

Applicant: **Zimmermann, Alizee**
Organisation: **Turks and Caicos Reef Fund**
Funding Sought: **£49,469.25**

DPLR5\1076

Bolstering Benthic Baselines – Equipping Ourselves for Long Term Monitoring

Bolstering Benthic Baseline – Equipping Ourselves for Long Term Monitoring is a project that aims to equip the TC Reef Fund (TCI's most active and longest standing environmental advocacy NGO) with the materials, technology, software, and training to increase our capacity for long term, globally comparable and currently relevant data collection. A more wholistic approach to monitoring will include photogrammetry, tissue sampling for histopathology, water quality and temperature monitoring, as well as in-person field surveys with trained AGRRA surveyors.

PRIMARY APPLICANT DETAILS

Title	Ms
Name	Alizee
Surname	Zimmermann
Website (Work)	
Tel (Work)	
Email (Work)	
Address	

DPLR5\1076

Bolstering Benthic Baselines – Equipping Ourselves for Long Term Monitoring

Section 1 - Project Title & Contact Details

Q1. Project Title

Bolstering Benthic Baselines – Equipping Ourselves for Long Term Monitoring

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

☒ Organisation

PRIMARY APPLICANT DETAILS

Title	Ms
Name	Alizee
Surname	Zimmermann
Website (Work)	
Tel (Work)	
Email (Work)	
Address	

GMS ORGANISATION

Type	Organisation
Name	Turks and Caicos Reef Fund
Phone (Fax)	
Email (Work)	
Website	
Address	

Section 2 - Overseas Territory(ies)

Q3. Please state whether the same (or a similar) project proposal has previously been submitted (or you are planning to submit it) to the UK Government for funding. This includes through Darwin Plus Local, Defra's other Darwin Plus grant schemes or other UK Government funding mechanisms. Failure to share this information may result in the application being ineligible (see Guidance section 2.1.1).

☒ No

Q4. Overseas Territory (Guidance section 1.3):

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

☒ Turks and Caicos Islands (TCI)

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

No Response

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

☒ Yes

Please list these here and describe how they will benefit:

There will be a benefit through learning and knowledge exchange. Alizee sits on several working groups within the region and regularly shares and presents on her findings and experiences. This project will help determine baseline metrics that can be insightful regionally. We sit on the JNCC funded Coral Conservation Overseas Territories (UK) working group and will share the outputs in the form of a report and guideline on sourcing materials, streamlining data collection and organizing it through platforms such as the AGRRA data explorer portal.

Section 3 - Project Partners

Q5. Project partners (Guidance section 3.2)

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

**Project Leader name:
(Guidance section 3.1)**

Alizee Zimmermann

**Lead Organisation name:
(if applying as an organisation;
Guidance section 3.1)**





Turks and Caicos Reef Fund

**Lead Organisation Website (if
applicable):**

www.tcreef.org

Is the Lead Organisation based in a UKOT where the project is working? (Guidance section 3.1)	<input checked="" type="radio"/> Yes
List other partners involved and where are they based:	N/A
Summary of roles and responsibilities of each partner in the project:	Alizee Zimmermann - Turks and Caicos Reef Fund – Mrs. Zimmermann is the lead partner and is responsible for all logistics as well as overseeing the project's reporting and accounting. She is the executive director of the Turks and Caicos Reef Fund. With experience in project and NGO management, Alizee is particularly skilled in overseeing short to mid-term actionable projects such as snorkel site renovations, volunteer led in-water coral nurseries and rapid response to modern coral reef threats. She successfully runs several in-situ coral nurseries as well as the TCRF's Living Coral Biobank, a land-based system that is being used as an example regionally for next steps in coral rescue. Her and her team have successfully completed two Darwin Locals in Rounds 1 and 3. We hope to continue gratefully growing our capacity through the support of this grant.
I confirm that all listed partners are aware of this application and have indicated support:	Checked

