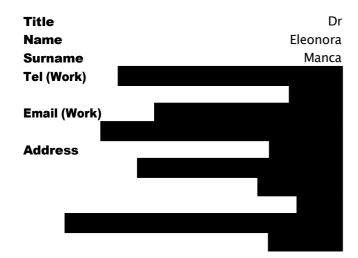
Applicant: Manca, Eleonora
Organisation: JNCC
Funding Sought: £335,344.00

DPR13S2\1014

Building Capacity for Habitat Mapping and Condition Monitoring: Cayman Islands

The Cayman Islands Government requires tools and the capability to map and monitor vegetation condition (for rare, threatened, and endemic vegetation types). This project uses a proven Earth Observation solution to generate habitat maps and builds on this to develop a condition monitoring approach to achieve conservation outcomes. The Government will be trained in the development and use of the tools to support ongoing assessments, biodiversity conservation efforts and activities to help mitigate negative anthropogenic impacts and climate change.

PRIMARY APPLICANT DETAILS



CONTACT DETAILS

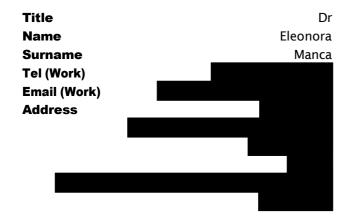


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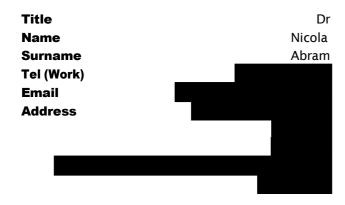
Building Capacity for Habitat Mapping and Condition Monitoring: Cayman Islands

Section 1 - Contact Details

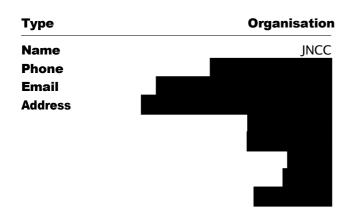
PRIMARY APPLICANT DETAILS



CONTACT DETAILS



GMS ORGANISATION



Section 2 - Title & Summary

Q3. Project title:

Building Capacity for Habitat Mapping and Condition Monitoring: Cayman Islands

What was your Stage 1 reference number? e.g. DPR13S1\1123

DPR13S1 1011

Please attach a cover letter as a PDF document.

- Cover_letter_JNCC_DPR13S1-1011 Cayman Hab
 an and Monitoring
- □ 07/10/2024
- D 22:21:24
- □ pdf 677.84 KB

Q4. Response to Stage 1 feedback

You must explicitly set out how and where you have addressed all the comments/feedback in the application form: briefly restating the feedback point, then clearly setting out how you have responded to it in the application.

DPAG: It would be helpful to see a bit more information about how easy or difficult it will be to adapt the Natural England (NE) Living Maps approach to the Cayman context, and whether any other options were evaluated which might better suit Cayman...

JNCC has applied its Earth Observation (EO) and Remote Sensing (RS) expertise with open-source data and different tools across the OTs, including using coding and classification tools to develop innovative mapping and monitoring methods. For example, in the Falkland Islands (Marengo, 2018) SAERI/JNCC worked with local communities to develop broadscale 'pixel-based' habitat maps using random forest, R and Sentinel EO data. The work recommended applying more detailed 'object-based' (segmented) classification in the future. JNCC is applying learning from past projects to this project.

Due to the complex, remote and often inaccessible and small size of habitats, the Cayman Islands (CI) Department of Environment (DoE) requested a segmented approach to deliver a detailed habitat map. Three approaches were reviewed: dedicated RS software, considered expensive and requires annual subscription for continued monitoring; Arc-Pro which has GIS software to apply segmentation but is limited in its applicability; and the Natural England (NE) Living Map.

The Defra-funded NE Living Maps approach (Kilcoyne et al., 2022) was assessed to be the most cost-effective, long-term user-friendly option, and best suited to Cayman's needs. Being through many iterations, it is tried, tested and successfully applied in England, Northern Ireland, Turks and Caicos Islands and Chile. The code, provided by NE, avoids additional licence costs, being fully annotated ensures ease of use for new users, and, should modification be required, JNCC and NE (through match-funded time) will support DoE. Using open access R scripts, RS layers are efficiently generated from satellite imagery requiring few hours for GIS production. Set up on local servers, re-running of scripts is straight forward as new training data/imagery becomes available. The training, ease of re-running and user-guides will help DoE run this approach in the future, ensuring its integration into processes.

