

DPLR1\1036

Darwin Plus Local - Final Report (1)

Officer: Jessica Magnus

Section 1 - Darwin Plus Local Project Information (Essential)

Project Reference Number

DPLR1\1036

Q1. Project Title

No Response

Overseas Territory(ies)

British Indian Ocean Territory (BIOT)

Lead Organisation or Individual

Zoological Society of London

Partner Organisation(s)

BIOT Administration, Protomax Ltd., Plymouth University

Value of Darwin Plus Local Grant Award

██████████

Project Start Date

01 April 2023

Project End Date

31 March 2024

Project Leader Name

Rachel Jones

Project Website/Twitter/Blog etc.

No Response

Report Author(s)

Report Date

30 April 2024

Project Summary

No Response

Project Outcomes

| | |
|-----------|---|
| Unchecked | Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation; |
| Unchecked | Climate Change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities; |
| Checked | Environmental quality: improving the condition and protection of the natural environment; |
| Unchecked | 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. |

Section 2 - Project Outcomes (Essential)

On a scale of 1 (high – outcome substantially exceeded) to 5 (low – outcome substantially did not meet expectation), how successful do you think your project has been?

2 - Outcome moderately exceeded

Project outcomes and justification for rating above

The main outcome was to produce a detailed plan to assess the feasibility of installing a Protomax board press on Diego Garcia (DG) for one year. This outcome has been met by:

1. Addressing questions about the material properties of the resulting boards produced from plastic waste by conducting a series of laboratory tests on the boards; this included polymer composition (Fourier Transform Infrared Spectroscopy) degradation (Scanning Electron Microscopy and Pyrolysis Gas Chromatography/Mass Spectrometry).
2. Researching the potential demand for a plywood board alternatives on DG, assessing a range of current uses and costings for plywood board and identifying opportunities for an alternative. Recommendations have been made in the study about suitable specific applications for the use of the boards on DG.
3. Outlining the requirements for supply, installation, and training to set up a board press facility. This included costing all machinery involved in the process, designing the layout of the facility and identifying a suitable site at the waste management centre.
4. Providing the necessary information to cost a 12-month pilot study in situ, enabling the submission of

proposals for future grant funding opportunities.

At the start of the project, waste management authorities on DG—comprising the US Navy's Public Works Department and their contractors—were sceptical about the board press as a feasible solution. By the end of the project, working closely with our partners at the British Indian Ocean Territory (BIOT) administration, we have been able to turn this around and there is now enthusiasm about the prospect of implementing this trial. There is good on-going support from the BIOT administration on the ground acting both as overall project 'sponsor' and delivering direct liaison on the ground.


The feasibility study has demonstrated that this solution will meet the key criteria set at the beginning of the work:


1. Provide a solution to waste plastic that enables more cleaning on turtle nesting beaches on DG
2. Does not require the export of plastic waste off DG
3. A solution that uses a mixture of plastic polymers in a range of conditions
4. Can be operated locally
5. Produces an item of value locally that can replace imported products


In addition the project team has been engaging this work of this study in a range of national and international networks for reduction of plastic pollution impacts:


1. Legacy plastics workshop – 11 September 2023 organised by The Royal Society and DEFRA
2. Presented to the British Overseas Territories steering group. This created ample discussion with lots of interest within island communities.
3. Co-hosted a side event at the UN Decade of Ocean Science for Sustainable Development Barcelona April 2024 (tackling plastics pollution together). Flipbook with case studies can be downloaded here: <https://uk-ndc.org/2024-ocean-decade-conference/tackling-plastic-pollution-together/>
4. Contacts at Innovate UK and DEFRA Marine plastic pollution team with several suggestions made for suitable future grant opportunities which will be pursued.
5. Interest from the Royal Navy, who are increasingly interested in understanding how they can use their assets and skills in environmental services worldwide.

