Applicant: Rouja, Jean-Pierre Organisation: Station-B Funding Sought: £48,429.61

DPLR2\1033

Cost-effective habitat monitoring to understand seagrass decline in Bermuda

This project will establish a cost-effective sensor array to better monitor and understand seagrass decline in Bermuda, helping to inform management decisions by monitoring climatic conditions around seagrass habitats and the grazing behaviour of sea turtles and other species that rely on seagrass as a food source.

Furthermore, local Bermudian organizations will be trained to deploy, maintain and repair the sensor array through a series of capacity building workshops to enable long-term sustainability and monitoring to continue beyond project completion

DPLR2\1033

Cost-effective habitat monitoring to understand seagrass decline in Bermuda

Section 1 - Project Title & Contact Details

Q1. Project Title

Cost-effective habitat monitoring to understand seagrass decline in Bermuda

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

Organisation

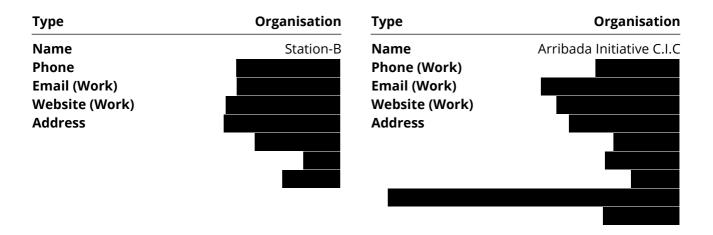
CONTACT DETAILS

Title Mr
Name Jean-Pierre
Surname Rouja
Website (Work)
Tel (Work)
Email (Work)
Address

CONTACT DETAILS

Title Mr
Name Alasdair
Surname Davies
Organisation Arribada Initiative C.I.C
Website (Work) arribada.org
Tel (Work)
Email (Work)
Address

GMS ORGANISATION



Section 2 - Overseas Territory(ies)

Q3. Overseas Territory (Guidance section 1.3):

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

☑ Bermuda

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

No Response

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

No

Section 3 - Project Partners

Q4. Project partners (Guidance section 3.2)

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

Project Leader name (Guidance section 3.1):	Alasdair Davies
Lead Partner name (if applying as an organisation; Guidance section 3.1):	Arribada Initiative

Lead Partner Website (if https://arribada.org applicable): Is the Lead Partner based in a UKOT where the No project is working (Guidance section 3.1)? The Lead Applicant does not currently have access to the local technical resource(s), tool(s) and / or machinery or workshop necessary to be able to maintain and deploy the sensors that we have proposed to Please explain why this introduce. As a Lead Partner, Arribada will provide all necessary project is led from outside technical resource, advice, and support for the Lead Application to the UKOT: establish an environment in which they are able to maintain and deploy the sensors through technical knowledge exchange and capacity building to achieve the project's objectives. List other partners Waterstart, a local Bermuda-based NGO which seeks to promote involved and where are environmental awareness and personal growth through hands-on they based (Guidance educational opportunities in natural environments. section 3.2): Arribada's primary role is to transfer technical knowledge to the local Bermudian organization, Station-B, building their capacity to deploy and maintain the cost-effective habitat monitoring sensors that Arribada will initially manufacture and provide. Arribada's secondary goal is to assist Station-B in establishing a working environment with the physical tools, machines, skills and knowledge necessary to take ownership of the introduced sensors, be able to maintain them without additional third-party support and to be able to deploy / recover the sensors to continue monitoring seagrass habitat beyond completion of this Summary of roles and project. responsibilities of each partner in the project: Waterstart will be responsible for supporting the maintenance (i.e. cleaning camera lens and removing befoul, regularly checking attachment moorings) of any deployed sensors and will assist with the downloading of data for review and analysis by Station B. Waterstart's programme of activities targets opportunities for young local Bermudians to experience the marine environment, learning to scuba dive and to take an active role in the conservation of Bermuda's coastline. The maintenance of the sensors will be integrated into these activities and carried out weekly.

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

Checked

I confirm that all listed partners are aware of this

application and have indicated support:

- & Bermuda Cover Letter5-26-23
- ① 17:54:43
- pdf 122.05 KB

Section 4 - Project Summary & Description

Q5. Project Summary (Guidance section 3.8)

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

This project will establish a cost-effective sensor array to better monitor and understand seagrass decline in Bermuda, helping to inform management decisions by monitoring climatic conditions around seagrass habitats and the grazing behaviour of sea turtles and other species that rely on seagrass as a food source.

