

Darwin Plus: Final Report

Project reference	Application Ref DPR9S2\1006 (DPlus 138)
Project title	Filling Knowledge Gaps to Enable Rewilding of the Chagos Archipelago
Territory	British Indian Ocean Territory (BIOT)
Lead Partner	Chagos Conservation Trust (CCT)
Project partner(s)	British Indian Ocean Territory Administration (BIOTA) Biodiversity Restoration Specialists Limited (BRS Ltd) S/Y Jocara
Darwin Plus Grant value	£73,672.00
Start/end date of project	01 July 2021 – 30 June 2023
Project Leader name	Dr Peter Carr
Project website/Twitter/blog etc.	Project articles are published on the CCT website - https://chagos-trust.org - and across CCT's social media platforms: LinkedIn, Twitter, Facebook and Instagram
Report author and date	Dr Peter Carr 21 June 2023

1 Project Summary

The project location is the British Indian Ocean Territory (Chagos Archipelago) in the central Indian Ocean (see map below). Specifically, the project is focussed on the four northern atolls of the archipelago, the Egmont Islands, the Great Chagos Bank, Peros Banhos and the Salomon Islands.

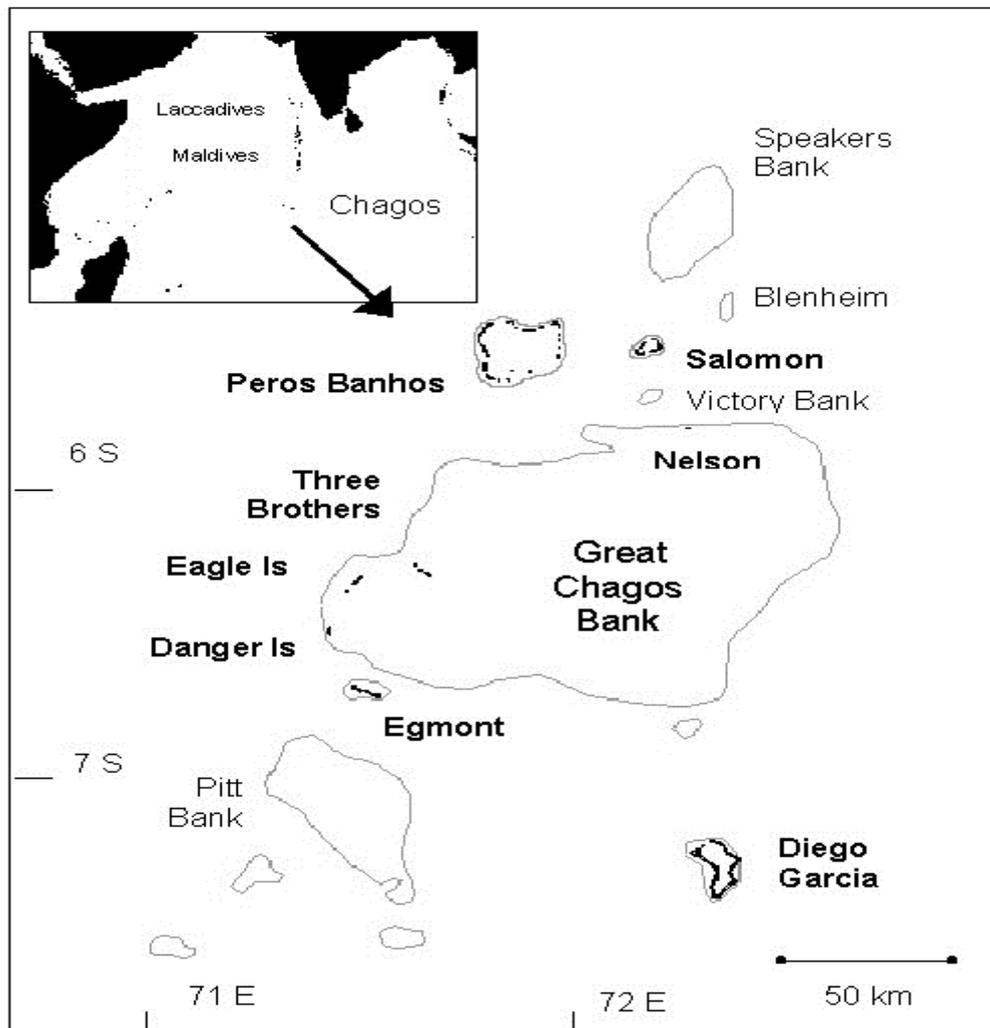


Figure 1. Map showing location of the Chagos Archipelago in an Indian Ocean context and the major atolls, islands and banks of the archipelago.

“The aim of this project is to collect data to fill knowledge gaps and inform a robust and effective Rat Eradication Operational Plan to successfully remove rats, allow rewilding and ultimately boost biodiversity across the archipelago” (from original Darwin application).

In essence, in 2019, the British Indian Ocean Territory Administration (BIOTA – the governing authority of this UK Overseas Territory) requested that the Chagos Conservation Trust (CCT) lead on the production of a plan to “rewild” the uninhabited northern atolls of the Chagos Archipelago. To that extent, CCT contracted a specialist eradication company, Biodiversity Restoration Specialists (BRS) of New Zealand, to produce the plan. BRS drafted a Chagos Archipelago Rat Eradication Operational Plan (REOP) and an associated Feasibility Study (FS) and Ecological Impact Assessment (EIA). These three documents were sent out for peer review. The FS and EIA are now finalised documents following the peer review. The REOP had areas identified where it

could be strengthened. The areas identified could not be addressed by a desk top exercise and required an expedition to the archipelago to conduct research to fill the knowledge gaps (See Section 3 for details of the knowledge gaps).

The project has provided an operational plan for the eradication of Black Rats *Rattus rattus* from the four northern atolls of the Chagos Archipelago. Recent scientific research, much of which originated from the Chagos Archipelago, has demonstrated the importance of “seabird islands” – islands where the ecosystem is driven by breeding and roosting seabirds. The seabirds deposit nutrients on these islands, mainly in the form of guano. Run-off from the islands transfers these nutrients across ecosystems, in particular the surrounding littoral and coral reef environs. Scientific research has demonstrated that these nutrient transfers from seabird islands are extremely beneficial to the surrounding ecosystems; fish grow larger, faster; coral reefs are more resilient to bleaching events; the Ocean is healthier around seabird islands. However, introduced, invasive predatory rats break this natural cycle by decimating the breeding seabirds. For example, in the Chagos Archipelago 96% of the breeding seabirds’ nest on 6% of the available landmass – and this is because this 6% is rat-free. By eradicating rats, the major step towards returning a seabird driven ecosystem will have been taken – restoring “healthy islands and healthy reefs”. In order to eradicate rats, a comprehensive rat eradication operational plan is needed. This project was designed to finalise that plan by filling knowledge gaps identified at peer review of the first draft.

2 Project Partnerships

At the project’s inception, there were to be two formal partners, the BIOT Administration – the governing authority of the Territory who supply the permits allowing research in the Chagos Archipelago and, a rodent eradication specialist. The New Zealand based company Biodiversity Restoration Specialists (BRS) were contracted by the Chagos Conservation Trust (CCT) to provide this expertise. There was also an informal partner, the Bertarelli Foundation (BF), who were supplying space on a vessel from which BRS were to conduct their research activities. It transpired that BF were unable to supply a vessel and CCT had to seek an alternative way for BRS to undertake their research. The solution was for CCT to charter (and fund) a vessel to transport BRS and act as mother-craft to BRS throughout the research expedition. This resulted in a third formal partner – the captain and owner of the yacht Jocara – Dr John Potter. BRS were formally contracted by CCT to fill the knowledge gaps in the REOP – these gaps were specifically detailed in the BRS contract (redacted contract available if required). The yacht Jocara was formally contracted by CCT to support BRS (redacted contract available if required). The BIOTA supplied the formal permissions to conduct the research. BRS and the captain of Jocara designed their own expedition programme to conduct the research needed to meet their contractual requirements. The CCT Programme Manager was kept fully abreast of the expedition planning. The agreed expedition research programme designed by BRS and Jocara is below.

Table 1. Research programme designed by Biodiversity Restoration Specialist Ltd and the captain of the sailing yacht (S/Y) Jocara to meet the requirements of their contracts with the Chagos Conservation Trust in order to fulfil the outputs of DPlus 138 Darwin Plus project.

30/05/2022	Harper and Birch (BRS) arrive Male, Maldives. Overnight in hotel.
31/05/2022	Harper and Birch embark Jocara. Finalise stores.
01/06/2022	Commence transit to Peros Banhos, BIOT.
03/06/2022	Enter BIOT territorial waters (weather dependent).
05/06/2022	Arrive Peros Banhos, anchor in lee (lagoon-side) of Ile Yeye. Commence presence/absence of rat survey of Ile Manoel.
10/06/2022	Transit to Moresby Island, Peros Banhos. Commence mangrove bait application, durability and palatability trials. Anchor in lee of Ile du Passe/Moresby Island.
13/06/2022	Transit to Ile Diamant, Peros Banhos. Commence presence/absence of mice survey & bait off-take trials. Anchor in BIOT anchorages off Ile Diamant.
18/06/2022	Transit to Ile du Coin, Peros Banhos. Anchor in BIOT anchorages off Ile du Coin.
19/06/2022	Commence presence/absence of mice survey & bait off-take trials. Anchor in BIOT anchorages off Ile du Coin.
25/06/2022	Transit to Gan, Maldives
27/06/2022	Exit BIOT territorial waters (weather dependent).
30/06/2022	Arrive Male, Maldives. Overnight in hotel.
01/07/2022	Fly to respective home countries.