DPAG: How many workshops, either in-person or online, will take place?

Linked to DPAG comment below

No workshops are planned: Two in-person visits have been agreed, 12 monthly online training 'learning by doing'

sessions and 5 online support sessions per year. One end-of-project webinar with the OTs.

Year1/Quarter1: JNCC staff (1-person 1-week) will work with trainees on Output2 (including meetings, trainings, one-to-one support and co-plan field data collection).

Online training: see response below

Year2/Quarter1: JNCC staff (2-persons including an EO specialist, 1 week,) will visit DoE for technical discussions, co-scoping of Year2, and technical training.

One end-of-project online webinar

DPAG: You note there will be 'regular meetings' - please be specific, for example if these are monthly or quarterly.

Specifics:

Project Steering Group (see supporting materials: Project Governance Diagram) Quarterly meetings. Project Working Group online meetings: monthly to, a) provide task-orientated, 'learning by doing' training, supported by 5 additional training when required. These trainings will be flexible to accommodate DoE work, and b) discuss project technical needs.

DPAG: Consider how realistic it is for local partners to spend time on online training whilst conducting their regular jobs...

The workplan has been carefully crafted with DoE to ensure all aspects are realistic and viable, inclusive of inperson visits and monthly online 'learning by doing' sessions. JNCC/DOE have successfully used this technique on a recent CSSF-funded project. These time commitments are supported by DoE and incorporated into the DoE's match funding budget (see Q8).

DPAG: The logframe should be strengthened:

0.1 recommend splitting this into two separate indicators with the first concerning terrestrial habitat mapping, and the second targeted at monitoring vegetation condition.

We followed the suggestion and split the original indicator (0.1) into 0.1 and 0.2.

0.4 is long and could do with some consolidation to make it SMART.

We have split the original 0.4 indicator into two (now 0.5 and 0.6) and made it SMART.

- 1.1/1.2 try to settle on a whole number of people to be trained as opposed to a range (i.e. 4, rather than 2-4). DoE have appointed five current staff members as project 'trainees' although these people may also have other roles in the project. The number of trainees ensures future resilience in DoE.
- 2.1 2.3 and 3.1 3.3 read more as activities and should probably be dropped as indicators (but retained as activities).

We have removed original indicators 2.1 and 2.2, and 31. to 3.3. retaining as activities. The original indicator 2.3 (now 2.1.) is a distinctive and important step in the process, critical to achieving the subsequent indicators, we have retained and re-worded this to be delivered against in the M&E plan.

4.3 could perhaps be strengthened to focus more on measuring the success of engagement rather than just the event taking place.

We have refined the indicators for Output4 to measure the success of engagement.

DPAG: When considering gender disaggregation, clearly justify the proposed gender split...

DoE have identified and appointed five existing staff as project trainees. These staff have at least some working knowledge in GIS, R, or both, with at least a foundational working knowledge of the technical skills required, which the project will develop. Three are male (60%) and two are female (40%). Whilst a 50/50 split would be preferred, DoE is a small department and have identified the most suitable candidates for capability and resilience. User-guides developed to replicate Outputs2 (habitat map) and 3 (condition monitoring) will enable final methods to be replicated by anyone with basic knowledge, to enable new staff to be up-skilled outside of

the project timeframe.

DPAG: In addition, we are asking all projects to ensure where relevant that they demonstrate how their project will implement existing environmental solutions...

We take an existing environmental solution, Living Map, (and the investment in this methodology so far) and apply to the Cayman Islands. This is a proven approach being applied in a new context, building capacity and achieving value for money. Explicit mention of this has been incorporated into the Q4 project summary.

Q5. Summary of project

Please provide a brief non-technical summary of your project: the problem/need it is trying to address, its aims, and the key activities you plan on undertaking.

Successful Darwin Plus Main projects must demonstrate substantial measurable outcomes in <u>at least</u> <u>one</u> of the themes of Darwin Plus either by the end of the project's implementation or via evidenced mechanisms for post-project delivery.

<u>Preference will be given to discrete projects implementing existing identified environmental solutions on the ground.</u>

The broad themes of Darwin Plus Main are:

- Biodiversity: improving and conserving biodiversity, and slowing or reversing biodiversity loss and degradation;
- Climate change: responding to, mitigating and adapting to climate change and its effects on the natural environment and local communities;
- Environmental quality: improving the condition and protection of the natural environment;
- Capability and capacity building: enhancing the capacity within UKOTs to support the environment in the short- and long-term.