Supporting Evidence - file(s) upload

 [Annex2DPLR1_1036_2023_CaseStudyChagos_GlobalPlasticsTreatyINC3Nairobi](#)

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Supporting Evidence - links to published document/online materials

Annex 1. Board press feasibility study for DDPLR1_1036

Can be downloaded using the following WeTransfer link: <https://we.tl/t-o6MFRmXS6H>

Annex2DPLR1_1036_2023_CaseStudyChagos_GlobalPlasticsTreatyINC3Nairobi

Attached, but can also be downloaded using the following WeTransfer link: <https://we.tl/t-o6MFRmXS6H>

Annex 3. Flipbook of case studies for the 'Tackling plastics pollution together' side event at the UN Decade of Ocean Science for Sustainable Development Barcelona April 2024 can be found here:

<https://uk-ndc.org/2024-ocean-decade-conference/tackling-plastic-pollution-together/>

Project Challenges

As ever working on Diego Garcia (DG) presents challenges as the Overseas Territory (OT) is administered by BIOT/FCDO but the island's infrastructure is controlled and managed by the US Navy and its contractors. The main challenge here is trying a completely novel approach in a remote location.

While support for this project is evident on the ground, innovative approaches to waste management also require support from higher levels and cannot be solely implemented by the US Navy from the ground up. The fact that there is interest in supporting this project from the contracting companies running waste management infrastructure provides an opportunity to run a pilot to demonstrate this equipment works in practice, operated by their staff, rather than relying entirely on the US Navy directly.

The role that BIOT can play as a project sponsor is absolutely key to the success of any novel endeavour such as this. They have been an active and engaged project partner and we have kept them fully informed throughout the process. Their continued support on taking the next step with this project will be important for its success.

Lessons Learned

- 1) The project team worked incredibly well together and made excellent use of the few weeks spent at the project site together. The consultant Imogen Napper was able to use the laboratory facilities at the University of Plymouth which provided £24,000 of tests in kind. The technical team at Protomax d allowed useful access to their processing facility in Hull to see the board press in action and fully understand the process. Additionally, the BIOT administration was a key project partner.
- 2) DG as a military facility presents a unique challenge to the delivery of environmental conservation focused work, particularly anything involving entirely novel processes. The military organisation requires teams traditionally working in very structured and hierarchical ways to think innovatively and creatively about a process that they do not have any first-hand experience with.
- 3) All teams working on DG have a commitment to the conservation of the natural environment and there is a genuine pride in the protected status of the turtle nesting beaches. We have been able to leverage these values to generate action and support.
- 4) For similar projects, it is valuable to keep a focus on the biodiversity/conservation benefit that can accrue from the project. Emphasising the benefit of this work was for the protection of turtles within DG helped to motivate and sustain support for our project from the beginning.

Section 3 - Project Finance (Essential)

Project Expenditure

| Project Spend (indicative) since last Annual Report | 2023/24 Grant (£) | 2023/24 Total actual Darwin Plus Costs (£) | Variance % | Comments (please explain significant variances) |
|---|-------------------|--|------------|---|
| Staff Costs | £0.00 | £0.00 | 0 | <i>No Response</i> |
| Consultancy Costs | ████████ | ████████ | 0 | <i>No Response</i> |
| Overhead Costs | ████████ | ████████ | 0.1 | <i>No Response</i> |
| Travel and Subsistence | ████████ | ████████ | █ | <i>No Response</i> |
| Operating Costs | £0.00 | £0.00 | 0 | <i>No Response</i> |
| Capital Items | £0.00 | £0.00 | 0 | <i>No Response</i> |

| | | | | |
|--------------|----------|----------|---|-------------|
| Others | £0.00 | £0.00 | 0 | No Response |
| Total | ████████ | ████████ | █ | |

Please provide a short narrative summary on project finances.