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

 [DarwinLocal R5 Bolstering Benthic Baseline Cover Letter](#)
 24/11/2024
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Section 4 - Project Summary & Description

Q6. Project Summary (Guidance section 3.8)

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

Bolstering Benthic Baseline – Equipping Ourselves for Long Term Monitoring is a project that aims to equip the TC Reef Fund (TCF's most active and longest standing environmental advocacy NGO) with the materials, technology, software, and training to increase our capacity for long term, globally comparable and currently relevant data collection. A more wholistic approach to monitoring will include photogrammetry, tissue sampling for histopathology, water quality and temperature monitoring, as well as in-person field surveys with trained AGRR surveyors.

Q7a. Description (Guidance section 2.1 and 6)

Please provide a description of your project, including:

- the overall objective

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

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

Objective: To equip our team with the materials, technology, software, and training to conduct thorough long-term monitoring and data collection, starting with a comprehensive baseline of current benthic conditions. Documentation of coral recruitment in aid of understanding what future reefs composition might look like will also be prioritized.

Current Situation: Currently there are several monitoring sites around the Turks and Caicos Islands but most of them have either not been surveyed in many years, have not had regular surveys, or only have partial data collection due to availability of surveyors, equipment, and funding. The sites that are monitored on a yearly basis are monitored using basic GCRMN and AGRRA protocol which given the rapidly changing benthos due to recent disease events may no longer be enough to fully quantify our changing reefs. By equipping ourselves with the necessary tools and technology to gather large-scale, information-rich, and effective data, we will be able to create a baseline, useable for measuring restoration effort success, but also establish a long-term monitoring protocol that includes the collection of tissue samples for archival and future histopathological use. We have already received the inkind support of the Atlantic and Gulf Rapid Reef Assessment (AGRRA) team through training programs and workshops. The connections we have made and continue to make are what will help make this project successful.

Success looks like a high-capacity computer with full photogrammetry and 3D modelling software as well as analytics software to help extrapolate data from large-scale imagery. Success looks like a camera set up that can help us capture the benthic composition of reefs at scale and in high-resolution. Success looks like having temperature and water quality monitoring equipment set up for cross-parameter analysis of data. Above all, success looks like involving our community of local volunteers and surveyors to be empowered to collect information and see it translated into relatable information through the power of 3D modelling and AGRRA's Data Explorer.

This project's successful outcome will be in the form of a detailed report card for up to 10 sites (minimum of 6) across the Turks and Caicos archipelago. Each site will have data collected through surveys as well as a detailed photomosaic of a 10x10m plot that can be repeated on a yearly basis. Not only will a baseline for all 10 sites be created but the equipment sourced through this project will have the benefit of continuing to support our monitoring and conservation efforts well beyond the project's completion.

Q7b. Long-term sustainability (Guidance section 2.1 and 6)

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

Currently, there are a limited number of reefs with baseline information with which to base any measure of success from restoration projects or any measure of loss from disease events such as stony coral tissue loss disease or bleaching. The baseline information collected during this year long project will be valuable for understanding the ecological impact of all work done from this moment forward, be that restorative work or destructive work (e.g coastal development) as well as that of our rapidly changing climate and ocean conditions. The equipment purchased through this grant and used for the baseline will be used year after year for the continued long-term monitoring. We estimate a minimum of 5-8years of service from the cameras and computer set up (possibly longer with software and RAM updates etc.) The knowledge gained, of course, has no expiry date and we look only to continue learning and improving the collection and analysis methodology over time.

This is a short actionable project with the potential for long-term impact.

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

No Response

Section 5 - Project Outcome(s)

Q8. Project Outcome(s) (Guidance section 1.2)

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

Please note: Any proposals including research or monitoring are required to demonstrate a clear link to tangible outcomes for conservation of biodiversity and the natural environment. Please explain how any new research will be applied to drive environmental outcomes on the ground.