The four-way partnership between CCT, BRS, Jocara and BIOTA proved effective, in particular the communication required when the expedition programme was impacted by unforeseen circumstances that resulted in a truncated research programme. The partnership of CCT, Jocara and BIOTA has continued with the yacht being chartered again by CCT to provide a platform for research required to fill knowledge gaps in the Chagos Archipelago Vegetation Management Plan. The rodent eradication expertise of BRS being replaced by different specialists required for this expedition in July 2023.

3 Project Achievements

3.1 Outputs

The project had two Outputs, the first stated “The presence of invasive predators and their impact on regionally significant wildlife is better understood and used to inform conservation management”.

To conduct a rodent eradication operation, a fundamental tenet of the operational plan is to know what islands the invasive predators are present on. In the Chagos Archipelago over a period of 15 years, Dr Peter Carr has been methodically reviewing the first list of islands with rats produced by Peter Symens and published in the book Ecology of the Chagos (Sheppard & Seaward 1999). By 2019, Carr had reviewed the status of rats on 54 of the 55 islands. One island, Manoel in NE Peros Banhos

remained uncertain. To have a comprehensive Rat Eradication Operational Plan (REOP), this knowledge gap needed filling. This led to Measurable Indicator 1.1 “Confirm presence or absence of rats on Ile Manoel by December 2021”.

On islands where both rats and mice have been introduced, mice often remain undetected, their presence being suppressed by the bigger, more aggressive rats. It has been known that after a successful rat eradication operation, previously undetected mice erupt and they themselves then become the dominant invasive predator. Whilst mice have never been detected in the Chagos Archipelago, there was a possibility that they may have been accidentally introduced throughout the plantation era. The most likely island to have had mice introduced was the largest and busiest island of Diego Garcia. It was known for sure that mice were not present on this island as Dr Carr was previously head of the Pest Control department on Diego Garcia and after three years of extensive rodent trapping operations not a single mouse was seen. Similarly, during the failed 2006 rat eradication operation on Eagle Island where a team of rodent experts lived and trapped rodents daily for over three months, not a single mouse was recorded. The only other islands that were permanently settled in the past (and therefore could possibly have mice) were Sudest in the Egmonts, Boddam in the Salomons and Coin and Diamant in Peros Banhos. Boddam has been regularly used by visiting yacht crews, especially throughout 1980 – 2010 and despite regular contact with yacht crews there has never been a report of a mouse. It was thought that for the purpose of the REOP, if it could be proven that mice were not present on Coin and Diamant, they were not introduced anywhere in the archipelago. This led to the second Measurable Indicator of 1.2 “Confirm presence or absence of mice on Ile du Coin and Ile Diamant by December 2021”.

By knowing for certain the distribution of invasive rodents in the Chagos, their impact on the regionally (and in the case of seabirds internationally) significant wildlife can be better understood. To strengthen this understanding a third Measurable Indicator was used and that is 1.3 “Baseline data collected on key native species by Bertarelli Programme in Marine Science to determine impact of rats and management techniques by June 2022 and built in to the Operational Plan”.

As discussed in Annex 2 Activity 1.7, BPMS scientists and researchers did not collect data when expected when the DPlus 138 project was being drafted. Also, as discussed in Annex 2, the wording of this Measurable Indicator was not well thought through. BPMS scientists have been and continue to contribute much more than baseline data through the publication of scientific papers and, the sharing of raw/baseline data with CCT. Indeed, possibly the most important paper justifying rat eradication operations on tropical islands came from BPMS scientists working in the Chagos (Graham, N.A., Wilson, S.K., Carr, P., Hoey, A.S., Jennings, S. and MacNeil, M.A., 2018. Seabirds enhance coral reef productivity and functioning in the absence of invasive rats. *Nature*, 559(7713), pp.250-253).

The sharing of knowledge and data between scientists and conservation practitioners working towards ecologically rehabilitating the degraded islands of the Chagos is a continuous process that will go on long after DPlus 138 has finished. If the shared data is relevant, it will be included in to the REOP.

The production of the Expedition Report to BIOTA (Annex 5a attached - that constitutes the technical strategy to be produced by the contracted rodent eradication experts Biodiversity Restoration Specialists) is evidence that Output 1 was achieved, backed up by the updated REOP (Annex 5b attached). The publication of scientific papers by BPMS scientists (e.g., Benkwitt, C.E., Gunn, R.L., Le Corre, M., Carr, P. and Graham,

N.A., 2021. Rat eradication restores nutrient subsidies from seabirds across terrestrial and marine ecosystems. *Current Biology*, 31(12), pp.2704-2711; Carr, P., Trevail, A., Bárrios, S., Clubbe, C., Freeman, R., Koldewey, H.J., Votier, S.C., Wilkinson, T. and Nicoll, M.A., 2021. Potential benefits to breeding seabirds of converting abandoned coconut plantations to native habitats after invasive predator eradication. *Restoration Ecology*, 29(5), p.e13386.) demonstrates the ongoing relationship between BPMS and CCT (Carr now being an employee of CCT). Further, as discussed at Activity 1.7, raw data has been and will continue to be shared between scientists and conservation practitioners to enhance the prospect of a successful rat eradication operation in the Chagos Archipelago.

Output 2 stated “Enhance partner’s capability to plan, manage, implement and monitor invasive predator eradication from the outer islands of the Chagos Archipelago”.

The whole point of DPlus 138 was to enhance partner’s capability to eradicate rats from the four northern atolls of the Chagos. The production of the updated REOP (Annex 5b) is what enhances partners capability – though this was not listed as a Measurable Indicator in the original project submission.

Measurable Indicator 2.1 (Increase capacity and capability of CCT in invasive predator eradication by June 2022 through the recruitment of technical expert and Programme Manager).had to be achieved for the DPlus 138 project to move forward and both were achieved. This Measurable Indicator is interesting in that it is short-termed. The technical expert held a short-term contract that has been fulfilled and BRS are no longer directly associated with CCT. The Programme Manager’s DPlus 138 contract expires in June 2023. Therefore, in theory, the capacity and capability that was increased in CCT by June 2022 will only exist in the form of the REOP post completion of the DPlus 138 project. (In reality, this has not happened as CCT had the forethought to contract the Programme Manager for a further period to author a vegetation management plan for the four northern atolls).

Measurable Indicator 2.2 (Increase knowledge of threats and conservation of Chagossian community member by June 2022.) was not achieved and is discussed at Activity 2.4 in Annex 2. In hindsight, it is not obvious why the authors of the original Darwin application included this Activity and the associated Measurable Indicators. Whilst undoubtedly a good thing to do, the hiring of a Chagossian research assistant would not directly contribute to achieving the Impact or Outcome. Therefore, in the time of Covid, with a very disparate population, limitations on only a UK based Chagossian could be employed for insurance purposes, limited time to promulgate the advert and assess candidates - hiring a very specific person was only ever going to present a huge challenge to achieve.

Measurable Indicators 2.3 – 2.5 were all achieved (see Annexes 5a and 5b). Indicators 2.3 and 2.4 filled knowledge gaps and therefore changed the state of play in terms of preparation and ability to prepare, plan and execute a rat eradication operation. Indicator 2.5 was completed and the biosecurity of the northern atolls post rat eradication is of paramount importance (see Annex 5c – updated Chagos Archipelago Biosecurity Plan attached). However, as discussed at Activity 2.11, time has marched on in the Chagos and other organisations are now involved that were not players when the original project application was submitted. In this specific case, the Centre for Ecology and Hydrology (CEH) are now engaged with biosecurity and are preparing their own biosecurity plan. Without clear direction from BIOTA and with the strong possibility of the sovereignty of the archipelago changing in the near future, the best

CCT can do with the reviewed biosecurity plan is to liaise with CEH to ensure the plans are either amalgamated or at least complimentary.

Two problems occurred during the project that had the potential for its' total failure. To meet the project's aim of filling the knowledge gaps in the REOP, an expedition to the Chagos was needed. This expedition had to visit the uninhabited northern atolls and therefore had to be vessel based. In the original application, the Bertarelli Programme in Marine Science (BPMS) had offered berths on a research vessel planned to be operating in the Chagos in July 2022. Unfortunately, this expedition was cancelled, a factor outside the control of CCT – and was listed as an Assumption. Without the necessary research expedition to fulfil Activities 1.3, 1.4, 2.5 and 2.7, the REOP could not be updated and therefore the overarching aim of the project would not have been met. CCT recognised the catastrophic impact upon the project the lack of vessel would have and chartered and funded their own vessel (S/Y Jocara) to ensure the project could continue. The fact that the BPMS expedition would go ahead and berths would be available for CCT was an Assumption that was monitored. What had not been planned was what would happen if the Assumption failed as in this case? It was only through the flexibility and positiveness of CCT that chartered and funded their own craft that this problem was resolved. Possibly, in the logframe, there should be a column that states what the action should be if the Assumption is not met.

The second problem occurred at the start of the research expedition in the Maldives. For the research activities to occur, toxic rodent bait was required. The toxic rodent bait was sent from the production company in New Zealand on behalf of BRS to the shipping agent in the Maldives for loading on to Jocara. It transpired that this bait was impounded by the Maldivian Customs and not released for seven days. This in turn stalled the departure of the S/Y Jocara for the Chagos and truncated the expedition programme. Fortunately, this delay did not overly impact the outputs of the expedition due to there being slack time within the programme that was taken up in order to meet the research requirements. The problem appeared to be that the Maldivian Customs were not content with the paperwork importing toxic bait to the country and sought payment before they would release it – the requirement for “special” paperwork is not evident on any Maldives related website, neither was the payment of fees to release products from Customs (in this case £2,678.44). The Maldivian shipping agent did not inform either BRS or Jocara of the requirement for additional paperwork or importation fees, and left the problem with BRS to sort out the release with the Maldivian Customs. Good negotiating skills and tenacity eventually saw the bait released. Sadly, the Maldivian shipping agent that the bait was sent to did not provide good service in that they did not inform the expedition in advance of the requirement for additional paperwork or importation fees, were not proactive in getting the bait released from Customs despite it being shipped to the Maldives well in advance of arrival of either Jocara or BRS and proved unhelpful throughout the negotiations with the Maldivian Customs. Possibly, more in-depth discussions with the shipping agent in preparation of the expedition may have prevented this event happening – though this is doubted by all involved.