Co-financing was provided by the Bertarelli Foundation's Marine Science Programme for:

- Travel costs due to increased prices for flights and accommodation between the budget design and the delivery of fieldwork (████████ instead of estimated (████████)
 - Expenses to attend and co-host the Plastics pollution side event at the UN Decade of Ocean Conservation for Sustainable Development Barcelona April 2024. (████████)
 - An additional estimated 10% of Rachel Jones's time over the year above the 10% in kind already identified = 20% total salary (████████)
 - Heather Koldewey 5% salary - ██████████
- University of Plymouth provided ██████████ in kind for lab facilities and testing; including Fourier Transform Infrared Spectroscopy, Scanning Electron Microscopy and Pyrolysis Gas Chromatography/Mass Spectrometry

Total match funding = ██████████

Section 4 - Contribution of Project to Darwin Plus Programme Objectives

Please select up to **one** indicator that applies within **each group/indicator list (A, B, C, D)** and report your results for that indicator in the text box underneath. If you do not have relevant results to report for any of the indicators in a particular group, you can leave them blank.

Please also submit some form of evidence (above) to demonstrate any results you list below, where possible.

Group A: Capability and Capacity - Core Darwin Plus Standard Indicators (select one)

Unchecked **DPLUS-A01: Number of people from key national and local stakeholder groups completing structured and relevant training.**

Unchecked **DPLUS-A02: Number of secondments or placements completed by individuals of key local and national stakeholders.**

Unchecked **DPLUS-A03: Number of local/national organisations with improved capability and capacity as a result of project.**

Unchecked **DPLUS-A04: Number of people reporting that they are applying new capabilities (skills and knowledge) 6 (or more) months after training.**

Unchecked **DPLUS-A05: Number of trainers trained reporting to have delivered further training by the end of the project.**

Group A Indicator Results

none

Group B: Policies, Practices and Management- Core Darwin Plus Standard Indicators (select one)

Unchecked **DPLUS-B01: Number of new/improved habitat management plans available and endorsed.**

Unchecked **DPLUS-B02: Number of new/improved species management plans available and endorsed.**

Unchecked **DPLUS-B03: Number of new/improved community management plans available and endorsed.**

Unchecked **DPLUS-B04: Number of new/improved sustainable enterprises/ community benefits management plans available and endorsed.**

Unchecked **DPLUS-B05: Number of people with increased participation in local communities / local management organisations (i.e., participation in Governance/citizen engagement).**

Unchecked **DPLUS-B06: Number of Local Stakeholders and Local Communities (people) with strengthened (recognised/clarified) tenure and/or rights.**

Group B Indicator Results

none

Group C: Evidence and Best Practices - Core Darwin Plus Standard Indicators (select one)

Checked **DPLUS-C01: Number of best practice guides and knowledge products published and endorsed.**

Unchecked **DPLUS-C02: Number of new conservation or species stock assessments published.**

Unchecked **DPLUS-C03: New assessments of habitat conservation action needs published.**

Unchecked **DPLUS-C04: New assessments of community use of biodiversity resources published.**

Unchecked **DPLUS-C05: Number of projects contributing data, insights, and case studies to national Multilateral Environmental Agreements (MEAs) related reporting processes and calls for evidence.**

Group C Indicator Results

Feasibility study completed and distributed

Group D: Sustainable Benefits to People, Biodiversity and Climate - Core Darwin Plus Standard Indicators (select one)

Unchecked **DPLUS-D01 Hectares of habitat under sustainable management practices.**

Unchecked **DPLUS-D02: Number of people whose disaster/climate resilience has been improved.**

Unchecked **DPLUS-D03: Number of policies with biodiversity provisions that have been enacted or amended.**

Group D Indicator Results

none

Section 5 - Project Partnerships, Wider Impacts and Contributions

Project Partnerships

Rachel Jones/ZSL - Project lead, designed the project concept based on previous experience with a Darwin project.. This experience included working on the ground in BIOT, leading fieldwork and overall direction of feasibility study.

