
DPLR3\1016

Assessing the importance of Diego Garcia for sharks

Since creation, BIOT MPA has suffered from persistent illegal fishing contributing to substantial declines in sharks including suspected local level extinctions. Presence of military operations and a patrol vessel at Diego Garcia deters illegal activity and anecdotal reports suggests it is used by various species at key life-history stages, but no data exists. We propose the first systematic data collection, utilising Local Ecological Knowledge and stereo baited underwater cameras, to assess the island's role as a vital refuge for sharks.

PRIMARY APPLICANT DETAILS

Title Dr
Name Claire
Surname Collins

Tel (Work) [REDACTED]

Email (Work) [REDACTED]

Address [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

DPLR3\1016

Assessing the importance of Diego Garcia for sharks

Section 1 - Project Title & Contact Details

Q1. Project Title

Assessing the importance of Diego Garcia for sharks

Q2. Please select whether you are applying as an organisation or as an individual (Guidance section 3 and Guidance Glossary)

Organisation

PRIMARY APPLICANT DETAILS

Title	Dr
Name	Claire
Surname	Collins
Tel (Work)	[REDACTED]
Email (Work)	[REDACTED]
Address	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]

GMS ORGANISATION

Type	Organisation
Name	Zoological Society of London
Phone (Work)	[REDACTED]
Email (Work)	[REDACTED]
Address	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]

Section 2 - Overseas Territory(ies)

Q3. Overseas Territory (Guidance section 1.3):

Which UK Overseas Territory(ies) will your project be working in? Please note that in case of a non-permanent resident population you need to demonstrate a clear, meaningful, long-term link to the territory.

British Indian Ocean Territory (BIOT)

* 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 UKOT(s) you have indicated, will your project directly benefit any other UK OT(s) or country(ies)?

No

Section 3 - Project Partners

Q4. Project partners (Guidance section 3.2)

In this section, please give details of all the partners involved (including the Lead Partner) and provide a summary of their roles.

Project Leader name (Guidance section 3.1): Zoological Society of London

Lead Partner name (if applying as an organisation; Guidance section 3.1): *No Response*

Lead Partner Website (if applicable): *No Response*

Is the Lead Partner based in a UKOT where the project is working (Guidance section 3.1)? No

Please explain why this project is led from outside the UKOT:

There is no residential population on BIOT and community members are not able to sufficiently support a project due to existing commitments. This project requires specialist training and knowledge that is currently not on island. However, the lead organisation, ZSL, has long-standing ties with BIOT and also leads and coordinates a programme of science in BIOT (Bertarelli Programme in Marine Science - BPMS). The BPMS comprises >100 scientists across 25 institutions from six countries with an interdisciplinary programme of work on conservation science in BIOT (<https://www.marine.science>).

List other partners involved and where are they based: University of Exeter (UK)

Summary of roles and responsibilities of each partner in the project:


The project will be implemented by two ZSL staff members, namely Dr David Curnick, Dr Claire Collins and one University of Exeter scientist Chris Kerry. The project lead, Dr Claire Collins will have overall responsibility for designing and implementing all project activities, leading fieldwork and Masters student supervision. We anticipate 15% of Dr Collins' time will be spent designing and planning fieldwork, 45% on fieldwork and 40% on managing data collection and analysis. Dr David Curnick will oversee monitoring and evaluating project progress, project reporting and supervising Dr Claire Collins. Dr Curnick has previous experience overseeing Darwin projects (including Darwin project DPLUS127). Chris Kerry will conduct fieldwork including taxonomic advice and practical delivery of shark surveys. We estimate 75% of Chris Kerry's time will be spent conducting fieldwork and 25% on preparation for fieldwork.