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

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

Please tick which additional theme(s) of Darwin Plus your project contributes to (if relevant):

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

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

Checked **Capability and capacity building: enhancing the capacity within OTs, including through community engagement and awareness, to support the environment in the short- and long-term.**

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

We cannot conserve what we don't know. Having a comprehensive baseline is the first step to biodiversity enhancement. Monitoring allows us to quantitatively measure restoration initiative success as well as the impact of future disease events and environmental changes.

Thermal stress and storms are more frequent and intense. Holistic monitoring needed to understand and adapt to Climate Change

Restoration site will improve environmental benthic conditions at that site.

Local dive students and volunteers will be trained to participate in the data collection and the outputs can be used to create visual presentations using 3D building our local capacity.





Section 6 - Workplan

Q9. Workplan (Guidance section 2.2)

Please provide anticipated dates for the start and end of your planned project here. Please use the Darwin Plus Local Project Workplan (available at: <https://darwinplus.org.uk/how-to-apply/local-applications/>) to provide a list of the individual activities you have planned for this project, a brief description of what each activity entails, and the months in which the activities will be carried out. If the project involves only one activity (e.g. a purchase), please still provide project start and end dates (noting estimated times for procurement). Please note that your project must start after 1 April 2025 and be completed by 31 March 2026.

Start date:	End date:	Duration (e.g. 3 months):
02 April 2025	31 March 2026	12 months

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

 Bolstering Benthic Baselines R5 DPlus Local Implementation Timetable Template - FINAL
 24/11/2024
 15:32:18
 pdf 162.9 KB

Section 7 - Costs

Q10. Costs (Guidance section 2.2 and please read the Finance Guidance)

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

Are you seeking any matched funding for this project? (Please note that this is optional and there is no requirement to seek matched funding for Darwin Plus Local projects).

☒ Yes

How much matched funding are you seeking and where from?

School for Field Studies in South Caicos – Lodging and meals for 4 as well as 4 days of boat use for baseline collection in South Caicos. – [REDACTED]

AGRRA – support to attend workshops directly leading to the knowledge gained that allowed us to apply for this funding.

2024 - [REDACTED] travel/workshop, [REDACTED] for 2 online photogrammetry course.

2025 - [REDACTED] travel/workshop, [REDACTED] for 2 online disease monitoring and histopathology course.

Budget line	Explanation	Cost in GBP
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Staff costs:	Captain rates are [REDACTED] per day. We will look to conduct 20 survey days during the project. This will allow us to Get full baselines on 10 sites across the archipelago. The additional staff costs will be to cover research lead and administrative costs. Much of the work will be done by volunteers.	[REDACTED]
	Our explanations are in USD and the GBP cost was calculated on the day of submission.	
Consultancy costs:	N/A	£0.00
Overhead costs:	There will be some overhead in electricity to run the computers and boat engine time.	[REDACTED]
Travel & subsistence costs:	Our core team of 4 will travel to the other TCI islands e.g. South Caicos, Grand Turk, Salt Cay to collect baseline data that is nationally relevant. This travel will all be in-territory. Volunteers will be given a travel stipend to help when going to other islands.	[REDACTED]
Operating costs:	Boat fuel costs between [REDACTED] per field day depending on location of work. We are calculating based on the average of [REDACTED] per day for 20 days of field work. We are adding an additional [REDACTED] for renting boats and dive equipment to run field work in Grand Turk and Salt Cay. An output of this project will be a report card on the state of the reefs at the 10 sites monitored. We're counting about [REDACTED] for the creation, printing, and dissemination of reports cards to major stakeholders in both public and private sector.	[REDACTED]
Capital equipment:	A high-powered computer for photomosaic processing (also useful for our DNA sequencing application). Camera DSLR set up for photomosaic Image and data processing software Tissue sampling equipment and fixatives for preservation Temperature/Light HOBO sensors Water Quality testing probes GPS devices	[REDACTED]
Other Costs	N/A	£0.00
Total:		[REDACTED]

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

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

Eric Cardin – Captain Rate [REDACTED] x 20 days = [REDACTED]
 Alizee Zimmermann – Research Lead and organizer [REDACTED] x 40 days = [REDACTED]
 Stacy Belizaire – Office Admin - [REDACTED] per hour for 50hrs = [REDACTED]

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

Our current power bills are [REDACTED] on average, we expect this to go up by a few hundred per month with the use of the computer for data and image processing. We are factoring in [REDACTED] for electricity for 12 months and [REDACTED] for engine hours on our field boat. Our budget was created in USD as that's what we used but all costs have been converted to GBP on day of application submission.