3.2 Outcome

DPlus 138 outcome states “Effective invasive predator management via improved knowledge, increased capacity and appropriate planning to enable the rewilding of the seabird islands of the Chagos Archipelago”.

The whole premise of achieving the project Outcome was by filling of knowledge gaps in the Chagos Archipelago Rat Eradication Operational Plan (REOP) and updating the

REOP, filling the knowledge gaps identified at a previous peer review. The knowledge gaps were filled, the REOP has been updated and therefore the project Outcome has been met (REOP at Annex 5b).

Despite the Outcome being met, not all Measurable Indicators were achieved. This begs the question as to whether all of the Indicators were valid for measuring the success of achieving the Outcome.

Indicators 0.1 and 0.2 are directly related to “effective predator management”. Both were achieved as evidenced by the results published in the Expedition Report to BIOTA (Annex 5a). (It should be noted that the date required for achievement in 0.2 is obviously erroneous, the research expedition in the original application using the BPMS provided vessel was July 2022, it actually occurred onboard S/Y Jocara in June 2022. Therefore, the date of December 2021 should obviously have meant to be 2022).

Measurable Indicator 0.3, “Increased data for BIOTA’s environmental priority of understanding more about BIOTA’s unique terrestrial environment by June 2022” was achieved through the submission of the Expedition Report (Annex 5a). This Indicator does fulfil the requirement of “improved knowledge” in the Outcome.

Measurable Indicator 0.4, “Operational Plan for an archipelago rat eradication reviewed by experts and signed off by BIOTA by June 2022” was partially achieved and is discussed under the Outcome in Annex 2. Reiterating what has been covered in Annex 2, the future sovereignty of the Chagos Archipelago is being discussed by the UK and Mauritius and therefore CCT have delayed submitting the REOP for peer review and sign off by BIOTA until the sovereignty issue has some clarity. (This is coupled with the termination of the Environmental Officer post within BIOTA and the fact that BIOTA is fully engaged with the sovereignty talks and issues of human migrants landing in the archipelago). Again, the date for completion in the original submission was erroneous and should read June 2023 – the research expedition not planned until July 2022 and the end of project, with the culmination being the signing off of the REOP being June 2023.

Measurable Indicator 0.5, “Chagossian community in the UK are better engaged with conservation actions and informed about threats of invasive predators and the solutions to increasing biodiversity by June 2022” is further discussed at Activity 2.4 of Annex 2. This Indicator and the associated Activities was not achieved but, has had no detrimental impact upon the higher aims of the project. This has led to the question of whether this Indicator was valid as an assessment as to whether the project Outcome has been met?

3.3 Monitoring of assumptions

Assumptions were monitored throughout the life of the project and where Assumptions were not met, action was taken by CCT to remedy the situation, if possible. As discussed above under Outputs, the Assumption that BPMS would provide berths for CCT researchers in July 2022 was not met. CCT overcame this problem by chartering and funding S/Y Jocara to take the researchers to the Chagos to conduct their work. The chartering of SY Jocara was thought of as a solution to the unmet Assumption **after** the Assumption was not met. Possibly, as discussed under 3.1 Outputs, suggested solutions to unmet Assumptions should be part of the logframe, especially, as in this case, if no solution had been forthcoming, the project would have failed to meet its Outcome.

No project planning can have the foresight to see every problem that might be encountered throughout the life of the project. One Assumption that was absolutely taken for granted and therefore was not even listed as an Assumption, was that the British Indian Ocean Territory (BIOT) would remain a UK Overseas Territory and therefore, the governing authority who would issue all permits for future rat eradication operations. Being the governing authority, the BIOT Administration are the natural home for the REOP as the body who would issue the permit allowing the rat eradication to take place, BIOTA would have the REOP peer reviewed and would be the body that would “sign off” on the plan.

No organisation expected the statement in 2022 from the UK government informing all that the UK was in discussion with the Mauritian government about the future sovereignty of the Chagos. The impact upon the academic and conservation organisations working in the Chagos has been unprecedented, to the point where most major organisations have ceased operations until such times as direction on the way ahead has been given.

As discussed under the Outcome of Annex 2, coupled with the intergovernmental talks, which increased the workload of the BIOTA staff, there have been other stressors upon the BIOTA staff such as the arrival of human migrants by small boats on Diego Garcia. Further, the principle point of contact for conservation bodies in the BIOTA office, the position of Environmental Officer, is empty with the possibility of remaining so.

These factors when combined have led to the decision to stalling the submission of the REOP to the BIOTA. After clarity on future sovereignty has been made and the environmental point of contact re-established (be they UK or Mauritian) the REOP will then be submitted for peer review. Had the issue of sovereignty been included as an Assumption, the solution would have been what is happening, forestalling the submission of the REOP until future sovereignty is clarified.

4 Contribution to Darwin Plus Programme Objectives

This project contributes to Darwin Plus’ top three priorities of:

- Increasing the effectiveness of marine protected areas by collecting data to develop an effective *Invasive Predator Eradication Technical Strategy* that will result in tripling the area available to native species once invasive rats are eradicated.
- Conserving and managing coral reefs through the increase of nutrients available to reefs and mangrove forest ecosystems by confirming the size of mangrove forest on one of the two islands where these are found in the archipelago.
- Tackling invasive non-native species by confirming the distribution of invasive species and collecting vital data to develop an effective *Invasive Predator Eradication Technical Strategy*.

As outlined in Annex 3, the project has met one of the (new) Darwin Core Standard Indicators in all three key areas. The filling of the knowledge gaps to complete the Chagos Archipelago Rat Eradication Operational Plan increases Capability and Capacity, Practices and Management and, Evidence and Best Practice.

4.1 Project support to environmental and/or climate outcomes in the UKOTs

BIOTA environmental priorities

The BIOT Administration has identified eleven conservation and environmental priorities to ensure the protection of the Chagos Archipelago for the future. CCT is working in partnership with the Administration [through DPLUS 138 and other projects] to address three of these priorities:

- (1) Restoring the islands through eradicating invasive rats and controlling invasive plants, which threaten native seabird populations and impact the delicate balance of BIOT's ecosystem.
- (2) Understanding more about BIOT's unique terrestrial environment and,
- (3) Protecting BIOT from invasive flora and fauna.

UK government's Overseas Territory Biodiversity Strategy

This project will contribute to the Strategy's priorities of:

- (1) Preventing the establishment of invasive alien species, and eradicating or controlling species that have already become established.
- (2) Developing ecosystem-based initiatives for the conservation and sustainable use of the marine environment relevant in the rats, birds and coral linkages.

UK government's 25-year plan

This project will contribute to the target "Coral reefs are under direct and sustained pressure. The UK's ambition is to champion and support their conservation and biodiversity in UK and Overseas Territories' (OTs') waters and around the world."

The overarching themes of each of the above is the eradication of invasive species and the recovery of native biodiversity. This project will fill knowledge gaps identified during the feasibility study and increase the understanding of the terrestrial environment specifically to protect the archipelago from invasive rats. The Rat Eradication Operational Plan can be used to remove the threat of invasive rats to the ecosystem, which in turn will allow native biodiversity, specifically seabirds and coral reefs, to recover.

5 Gender equality and social inclusion

The Chagos Conservation Trust is committed to gender equality and social inclusion, as demonstrated by three of the four senior positions being female, and has a Chagossian Board member. Working to the contracted Director, the only other person in paid employment in the organisation is the DPlus 138 Programme Manager, Dr Peter Carr. Throughout the lifetime of the DPlus 138 project CCT has directly contracted four people; the Programme Manager (male), a rodent eradication expert (male), and a yacht crew (one male, one female). The selection pool from which the individuals or assets were selected from are extremely limited, for example, the yacht *Jocara* was the only vessel available at an affordable price for the charter in June 2022.

Activity 2.4 of the project log frame was to "Recruit Chagossian research assistant by April 2022". This Activity had an Assumption associated with it; "Chagossian community member recruited in time". Activity 2.4 was unsuccessful and the Assumption proved

correct that the time (and circumstances) needed to recruit a suitable candidate was not sufficient.

In terms of chronology, the project went live on 01 July 2021. At that time, DPlus 138 was overall managed by the CCT Director. At the behest of the Director, the Chagossian board member of CCT led on the advertising of the position (as they had access to the Chagossian communities both in the UK and abroad). The Director of CCT resigned and departed in December 2021. The post of Programme Manager was filled on 15 November 2021 and the overall responsibility for the delivery of DPlus 138 was transferred to the PM on 01 January 2022. The advertisement for the Chagossian research assistant was posted in January 2022. By March 2022 only two replies to the advertisement had been received and neither candidate was suitable for the post. The expedition application had to be submitted to BIOTA by the first week of March 2022. The decision was made by the Chair of CCT that the advertisement should not be redistributed and the post of Chagossian RA would not be filled.

The implication of this decision is that there has been no further engagement with the Chagossian community (with regards recruiting a research assistant) and Measurable Indicator 0.5 and 2.2, Means of Verification 2.2 and, Activities 2.4, 2.9 and 2.10 were not achieved. The loss of these Indicators, Verifications and Activities has not degraded the project Impact, Outcome or Outputs in any way.