Although not formally listed as partners as there is no resident community on BIOT, we anticipate that individuals from within the contractor community that live on Diego Garcia will be engaged with this project from its outset. This includes consistent involvement by the three Environment Officers who live on DG alongside contractor personnel that are engaged in maritime and fishing activities. These links are strengthened by military personnel involvement whenever priorities and workloads permit. Strong links exist with these communities amongst the existing project teams due to previous engagement in Darwin Plus Main Project DPLUS127 and Darwin Plus Local DPLR1\1034.


I confirm that all listed partners are aware of this application and have indicated support:


Checked

Attach a Cover Letter for your application (Guidance section 4.2).

 [DPLR31016 coverletter](#)

 29/11/2023

 21:25:14

 pdf 475.82 KB

Section 4 - Project Summary & Description

Q5. Project Summary (Guidance section 3.8)

Please provide a brief summary of your project. This may be used in communication activities and/or published online, if your application is successful.

Since creation, BIOT MPA has suffered from persistent illegal fishing contributing to substantial declines in sharks including suspected local level extinctions. Presence of military operations and a patrol vessel at Diego Garcia deters illegal activity and anecdotal reports suggests it is used by various species at key life-history stages, but no data exists. We propose the first systematic data collection, utilising Local Ecological Knowledge and stereo baited underwater cameras, to assess the island's role as a vital refuge for sharks.

Q6a. Description (Guidance section 2.1 and 6)

Please provide a description of your project, including:

- the overall objective
- the current situation and the problem the project is trying to address
- what success will look like and how you will measure it

Please be as specific as possible when describing the project, using quantified data and evidence where available. You may wish to consider: what are the specific threats to the environment that the project will attempt to address, and what should we know about these threats? What does your successful project look like? And how will you demonstrate whether and how your project has been successful?

Over the last 50 years, populations of sharks have decreased dramatically, primarily owing to overfishing. Such declines increase the importance of no-take Marine Protected Areas (MPAs) to provide vital refuges. On creation, BIOT MPA was considered 'near pristine' yet persistent illegal fishing, has contributed to substantial recorded declines. Reef shark populations have suffered from local level extinctions and species such as silvertip sharks are just <10% of baseline levels. Accordingly, there is an urgent need to understand species-specific spatial and temporal use of the MPA to prioritise protection and enforcement.

Spatial data from enforcement suggests Diego Garcia (DG), the only inhabited island, is highly protected from illegal fishing due to military presence and the home port of the MPA patrol vessel. Anecdotal reports suggest DG supports various life-history stages of species including juvenile hammerheads *Sphyrnidae*, lemon shark *Carcharhinus melanopterus* and blacktip reef shark *Negaprion brevirostris*. However, despite scientific research in MPA outer islands, knowledge for DG is restricted to anecdotal reports from visual shore sightings and bycatch from shore and boat based recreational fisheries. This data is not collated and insufficient capacity for species identification exists. In addition, zonation for recreational fisheries on DG is poorly informed despite the potential importance of the lagoon as a nursery area.

Building on existing links with recreational fishers developed through Darwin projects DPLUS127 and DPLR1_1034, this project uses cost-effective social science methods, including Local Ecological Knowledge (LEK), to map presence, distribution and trends in shark sightings and bycatch as well as trialling an interactive platform to utilise the ubiquity of mobile phones. During a three week fieldwork period in months 1-2, semi-structured interviews with a participatory mapping element will be used to collect data on interactions and sightings with sharks. Participants will also be trained on how to use the platform for submitting sighting videos and pictures.

Concurrently, an island wide systematic census for sharks will be instigated through the deployment of stereo baited camera systems (herein referred to as 'BRUVs') to record species and estimate Total Length (TL) of sharks around the island. These will then be corroborated against LEK data observations. Protocols for BRUV deployments will be refined and performed in conjunction with environmental staff on island to ensure data is collected systematically over the course of a year to investigate temporal trends in habitat and space use. This data will corroborate data collected through DPLUS127 but by using baited underwater cameras at sites around the island identified as important for sharks we will gather the first comprehensive dataset. During fieldwork, engagement events will also be run to improve species identification skills and knowledge of proper bycatch techniques.