Furthermore, local Bermudian organizations will be trained to deploy, maintain and repair the sensor array through a series of capacity building workshops to enable long-term sustainability and monitoring to continue beyond project completion

Q6a. Description (Guidance section 2.1 and 6)

Please provide a description of your project, including:

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

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

The overall objective is to generate data to support management decisions for the protection of Bermuda's seagrass meadows and to improve resilience to climate change by understanding the factors affecting the protection and restoration of seagrass in partnership with the Department of Environment and Natural Resources (DENR).

The Bermudian Government has published evidence of a substantial loss of Bermuda's seagrass population between the years of 2007 to 2021, recording over an 85% decline. This prompted the Bermuda Government Department of Conservation Services to implement a benthic mapping, monitoring and assessment program (BBMAP). A primary goal of the program was to acquire data that allows recognition and possible causal association of any future changes in Bermuda's benthic environment and the factors affecting the growth of five different species of seagrass known to occur in Bermuda, four of which are open-water species that are found in bays and across the east and north lagoons toward the rim reef: Thalassia testudinum (turtle grass), Syringodium filiforme (manatee grass), Halodule sp (shoal grass), and Halophila decipiens (paddle grass). Ruppia maritima (widgeon grass) is found in the majority of Bermuda's ponds.

The relationship between seagrass decline and sea turtles is disputed within Bermudian organizations. Some local researchers suggest that previous increases in sea turtle numbers in the area (which should be considered a conservation success) have contributed to the decline of seagrass. Other researchers' results suggest that synergistic stressors, such as temperature and bioturbation, have reduced the tolerance of Bermuda's seagrass to natural grazing pressure, resulting in seagrass declines.

This project will introduce a monitoring array able to assess and provide information on both sea turtle grazing behavior and climatic factors that could be affecting the success of seagrass growth. The monitoring array will include an optical timelapse camera for the visual detection of grazing species, capturing user-defined incremental photographs, (for example every 30 seconds), together with sensors that measure water temperature and ph.

Each monitoring device will be attached to seagrass cages, already implemented by the Government of Bermuda to protect seagrass from overgrazing. There are cages located around the Bermudian coastline, with some areas showing better seagrass recovery than others. We will aim to deploy 10 monitoring devices to form the monitoring array at 10 sites, of varying seagrass success. This will enable us to compare factors affecting seagrass growth and quality.

The aim of the monitoring sensor array is to provide quantitative data to better understand the interaction between sea turtles, other grazing species, and the seagrass beds, as well as other climatic factors that may be impacting the propagation and succession of seagrass habitats. Through providing this data, we aim to equip the DENR and policymakers with the information needed to make better-informed management decisions based on quantifiable evidence. Data analysis will include the assessment of dwell time in / around the caged seagrass monitoring sites together with water temperature and ph to enable evaluation and correlation with the growth of seagrass habitat.

A successful project will result in the lead applicant and/or partner organizations, independently deploying, maintaining and scaling the cost-effective system through successful knowledge transfer from the supporting project partner, well beyond the term of this project. Furthermore, on project completion, no further support from the UK-based project partner will be necessary, as suitable capacity will have been developed to enable monitoring to continue and feed into important management decisions.

We will demonstrate success through validation that the monitoring array was able to capture sufficient data of the desired quality, including water temperature, ph, lux, PAR and could quantify the absence and presence of sea turtles and their grazing time

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

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

On completion of this six-month project we will have deployed the monitoring array and have enabled local organisations to maintain it independently. The primary long-term benefit of this project is that the monitoring array is maintained and continues to collect data indefinitely. This in turn will provide policy makers within the Government of Bermuda with evidence to inform management decisions, which will support future success of seagrass habitat protection and restoration.

If successful, this project will provide a model to scale up cost-effective monitoring of seagrass habitats across Bermuda and other overseas territories.

One of our Bermudan partners, Waterstart, is participating in this project because of the work they are

already doing maintaining seagrass cages through engagement with the local community, particularly youths. As such, the maintenance and regular collection of data from our devices attached to the cages, will be sustained alongside Waterstart's normal activities.

