

Applicant: **Hollingsworth, Lindsey**  
Organisation: **British Indian Ocean Territory Administration**  
Funding Sought: XXXXXXXXXX  
Funding Awarded: **£0.00**

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# **DPLR3\1056**

## **Pilot Trapping Project for Invasive Rats on Diego Garcia**

The aim is to pilot new technological trapping systems to reduce invasive black rats (*Rattus rattus*), improving breeding conditions for critically endangered Hawksbill and Green Sea turtles and allow important seabird colonies on island to recover. Additionally, the reduction of rats and increase in seabird productivity is conducive to healthy coral reef systems and promote native plant regeneration. This pilot aims to test whether targeted trapping can reduce predation rates and establish whether a larger future trapping programme is feasible.

## CONTACT DETAILS

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**Title** Miss  
**Name** Lindsey  
**Surname** Hollingsworth  
**Organisation** British Indian Ocean Territory  
Administration

**Tel (Work)** [REDACTED]

**Tel** [REDACTED]

**Email (Work)** [REDACTED]

[REDACTED]

**Address** [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

# DPLR3\1056

Pilot Trapping Project for Invasive Rats on Diego Garcia

## Section 1 - Project Title & Contact Details

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### Q1. Project Title

Pilot Trapping Project for Invasive Rats on Diego Garcia

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

Organisation

#### CONTACT DETAILS

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<b>Title</b>	Miss
<b>Name</b>	Lindsey
<b>Surname</b>	Hollingsworth
<b>Organisation</b>	British Indian Ocean Territory Administration
<b>Tel (Work)</b>	[REDACTED]
<b>Tel</b>	[REDACTED]
<b>Email (Work)</b>	[REDACTED]
<b>Address</b>	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

#### GMS ORGANISATION

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Type	Organisation
Name	British Indian Ocean Territory Administration
Phone (Work)	[REDACTED]
Email (Work)	[REDACTED]
Website (Work)	[REDACTED]
Address	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]

## Section 2 - Overseas Territory(ies)

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### 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)?

Yes

**Please list these below and describe how they will benefit:**

Invasive non-native Black Rats are a significant threat to biodiversity for many UK Overseas Territories. This pilot project can provide a baseline and lessons learnt for UK overseas territories that are experiencing high numbers of invasive rats which results in a decline in native biodiversity.

## Section 3 - Project Partners





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### 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.

<b>Project Leader name (Guidance section 3.1):</b>	Lindsey Hollingsworth
<b>Lead Partner name (if applying as an organisation; Guidance section 3.1):</b>	British Indian Ocean Territory Administration (BIOTA)
<b>Lead Partner Website (if applicable):</b>	<a href="https://www.biot.gov.io/about/">https://www.biot.gov.io/about/</a>
<b>Is the Lead Partner based in a UKOT where the project is working (Guidance section 3.1)?</b>	<input checked="" type="radio"/> Yes
<b>List other partners involved and where are they based:</b>	Not applicable
<b>Summary of roles and responsibilities of each partner in the project:</b>	British Indian Ocean Territory administration (BIOTA) is the government of the Territory where the project will be delivered. The governance includes an Environmental Team. Environment Officers are responsible for conservation management on Diego Garcia. There are two Environment Officers and one Strategic Environment Officer. One Environment Officer will manage and coordinate rat trapping pilot on DG carefully, by selecting sites for traps based on distribution of important nesting turtle and bird species. Regular monitoring of the traps, replenishing baits and canisters as required, continued monitoring and data gathering from the digital counters on traps and reporting information. Regular surveying of turtles and bird populations in areas will help determine if rat trapping is having a positive impact on local species.
<b>I confirm that all listed partners are aware of this application and have indicated support:</b>	Checked

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

-  [Darwin Plus Local Round 3- Cover letter](#)
-  28/11/2023
-  03:59:45
-  pdf 115.62 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.**

The aim is to pilot new technological trapping systems to reduce invasive black rats (*Rattus rattus*), improving breeding conditions for critically endangered Hawksbill and Green Sea turtles and allow important seabird

colonies on island to recover. Additionally, the reduction of rats and increase in seabird productivity is conducive to healthy coral reef systems and promote native plant regeneration. This pilot aims to test whether targeted trapping can reduce predation rates and establish whether a larger future trapping programme is feasible.