Data analysis will be conducted in months 1-6 by two masters student based at ZSL and Exeter University who will analyse the social science and BRUV data respectively. Data will be used to refine zonation for recreational fisheries in months 11-12 and create dissemination outputs in the form of presentations and training leaflets delivered by on-island environmental staff. It will also be used to inform prioritisation of conservation efforts on island and to ensure that important areas are protected long-term, which is particularly important given the

ongoing presence of military activities and discussions around the island's utility and sovereignty.

Successful implementation of this project will be demonstrated by; well-attended events (150 individuals across all), completion of LEK interviews with 75 individuals, and subsequent submission of data to the interactive platform by at least 50 individuals and completion of 25 BRUV deployments.


Q6b. Long-term sustainability (Guidance section 2.1 and 6)


Please describe the long-term benefits of the project and the change it will bring about. How will the outcomes of the project be sustained after the funding is finished?


This project will help protect the biodiversity of DG by instigating the first systematic data collection around the importance of the island for shark populations. To date, scientific research on sharks has focused on MPA outer islands and grey and silvertip sharks leaving key knowledge gaps for DG. Filling these gaps is imperative bearing in mind the pressure on shark populations across the MPA due to illegal fishing and will improve justification for protecting areas that are key for various life-history stages of different species. Current research suggests grey sharks utilise pelagic resources more during November-Feb, but there is no understanding as to whether this means they, and other species, are temporally absent from DG during this period.


By training on island environmental staff and investing in the latest technology to conduct BRUVs, capacity to continue with surveys will exist on-island for the first time. Training and engagement events will also enhance taxonomic identification skills on island, reducing mis-identification which is currently commonplace and obscures understanding of shark populations around DG. This project will also further enhance safe bycatch practices by training recreational fishers and on-island environmental staff which is imperative as current practices are harmful for humans and sharks.

(Optional) Please upload any additional and supporting materials or files (such as maps of project sites, etc) below. Maximum of 5 sides of A4, and is combined as a single PDF:

 [DPLR31016 coverletter](#)

 29/11/2023

 21:22:41

 pdf 475.82 KB

Section 5 - Project Outcome(s)

Q7. Project Outcome(s) (Guidance section 1.2)

Successful Darwin Plus Local projects must demonstrate measurable outcomes in at least one of the themes of Darwin Plus with a clear focus on biodiversity and the natural environment, either by the end of the project or soon after through a credible plan.

Please confirm that your project has a clear focus on biodiversity and the natural environment.

Checked **Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;**

Unchecked **Climate change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;**

Unchecked	Environmental quality: improving the condition and protection of the natural environment
Checked	Capability and capacity building: enhancing the capacity within OTs, including through community engagement and awareness, to support the environment in the short- and long-term.

Please justify your selection. Please use quantitative information where possible here.

This project directly aims to further enhance community engagement with shark conservation, including improve handling of bycatch within recreational and shore-based fisheries and improving taxonomic identification skills and knowledge. In turn, this will improve perceived legitimacy of recreational fisheries zonation.

It will represent the first efforts on island to build capacity to conduct systematic surveys for sharks. By collating the first dataset on shark populations, it will provide evidence to support conservation efforts to enhance DG's ability to act as a refuge for sharks which is vital considering the dramatic declines observed across the MPA.





Section 6 - Workplan

Q8. Workplan (Guidance section 2.2)

Please provide anticipated dates for the start and end of your planned project here. Please use the Darwin Plus Local Project Workplan (available at: [Darwin Plus website](#)) to provide a list of the individual activities you have planned for this project, a brief description of what each activity entails, and the months in which the activities will be carried out. If the project involves only one activity (e.g. a purchase), please still provide project start and end dates (noting estimated times for procurement). Please note that your project must start after 1 April 2024 and be completed by 31 March 2025.