The Cayman Islands Government requires tools and the capability to map and monitor vegetation condition (for rare, threatened, and endemic vegetation types). This project uses a proven Earth Observation solution to generate habitat maps and builds on this to develop a condition monitoring approach to achieve conservation outcomes. The Government will be trained in the development and use of the tools to support ongoing assessments, biodiversity conservation efforts and activities to help mitigate negative anthropogenic impacts and climate change.

Section 3 - UKOT(s), Dates & Budget Summary

Q6. UKOT(s)

Which UK Overseas	Territory(ies	s) will your p	roject be	working in?
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□ Cayman Islands

* 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 UKOTs you have indicated, will your project directly benefit any other Territories or country(ies)?

□ Yes

If so, list here.

Focus of work: UKOTs

Potentially other UKOTs

Other Territories/ country(ies): Other Caribbean OTs could benefit from the tools used and the framework developed in this project, if adapted to local data and context. To facilitate this, a specific engagement webinar is planned (codelivered with the Department of Environment) for the end of the project to showcase and share the approach to gauge wider interest and knowledge exchange.

Q7. Project dates

Start date:

01 April 2025

End date:

30 lune 2027

Duration (e.g. 2 years, 3 months):

2 years, 6 months

Q8. Budget summary

Year:	2025/26	2026/27	2027/28	Total request
_				£
Amount:				335,344.00

Q9. Do you have matched funding arrangements?

☐ Yes

Please ensure you clearly outline your matched funding arrangement in the budget.

Q10. If you have a significant amount of unconfirmed matched funding, please clarify how you will fund the project if you don't manage to secure this?

No Response

Q11. Have you received, applied for or plan to apply for any other UK Government funding for the proposed project or similar?

П No

Section 4 - Problem statement

Q12. Problem the project is trying to address

Please describe the problem your project is trying to address in the UKOTs, relating to at least one of the themes of Darwin Plus:

For example, what are the specific threats to the environment that the project will attempt to address? Why are they relevant, for whom? How did you identify the need for your project? Please <u>cite the evidence</u> you are using to support your assessment of the problem.

Problem: The Cayman Islands (CI) Government requires the tools, capability and a framework to effectively, and cost-efficiently, develop an enhanced habitat/landcover dataset to monitor change in their unique terrestrial habitats (Bramwell and Caujapé-Castells, 2011) and undertake condition assessments within and outside of their Protected Areas. Current habitat mapping methods used by the Department of Environment (DoE) are based largely on manual polygon digitalisation using infrequent aerial photography at widely spaced time intervals that do not allow for annual updates. These take a substantial number of human-hours, does not include the level of detail required to understand habitat change over time and precludes effective monitoring of habitat condition at multiple scales. This results in limited data and evidence being available to; support decision-making, develop species and habitat management plans and understand the resilience of the natural environment to natural disasters, anthropogenic disturbance and the ecosystem services available to the CI. Nor the timely production of visual aids to support community engagement. In the face of the growing threats upon biodiversity environmental resilience is important to the population of the islands.

Threats: Like many other island nations, the CI faces substantial and increasing threats to their unique biodiversity. In the CI land-use and land cover change for infrastructure and other developments has led to a loss of key habitats and has increased habitat fragmentation and degradation (Peyre, 2021; Rull, 2023). Threats from invasive non-native species has also exacerbated pressures on Cayman's habitats often disrupting and/or displacing native and endemic species through competition and predation (Livingstone et al., 2020). Further, whilst hurricanes are a natural disturbance on the islands, climate change is making them more frequent and intense, potentially causing more severe damage to the forests (Kleptsova et al., 2021).

Solution: To understand and to address these challenges, robust data and monitoring frameworks are needed to track changes in vegetation extent and condition. This project has been co-developed with CI DoE who are the government agency responsible for managing the CI's biodiversity, protected areas and tasked with responsibilities on behalf of the National Conservation Council. The DoE seeks an efficient, robust, and repeatable method for mapping and monitoring the condition of their terrestrial habitats.