## 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?**

Black rats (*Rattus rattus*) have been present on the Chagos Archipelago, in the mid-Indian Ocean, since the late 1700s when the archipelago was settled (Wenban-Smith & Carter, 2016) and are potentially limiting populations and recruitment in native seabirds, terrestrial crabs, turtles, native forests and coral reefs. Targeted rat removal in concentrated areas of nesting seabirds and turtles could reduce the rate of predation and increase populations of the important native species Red footed boobies, endangered green and hawksbill turtles and in turn increase the nutrient cycling required for healthy coral reef systems (Graham et al 2018).

A feasibility assessment was conducted in 2015 which determined rat eradication was feasible however would require evaluation of rat populations island-wide which would demand extensive resources and the use of poisonous chemical which poses risk to staff on island, water quality and other wildlife. Since this assessment, new rat trapping technology has emerged, a UK-based organisation has created self-setting traps using CO2 canisters. This is a technique that has not been trialled in Diego Garcia before, but has successfully worked in Wellington, New Zealand. This project aims to build on research conducted in Diego Garcia with regards to rat predation on sea turtle eggs. The research highlights that 3.1% of eggs were predated within nests, 18.1% died during incubation without predation and 13.9% were removed. (Stokes et al, 2023).

Controlling the rat population in targeted areas will reduce predation rates on important native species and increase productivity of the island ecosystems. Studies have shown increased seabird populations are linked to healthier reef systems, these systems are the foundation for a huge part of the territory's biodiversity (Jones et al, 2016).

A successful project is one that highlights the new technology is effective in reducing invasive rat populations which is having a positive impact on seabird and turtle nesting productivity. Data will be collected on seabird and turtle populations throughout the project to monitor predation rates. An increase in seabird and turtle populations will provide evidence for a longer-term island wide rat removal scheme. Raising awareness around invasive species through biosecurity training will deepen understanding of negative impacts of invasive species and contribute to conservation management plans on Diego Garcia.

Ref Wenban-Smith, N. and Carter, M. (2016). Chagos: A History; Exploration, Exploitation, Expulsion. London: Chagos Conservation Trust

Ref Graham et al, Nature, 2016 – Seabirds enhance coral reef productivity and functioning in the absence of invasive rats

Ref Jones et al. – 2016 – Invasive mammal eradication on island results in substantial conservation gains

Ref Stokes et al. - 2023 - Predation of sea turtle eggs by rats and crabs

## 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?**

The benefit of reducing rats on Diego Garcia (DG) will have a positive impact on the coral reefs ecosystem surrounding the atoll. Healthy reefs are essential to the future of the island, since they are the most reliable defence against coastal erosion.


If this project succeeds in having a positive impact on the seabird and turtle nesting populations there is potential to expand its scope, if viable, a complete eradication of rats island-wide would be pursued. Biosecurity and monitoring plans will need to be put in place to avoid reinvasion of rats in areas which have just been targeted to ensure rat populations don't rise. Additionally, outreach to those on DG will raise awareness of impacts of rats on the local environment. Data collected from the rat trapping and understanding of the rat population dynamic can help inform best management practice.


BIOTA's environmental priorities include rat eradication, a pilot based project with opportunity to review biosecurity and management plans will directly benefit BIOTA and contribute to the OT biodiversity strategy and 25-year Environment Plan.


This project will benefit researchers from the Bertarelli Programme in Marine Science programme as removing invasive species interlinks with their seabird, coral and turtle research.