Start date:	End date:	Duration (e.g. 3 months):
01 April 2024	31 March 2025	12 months

Please upload the completed Darwin Plus Local Project Workplan with your proposed project activities here

-  [DPLR31016 Workplan](#)
-  29/11/2023
-  20:14:13
-  docx 32.67 KB

Section 7 - Costs

Q9. Costs (Guidance section 2.2 and please read the Finance Guidance)

Please provide a breakdown of costs to be funded through Darwin Plus Local (in GBP).

Are you seeking any matched funding for this project?

Yes

How much matched funding are you seeking and where from?

Chris Kerry's salary is fully funded by Convex until May 2026 so we propose match funding his contribution to fieldwork preparation, fieldwork and masters student supervision through this funding. We propose that fieldwork is only for 3 weeks as we can take advantage existing knowledge of staff members (David Curnick and Claire Collins) and established links with community members through previous fieldwork in 2022 and 2023.

Budget line	Explanation	Cost in GBP
Staff costs:	Claire Collins annual salary (25%) @ £11,535 David Curnick annual salary (5%) @ £4,046	██████████
Consultancy costs:	n/a	£0.00
Overhead costs:	ZSL overheads (on non-capital costs) @ 15%	██████████
Travel & subsistence costs:	Return flight from Bahrain to Diego Garcia @ ██████████ Return flight from London to Bahrain @ ██████████ Return travel in UK @ ██████████ Accommodation in Bahrain @ ██████████ Accommodation in DG @ ██████████ Fieldwork per diems @ ██████████	██████████
Operating costs:	Data and communications for fieldwork @ ██████████ Boat hire @ ██████████	██████████
Capital equipment:	Survey incentives (t-shirts) @ ██████████ Refreshments and spaces for outreach events @ ██████████ Printing promotional and survey material @ ██████████ Stereo BRUV units (pelagic and benthic housings) @ ██████████	██████████
Other Costs	n/a	£0.00
Total:		██████████

This section provides more information on the budget to help evaluators understand how you will use the funds you are requesting. You do not need to list all costs, but please list and detail costs of more than £1,000 per item below, under the appropriate budget line.

Details of staff costs over £1,000 (if relevant)

Due to the absence of a residential population, projects need to be staffed by external members of staff to avoid conflict with existing work and contractual responsibilities of contractors and military personnel on Diego Garcia. Salary costs of two staff members have been reduced by matched funding as far as possible.

Details of overhead costs over £1,000 (if relevant):

Overhead costs have been reduced as far as possible.

Details of travel and subsistence costs over £1,000 (if relevant):

Travel and subsistence costs are restricted by context and cheaper options have been sought where possible. For example, price for military flights from Bahrain to Diego Garcia are fixed each year and there is no alternative transport source to British Indian Ocean Territory. In addition, accommodation is restricted to one provider with the cheapest single-occupancy room option chosen

Details of operating costs over £1,000 (if relevant):

Due to boats being offered by American military providers, no cheaper options are available for larger vessels capable of operating outside of the lagoon. However, within the lagoon, BRUV surveys will be conducted using smaller boats that are free for use for scientific research teams saving a considerable amount of money on boat hire and fuel costs.

Details of capital equipment costs over £1,000 (if relevant):

Equipment chosen for BRUVs represents the best available to scientific teams based on existing team knowledge and extensive experience conducting such surveys. The chosen units have been costed at a discount price due to an existing arrangement between the producers and lead project partners.

Details of consultancy costs over £1,000 (if relevant):

No Response

Details of other costs over £1,000 (if relevant)

No Response

If your project budget was prepared in another currency and converted to GBP, please provide the exchange rate, its source, and the date it was accessed:

Other currency:	Exchange rate:	Source of this exchange rate:	Date exchange rate accessed:
<i>No Response</i>	<i>No Response</i>	<i>No Response</i>	<i>No Response</i>

Darwin Plus Local has been created to build capacity and contribute to local economies in-territory.