(Optional) Please upload any additional and supporting materials or files (such as maps of project sites, etc) below. Maximum of 5 pages:

 <u>LossOfSeagrass2022Slide</u>
© 20:47:45
jpg 418.79 KB
<u>SeagrassMonitoringSitesSlide</u>
ii 25/06/2023
© 20:45:38
□ jpg 429.54 KB
-

Section 5 - Project Outcome(s)

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

Successful Darwin Plus Local projects must demonstrate measurable outcomes in <u>at least one of the themes</u> of Darwin Plus, either by the end of the project or soon after through a credible plan.

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

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

Biodiversity: We will provide quantitative data regarding the drivers of biodiversity loss in the seagrass and surrounding ecosystems, which will help the Department of the Environment and Natural Resources make better-informed management decisions

Climate: We will quantify which of these are shifting due to climate change vs grazing by sea turtle to understand which factors may help focus efforts on specific solutions

Environmental quality: We will generate water temperature, ph, water clarity and light attenuation data (lux & PAR) to support restoration efforts

Capacity: Delivering workshops to train Governmental and NGO partners to maintain the sensor array for long-term sustainability

Section 6 - Workplan

Q8. Workplan (Guidance section 2.2)

Please provide anticipated dates for the start and end of your planned project here. Please use the <u>Darwin Plus Local Project Workplan</u> (available at: https://darwinplus.org.uk/apply) 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 be completed by 31 March 2024.

Start date:	End date:	Duration (e.g. 3 months):		
02 October 2023	31 March 2024	6 months		

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

A R2-DPlus-Local-Project-Workplan-FINAL-Statio nB

- ① 12:41:47
- pdf 267.47 KB

Section 7 - Costs

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

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

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

No

Budget line	Explanation	Cost in GBP
-------------	-------------	-------------

Staff costs:			
Consultancy costs:			
Overhead costs			
Travel & subsistence costs:			
Operating costs			
Capital equipment:			



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)

*Please note that Bermuda has the highest cost of living in the World which is reflected in salaries.

This covers Station B Project lead for 40 days at a discounted \$ per day, to cover all time spent on the project over the 6 month period

+ 10 days for assistant @ \$ per day

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

Station B applies a standard 11% overhead to all local costs when hosting and managing projects.

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

Lead Partner Travel & Subsistence Costs (Arribada);

Alasdair Davies, Director and Alex Bucknell, Senior Software Engineer will travel to Bermuda to deliver the necessary training workshops and to assist with the initial deployment and configuration of the seagrass habitat monitoring sensors. Flights have been costed at £ based on an off-season visit in February 2024, with shared accommodation at a low-cost Airbnb vs a hotel. Costs based on 2 x flights from the UK to Bermuda @ £ each plus 10 days accommodation.

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

We are budgeting \$ _____ to cover at least 12 days of vessel time with a base rate of \$ ____ per day for mid-size vessel including fuel.

We may need to charter a dive boat for the offshore deployment day at a rate of \$\frac{1}{2}\$ which could be offset by working when possible on local partner vessels for which we only pay for fuel @ \$9 per gallon, or are at no cost.

Ultimately, we aim to find the most cost-effective combination of the above to fulfill the needs of the project, and any remaining funds would be reallocated to outreach.

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

10 x seagrass habitat monitoring sensors with the followed embedded sensors / features @ £ each (£ in total)

- · An optical timelapse camera
- Ph sensor
- Seawater temperature sensor
- · Light (PAR) sensor

10 x marine stainless-steel mounts to attach each seagrass habitat monitoring sensor to a seagrass cage and position as required at the 10 individual deployment sites @ £ each (£ in total)

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

Lead Partner (Arribada), Technical Support Staff Costs, 10 days @ f per day:

Arribada's Senior Embedded Software Engineer, Alex Bucknall, will provide 10 days of in-country technical support, delivered as a series of practical workshops and demonstrations in-country to teach Station-B's project team and local partner Waterstart's supporting maintenance team how to maintain, repair and process data downloaded from the seagrass habitat monitoring sensors that Arribada will provide.

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

Lead Partner (Arribada), Sensor Manufacturing Costs, 21 days @ f per day:

10 seagrass monitoring sensors will be manufactured in the United Kingdom for provision to Station-B. This staff cost covers the effort necessary to manage the procurement of electrical components, assembly co-ordination and quality assurance / testing of the sensors before delivery to Station-B.