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

We have budgeted [REDACTED] for travel and subsistence cost for field work in other islands. This would cover flights, accommodation and daily stipends for our staff and volunteers. This will allow us to set up comparable baselines for South Caicos, Grand Turk and Salt Cay.

The additional [REDACTED] for will go towards our East Caicos liveaboard trip in 2025, a [REDACTED] research week that we aim to conduct yearly to assess the reefs of the Caribbean's largest uninhabited island. We have been 3 times since 2018 and through this project aim to bolster our data collection capacity.

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

The largest cost will be for boat fuel and rental (in other islands) for field days. On average fuel costs are [REDACTED] per day for our vessel. 20x [REDACTED] = [REDACTED]. We have added an additional [REDACTED] for boat rental in Grand Turk and Salt Cay. In South Caicos the vessel will be in-kind donation.

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

Custom built high-powered processing computer - [REDACTED]
DSLR cameras and UW housing for high-res photomosaic - [REDACTED] each x 2 - [REDACTED]
Image processing software -e.g. Agisoft Metashape - [REDACTED]
Data analysis software e.g. TagLab - [REDACTED]

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

No Response

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

No Response

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

Other currency:	Exchange rate:	Source of this exchange rate:	Date exchange rate accessed:
USD	1 USD = 0.796820 GBP	https://www.xe.com/currencyconverter/convert/?Amount=20000&From=USD&To=GBP	24 November 2024

Darwin Plus Local has been created to build capacity and contribute to local economies in-territory (Guidance section 2.1.1 and section 1.8.4 of the Finance Guidance).

In-territory spend is defined in Darwin Plus Local as including funding spent on:

- Equipment purchased in-territory;
- Equipment that cannot be acquired in-territory and is therefore purchased abroad, but will remain and be used in-territory beyond the life of the proposed Darwin Plus Local project;
- Training or skills that cannot be acquired in-territory and are therefore purchased abroad, but will be used in-territory beyond the life of the proposed Darwin Plus Local project;
- Time for consultants or staff based in-territory.

In-territory spend does not include:

- Time for consultants or staff who are based abroad, even if they travel to the OT to undertake the work;
- Shipping and import costs for equipment purchased abroad;
- Travel and subsistence costs where they incur spend outside the OT.

What % of the total will be spent
in-territory?



If less than 80% of the total project spend is to be spent in-territory, please explain why.

N/A

Section 8 - Local and National Priorities

Q11. Local and national priorities

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

This project aligns with the TCI's national environmental priorities, focusing on the sustainable use of natural resources and the preservation of National Parks. We collaborate with the Department of Environment and Coastal Resources (DECR) to monitor the impacts of stony coral tissue loss disease and thermal stress on reefs. This initiative will enhance our ability to collect meaningful data about reef conditions. As the oldest environmental advocacy NGO in the country, we have spent the last 15 years engaged in monitoring and restoration efforts. The TC Reef Fund (TCRF) is a signatory of the 2022 Climate Change Charter, which includes commitments from the private sector to conduct thorough Environmental Impact Assessments and develop a Coastal Resilience Plan. These actions aim to protect and restore coastal ecosystems, including sand dunes and mangroves. By improving our understanding of ocean habitats and monitoring sensitive areas, we can foster more effective management and resilience strategies for our marine environments.

Will the project...

Take place on Government owned land or water?

☒ Yes





Involve biocontrol, invasive alien species control or eradication?