What % of the total will be spent in the OTs? 10

If less than 80% of the total project spend is to be spent within the OT(s), please explain why.

BIOT has no residential population with all participants living there on a temporary contractual basis and working full-time. Therefore, external teams are needed to manage environmental programmes and ensure they deliver against their objectives as community members would not be able to do so with their existing work commitments. Instead, this project will be delivered by scientists at ZSL which has a long history (20 years +) of working within UKOTs, including BIOT where it has helped deliver two Darwin projects (19-027) and has another on-going (DPR9S2\1015). ZSL also leads and coordinates a programme of science in BIOT (Bertarelli Programme in Marine Science - BPMS). The BPMS comprises >100 scientists across 25 institutions from six countries with an interdisciplinary programme of work on conservation science in BIOT (<https://www.marine.science>).

Section 8 - Local and National Priorities

Q10. Local and national priorities

Please explain how this project aligns with local and national priorities? You may wish to consider the project in the context of national environmental laws, objectives, strategies, territory specific agreements, action plans or policies.


Specifically, this project will align with UK government priorities to introduce sustainable management across the OT's. For example, under the '25 Year Environmental Plan to Improve Our Environment', DEFRA set out plans to "work with OTs to encourage the adoption of best sustainable management practice of coral reefs, as well as their associated ecosystems" (DEFRA, 2018). It will specifically address local priorities in terms of the 'BIOT Biodiversity Action Plan for shallow coral reefs' and commitments associated with protecting a Ramsar site (1077). Further, it will directly address one of the BIOT Administration conservation priorities (<https://biot.gov.io/environment/>), which is; "studying our key species and habitats to ensure we are providing the best protection and stewardship".

Will the project take place on Government owned land or water or involve biocontrol, invasive alien species control or eradication?


Yes

Please attach evidence that you have Government support for this project i.e. a Letter of Support. Applications which indicate that they do not take place on Government land or water, but which propose work that appears to the reviewers would be difficult/impossible to carry out without working on government land or waters may be ineligible if no Letter of Support is provided.

 [Collins_supportletterDPL](#)

 29/11/2023

 20:37:15

 pdf 204.86 KB

Section 9 - Project Risks

Q11. Project Risks

Please demonstrate your consideration of any risks involved in this project and how you intend to manage them. Please note the importance of health and safety and environmental risk assessment in the design of your project. If there is any possibility that your project may have negative impacts on the environment or human health, it is important that you provide a comprehensive analysis of potential environmental and human health risks, and the prevention measures you will take to ensure the work does not cause harm.

Depending on your project, you may wish to consider:

- Biosecurity risks – particularly for projects involving external equipment.
- Safeguarding risks – particularly for projects involving vulnerable groups such as children, older people or people with disabilities.

Risk

Mitigation

British government authorities are currently in talks with the Mauritian government over the sovereignty of BIOT (also known as Chagos). The outcome of these talks is unclear although both American and British governments have strongly suggested that the current arrangement for a military base on Diego Garcia will remain.

Fieldwork will be conducted in early 2024 and it is highly likely that in the unlikely event Diego Garcia changes hands, there will be a considerable grace period. In addition, all elements of the work are designed to be community-led, requiring only external assistance for a period of 3 weeks. In the unlikely event that management of Diego Garcia changes, we are satisfied that the main objectives of the project could still be met either through flexibility of fieldwork and increasing community management of the scheme. Strong links exist with community members through DPR9S2\1015 project work.

No Response

No Response

No Response

No Response

Do you require more fields?