**(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:**

 [DPLR3 - 1056 Supporting documentation](#)

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 pdf 531.96 KB

## Section 5 - Project Outcome(s)

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### 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;**

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

Checked **Environmental quality: improving the condition and protection of the natural environment**

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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.**

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

This project aims to trial new technology of rat traps to remove invasive rats from important seabird and turtle nesting sites. By removing these invasive species, native populations can thrive and encourage vital nutrient cycling within coral reef ecosystems, this has been found to improve coral reliance to climate change. Community engagement and awareness around biosecurity and importance of seabird and turtle populations on wider ecosystems will encourage pro-environmental behaviours. This short-term pilot project will provide scope for wider rat eradication throughout DG, removing all negative impacts of rats on terrestrial and marine environments.

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## Section 6 - Workplan

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### 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	1 year


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

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 [DPLR31056 Workplan](#)

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## Section 7 - Costs

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### 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?**



Yes – seeking [REDACTED] from the BIOT administration in the form of salary, vehicle costs, fuel costs

Budget line	Explanation	Cost in GBP
<b>Staff costs:</b>	Environment Officer time – match funding over course of project – [REDACTED] [REDACTED] [REDACTED] In kind match funding by BIOT administration Opportunity to use community/volunteer engagement on island from US/BRIT forces/contractor participation	[REDACTED]
<b>Consultancy costs:</b>	Not applicable	£0.00
<b>Overhead costs:</b>	Not applicable	£0.00
<b>Travel &amp; subsistence costs:</b>	match funding: driving to and from plantation 2/3 times a week for duration of project [REDACTED] week for 3 journeys to and from plantation [REDACTED] a month x 8 = [REDACTED] dollars in fuel	[REDACTED]
<b>Operating costs:</b>	Additional canisters to reset traps are sold in bundle packs [REDACTED]	[REDACTED]
<b>Capital equipment:</b>	Traps are available in packs of 5 which include <ul style="list-style-type: none"> <li>• 5 x A24 self-resetting Rat &amp; Mouse Traps</li> <li>• 5 Digital Strike Counters</li> <li>• 10 x 16g CO2 Gas canisters</li> <li>• 5 x Long-life rat lures</li> <li>• 5 x Rodent Detector Kits</li> <li>• 5 x Tree Mounts</li> <li>• 3 x 200g Lure Pouch</li> <li>• 5 x Lure Baskets</li> </ul>	[REDACTED]
<b>Other Costs</b>	Shipping – use of a container from the UK will cost between [REDACTED] - [REDACTED] however if possible, to use MOD route this can be shipped free of cost.	[REDACTED]
<b>Total:</b>		[REDACTED]

**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)**

Lindsey Hollingsworth, Environment Officer, 10% of time to manage delivery of on island activities, project reporting and outreach materials

Caroline Gittins, Environment Officer, 5% of time to assist with delivery of on island activities

George Balcombe, Strategic Environment Officer, 5% of time to assist with delivery of on island activities

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

Not applicable

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

Not applicable - costs under £1000

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

Not applicable - costs under £1000

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

GoodNature traps UK are sold in bundles of 5 with require accessories to successfully run the traps. Each bundle includes

- 5 x A24 self-resetting Rat & Mouse Traps
- 5 Digital Strike Counters
- 10 x 16g CO2 Gas canisters
- 5 x Long-life rat lures
- 5 x Rodent Detector Kits
- 5 x Tree Mounts
- 3 x 200g Lure Pouch
- 5 x Lure Baskets

Each bundle costs £ for 250 traps

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

Not applicable

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

Cost of shipping good from UK to Singapore per container are between £7000-£8000 which will be required for items to reach Singapore to join onto connecting ship to Diego Garcia. However if possible and time frames permit there is an option to use MOD route this can be shipped free of cost.