<p>Please quantify the proportion of women on the Project Board</p>	<p>The Chagos Conservation Trust has a female Chair, female Director, and female Secretary. The charity's Executive Committee of Trustees has 13 Board members of which five are female. Details of the Trust's Chair, Director, Secretary and all of the Executive Committee can be found here: https://chagos-trust.org/about/who-we-are</p>
<p>Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women.</p>	<ol style="list-style-type: none"> 1. BIOTA is part of the United Kingdom government's Civil Service. It is not at liberty to give employment details to the charity Chagos Conservation Trust. However, the UK Government has recently published a policy paper on diversity and inclusion in the workplace, details of which can be found at https://www.gov.uk/government/publications/civil-service-diversity-and-inclusion-strategy-2022-to-2025 2. Biodiversity Restoration Specialists are a single person organisation of which the Director, Dr Grant Harper is the sole permanent employee. 3. S/Y Jocara is a private venture that is managed by two individuals, Professor John Potter and Caroline Durville, a 50:50 partnership involving a male UK citizen and a female equal Dutch partner.

6. Monitoring and evaluation

There have been no major changes in the project design. The project has been internally evaluated twice yearly by the Executive Committee of CCT. At the twice yearly meeting the Programme manager has to make a full report to the committee and is questioned on progress. Had there been any action(s) required from these sessions, they would have been recorded in the Minutes of the meeting. There have been no actions required from the reports to the committee.

Monitoring and evaluation has been essential to the success of the project. It has allowed problems such as the lack of berths on the BPMS research vessel to be identified in time to allow contingency planning and, has been necessary for compiling reports to the CCT Executive Committee. Project partner BRS along with CCT have used monitoring and evaluation to assess the results of the research and where to include them in the Rat Eradication Operational Plan.

7. Actions taken in response to Annual Report reviews **read HYReport**

The project has received one Annual Report for July 2021 (project start) to March 2022. As a result of the review, three comments and queries were raised. These were:

1. Please provide more detail about engagement with Chagossian Voices, particularly detail on Activity 2.9 and further evidence on Output 2.2. Relatedly, the assumption 'Chagossian community member recruited in time' should be reviewed, and reflected on as to whether there is an impact on progress towards outputs or project outcome.
2. Please provide greater detail on project support to gender equality issues, including actions taken on developing a gender inclusive policy, as well as breakdown in applicants for research role by gender or other relevant data).
3. Please provide more detailed reviews of Assumptions, as well as inclusion of the project logical framework in the next Annual Report.

The inclusion of the Chagossian community in the project has been discussed at 5 Gender Equality and Social Inclusion and in particular, Annex 2 (see Activity 2.4 and discussion on the project Outcome).

Gender equality issues are discussed under 5 Gender Equality and Social Inclusion. As referred to in Annex 2, both of the applicants for the Chagossian RA position were female.

The project logical framework is at Annex 1 and Assumptions are reviewed at Annex 2.

None of the reviewer's queries merited discussion with project partners. All of the queries raised by the reviewer were addressed in Year 2 Half Yearly Report.

8. Lessons learnt

There have been lessons learnt throughout the project and these are dealt with below in chronological order of the life of the project:

1. Employ a Subject Matter Expert (SME) to comment on the final draft of the Darwin Plus application. In the case of this project there were obvious cases where the person drafting the application did not have a comprehensive knowledge of the BIOTA permitting and reporting system or of rat eradications.

For example, the expedition report to BIOTA is mandatory and if not submitted, organisations can be penalised. Therefore, this should have been written in to the application with an associated Assumption. The writing of a 'Technical Strategy' based upon the results of four focussed research experiments was a misdirected idea as the expedition report to BIOTA will have the details of the experiments in. Further, this idea was never discussed in conception with rat eradication experts and came solely from the application drafter. A further example would be the contracted Programme Manager (PM) 'embedding the Technical Strategy in to the Operational Plan". In reality this would never happen. The research that were to form the Technical Strategy were conducted by a specialist rat eradication organisation (BRS) who were also contracted to update the Rat Eradication Operational Plan – the original of which was penned in 2019/2020 by them. The PM was contracted to run the project, BRS were contracted to conduct the rat research and write the plans. Therefore, it was always going to be BRS responsibility to include their findings in to their operational plan.

2. The second lesson learnt was that in the event of a key stakeholder or asset in the original plan not being available, a contingency plan should have been prepared for this eventuality. Two instances are obvious in the plan, first is that key personnel remain involved. In this case, the Project Leader (PL) and author of the original application resigned at the start of the project (not anything to do with the project). The solution was to give the contracted Project Manager (PM) the dual responsibility of PL and PM until a new PL could be found. In hindsight, this was not an ideal solution as this left the PM without a direct reporting link to the organisation that contracted him for some six months.

More important from this example of lessons learnt was the lack of contingency plan for not having a research vessel (also see 3.1 Outputs). In the event the problem was solved by CCT chartering and funding their own vessel. Had this option not been available (and finding an affordable vessel available in the project timeframe was most certainly not a certainty) the project would have failed. This should have been acknowledged at the start.

3. The final lesson learnt is that of using unknown agents to assist in the project. In the case of the project, the Maldivian shipping agent proved disappointing in the service they provided. It is unclear how to remedy this situation. In-depth research in to the performance of unknown agents to be appointed is the best way ahead, combined with seeking others who have used agents in similar circumstances and seek knowledge of their experiences.

9. Risk Management

The risk that has arisen that impacted the project most has been the entry of the UK government with the Mauritian government over the future sovereignty of the Chagos Archipelago. At the project level, the only impact has been that the Rat Eradication Operational Plan has not been submitted to any governing authority for peer review and if accepted, signed-off upon. The rationale for this decision being that until CCT know who the governing, and therefore the permitting authority are to be in 12 months, it is better to post-pone the submission until the future is clearer (and the governments offices involved not so tied in to one affair).

At a larger and longer-term scale, whilst the present governing authority (BIOTA) are very supportive of the rat eradication concept (and associated vegetation management) a Mauritian government may not necessarily follow suit. It is envisaged that if sovereignty changes, a whole new suite of discussions and partnerships will have to be brokered before even the REOP is accepted, let alone executed.

10. Sustainability and Legacy

At the project design phase, there were two types of organisations that were identified as providing the sustainability. One was the governing authority, BIOTA, who had to remain supportive and engaged for the Impact of the project – increasing biodiversity, ‘rewilding’ seabird islands through rat eradication to be realised. With the UK government now in talks with the Mauritian government about sovereignty, BIOTA providing sustainability may have to be replaced by Mauritius in the future. This in no way negates the Impact, Outcome or Sustainability of the project, it merely changes the focus of who CCT need to partner with to realise the Impact.

The second type of organisation was sponsors. At project design and through the project, CCT have been in regular discussion with potential sponsors and two philanthropic organisations (remaining nameless at their request) maintain interest in funding the future rat eradication (and associated necessary vegetation management). However, both of the principle potential sponsors are placing all funding of Chagos science and conservation operations on hold until the future sovereignty becomes clear.

In essence, the sustainability of the project, measured by the implementation of the rat Eradication Operational Plan (and subsequent ecosystem benefits that will not change) is dependent upon the future sovereignty. There is no reason to believe the project will not be sustained, it is by whom is the question. The legacy of the project remains, regardless of sovereignty, and that is the Rat Eradication Operational Plan.

Personnel involved in the project are 1). the CCT Director who will remain in post and will continue to work raising funds and awareness of the CCT aim to ‘rewild’ the Chagos Archipelago; 2). The Programme Manager, working to the CCT Director has been re-contracted by CCT to write the REOP associated Vegetation Management Plan (VMP) for the degraded islands of the four northern atolls – the same islands that are rat-infested and being dealt with in the REOP; 3). BRS continue to operate in their specialisation worldwide and are in regular contact with CCT regarding the future of the archipelago and; 4) Jocara. The skipper of the yacht is a Professor at a Norwegian university and the crew member holds a similar position in the Netherlands. Jocara has been chartered to take a CCT-sponsored two-person team (one being the PM) to the Chagos in July 2023 for research for the VMP.

11. Darwin Plus Identity

CCT mentions Darwin Plus in news articles/press releases about our *Healthy islands, Healthy Reefs* project and funded Project Manager, plus social media, and our annual e-magazine *Chagos News* and AGM/speaker event (held at ZSL): https://chagos-trust.org/images/uploads/documents/chagos_news_60.pdf The Project Manager and Director also attended Darwin Plus events, which is also mentioned throughout the Trust, from its annual report to its communications.

CCT is incredibly grateful to Darwin Plus for the funding given towards its *Healthy Islands, Healthy Reefs* project including its Project Manager - without funding, the charity would not be able to do the work it does. Which is why it is mentioned in the Trust's communications, both verbally within internal and external meetings, Board meetings, and the AGM with our membership, as well as in social media posts, *Chagos News*, annual report, news articles and press releases.

Whilst DPlus 138 was always recognised as a distinct project with specific aims (filling knowledge gaps in the REOP), it does sit within the greater CCT aspiration to 'rewild' the Chagos Archipelago. This is a two-pillar operation that will first address the now invasive coconut plantations that have been scientifically recognised as inhibitors of seabird (re)colonisation, before the rat eradication operation is executed.

There are no permanent inhabitants in the Chagos Archipelago. There is a thorough understanding of Darwin Plus by the academic organisations (e.g. Lancaster, Exeter and Plymouth Universities) and conservation organisations involved in the Territory such as ZSL. The governing organisation, BIOTA, as a UK Government department is likely to be aware of the Darwin scheme.

