within this formal structure to deliver the proposed objectives. In this context, all financial claims will be reviewed and signed-off by one of the CCAB qualified accountants within IBAHCM.

Q25. Balance of budget spend

Defra are keen to see as much Darwin Plus funding as possible directly benefiting OT communities and economies. While it is appreciated that this is not always possible every effort should be made for funds to remain in territory.

Explain the thinking behind your budget in terms of where Darwin Plus funds will be spent. What benefits will the Territory/ies see from your budget? What level of the award do you expect will be spent locally? Please explain the decisions behind any Darwin Plus funding that will not be spent locally and how those costs are important for the project.

The proportion of the Darwin Plus funds that will be spent in the FI represents approximately 37%. This notably includes expenses for accommodation and travel within the FI, onsite organization of outreach events and workshops, and admin costs inputted to the SAERI and FC partners. When available, material and services for onsite activities will be purchased locally. The remaining 63% corresponds to items (notably consumables for laboratory analyses and electronic material) that are not available in the Falkland Islands.

Q26. Capital Items

If you plan to purchase capital items with Darwin Plus funding, please indicate what you anticipate will happen to the items following project end. If you are requesting more than 10% capital costs, please provide your justification here.

The budget includes the acquisition of a waterproofed and rugged laptop compatible with data entry in the field and in the lab. We will buy a model we already have experienced with and have demonstrated effectiveness and robustness in working conditions (Dell Latitude 7220 Rugged Extreme Tablet). The possibility of using a laptop in the field and in the lab considerably improve data entry (more time efficient and less error prone), which is particularly interesting on the context of this project considering the large amount of data it will generate. This piece of equipment will remain in the FI after the end of the project.

Other pieces of equipment required for this project, in particular laboratory equipment, is already available onsite (at SAERI), or in the laboratories of the other partners (IBAHCM and CEFE).

Q27. Value for Money

Please describe why you consider your application to be good value for money including justification of why the measures you will adopt will secure value for money.

This project was designed so reach a high value-for-money.

- Travel will be minimised by grouping fieldwork, onsite laboratory analyses, and outreach events and workshops.

- We will use online tools to share updates and organize meetings. While phone and internet access in the FI is relatively expensive, this will allow the team to remain connected despite limited travel. We will notably benefit from the Zoom professional licence made available by the IBAHCM partner (which support both online and phone meetings).

- The project capitalises on banked samples and historical data. The collection of new samples will be added to ongoing field studies in order to group costs. This will for instance allow us to save the costs of travel to remote islands.

- The project builds upon pilot data obtained from banked samples.

- The project also capitalises on well-established demographic monitoring programs to obtain high-quality, long-term data. This will notably allow us to obtain data from marked birds (whom individual history we know, including breeding history, potentially dispersal history, etc...) without having to set up a new capture-mark-recapture program.

- The project involves renown experts with years of experience in disease ecology, marine predator ecology and conservation biology who joined this project without asking of consultancy fees.

Staff investment, coordinated field campaigns and access to infrastructure are included in the matched funding, which represent 45% of the total budget of the project and highlight the willingness of the project partners to invest in this project.

Q28. Outputs of the project and Open Access

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

All the outputs of the project will be made freely available online to ensure accessible and reproducible science.

- Data, field and laboratory protocols, analytical pipeline will be detailed in dedicated documents, associated to a digital identifier object, and made available on open-access online repository such as the OpenScienceFramework.

- Computational analyses will be run on open-source software (R, QGIS and ShareLaTeX).

- Reports, meeting notes, etc will be made available via project and partner websites. Information about workshops and outreach event will also be promoted through these websites and other platforms (social media, radio) where appropriate. Recordings of training events will be made available through YouTube. Other opportunities will also be taken to promote the project, for example at conferences, online blogs, etc...

- Scientific publications will be associated to a digital identifier object posted on open-access preprint severs such as bioRxiv or ecoevoRxiv in parallel with manuscript submission to peer-reviewed journals. This will ensure the perennial and free access to all potential readers.

This protocol was developed in accordance with the commitment to open science of all the partners of this project. All the tools and repository mentioned above are free for both authors and readers, not adding extra cost to the project.