Other misc costs included are:

£	(misc electronics,	such as cables	and spare batteries	for the workshop).
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£	(stationary for the workshop).
	(

£	(2 x Pelicases	for sensor	transportation	and	storage).
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£ (9 litres of Micro66 anti-bio	ofou
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£	(1	litre c	of sal	twater	resistant	lens	treatm	ent)
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If your project budget was prepared in another currency and converted to GBP, please provide the exchange rate, its source, and the date it was accessed:

Other currency:	Exchange rate:	Source of this exchange rate:	Date exchange rate accessed:
USD	1.279	https://www.xe.com	25 June 2023

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



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

of the requested funds will be spent on consultancy from our Lead Partner to deliver the required 10 day in-country visit and workshop. This is necessary as we don't have the technical resource, tools or in-country knowledge to deploy and maintain the seagrass monitoring sensors that we aim to utilise, and so require external support from our partner and knowledge sharing to become self-sufficent.

17.6% of the the requested funds will be spent on capital equipment (the 10 seagrass monitoring sensors, attachment mounts and supporting anti-biofoul paint) that our Lead Partner will manufacture or procure before bringing them into the country for the workshop.

Section 8 - Local and National Priorities

Q10. Local and national priorities

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

Our project supports ongoing seagrass monitoring and restoration efforts as part of the Government of Bermuda's Department of Environment and Natural Resources (DENR) Benthic Habitat Mapping, Monitoring and Assessment Programme (BMMAP) that aims to monitor the status of seagrass meadows in Bermuda and to identify possible factors responsible for any changes in their status. Between 2007-2017, assessments found that 3 out of 17 sites exhibited 90-100% loss in seagrass, however, repeat assessments in 2022 found that 15 out of 17 sites now exhibited 90-100% loss.

On request from Sarah Manuel, Senior Marine Conservation Officer at the Department of Environment and Natural Resources, our cost-effective seagrass monitoring sensors will enable BMMAP to scale up monitoring activities through the use of our sensors to automatically assess water quality (ph / temperature / lux / PAR) and seagrass consumption by green sea turtles (chelonia mydas) and other species, at 10 defined sites where seagrass cages have been erected.

Particular parameters that are difficult to monitor manually 24/7 are: presence of grazers, daily water conditions, clarity, attenuation of light in the water column and human-induced activities, such as propellor damage, anchoring etc that our sensors will assess automatically to aid restoration and monitoring efforts.

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

Yes

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

^{*}approx percentages due to last-minute budget adjustments...

- & Letter of support for Seagrass Monitoring
- © 18:54:29
- pdf 548.84 KB

Section 9 - Project Risks

Q11. Project Risks

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

Depending on your project, you may wish to consider:

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

Risk	Mitigation
Loss of equipment due to weather / extreme ocean activity	The devices will be mounted to existing seagrass protection cages that have proven over time to remain in place in harsh weather / ocean conditions. In the unlikely event that the cages were disturbed, they could not / would not travel far and the devices will be secured in such a way that they will not fall off and can thus be retrieved.
Loss of equipment due to tampering / theft	We will attach stickers to the devices explaining that they are part of the seagrass study and have no other value. The design of the device enclosures will also not "appear" to be cameras etc.

February and March are historically the time of year when we can expect, at times days to weeks-long stretches of bad weather which would affect our ability to get to, and safely work in the offshore locations.

Inclement weather may impact our ability to deploy and retrieve in offshore locations.

Bad weather patches are usually interspersed with short breaks of decent weather, so we would keep delaying trips until they appear.

During these periods the inshore locations, which will account for the majority of locations, will still be accessible.

Do you require more fields?