Aim: This project aims to address DoE capacity constraints by firstly applying Natural England's Living Maps approach to enable a robust and cost-effective method to habitat mapping. This approach combines field data, satellite imagery and other geospatial data in a machine learning framework, using a segmentation layer to identify spectrally uniform areas of habitat. Natural England's approach has proved very responsive and resource effective within and outside of the UK. Secondly, this project aims to trial and test an approach for mapping habitat condition for monitoring purposes.

Equipping the DoE to better map and monitor their habitats will not only facilitate evidence-based decision making and implementation of national and international commitments and priorities but will contribute towards building environmental resilience that in turn will support the maintenance of ecosystem services that support CIs local communities and economy.

Section 5 - Environmental Conventions, Treaties and Agreements

Q13. Environmental Conventions, Treaties and Agreements

Please detail how your project will contribute to the aims of the national and/or international agreement(s) your project is targeting. What key UKOT Government priorities and themes will it address and how? You should also consider local, territory specific agreements and action plans here. Letters of

support from UKOT Government partners/stakeholders should also make clear reference to the agreements/action plans your project is contributing towards.

Territory Priorities:

This project will help the Cayman Islands Government meet various national priorities and commitments.

Recent consultations in the Cayman Islands (CI) have identified improved terrestrial habitat mapping and the ability to update it regularly as a priority, enabling DoE to quantify and report on change in area and condition of the key forest, shrubland and wetland habitats which support the Islands' unique biodiversity. This project will also help facilitate implementation of the Mangrove Species Action Plan and Species Conservation Plans (e.g. for turtles, Sybil's Crownbear, white-winged dove and blue winged teal, lobster, conch, sharks and rays, groupers, stingrays and starfish, blue iguana, Aegiphila caymenensis) established under the National Conservation Act 2013 [Law 24 of 2013] and National Conservation (General) Regulations (2022 revision) and will inform policy regarding expansion of the Islands' Protected Area system.

UK Government Priorities and International Agreements:

25-Year Environmental Plan: This project will assist the UK Government in delivering on its 25-Year Environmental Plan by assisting in the further refinement and delivery of habitat aspects of an indicator framework that is being developed to assess the condition of protected areas in the UKOTs (K4).

Convention on Biological Diversity (CBD): Cls are party to the CBD. This project will help facilitate the implementation of Targets 1 (plan/manage areas to reduce biodiversity loss), 8 (minimize impacts of climate change on biodiversity and build resilience), 20 (strengthen capacity-building, technology transfer, and scientific/technical cooperation for biodiversity) and 21 (ensure knowledge is available and accessible to guide biodiversity action).

Ramsar Convention: This project will also help to implement the UK and Cayman Islands responsibilities under the Ramsar Convention, specifically on Resolution XIV.17 (protection, conservation, restoration, sustainable use/management of wetland ecosystems in addressing climate change).

Sustainable Development Goals (SDG): Lastly, this project will also help deliver against the SDG, for Targets 15 (life on land), particularly 15.1 (conserve and restore terrestrial and freshwater ecosystems, 15.3 (end desertification and restore degraded land), 15.5 (protect biodiversity and natural habitats), and 15.9 (integrate ecosystem and biodiversity in governmental planning), 14 (life below water) and 17 (partnerships).

Section 6 - Method, Project Stakeholders, Gender, Change Expected, Pathway to Change & Exit Strategy

Q14. Methodology

Describe the methods and approach you will use to achieve your intended Outcome and contribute towards your Impact. Provide information on:

- how you reflected on and incorporated <u>evidence and lessons learnt</u> from past and present similar activities and projects in the design of this project.
- the specific approach you are using, supported by <u>evidence</u> that it will be effective, and <u>justifying why you expect it will be successful</u> in this context.
- how you will undertake the work (activities, materials and methods).
- how the main activities will be and where these will take place.
- how you will <u>manage the work</u> (governance, roles and responsibilities, project management tools, risks etc.).

The NE Living Map is a well-established approach that supports land management schemes, natural capital assessments and policy decision-making. It is a cost-effective, long-term, user-friendly tool. Previous experience habitat mapping in Northern Ireland, Chile and Turks and Caicos Islands it is agreed as best suited to meet CI's needs.

Output1-capacity development runs throughout the project, in parallel with Outputs2&3 to embed mapping tools directly into DoE's work processes. This replicates training undertaken during the JNCC/DoE CSSF disaster resilience project.