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**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:**

<b>Other currency:</b>	<b>Exchange rate:</b>	<b>Source of this exchange rate:</b>	<b>Date exchange rate accessed:</b>
US Dollar	1 USD to 0.80 GBP	Google exchange	22 November 2023

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**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? 17

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

BIOT is an uninhabited island and therefore does not have an internal economy. Materials therefore have to be procured in the UK and shipped out to Diego Garcia. Materials purchased for the project will continue to leave a

legacy impact in territory after project closure as personnel on island can be trained to reset and monitor traps allowing for a continuation of data collection and invasive species removal.

## Section 8 - Local and National Priorities

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### 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.**

BIOT Environmental priorities

The BIOT Administration has identified eleven conservation and environmental priorities to ensure protection of this unique environment for the future. This project aims to address the following;

- Eradicating invasive rats which threaten native seabird populations, and impact the delicate balance of BIOT's ecosystem
- Protecting BIOT from invasive flora and fauna

With overarching plans to ensure biosecurity protocols are embedded into best practice to ensure the best protection and stewardship for key species and habitats.

UK Governments overseas Territory Biodiversity Strategy

This project will contribute to the strategy's priorities of.

- preventing the establishment of invasive alien species, and eradicating or controlling species that have already become established

UK Governments 25-year environmental plan

This project will contribute to the target; Enhancing biosecurity.

We will enhance biosecurity to protect our wildlife and livestock, and boost the resilience of plants and trees. We will do this by:


managing and reducing the impact of existing plant and animal diseases; lowering the risk of new ones and tackling invasive non-native species


We aim to reduce predation on important native species and reduce the threat of invasive rats to the ecosystem which in turn allows native biodiversity to recover.


**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.**

 [BIOTA SUPPORT LETTER for Dawrin Local Plus Round 3 1056](#)

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## Section 9 - Project Risks

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### 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
Biosecurity risk – movements on and off island can pose threat to bringing in more invasive species/rats	Thorough checks are completed for all ships and aircraft containers coming on to island by customs personnel.
Health and Safety when working out in the field deploying traps and monitoring traps	Provide a detailed risk assessment for all staff members and volunteers, provide brief prior to each field visit so all parties are aware of any possible health and safety risks.
<i>No Response</i>	<i>No Response</i>

Do you require more fields?

No

## Section 10 - Terms & Conditions

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### 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**

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### **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:** Lindsey Hollingsworth

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**Position in the organisation:** Environment Officer  
(if applicable)

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**Signature (please upload e-signature)**

 <a href="#">signature</a>
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**Date:** 28 November 2023

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## **Section 12 - Submission Checklist**

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### **Checklist for submission**

**Check**

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<b>I have read the Guidance documents, including the “Darwin Plus Local Guidance” and the “Darwin Plus Local Finance Guidance”.</b>	Checked
<b>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.</b>	Checked
<b>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).</b>	Checked
<b>I have read, and can meet, the current Terms and Conditions for this fund.</b>	Checked
<b>I have provided actual start and end dates for my project that fit this Round.</b>	Checked
<b>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.</b>	Checked
<b>I have uploaded my project workplan using the specific template provided.</b>	Checked
<b>I have uploaded all supplementary documents if I have any.</b>	Checked
<b>(If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.</b>	Checked
<b>The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).</b>	Checked
<b>I have checked the Darwin Plus website immediately prior to submission to ensure there are no late updates.</b>	Checked
<b>I have read and understood the Privacy Notice on the Darwin Plus website.</b>	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: **Pilot Trapping Project for Invasive Rats on Diego Garcia**

### 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	Identify key rat trapping areas	1												
2	Ordering and shipment of traps to DG	2-3												
3	Installation of Traps	1												
4	Regular monitoring of traps twice weekly/replenishing canisters/bait	8												
5	Regular seabird and turtle monitoring	8												
6	Halfway Report	1												
7	Outreach sessions such a presentation, leaflets, quiz night (one at 6 months, 1 at the end of project)	1												
8	Finalise and submit report	1												