CCT is active on Twitter, LinkedIn, Facebook and Instagram and has linked back and tagged the Darwin Plus social media accounts. Especially releasing this news article/press release: <https://chagos-trust.org/news/expedition-to-chagos-archipelago-completes-chagos-conservation-trusts-rat-e>

12. Safeguarding

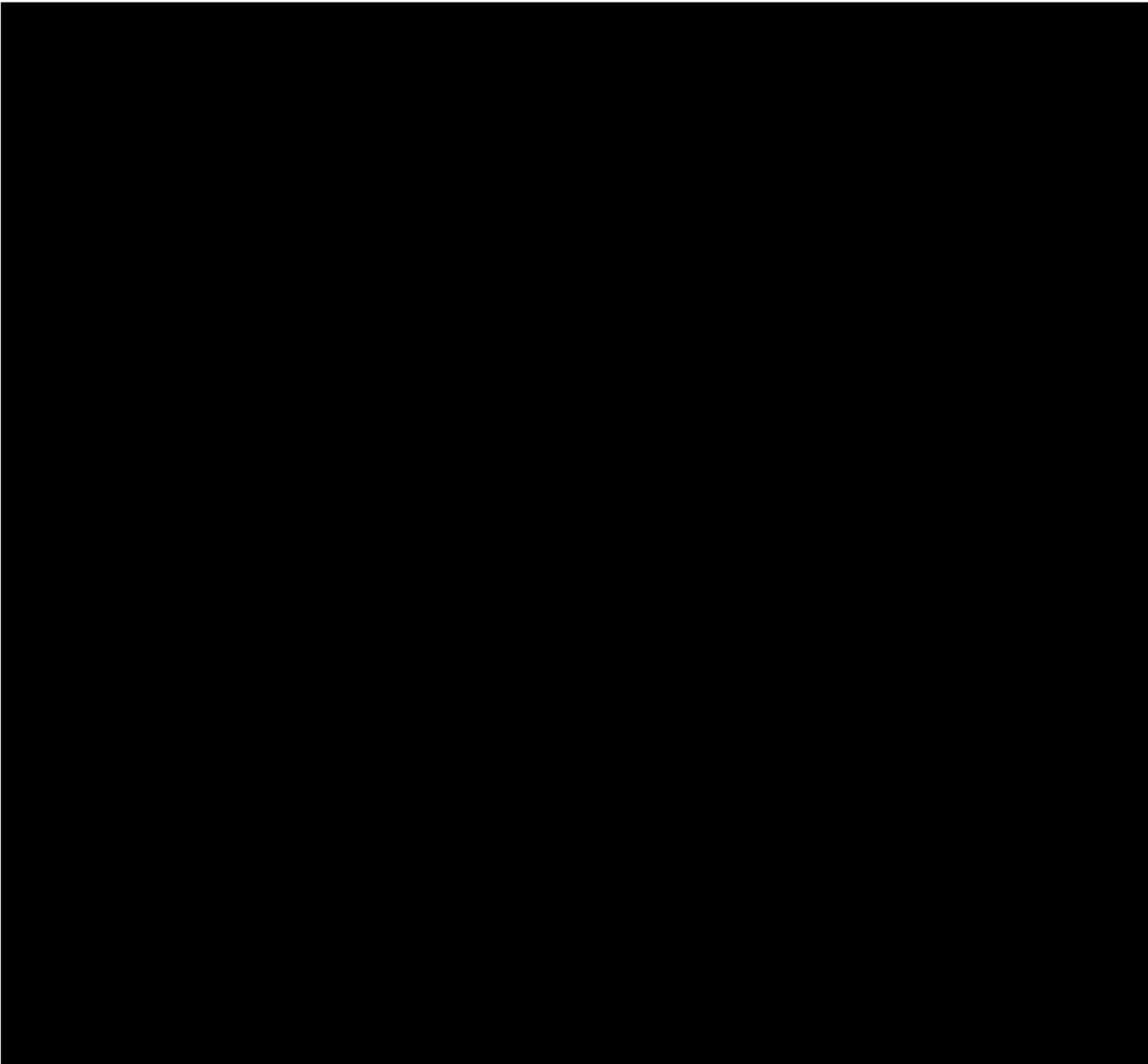
There have been no safeguarding incidents to report.

Has your Safeguarding Policy been updated in the past 12 months?	No
Have any concerns been investigated in the past 12 months	No
Does your project have a Safeguarding focal point?	No
Has the focal point attended any formal training in the last 12 months?	No
What proportion (and number) of project staff have received formal training on Safeguarding?	Zero
CCT only has two full-time employees, the Director and the Programme Manager. Within the project, only four other personnel were involved and all for short periods (Jocara for June 2022 expedition) and BRS for expedition and post-expedition write up. Apart from during the expedition, with the exception of the Jocara two-person team (a couple), the people involved in the project either never met (BRS) or very seldom met (CCT twice a year). Therefore, Safeguarding <i>per se</i> has not been a major factor in the project design.	

13. Finance and administration

a. Project expenditure

Project spend (indicative) since last Annual Report	2022/23 Grant (£)	2022/23 Total actual Darwin Plus Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
TOTAL	60,782	60,782	0	



c. Value for Money

D Plus 138 provided incredible value for money. In simple monetary terms, the £73k to fund a research expedition to a remote, near-inaccessible archipelago that also provided an operational plan for the eradication of rats from four of the five archipelago's atolls is extraordinarily cheap. Without seeking quotes, if it had been put out to tender for a commercial company to produce the operational plan that included a research expedition, it is thought that a cost of a minimum of £500,000 would have been asked for.

What is irreplaceable and CCT are near unique in having access to is the skill sets of the individuals involved with the project. Dr Carr the Programme Manager is thought to be the only person alive who has visited every island in the Chagos Archipelago (and conducted breeding seabird surveys on them) and Dr Harper (BRS) is the only person, along with Carr, to have successfully eradicated rats from an island in the archipelago.

The monetary value of ecologically rehabilitating anthropogenically degraded islands is incalculable. Combating climate change, building resilience in declining coral reefs, increasing biodiversity in a world where the trend is of declining species can not be measured in terms of money. In producing an operational plan for the eradication of rats from the northern atolls of the Chagos Archipelago, CCT has given the opportunity to the governing authority (presently BIOTA) to 'make a difference'. By executing the Rat Eradication Operational Plan (REOP) that CCT have produced via this project, the governing authority will meet (and exceed) its' stated environmental commitments. The mainland countries of the Indian Ocean in general have a depauperised flora and fauna especially seabirds, having a sanctuary in the centre of the ocean that potentially supply recruits to impoverished areas again, cannot be monetarised.

Annex 1 Project’s full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact: Biodiversity of the Chagos Archipelago increases through the rewilding of seabird islands, providing improved climate resilience of coral reefs in one of the world’s largest Marine Protected Areas.</p>			
<p>Outcome: Effective invasive predator management via improved knowledge, increased capacity and appropriate planning to enable the rewilding of the seabird islands of the Chagos Archipelago.</p>	<p>0.1 Data gaps in draft Healthy Islands, Healthy Reefs [Chagos Archipelago Rat Eradication] Operational Plan for an archipelago rat eradication, filled and plan finalised for implementation post 2023.</p> <p>0.2 BIOTA have confirmation of invasive predator/absence on all outer islands by December 2021.</p> <p>0.3 Increased data for BIOTA’s environmental priority of “understanding more about BIOT’s unique terrestrial environment by June 2022.</p> <p>0.4 Operational Plan for an archipelago rat eradication reviewed by experts and</p>	<p>0.1 Report confirming presence or absence of invasive rats and mice on selected islands externally reviewed.</p> <p>0.2 Report detailing methodology developed to ensure effective baiting strategy based on trials conducted externally reviewed.</p> <p>0.3 Final Healthy Islands, Healthy reefs [Rat Eradication] operational Plan approved by BIOTA for archipelago-wide eradication.</p>	<ul style="list-style-type: none"> - Continued support from BIOTA for permits to access the outer islands of the archipelago. We believe this will hold true because of a long-standing partnership between CCT and BIOTA and that CCT is fulfilling two of BIOTA’s environmental priorities. - Use of the Bertarelli Programme in Marine Science expedition vessel, as in-kind support, to conduct trials and confirm presence/absence of invasive predators. We believe this will hold true because CCT is working alongside the programme and rat eradication is vital to the success of their research. - Covid-19 regulations permit travel through transit countries and to BIOT so