No

Section 10 - Terms & Conditions

Q12. Terms and conditions (Guidance section 3.10)

By applying for Darwin Plus Local you are adhering in full to the grant Terms and Conditions in full (available at: [Darwin Plus website](#) and as referenced in the Guidance at section 3.10). For information, the Terms and Conditions include requirements for all applicants to (amongst other requirements as per the full Terms and Conditions):

- Uphold a zero tolerance for inaction approach to tackling sexual exploitation, abuse, and harassment.
- Where appropriate, make all reasonable and adequate efforts to address gender inequality and other power imbalances.
- Notify all cases of fraud and theft (whether proven or suspected) relating to the project to the Grant Administrator as soon as they identified.

Please indicate you have read, and understood, and will adhere to the Terms and Conditions.

Checked

Supporting documents list (please have these ready to attach with application)

- Cover Letter of no more than two A4 pages. (Guidance section: 4.2 has information on what this cover letter should include).
- If the project takes place on public land or water or is addressing invasive alien species, a Letter of support from OT Government.
- Project Workplan in the template provided for Darwin Plus Local (available at: [Darwin Plus website](#)).
- Map and additional information (optional) maximum five additional pages.

If your application is successful

If your project application is successful, the Fund Administrator (NIRAS) will ask you to provide some financial evidence for due diligence checks before you receive your project grant. (Please see section 3.3 of the Darwin Plus Local Finance Guidance). Please be ready to provide this evidence promptly.

- **Financial evidence for organisations:** Year-end financial statements, the latest management accounts or audited accounts (if you have these).
- **Financial evidence for individuals:** Proof of identity such as a passport, ID card or driving licence and solvency (such as bank statements) and a police check.

Section 11 - Certification

Certification

I certify that, to the best of my knowledge and belief, the statements made in this application are true and the information provided is correct.

Checked

I have the authority to submit an application on behalf of my organisation.

Checked

Name: Dr Claire Collins

**Position in the organisation:
(if applicable)** Postdoctoral researcher

Signature (please upload e-signature)

 [Signature](#)
 29/11/2023
 20:39:05
 png 10.02 KB

Date: 29 November 2023

Section 12 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance documents, including the “Darwin Plus Local Guidance” and the “Darwin Plus Local Finance Guidance”.	Checked
If my proposed project takes place on public lands or water or is addressing alien invasive species, I have uploaded a Letter of Support from Government.	Checked
I have uploaded a cover letter that details the information requested in the guidance (Guidance section 4.2 has information on what this cover letter should include).	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 my project that fit this Round.	Checked
I have provided my summary budget based on UK government financial years i.e. 1 April – 31 March and in GBP in the application form.	Checked
I have uploaded my project workplan using the specific template provided.	Checked
I have uploaded all supplementary documents if I have any.	Checked
(If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.	Checked
The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	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 Darwin Plus. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share project news. You are free to unsubscribe at any time.

Checked

Data protection and use of personal data

Information supplied in the application form, including personal data, will be used by Defra as set out in the **Privacy Notice**, available from the [Forms and Guidance Portal](#).

This **Privacy Notice must be provided to all individuals** whose personal data is supplied in the application form. Some information may be used when publicising Darwin Plus including project details (usually title, lead partner, project leader, location, and total grant value).

Project Title:

Darwin Plus Local

Provide a **Workplan** that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project. Round 3 is for a **maximum of 12 months** with activities starting from 1 April 2024. All activities must be completed by 31 March 2025.

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 shade only the months in which an activity will be carried out. The workplan can span multiple pages if necessary.

Activity #	Description (max 25 words)	No. of months	UK Financial Year 2024/25											
			Calendar Year 2024									Calendar Year 2025		
			Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	Preparing LEK data collection protocols and stereo BRUV protocols													
2	Preparing online data collection platform													
3	Training and supervision of masters students (2)													
4	Fieldwork: LEK interviews													
5	Fieldwork: BRUV surveys													
6	Fieldwork: outreach events													
7	Submission of bycatch and interaction sightings to online platform													
8	Creation of recreational fisheries zonation outputs and dissemination outputs													
9	Final reporting													