Output1: Capacity Building (JNCC-led)

- -DoE capability assessment undertaken (1.1-Y1Q1), follow-up assessment (Y1Q4) and final assessment Y3Q2).
- -Create test data (1.30) for training purposes.
- -In-person training 1 (1.4) one-week training to develop 5 DoE trainee's knowledge of data requirements, segmentation, R scripts and GIS processes.
- -Tailored one-to-one training as required to develop a common understanding between trainees in tools and techniques (1.4).

Monthly, online Project Working Group (1.5) meetings and 'learning by doing' training to deliver:

- -Output2 (2.1-2.7): Technical progress meetings and JNCC-led task-orientated training on the Living Map methodology and related processes; including collection, use and application of training data, preparing and inputting spatial layers (e.g. moisture, NDVI), generating segmentation layers, use of R scripts, test differing resolutions of satellite imagery, and validation of maps.
- -Output3:(3.2-3.6): Collect and apply new training data for condition assessments, with spatial data layers, testing and validating maps and framework development.
- -5 additional online trainings (1.5) per year at the request of DoE (e.g. troubleshooting).
- -In-person training 2: JNCC (2 people, one-week) training for 5 DoE trainees, review lessons learnt from Y1, review and scope data needs and approach for condition assessments (Output3), and test field data with EO data.

Output2: Baseline Habitat Mapping (JNCC & DoE)

- -Develop the baseline habitat map for habitat distribution and extent. To do this:
- -JNCC/DoE adjust NE's R code to local servers (2.1).
- -DoE define habitat classification for mapping (2.2) and collect training/validation data (e.g. via drone) for each habitat class.
- -DoE/JNCC process data (2.3).
- -JNCC/DoE generate spatial predictor variables from remote sensing imagery (e.g. NDMI, greenness) and auxiliary data (e.g. landcover, topography) (2.4), to input into the Living Maps (2.6).
- -JNCC/DoE test satellite image resolutions and capability of two software's (eCognition & ArcPro) for developing segmentation layers and select the best for use in 2.6.
- -DoE/JNCC run Living Maps R scripts using Random Forest with training data (2.3), spatial predictor variables (2.4) and segmentation layer (2.5) to produce a habitat probability map at higher and coarser satellite resolutions to test the appropriate for the CI context (2.6).
- -DoE/JNCC evaluate habitat maps through user/producer assessments, uncertainty descriptive statistics, and DoE expert knowledge (2.7).
- -JNCC will package up the final R scripts.

Output3: Vegetation Condition Assessment (JNCC-led, DoE support)

- -literature review and consultation with relevant UK public bodies on use of EO/remote sensing for habitat conditioning to inform viable approaches (3.1).
- -Use expert judgement, DoE select key habitats and define condition classes informed by remote sensing values from Y1 (3.2) to define Activities 3.3-3.6.

- -DoE collect ground-level data (e.g. by drone) and process (2.3 & 3.3).
- -Review the relationship between ground-level data on condition classes and RS data, e.g. using boxplots/summary statistics, to discern condition class range and thresholds (3.4)
- -Map and assess condition classes using expert judgement and validation data (3.5).
- -Produce a condition map (Indicator3.1) and validated iteratively using ground-data and expert knowledge (3.5).
- -Results will inform the condition indicator framework (Indicator 3.2).
- -JNCC will package up the final R scripts.

Output4: Engagement and Communications

- -JNCC produce, DoE review two user-guides for Output2&3.
- -Co-author a peer-reviewed paper to showcase results/methods of project (4.4).

Digital outreach: delivered throughout the project

- -JNCC create project landing-page on the JNCC website (4.1).
- -JNCC/DoE collaborate to produce three blogs (4.5): Y1Q1, for International Earth Day 2026 Y2Q1 and Y3Q2 to disseminate project details.
- -DoE-led social media posts (4.6) at least one per quarter.
- -JNCC/DoE co-led OT webinar highlighting the application of the Cayman Islands Living Map (4.8).