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	<p>signed off by BIOTA by June 2022.</p> <p>0.5 Chagossian community in the UK are better engaged with conservation actions and informed about threats of invasive predators and the solutions to increasing biodiversity by June 2022.</p>		<p>travel to the archipelago is possible.</p> <ul style="list-style-type: none"> - Reviewers available to review reports.
<p>Outputs:</p> <p>1. The presence of invasive predators and their impact on regionally significant wildlife is better understood and used to inform conservation management.</p>	<p>1.1 Confirm presence or absence of rats on Ile Manoel by December 2021.</p> <p>1.2 Confirm presence or absence of mice on Ile du Coin and Ile Diamant by December 2021.</p> <p>1.3 Baseline data collected on key native species by Bertarelli Programme in Marine Science to determine impact of rats and management techniques by June 2022 and built in to the Operational Plan.</p>	<p>1.1 Database, technical report confirming presence/absence of invasive rats on external islands externally reviewed.</p> <p>1.2 Database, technical report confirming presence or absence of invasive mice on selected islands externally reviewed.</p> <p>1.3 Data received from Bertarelli Programme in Marine Science and incorporated in to the Operational Plan.</p>	<ul style="list-style-type: none"> - Access to the selected islands is granted by BIOTA. We believe this will hold true because of a long-standing partnership between CCT and BIOTA and that CCT is fulfilling two of BIOTA's environmental priorities. - Weather allows expedition to go ahead and technical expert able to confirm presence/absence of mice/rats from visit. We believe this will hold true as the expedition is planned for the driest period of the year and therefore risk of weather-related issues is at a minimum.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>2. Enhance partner's capability to plan, manage, implement and monitor invasive predator eradication from the outer islands of the Chagos Archipelago.</p>	<p>2.1 Increase capacity and capability of CCT in invasive predator eradication by June 2022 through the recruitment of technical expert and Programme Manager.</p> <p>2.2 Increase knowledge of threats and conservation of Chagossian community member by June 2022.</p> <p>2.3 Study completed confirming amount of bait off-take by rats and crabs across four islands including a mangrove site collected to inform the bait application rate for the planned rat eradication by June 2022.</p> <p>2.4 Study completed to develop bait application methods and durability and palatability for rats, in mangrove sites by June 2022.</p> <p>2.5 Review current Chagos Archipelago Biosecurity Plan implementation, for the outer islands to increase protection from additional risks such as visiting boats by June 2022.</p>	<p>2.1 Technical expert and Programme Manager to the technical expert recruited and contracts signed.</p> <p>2.2 Chagossian assistant recruited and knowledge surveys developed.</p> <p>2.3 Final [Rat Eradication] Operational Plan includes detailed application rates of bait required for archipelago-wide eradication.</p> <p>2.4 Final [Rat Eradication] Operational Plan includes bait application methods and rates for mangrove sites.</p> <p>2.5 Biosecurity measures imbedded in final [Rat Eradication] Operational Plan and biosecurity measures completed included in field reports.</p>	<ul style="list-style-type: none"> - Programme manager recruited in time. - Technical expert available. - Chagossian community member recruited in time. - Weather allows expedition to go ahead and technical expert able to confirmation [sic] bait take-off. We believe this will hold true as the expedition is planned for the driest period of the year and therefore rusk of weather-related issues is at a minimum.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Activities</p> <p style="text-align: center;">Output 1</p> <p>1.1 BIOTA Environment Officer co-ordinate all permits and permissions for expedition team to access BIOT for research expedition by Mar 2022.</p> <p>1.2 Expedition team to collect data from Ile Manoel on presence or absence of rats during expedition to the Peros Banhos atoll in July 2022.</p> <p>1.3 BRS to produce technical report with data confirming presence/absence of invasive rats on selected islands included in Invasive predator eradication technical strategy by Dec 2022.</p> <p>1.4 Expedition team to collect data from Ile du Coin and Ile Diamant on presence or absence of mice during expedition to the Peros Banhos atoll in July 2022.</p> <p>1.5 Chagos Archipelago invasive and native species database updated by Programme Manager by 2022.</p> <p>1.6 BRS to produce technical report with data confirming presence or absences of invasive mice on selected islands included in Invasive predator eradication technical strategy by Dec 2022.</p> <p>1.7 Baseline data collected on key species by BPMS team in July 2022 for inclusion into the Chagos Archipelago invasive and native species database and informing the revised Rat Eradication Feasibility Study and Environmental Impact Assessment.</p> <p>1.8 Report received from BPMS team with terrestrial biodiversity survey data by Dec 2022 and integrated into the Rat Eradication Operational Plan by Programme Manager by Mar 2023.</p> <p>1.9 All bi-annual reporting requirements completed by Programme Manage.</p> <p>1.10 Monthly meetings attended by Expedition Team, Programme Manager, Project Leader and BIOTA Environment Officer.</p> <p style="text-align: center;">Output 2</p> <p>2.1 BIOTA Environment Officer and Programme Manager to co-ordinate all permits and permissions for expedition team to access BIOT for research expedition by Mar 2022.</p> <p>2.2 Contract BRS by Dec 2021.</p> <p>2.3 Recruit Programme Manager by Oct 2021.</p> <p>2.4 Recruit Chagossian research assistant by April 2022.</p>			

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>2.5 Expedition team collect data on bait-take off by crabs and rats during expedition to the Peros Banhos atoll in July 2022.</p> <p>2.6 BRS to produce technical report with data for bait off-take by rats and crabs included in Invasive predator eradication technical strategy by Dec 2022.</p> <p>2.7 Expedition team collect data bait application methods and bait durability and palatability for rats during expedition to the Peros Banhos atoll in July 2022.</p> <p>2.8 BRS to produce technical report with data for bait application methods and bait durability and palatability for rats included in Invasive predator eradication technical strategy by Dec 2022.</p> <p>2.9 Chagossian community knowledge surveys completed by April 2022.</p> <p>2.10 Chagossian research assistant to hold workshop and repeated knowledge surveys conducted by Dec 2022.</p> <p>2.11 Biosecurity Plan review produced by BRS by Dec 2022 and submitted to BIOTA Environment Officer.</p> <p>2.12 Invasive predator eradication technical strategy produced by Programme Manager by Dec 2022.</p> <p>2.13 Invasive predator eradication technical strategy submitted to BIOTA Environment Officer by Jan 2023.</p> <p>2.14 Programme Manager to imbed Invasive predator eradication technical strategy and biosecurity measures into Rat Eradication Operational Plan by Mar 2023.</p> <p>2.15 All bi-annual reporting requirements completed by Programme Manager.</p> <p>2.16 Monthly meetings attended by Expedition Team, Programme Manager, Project Leader and BIOTA Environment Officer.</p>			

Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
<p>Impact: Biodiversity of the Chagos Archipelago increases through the rewilding of seabird islands, providing improved climate resilience of coral reefs in one of the world's largest Marine Protected Areas.</p>		<p>DPlus 138 has achieved its goal of filling the knowledge gaps in the Chagos Archipelago Rat Eradication Operational Plan (REOP). With the information gained throughout the June 2022 research expedition the REOP has been updated. The REOP can now be taken by any organisation and executed, modified with the final details available once funding has been secured (e.g. port of departure, shipping agent details, etc).</p> <p>The critical step in the ecological restoration of environmentally degraded (seabird) islands in the four northern atolls of the Chagos Archipelago, that will lead to an increase in biodiversity, is the eradication of invasive Black rats. The REOP, that DPlus 138 has contributed the final data required to complete, is the foundation stone to the eradication operation. Therefore, the desired Impact of the Project has been achieved.</p>
<p>Outcome: Effective invasive predator management via improved knowledge, increased capacity and appropriate planning to enable the rewilding of the seabird islands of the Chagos Archipelago.</p>	<p>0.1 Data gaps in draft Healthy Islands, Healthy Reefs [Chagos Archipelago Rat Eradication] Operational Plan for an archipelago rat eradication, filled and plan finalised for implementation post 2023.</p> <p>0.2 BIOTA have confirmation of invasive predator/absence</p>	<p>The Outcome of DPlus 138 has been achieved via the production of the CA REOP (attached). The REOP offers the opportunity for effective invasive Black rat management via eradication. Black rat is the only mammalian predator in the four northern atolls of the Chagos Archipelago. Knowledge has been improved through the research undertaken on the June 2022 expedition that confirmed the presence of rats, absence of mice, off-take rates and rat behaviour in mangroves. This has led to an increase in capacity and the ability to plan for a rat eradication of the four northern atolls of the Chagos Archipelago. (The "rewilding" of the southernmost island of Diego Garcia is not a realistic prospect at present due to its' size and the presence of a military facility).</p> <p>Measurable Indicators 0.1 – 0.3 have all been achieved. Measurable Indicator 0.4 is fully ready for submission but, the BIOT Administration have terminated the post of Environmental Officer leading to uncertainty of who to submit to. More important for 0.4 is that BIOTA may not be the governing authority in the near future and therefore, the REOP is being held by CCT until the governing authority in the future is known (see below covering Assumptions). As covered in detail below under Activity 2.4, failing to recruit a Chagossian research assistant has meant that Measurable Indicator 0.5 was not met. This failure has not impacted the Outcome or Outputs 1 and 2. Both Outputs have been achieved by the</p>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
	<p>on all outer islands by December 2021.</p> <p>0.3 Increased data for BIOTA's environmental priority of "understanding more about BIOT's unique terrestrial environment by June 2022.</p> <p>0.4 Operational Plan for an archipelago rat eradication reviewed by experts and signed off by BIOTA by June 2022.</p> <p>0.5 Chagossian community in the UK are better engaged with conservation actions and informed about threats of invasive predators and the</p>	<p>production of the REOP and through the information contained in the Expedition Report to BIOTA (attached).</p> <p>The Assumptions were adequate for the Project completion. However, with hindsight, one obvious Assumption was not included in the original application, one Assumption that was unimaginable at the time of preparing the project framework has come to light and, a further Assumption possibly should have been considered.</p> <p>A simple and obvious Assumption was that BPMS terrestrial scientists would be conducting research in the Chagos during the life of the project. This was never a given whilst Covid was still impacting travel, plus, the expeditionary nature of research in the northern atolls always poses challenges, e.g. chartering a vessel, scientists being available etc. As explained below against Activity 1.7, BPMS scientists were not active in the archipelago at the point in the programme where when planning the project, they were planned to be. However, as explained in Activity 1.7, the Activity was possibly not thought through fully in the planning stage. Scientists and researchers working in the Chagos, past, present and in the future from all organisations (not just BPMS) have and will continue to share data with CCT that will, if relevant, be incorporated in to the rat eradication Ecological Impact Assessment and Operational Plan. Therefore, the temporal limitation of Activity 1.7 does not reflect what is actually happening between scientists, researchers and CCT.</p> <p>The "unimaginable" Assumption is that the sovereignty of the Chagos Archipelago would remain with the United Kingdom and that the BIOT Administration would remain the governing authority. The UK government declared it had commenced discussions with the Mauritian government about the future sovereignty of the archipelago since September 2022. The uncertainty of the future sovereignty has massively impacted all organisations working in the Chagos - some prominent organisations and their funders have ceased operating until the sovereignty issue is clearer. How this has impacted DPlus 138 is that the REOP, with its knowledge gaps filled, is with CCT who are waiting to see which country will be the approving authority for the execution of the rat eradication operation. CCT are open to working with either nation's government towards rehabilitating the ecologically degraded</p>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
	<p>solutions to increasing biodiversity by June 2022.</p>	<p>islands of the four northern atolls of the Chagos Archipelago, simply, the same as all other organisations operating in the archipelago, they seek clarity on which approving authority to discuss the operation with.</p> <p>Linked to CCT not forwarding the updated REOP to BIOTA for peer review and approval discussed above, BIOTA have terminated the post of Environmental Officer. This has left a vacuum for all organisations in communicating with the Administration on environmental issues. This was possibly an Assumption that could have been made at the planning stage.</p> <p>Once the issue of future sovereignty is clearer, CCT intend to open discussions with whomever the governing authority is and will submit the REOP to them.</p> <p>Finally, the Assumption 'Chagossian community member recruited in time'. Reflecting on this and in conjunction with the report on Activity 2.4, there were several possible flaws when including this Activity in the original application. First, it is questionable whether the recruiting of a Chagossian RA directly contributes to the project Impact or Outcome. In hindsight, the recruiting a Chagossian RA from a disparate population, who was required to have a specific set of skills in a time-constrained period (and in Covid lock down) was always going to a large challenge. Possibly, again in hindsight, this Activity may have been better left out of the original application.</p> <p>Again, when discussing Assumptions, in hindsight, it is felt CCT should have had a contingency plan should the Chagossian RA not be recruited as happened. A contingency plan was made (to abandon the Chagossian related Activities), however, prior thought on this matter may have resulted in a more positive outcome or, for example, resulted in a request to Darwin to amend the logframe to delete all of the Chagossian Activities.</p>
<p>Output 1. The presence of invasive predators and their impact on regionally</p>	<p>1.1 Confirm presence or absence of rats on Ile Manoel by December 2021.</p>	<p>Output 1 has been achieved and evidence is provided in the Expedition Report to BIOTA (Annex 5a) and the updated REOP (Annex 5b). Measurable Indicators 1.1 and 1.2 are appropriate for this Output and Annex XX provides evidence of the successful conclusion of</p>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
<p>significant wildlife is better understood and used to inform conservation management.</p>	<p>1.2 Confirm presence or absence of mice on Ile du Coin and Ile Diamant by December 2021.</p> <p>1.3 Baseline data collected on key native species by Bertarelli Programme in Marine Science to determine impact of rats and management techniques by June 2022 and built in to the Operational Plan.</p>	<p>these Measurable Indicators. As discussed at Activity 1.7, the data collection by BPMS scientists within a limited timeframe was a questionable Activity.</p>
<p>Activity 1.1 BIOTA Environment Officer (EO) co-ordinate all permits and permissions for expedition team to access BIOT for research expedition by Mar 2022.</p>		<p>The formal expedition permit application was submitted to the BIOTA EO by the CCT PM on 28 February 2022. The Commissioner's Representative Colvin Osborn issued the permit on 31 May 2022.</p> <p>This Activity has been successfully completed. A copy of the permit is available from the CCT PM if required.</p>
<p>Activity 1.2 Expedition team to collect data from Ile Manoel on presence or absence of rats during expedition to the Peros Banhos atoll in July 2022.</p>		<p>The expedition to the Chagos Archipelago in June 2022 confirmed the presence of rats on Ile Manoel in Peros Banhos atoll. This was critical information for the Chagos Archipelago Rat Eradication Operational Plan (REOP) as it was the only island out of the entire 55 in the archipelago where the status of invasive rats remained uncertain. The updated distribution map of Black Rats in the archipelago (contained in the Annex 5a - attached) is to be used in the second edition of the Birds of the Chagos Archipelago (Pisces Publications, 2023 –</p>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
		<p>author Dr Peter Carr) and is now the standard reference for Black rat distribution in the archipelago. It is available free from CCT for anyone requiring it.</p> <p>The methodology employed to determine the presence/absence of rats on Ile Manoel is available through the Expedition Report to the BIOTA (Annex 5a) – this report is the “Invasive predator eradication technical strategy” mentioned in Activities 1.3., 1.6., 2.6. and 2.8.</p> <p>This Activity has been successfully completed.</p>
<p>Activity 1.3 BRS to produce technical report with data confirming presence/absence of invasive rats on selected islands included in invasive predator eradication technical strategy by Dec 2022.</p>		<p>The Expedition report to BIOTA contains the distribution map of Black rats across all 55 islands of the archipelago. This critical information has been incorporated in to the REOP (Annexes 5a and 5b).</p> <p>This Activity has been successfully completed.</p>
<p>Activity 1.4 Expedition team to collect data from Ile du Coin and Ile Diamant on presence or absence of mice during expedition to the Peros Banhos atoll in July 2022.</p>		<p>The expedition to the Chagos Archipelago in June 2022 confirmed that mice <i>Mus musculus</i> are not present on Ile du Coin or Ile Diamant. The methodology employed to determine the presence/absence of mice on Ile du Coin and Diamant is available through the Expedition Report to BIOTA (Annex 5a).</p> <p>This Activity has been successfully completed.</p>
<p>Activity 1.5 Chagos Archipelago invasive and native species database updated by Programme Manager by 2022.</p>		<p>The Chagos Archipelago “invasive and native species database” is in fact a number of databases maintained by at least four organisations (CCT, ZSL, RBG Kew and UK Centre for Ecology and Hydrology - CEH) and, a private individual (Dr Peter Carr). ZSL led on invertebrates, RBG Kew plants and, latterly CEH have led on invertebrates. Dr Carr has maintained a database on birds, reptiles and mammals for over two decades. In times past, with the exception of CEH, all of these databases were stored on the CCT managed Chagos Information Portal (ChIP). Several of the biodiversity databases (marine and terrestrial) are still available on ChIP, however, time and technology have moved on. All avian records are now stored publicly on eBird https://ebird.org/region/IO/media?yr=all&m=. All plant records are now available online at the RBG Kew website Plants of the World https://powo.science.kew.org/results?q=location:Chagos%20Archipelago. CEH have latterly</p>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
		<p>established a number of online databases via the iNaturalist website covering several orders and families https://www.inaturalist.org/observations?nelat=-5.140185741518001&nelng=72.58804327098413&place_id=any&project_id=27878&swlat=-7.489111782761309&swlng=71.18591314178195.</p> <p>All of the on-line databases are freely available and are updated when researchers are working in the Chagos. This Activity will continue after the conclusion of DPlus 138 for as long as researchers have access to the Chagos and are motivated to publish their findings in public databases.</p>
<p>Activity 1.6 BRS to produce technical report with data confirming presence or absences of invasive mice on selected islands included in Invasive predator eradication technical strategy by Dec 2022.</p>		<p>The expedition to the Chagos Archipelago in June 2022 confirmed that mice <i>Mus musculus</i> are not present on Ile du Coin or Ile Diamant. This data, when combined with the lack of mice detected on the inhabited island of Diego Garcia and the now uninhabited islands of Eagle Island and Boddam (where extensive rodent research has been undertaken) provides extremely strong evidence that mice were never introduced to the Chagos Archipelago. This assumption is now being used in the CA REOP and was critical information to the planning of the eradication operation.</p> <p>BRS technical report has been published in the Expedition Report to the BIOTA (Annex 5a - see Activity 1.2 and 1.4).</p> <p>This Activity has been successfully completed.</p>
<p>Activity 1.7 Baseline data collected on key species by BPMS team in July 2022 for inclusion into the Chagos Archipelago invasive and native species database and informing the revised Rat Eradication Feasibility Study and Environmental Impact Assessment.</p>		<p>This specific activity was always dependent upon the BPMS team being on expedition in July 2022 which for various reasons they were not. This failure to meet a specified Activity does not in any way detract from any Output or Outcome (and in hindsight should never have been included in the proposal). What the Activity should have stated is “Data collected on key species by all researchers in the Chagos throughout the life of DPLUS 138, will be used by CCT to update all rodent eradication / vegetation management planning documents, if required. This is what is happening in reality. For example, in January 2022 a BPMS expedition to the archipelago monitored breeding seabirds on a number of islands. CCT (Dr P Carr) was part of the expedition planning team that determined which islands were to be surveyed and how, and specific to this Activity, the results of the monitoring were</p>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
		<p>passed back to CCT and have already been incorporated in to the Chagos Archipelago breeding seabird database (covering 1886 – present day) and where relevant on to eBird. It is anticipated that all BPMS (and other) expeditions that collect terrestrial ecosystem data will contribute their information to CCT for use in the planning of the ‘rewilding’ of the Chagos Archipelago.</p> <p>This Activity will continue long after the conclusion of DPlus 138 (see Activity 1.5 for related Activity).</p>
<p>Activity 1.8 Report received from BPMS team with terrestrial biodiversity survey data by Dec 2022 and integrated into the Rat Eradication Operational Plan by Programme Manager by Mar 2023.</p>		<p>See Activity 1.7. The REOP is a living document and when data is passed to either CCT or BRS, if relevant, is included in the REOP.</p> <p>This Activity will continue long after the conclusion of DPlus 138</p>
<p>Activity 1.9 All bi-annual reporting requirements completed by Programme Manager.</p>		<p>All bi-annual (and annual) reporting requirements have been completed by the Programme Manager (see CCT DPlus 138 submissions CCT-FtKG-AR1 Annual report July 2021 – March 2022; CCT-FtKG-Y2HYR1 April – September 2022).</p>
<p>Activity 1.10 Monthly meetings attended by Expedition Team, Programme Manager, Project Leader and BIOTA Environment Officer.</p>		<p>Prior to the June 2022 expedition meetings were held regularly between the expedition team and the Programme Manager (also Project Leader in the absence of CCT Director). This reduced post expedition once the technical report had been written and the REOP updated. Since the employment of a new CCT Director in August 2022, meeting between the PM and the Director occur at least once every two weeks. The BIOTA Environmental Officer (EO) did not manage monthly meetings though communication between the PM and the BIOT EO was maintained to a sufficient level that there was no detrimental impact to the project, for example, see Activity 1.1. The post of BIOT EO has been terminated.</p>
<p>Output 2. Enhance partner’s capability to plan, manage, implement and monitor invasive predator eradication from the outer islands</p>	<p>2.1 Increase capacity and capability of CCT in invasive predator eradication by June 2022 through the recruitment of</p>	<p>Output 2 has been achieved as evidenced by the production of the REOP (Annex 5b). With the exception of Measurable Indicator 2.2, all others have been met. Measurable Indicator 2.2 is covered below at Activity 2.4. Measurable Indicator 2.1 is covered below at Activity 2.2 and 2.3. Measurable Indicators 2.3 and 2.4 are completed (Annexes 5a and 5b). Measurable Indicator 2.5 is covered at Activity 2.11.</p>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
of the Chagos Archipelago.	<p>technical expert and Programme Manager.</p> <p>2.2 Increase knowledge of threats and conservation of Chagossian community member by June 2022.</p> <p>2.3 Study completed confirming amount of bait off-take by rats and crabs across four islands including a mangrove site collected to inform the bait application rate for the planned rat eradication by June 2022.</p> <p>2.4 Study completed to develop bait application methods and durability and palatability for rats, in mangrove</p>	<p>This Output was possibly too loosely worded. “Partner’s” is a broad church of a word. Possibly, the Output should have been more specific as to which partners it wants to enhance the capability of. In the case of the Chagos Archipelago at present, the most important partners are the BIOT Administration and rat eradication practitioners who would execute the REOP. (In the future it could be the Mauritian government not BIOTA).</p>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
	sites by June 2022. 2.5 Review current Chagos Archipelago Biosecurity Plan implementation, for the outer islands to increase protection from additional risks such as visiting boats by June 2022.	
Activity 2.1 BIOTA Environment Officer and Programme Manager to co-ordinate all permits and permissions for expedition team to access BIOT for research expedition by Mar 2022.		See Activity 1.1. This Activity has been successfully completed.
Activity 2.2 Contract BRS by Dec 2021.		The BRS contract was signed on 26 December 2021. This Activity has been successfully completed.
Activity 2.3 Recruit Programme Manager by Oct 2021.		The PM was recruited by CCT in October 2021 and a formal contract was signed on 15 November 2021. This Activity has been successfully completed.
Activity 2.4 Recruit Chagossian research assistant by April 2022.		This Activity was not achieved. This lack of achievement does not impact the overall project Outcome or Output 2 which it is directly linked to. It does indirectly impact Measurable Indicator 2.2 and, Means of Verification 2.2.1 and 2.2.2 which are both related to Chagossian community activities. The important Assumption associated with this Activity recognised that the Chagossian research assistant (RA) had to be recruited in time.