☒ No





Require permit(s) from Government departments for completion of activities?

☒ Yes

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

 [ORE AGRRA Letter of support for TCRF_signed](#)
 24/11/2024
 15:19:22
 pdf 156.4 KB

 [Zimmerman TCRF Coral DECR Letter of Support DPLR6 22112024](#)
 24/11/2024
 15:19:00
 pdf 242.5 KB

 [SFS TCI Letter of Support TCReef](#)
 24/11/2024
 15:18:43
 pdf 79.17 KB

Section 9 - Project Risks

Q12. Project Risks

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

Depending on your project, you may wish to consider:

- Biosecurity risks – particularly for projects involving external equipment.
- Safeguarding risks – particularly for projects involving vulnerable groups such as children, older people or people with disabilities.
For example, you should consider the ratio of vulnerable people or children to adults, ensuring there are appropriate background checks of all staff, and informing vulnerable groups and children of their right to safety and protection.

Risk	Mitigation
Safeguarding Risk	All in water activities are supervised by TCRF staff with divemaster certifications or higher. Boat drivers hold, at minimum, aTCI Boat Masters License. All staff are CPR and First Aid certified for adults and children and have an up-to-date STCW certificate.
Loss of information risk	All data will be stored in multiple locations to avoid loss of information if there were to be a failure at the research facility.
No Response	No Response

Do you require more fields?

☒ No

Section 10 - Terms & Conditions

Q13. Terms and conditions (Guidance section 3.10)

By applying for Darwin Plus Local you are adhering in full to the grant Terms and Conditions in full (available at: <https://darwinplus.org.uk/how-to-apply/local-applications/> and as referenced in the Guidance at section 3.10). For information, the Terms and Conditions include requirements for all applicants to (amongst other requirements as per the full Terms and Conditions):

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

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

Checked

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

- Cover Letter of no more than two A4 pages. (Guidance section: 4.2 has information on what this cover letter should include).
- If the project takes place on public land or water, is addressing invasive alien species or includes activities requiring a permit, a Letter of support from OT Government.
- Project Workplan in the template provided for Darwin Plus Local (available at: <https://darwinplus.org.uk/how-to-apply/local-applications/>).
- Map and additional information (optional) maximum five additional pages.

If your application is successful

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

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

Section 11 - Certification

Certification

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

Checked





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

Checked

Name: Alizee Zimmermann

Position in the organisation: Executive Director
(if applicable)

Signature (please upload e-signature)

 [Alizee Zimmermann esignature](#)
 24/11/2024
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Date: 24 November 2024

Section 12 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance documents, including the “Darwin Plus Local Guidance” and the “Darwin Plus Local Finance Guidance”.	Checked
If my proposed project takes place on public lands or water or is addressing alien invasive species, I have uploaded a Letter of Support from Government.	Checked
I have uploaded a cover letter that details the information requested in the guidance (Guidance section 4.2 has information on what this cover letter should include).	Checked
I have read, and can meet, the current Terms and Conditions for this fund (found at: https://darwinplus.org.uk/apply/local-applications/) for this fund.	Checked
I have provided actual start and end dates for my project that fit this Round.	Checked
I have provided my summary budget based on UK government financial years i.e. 1 April – 31 March and in GBP in the application form.	Checked
I have uploaded my project workplan using the specific template provided (available at: https://darwinplus.org.uk/apply/local-applications/).	Checked
I have uploaded all supplementary documents if I have any.	Checked
(If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.	Checked
The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
I have checked the Darwin Plus website immediately prior to submission to ensure there are no late updates.	Checked
I have read and understood the Privacy Notice on the Darwin Plus website.	Checked

We would like to keep in touch!

Please check this box if you would be happy for the lead applicant (Flexi-Grant Account Holder) and project leader (if different) to be added to our mailing list. Through our mailing list we share updates on upcoming and current application rounds under Darwin Plus. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share project news. You are free to unsubscribe at any time.

Checked

Data protection and use of personal data

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

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