DoE-led Face-to-face:

- -Presentations to Cayman Islands Government highlighting the application of the new tools (4.2).
- -Educational resources developed, under contract (4.7), for use at CI events: International Earth Day 2026,
- "Habitat Fest" public event (4.7.1-Y2Q2) and 5 school/public presentations events (4.7.2-Y2Q3-Y3Q2)

Q15. Project Stakeholders

Who are the stakeholders for this project and how have they been consulted (include local or host government support/engagement where relevant)? Briefly describe what support they will provide and how the project will engage with them

Local Stakeholders:

- -Cayman Island Government (CIG): JNCC and DoE co-created this project to align with national and international conservation priorities. This partnership addresses critical conservation needs, benefiting local stakeholders and enhancing ecosystem resilience through proactive, data-driven conservation measures. Engagement and collaborative planning throughout aim to generate support. The work will be presented to CIG highlighting its use across Departments.
- -Governor's Office will be kept briefed throughout the project and support have provided a letter of endorsement.
- -National Conservation Council (NCC): Although not consulted DoE's Director is a member and all products will be used to inform the NCC's statutory conservation functions.
- -National Trust of the Cayman Islands: Though not directly involved, NTCI will benefit from the data generated on the condition of protected lands they manage, aiding their conservation efforts.
- -Local communities: awareness raising through social media, educational products and 2 high-profile events.

UK Stakeholders:

-Natural England: Will provide coding and technical support to apply their Living Maps approach. As stated in their letter of support NE are keen to knowledge share and developing their understanding of EO capability to map condition.

- -DEFRA and UK Government: Support UKOTs conservation efforts via Darwin Plus and related efforts such as the K4 indicator work. Success in this project will strengthen relations between DEFRA and CI, while contributing to the UK's conservation commitments.
- -International Stakeholders:
- -OTs will be engaged through a webinar to demonstrate use of this approach and the potential to apply to other territories.

Q16. Gender Equality and Social Inclusion (GESI)

All applicants must consider whether and how their project will contribute to promoting equality between persons of different gender and social characteristics. Please include reference to the GESI context in which your project seeks to work in. Explain y our understanding of how individuals may be disadvantaged or excluded from equal participation within the context of your project, and how you seek to address this. You should consider how your project will proactively contribute to ensuring individuals achieve equitable outcomes and how you will ensure meaningful participation for all those engaged.

The project partners are committed to GESI through all activities, recognising the importance of equal participation of individuals from different gender and social backgrounds. The JNCC team is 50% female, with a female Team Leader. The DoE team comprises 46% females and 54% males, including female representation at the Director level. A 50:50 gender split is not possible for the 5 trainees, therefore a 40% female and 60% male based on appropriate available DOE staff.

To maximise inclusivity training will prioritise equal gender representation wherever possible, with progress monitored and reported through the Darwin Plus Standard indicators, disaggregated by gender. This project will actively seek opportunities to enhance equity and social inclusion, especially through Output 4, which includes face-to-face community engagement on the importance of protected areas and natural environments. Furthermore, the increased ecosystem protection and resilience resulting from more effective monitoring will contribute to long-term wellbeing of people across the Island, by maintaining ecosystem services.

The comprehensive Monitoring and Evaluation plan will target gender equality and social inclusion; including considerations such as choosing schools for planned public engagement activities to ensure diverse participation. Survey designs to measure success indicators will account for demographic factors to ensure that gender and social inclusion aspects are embedded in project reporting. All project materials will be made accessible, ensuring gender and social inclusion representation in both content and imagery. JNCC's safeguarding policy will be implemented throughout the project to ensure the safety and well-being of all participants. By embedding these considerations into the project's design, we aim to ensure that individuals from diverse gender and social groups are meaningfully included and can achieve equitable outcomes through their participation.

This comprehensive approach will contribute to promoting equality and social inclusion, creating a long-lasting impact in both environmental and social contexts.

Q17. Change expected

Detail the expected changes this work will deliver. You should identify what will change and who will benefit a) in the short-term (i.e. during the life of the project) and b) in the long-term (after the project has ended). Please describe the changes for the environment and, where relevant, for people in the OTs, and how they are linked.

When talking about how people will benefit, please remember to give details of who will benefit, differences in benefits by gender or other layers of diversity within stakeholders, and the number of beneficiaries expected. The number of communities is insufficient detail – number of households should be the largest unit used.

This project will develop a new resource-efficient and cost-effective mapping tool, along with the processes to enable the DoE to undertake and build upon the project condition assessments across the Cayman Islands.