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
		<p>An advertisement for the RA was released in December 2021 by the former Project Leader (previous CCT Director), following the recruitment of the DPlus 138 PM and, the contracting of the yacht Jocara and the rodent eradication specialists BRS from New Zealand. The Project Leader then resigned and the PM was elevated with Darwin Plus approval to both Project Leader and PM. The advert for the RA was directed specifically to the Chagossian communities in the UK (for expedition insurance purposes) and was managed by a Chagossian trustee on the CCT Executive Committee. Despite this targeted approach, only two applications were received for the post, one being disqualified for not residing in the UK, the second candidate did not have the skills requested in the post advert.</p> <p>There was a time constraint surrounding the recruitment of the RA – the permit to enter the Territory had to be submitted to the BIOT Administration no later than 01 March 2022. It transpired that by the time the two applications (both female) had been received and rejected, there was no time remaining to re-advertise the position, receive and assess applications and recruit a suitable candidate. The decision was taken to go ahead with the expedition with two participants, the rodent expert and an assistant supplied and employed by BRS.</p> <p>In hindsight and following debriefs with the expedition participants, this decision proved favourable because conditions on the yacht traveling to and from the Maldives to the Chagos were cramped and a further person would have extenuated these circumstances. More important, the lack of a second RA did not detract in any way from achieving the expedition aims.</p> <p>The unfortunate aspect of the lack of recruitment of the Chagossian RA is that the involvement of the Chagossian community did not come to pass. The RA was to lead on the Chagossian workshop and repeated knowledge surveys. This means that Activity 2.9 and 2.10 were not completed.</p>

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
		To repeat the opening lines of this activities report, although it was unfortunate that the Chagossian RA was not recruited, this failure has not impacted the project Outcome or Outputs.
Activity 2.5 Expedition team collect data on bait-take off by crabs and rats during expedition to the Peros Banhos atoll in July 2022.		This Activity was successfully concluded during the research expedition to the Chagos in June 2022. See Activity 2.6.
Activity 2.6 BRS to produce technical report with data for bait off-take by rats and crabs included in Invasive predator eradication technical strategy by Dec 2022.		The results of the bait off-take by rats and crabs has been published in the Expedition Report to BIOTA (Annex 5a - see Activity 1.2). This Activity has been successfully completed.
Activity 2.7 Expedition team collect data bait application methods and bait durability and palatability for rats during expedition to the Peros Banhos atoll in July 2022.		This Activity was successfully concluded during the research expedition to the Chagos in June 2022. See Activity 2.8.
Activity 2.8 BRS to produce technical report with data for bait application methods and bait durability and palatability for rats included in Invasive predator eradication technical strategy by Dec 2022.		The results of the application, durability and palatability trials have been published in the Expedition Report to BIOTA (Annex 5a – see Activity 1.2).
Activity 2.9 Chagossian community knowledge surveys completed by April 2022.		See Activity 2.4.
Activity 2.10 Chagossian research assistant to hold workshop and repeated knowledge surveys conducted by Dec 2022.		See Activity 2.4.
Activity 2.11 Biosecurity Plan review produced by BRS by Dec 2022 and submitted to BIOTA Environment Officer.		BRS produced the original BIOT Biosecurity Plan in 2019 at the behest of CCT. This plan is held by BIOTA. Following the June 2022 research expedition BRS reviewed the Biosecurity Plan (Annex 5c). At present, this reviewed plan remains with CCT for three reasons; 1). The future sovereignty of the Chagos Archipelago is under discussion by the UK and Mauritian governments – this has meant there has been a hiatus in taking forward any conservation

Project summary	Measurable Indicators	Progress and Achievements for the life of the project
		<p>management projects and plans, 2). The position of BIOT Environmental Officer has been terminated and it remains unclear who a Biosecurity Review should be passed to, 3). A “new” Biosecurity Plan is being produced by the Centre of Ecology and Hydrology (CEH). With the knowledge and approval of the former BIOT EO before the post was terminated, the CCT Biosecurity Plan is being offered to CEH for amalgamation with their plan.</p> <p>In essence, BRS have completed their review and CCT are seeking where best to deposit the review and this will become clear when the UK government make an announcement on future sovereignty. In the meantime, CCT are seeking to amalgamate the review with a CEH produced Biosecurity Plan.</p>
<p>Activity 2.12 Invasive predator eradication technical strategy produced by Programme Manager by Dec 2022.</p>		<p>The invasive predator eradication technical strategy is the Expedition Report to the BIOT Administration (Annex 5a). This was submitted to BIOTA in August 2022.</p> <p>This Activity has been successfully concluded.</p>
<p>Activity 2.13 Invasive predator eradication technical strategy submitted to BIOTA Environment Officer by Jan 2023.</p>		<p>The invasive predator eradication technical strategy is the Expedition Report to the BIOT Administration (Annex 5a). This was submitted to BIOTA in August 2022.</p> <p>This Activity has been successfully concluded.</p>
<p>Activity 2.14 Programme Manager to imbed Invasive predator eradication technical strategy and biosecurity measures into Rat Eradication Operational Plan by Mar 2023.</p>		<p>This Activity was undertaken by BRS, the author of the Chagos Archipelago Rat Eradication Operational Plan in August 2022 (Annex 5b).</p> <p>This Activity has been successfully concluded.</p>
<p>Activity 2.15 All bi-annual reporting requirements completed by Programme Manager.</p>		<p>See Activity 1.9.</p>
<p>Activity 2.16 Monthly meetings attended by Expedition Team, Programme Manager, Project Leader and BIOTA Environment Officer.</p>		<p>See Activity 1.10.</p>

Annex 3 Standard Indicators

Table 1 Project Standard Indicators

DPLUS Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DPLUS Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
CORE INDICATOR DPLUS-A03	Enhance partner's capability to plan, manage, implement and monitor invasive predator eradication from the outer islands of the Chagos Archipelago.	Number of local / national organisations with improved capability and capacity as a result of project.	Number of organisations	NGO Chagos Conservation Trust	1	0	0	1	1
				Government department	0	1	0	1	1
DPLUS-A07	The presence of invasive predators and their impact on regionally significant wildlife is better understood and used to inform conservation management.	Number of government institutions/departments with enhanced awareness and understanding of biodiversity and associated local community issues.	Government bodies	Government department	0	1	0	1	1
CORE INDICATOR DPLUS-B02	Operational Plan for an archipelago rat eradication reviewed by experts and signed off by BIOTA by June 2022.	Number of new/improved species management plans available.	Number	Rat Eradication Operational Plan	0	0	1	1	1

DPLUS Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DPLUS Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
CORE INDICATOR DPLUS-C03	Operational Plan for an archipelago rat eradication reviewed by experts and signed off by BIOTA by June 2022.	New assessments of habitat conservation action needs published.	Number	Rat Eradication Operational Plan	0	0	1	1	1

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	No
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 10)?	No
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	No
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 13)?	No
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	