O No

Section 10 - Terms & Conditions

Q12. Terms and conditions (Guidance section 3.10)

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

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

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

Checked

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

- Cover Letter of no more than two A4 pages. (Guidance section: 4.2 has information on what this cover letter should include).
- If the project takes place on public land or water or is addressing invasive alien species, a Letter of support from OT Government.
- Project Workplan in the template provided for Darwin Plus Local (available at: https://darwinplus.org.uk/apply).
- 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:	Jean-Pierre Rouja
Position in the organisation: (if applicable)	Director
Signature (please upload e-signature)	 ♣ IPR Signature ★ 25/06/2023 ◆ 19:49:01 ♣ jpg 357.74 KB
Date:	26 June 2023

Section 12 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance documents, including the "Darwin Plus Local Guidance" and the "Darwin Plus Local Finance Guidance".	Checked
If my proposed project takes place on public lands or water or is addressing alien invasive species, I have uploaded a Letter of Support from Government.	Checked
I have uploaded a cover letter that details the information requested in the guidance (Guidance section 4.2 has information on what this cover letter should include).	Checked
I have read, and can meet, the current Terms and Conditions for this fund.	Checked
I have provided actual start and end dates for my project that fit this Round.	Checked

I have uploaded my project workplan using the specific template provided. (If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form. The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable). I have checked the Darwin Plus website immediately prior to submission to ensure there are no late updates. I have read and understood the Privacy Notice on the Darwin Plus website.	Checked	have provided my summary budget based on UK government financial years i.e. 1 April – 31 March and in GBP in the application form.
been successfully copied into the online application form. The application has been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable). I have checked the Darwin Plus website immediately prior to submission to ensure there are no late updates.	Checked	have uploaded my project workplan using the specific template provided.
scanned signatures are acceptable). I have checked the Darwin Plus website immediately prior to submission to ensure there are no late updates.	Checked	
there are no late updates.	Checked	
I have read and understood the Privacy Notice on the Darwin Plus website.	Checked	• •
	Checked	have read and understood the Privacy Notice on the Darwin Plus website.

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 <u>Forms and Guidance Portal</u>.

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

Project Title:

Darwin Plus Local

Provide a **Project Workplan** that shows the key milestones in project activities. Complete the following table as appropriate to describe the intended workplan for your project. Round 2 is for a **maximum of six months** with activities starting from 1 October 2023 and all projects must be completed by 31 March 2024.

Please add/remove columns to reflect the length of your project. For each activity (add/remove rows as appropriate) indicate the number of months it will last, and shade only the months in which an activity will be carried out. The workplan can span multiple pages if necessary.

Activity #	Description (max 25 words)	No. of	UK Financial Years 2023/24					
		months	Calendar Year 2023			Calendar Year 2024		
			Oct	Nov	Dec	Jan	Feb	Mar
Procurement of hardware	Procurement of electronic components necessary to manufacture the 10 x seagrass monitoring sensors.	1						
Deployment Location Selection	Meet with the DENR and local partners to identify target sensor location	1						
Manufacturing	10 seagrass monitoring sensors will be manufactured in the United Kingdom for provision to Station-B.	2						
Site visits of all chosen locations	Arrange dive trips to each of the 10 locations to photograph and conduct pre-deployment surveys	2						

Project Title:

Activity #	Description (max 25 words)	No. of		UK Financial Years 2023/24						
		months	Calendar Year 2023			Calendar Year 2024				
	words		Oct	Nov	Dec	Jan	Feb	Mar		
Setup and maintain workshop for onsite sensor assembly	Setup and maintain workshop space for project to assemble and test sensors prior to deployment, for repairs, then data retrieval	4								
Arranging for Immigration and customs		1								
Quality assurance	In-water testing of sensors, calibration, and quality assurance.	1								
Establish Test Site for in water testing	Identify and establish easy to access to nearshore location	1								
In-country workshop	Delivery of 10 day in- country workshop to train local partner and deliver sensors / hardware / workshop tools.	1								
Hosting of Workshop	Arrange for training of local partners and other capacity building	1								
Secure Vessel	Arrange for deployment logistics with chartered or partner vessels	1								

Project Title:

Activity #	Description (max 25 words)	No. of	UK Financial Years 2023/24						
		months	Calendar Year 2023			Calendar Year 2024			
	words		Oct	Nov	Dec	Jan	Feb	Mar	
Deployment of sensors	Deployment of sensors by local partners supported by the Department of Environment and Natural Resources.	2							
Retrieve data	Retrieve data from field deployed units	1							
Analyse data	Scan photographs for the presence/absence of target species. Plot graphs with environmental variables.	1							
Final report	Assessment and review of project deliverables	1							
Local Outreach	Public Engagement with local partners and schools	2							