Imogen Napper/University of Plymouth – Plastic technical and research expertise – formulated scope of research and gathered all technical information Proposed novel lab tests to answer questions on material suitability.

Nick Stillwell/Protomax – Technical adviser for panel press and for entire manufacturing process required to produce boards. Input on costings and logistics of delivering a pilot study.

Lindsey Hollingsworth/BIOT – BIOT Environmental Officer – Facilitated all DG based liaison with US Public Works Department and contractors KBR for logistics on the ground and for infrastructure requirements and costings. Note BIOT is the de facto government of this territory.

Collectively, this project was a unique example of how a non-governmental organisation (ZSL), research organisation (University of Plymouth), industry partner (Protomax) and governmental entity (BIOT) can work together for an innovative and shared goal.

This work has been used as a case study for communications in various plastics pollution networks – as noted above these include the Overseas Territories Plastic Steering Group and at the UN Decade for Marine Science plastics side event co-hosted by the project team

Wider Impacts and Decision Making

The profile of plastic pollution on DG has been raised substantially over the lifetime of this project and the Darwin Plus that preceded it. Identifying the importance of controlling beach plastic to healthy turtle nesting, driving down the use of single use plastic on DG and finding solutions for waste plastic have all been widely discussed at regular environment meetings between US and UK authorities on DG. The role that the BIOT Environment Officers have played in keeping the issue high on the agenda has been very valuable.

Sustainability and Legacy

Next steps for this project is to take the key findings of the feasibility study forward in a proposal for a full 12-month pilot to demonstrate the Protomax panel press in action . We have been invited to prepare a short pitch for this project to the plastic pollution team at Innovate UK, and we are actively exploring other potential funding sources suitable for this work to take the next step. If the team are able to complete a successful 12 month pilot, the next step would be a permanent installation of this plastic recycling facility on DG and possibly other OTs or small island communities that face similar issues with plastic pollution.

Section 6 - Communications & Publicity





Exceptional Outcomes and Achievements

As noted above, content from this study and the connected Darwin Plus that preceded it have been used in presentations at two UKOTs plastic's steering group meetings, at an All Party Parliamentary Group for UKOT's and at the UN Decade for Marine Science for Sustainable Development plastic pollution side event (flipbook of case studies is too big to append given the 20MB limit but can be downloaded here: <https://uk-ndc.org/2024-ocean-decade-conference/tackling-plastic-pollution-together/>).

A case study from this work was used in materials presented at the Global Plastics Treaty Negotiations in Nairobi in 2023. ZSL partnered with Flora and Fauna International to present case studies showing impacts of plastic pollution on biodiversity and potential solutions.

Photo, video or graphic to be used for publicity and communications.

Please upload at least one relevant and engaging image, video or graphic that you consent to be used alongside the above text in Defra, JNCC or NIRAS communications material.

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Photo, video, and/or graphic captions and credits.

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I agree for the Biodiversity Challenge Funds Secretariat, Administrator, and/or JNCC to publish the content of this section.

Yes, I agree for the BCFs Secretariat and/or JNCC to publish the content of this section.

Please list any accounts that you would like tagged in online posts here. This can include project pages, partners' pages or individuals' accounts for any of the following platforms: LinkedIn, Facebook, Twitter, or Instagram.

N/A

Section 7 - Darwin Plus Contacts

Please tick here to confirm that you have read and acknowledge the BCF's Privacy Notice on how contact details will be used and stored and that you have sought agreement from anyone that you are sharing personal details with us on their behalf.

I confirm I have read the Privacy Notice and have consent to share the following contact details

Project Contact Details

| | |
|---|-------------------------------------|
| Project Contact Name | Rachel Jones |
| Role within Darwin Plus Project | Project Lead |
| Email | [REDACTED] |
| Phone | [REDACTED] |
| Do you need further sections to provide additional contact details? | <input checked="" type="radio"/> No |