Section 11 - Safeguarding

Q29. Safeguarding

Projects funded through Darwin Plus must fully protect vulnerable people all of the time, wherever they work. In order to provide assurance of this, projects are required to have appropriate safeguarding polices in place. Please confirm the lead organisation has the following policies in place and that these are available on request:

Please upload the lead partner's Safeguarding Policy as a PDF on the certification page.

We have a safeguarding policy, which includes a statement of our commitment to safeguarding and a zero tolerance statement on bullying, harassment and sexual exploitation and abuse	Checked
We have attached a copy of our safeguarding policy to this application	Checked
We keep a detailed register of safeguarding issues raised and how they were dealt with	Checked
We have clear investigation and disciplinary procedures to use when allegations and complaints are made, and have clear processes in place for when a disclosure is made	Checked
We share our safeguarding policy with downstream partners	Checked
We have a whistle-blowing policy which protects whistle-blowers from reprisals and includes clear processes for dealing with concerns raised	Checked

Please outline how you will implement your policies in practice and ensure that downstream partners apply the same standards as the lead organisation.

IBAHCM, and more broadly the University of Glasgow, is committed to creating a safe environment for all staff and those with whom we work. For University of Glasgow, safeguarding means protecting our staff and communities from potential harm from coming into contact with anyone working for, or with us, or from our activities/programmes of work. Our primary safeguarding objective is to do no harm, and we take a zero-tolerance approach to anyone who contravenes our policies.

The University of Glasgow safeguarding policy is part of broader policy for dignity at work and study. This document also includes procedure for assessment, reporting and corrective actions in case of misbehaviour. These documents are freely available to anyone online, will be explicitly shared with all the project partners, and referred to on the project website.

Section 12 - Logical Framework

Q30. Logical Framework

Darwin Plus projects will be required to monitor (and report against) their progress towards their expected Outputs and Outcome. 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.

<u>Stage 2 Logframe Template</u>

Please complete your full logframe in the separate Word template and upload as a PDF using the file upload below – **please do not edit the template structure other than adding additional Outputs if needed as a logframe submitted in a different format may make your application ineligible**. Copy your Impact, Outcome and Output statements and your activities below - these should be the same as in your uploaded logframe.

Please upload your logframe as a PDF document.

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Impact:

Improved monitoring of seabird pathogens in the FI, influencing management decisions to improve wildlife health. Improved response to disease outbreaks through increased knowledge of the baseline epidemiological situation

Outcome:

Framework for the long-term monitoring of seabird pathogens in the FI, including practical tools and shared knowledge (outreach and training), and rooted in a network of local and international collaborators

Project Outputs

Output 1:

Database on potential pathogen detection and quantification in the seabirds of the FI

Output 2:

Increased knowledge of epidemiological dynamics in the FI based on the mapping of potential pathogen occurrence across species, space and time

Output 3:

Increased knowledge of the likely drivers and consequences of infectious agent dynamics in the system

Output 4:

Improved disease surveillance and response system via increased local engagement and capacity and revised protocols

Output 5:

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.

- 1.1. Census of banked samples (expected n = 1462).
- 1.2. Sample collection in the field (expected n = 750 in year 1 and n = 250 in year 2).
- 1.2. Immunological analyses of all the samples for all the infectious agents.
- 1.3. PCR analyses of the samples collected in sites with antibody-positive individuals (based on results of activity 1.2).
- 1.4. Database update with samples from year 2.
- 2.1. Cleaning and mapping of the immunological and PCR data.
- 2.2. Estimation of infectious agent incidence across species, space and time by integrating immunological and PCR data.
- 2.3. Redaction of the report and publication presenting the patterns of infectious agent incidence across species, space

and time.

- 2.4. Analyses update with results from samples from year 2.
- 3.1. Ecological data compilation and cleaning.
- 3.2. Statistical analyses linking infectious agent incidence to demographic dynamics.
- 3.3. Statistical analyses linking host community composition to infectious agent incidence.
- 3.4. Statistical analyses linking host ecological traits to infectious agent incidence.
- 3.5. Modelling of the relationship between host connectivity to infectious agent incidence.

3.6. Redaction of the report and publication presenting the associations between ecological conditions and infectious agent incidence.

- 4.1. Result synthesis and surveillance protocol redaction.
- 4.2. Revision of the procedure for unusual observation reporting.

4.3. Coordination of the protocol with the Wildlife Health Monitoring Group of the Scientific Committee for Antarctic Research.

- 4.4. Outreach material production.
- 4.5. Public talk organization and delivery.
- 4.6. Workshop organization and delivery.
- 4.7. Synthesis of the project products.

Section 13 - Implementation Timetable

Q31. Provide a project implementation timetable that shows the key milestones in project activities

Provide a project implementation timetable that shows the key milestones in project activities. Complete the Word template as appropriate to describe the intended workplan for your project, and upload as a PDF.

Please add/remove 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.

- A Gamble R10 DPlus St2 timetable
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Section 14 - Monitoring and Evaluation

Q32. Monitoring and evaluation (M&E)

Describe, referring to the Indicators, 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. Additionally, please indicate an approximate budget and level of effort (person days) to be spent on M&E (see <u>Finance Guidance</u>).

Monitoring of project progress and indicators is a key part of the role of all project staff but in particular will be the responsibility of the project leaders, and the other project principals. Budget dedicated to M&E primarily consist in staff time.

For each output, we will monitor and review the SMART indicators, such as database entry, figure production, result publication, and meetings, and outreach and workshop reports. We will track progress in community awareness and capacity building through surveys regularly shared with the stakeholders of the projects, notably before and after outreach events and workshops, aiming at assessing their understanding of the project results and their confidence contributing or leading infectious disease surveillance and response in the future.

The project team will prepare a detailed M&E plan on which each partner will agree. This M&E plan will be based on the project logframe. The project leader with review the M&E plan quarterly, and present a report against deliverables during the quarterly team meetings. The M&E plan will also be shared with the primary stakeholders (including FIG and JNCC in addition to the project partners) to ensure transparency of the project objectives and progresses. Summary reports will be made publicly available on the project website.

In addition to the public database generated by this project, an online project management and file-sharing system (e.g., Google Drive) will be used to ensure all partners have access to the updated version of relevant documents irrespective of geographic location.

Total project budget for M&E in GBP (this may include Staff, Travel and Subsistence costs)	
Number of days planned for M&E	
Percentage of total project budget set aside for M&E (%)	

Section 15 - Lead Partner Track Record

Q33. Lead Partner track record

Has your organisation been awarded a Darwin Initiative award 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
22-03	Ross Macleod	Sustainable Manu: Biodiversity conservation through sustainable development and rainforest regeneration
12-013	Ross Macleod	Bolivian Key Biodiversity Areas Project
10-026	Roger Downie	Marine Turtle conservation and ecotourism on Trinidad's North Coast
No Response	No Response	No Response
No Response	No Response	No Response
No Response	No Response	No Response

Have you provided the requested signed audited/independently examined accounts?

If yes, please upload these on the certification page. Note that this is not required from Government Agencies.

⊙ Yes

Section 16 - Certification

Certification

On behalf of the

company

of

University of Glasgow

I apply for a grant of



I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful.

(This form should be signed by an individual authorised by the applicant institution to submit applications and sign contracts on their behalf.)

- I have enclosed CVs for project key project personnel, letters of support, budget and project implementation timetable (uploaded at appropriate points in application).
- Our last two sets of signed audited/independently verified accounts and annual report are also enclosed.

Checked

Name

Amandine Gamble

Position in the organisation	Research Fellow
Signature (please upload e-signature)	 ▲ Gamble signature ๗ 09/01/2022 ◑ 17:42:53 ☑ pdf 131.89 KB
Date	09 January 2022

Please upload the Lead Partner's Safeguarding Policy as a PDF.

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Please attach the requested signed audited/independently examined accounts.

- <u>∆</u> UofG finances 2020
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- ③ 17:37:02
- pdf 1.97 MB

 LofG finances 2019

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 09/01/2022

 Imid
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 Imid
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Section 17 - 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 I have included the correct final total at the start of the application.	Checked
The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
l have attached my completed logframe and timeline as a PDF using the templates provided.	Checked
l have included a 1 page CV or job description for all the Project staff identified at Question 11, including the Project Leader, or provided an explanation of why not.	Checked

I have included a letter of support from the Lead Partner and main partner organisation(s) identified at Question 10, or an explanation of why not.	Checked
I have included a cover letter from the Lead Partner, outlining how any feedback at Stage 1 has been addressed where relevant.	Checked
I have included a signed copy of the last 2 years annual report and accounts for the Lead Partner, 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 the Darwin Plus website.	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.

Unchecked

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 <u>here</u>. 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 partner, 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).