In the short term, this project will:

- \cdot Build resilience in DoE through the training of 5 DoE staff to execute habitat mapping and condition assessments using EO.
- · Upskill DoE staff (Output1) in using advanced remote sensing methods that are robust (in their outputs), repeatable (to ensure they can be generated at regular intervals for monitoring purposes), and cost-effective (by largely using open-source data/software to limit financial barriers to generating such data).
- · Deliver a detailed, baseline vegetation map for the Cayman Islands (Output2).
- · Provide an up-to-date and robust habitat GIS layer (Output2) for use in reviewing and advising Planning authorities and other agencies on proposals for land use changes of various types.
- \cdot Help develop accurate statistics on the abundance and extent of key habitats and define the amount currently protected.
- Develop understanding and trial the use of EO for identifying and assessing condition classes in key habitats and develop an approach for monitoring vegetation health (Output3).

Such evidence and tools will enable DoE staff to better understand the extent and condition of habitats across the three islands, within and outside Protected Areas, both in the short- and long-term, and to communicate this, with up-to-date visualisations, to key stakeholders and the public.

In the long term, this project will:

- · Free-up DoE GIS time to undertake essential work.
- · Enable the continued use of project tool by developing step-by-step user-guides to allow new DoE staff to be upskilled, with support from existing users, into the future.
- Enable understanding and communication of trends in habitat extent and condition, which will be informed by other information on the drivers of change, including from threats such as development, invasive species, climate change, fire and hurricane damage.
- · Support near real-time evidence-based decision making for DoE's Technical Review Committee and NCC.
- · Allow for accurate change-over-time statistics to be determined for key habitats.
- · Help DoE and NCC with implementing conservation-based management actions such as identifying rare and vulnerable habitats, or vital ecosystem services, propose them for protection, and in developing Management Plans for existing Protected Areas.
- · Assist the Cayman Government in updating their annual Natural Capital Accounts and reporting against national, UK (K4 25 Year Environment Plan indicator) and global conservation targets.
- · Provide a foundation for DoE to release an annual "state of the environment" report to the local public.

Potential to scale: This project will embed the NE Living Maps approach and condition assessments methods for mapping and monitoring vegetation condition using EO and local knowledge in the Cayman Islands. Demonstrating the impact of the tools (in delivering effective and efficient conservation), via an OT-wide webinar, the potential to scale-up to additional OTs will be highlighted.

Q18. Pathway to change

Please outline your project's expected pathway to change. This should be an overview of the overall project logic and outline why and how you expect your Outputs to contribute towards your overall Outcome and, in the longer term, your expected Impact.

Through interrelated activities, our project will deliver the tools and systems to conduct robust habitat mapping and monitoring, and produce evidence, to conserve endemic and important habitats. These habitats support many key species that provide essential ecosystem services to Caymanians.

Using JNCC and Natural England's EO skills, and DoE's GIS and habitat knowledge, we will generate comprehensive data on habitat extent and test methods for assessing condition to identify habitats needing immediate conservation action.

To maximise long-term impact learning-by-doing will enhance DoE's capability and capacity for environmental conservation, equipping them with cost-effective, evidence-based decision-making tools. Communication tools will demonstrate the approach to government and communities and through a knowledge-exchange webinar across the UKOTs. See supplementary diagram.

In summary: IF we leverage JNCC, DoE and NE expertise to develop and use efficient mapping tools, IF we enhance DoE's capacity to use these tools in their day-to-day work, IF we produce up-to-data data on habitat extent and condition, and IF we communicate these across CI Government and local communities, THEN Cayman's critical habitats will be better conserved and prioritised, and long-term conservation strengthened through effective decision and policy-making, ensuring the project's lasting impact which can be shared across the UKOTs.

Q19. Sustainable benefits

How will the project reach a sustainable point and continue to deliver benefits post-funding? Will the activities require funding and support from other sources, or will they be mainstreamed in to "business as usual"? How will the required knowledge and skills remain available to sustain the benefits? If relevant, how will your approach be scaled? How will you ensure your data and evidence will be accessible to others?

Integration of Techniques and Processes

- -5 DoE scientific staff are trained and equipped with the skills, techniques and processes which are mainstreamed within the GIS and Terrestrial Resources Units, replacing the existing resource-intensive tools, so becoming the foundation for habitat mapping and monitoring, 'Business as Usual'.
- -The enhanced habitat map will become a key GIS layer, regularly used by the DoE's Technical Review Committee to advise on land use change proposals.
- -The new Wingtra unmanned aerial vehicle (Drone) and sensors will equip the DoE to efficiently access remote locations and collect new data for updating maps.
- -The Living Map coding in open-access and can be updated freely as new codes become available.

Improved Habitat Mapping and Monitoring

- -The habitat map will provide more accurate information for fauna research e.g. mapping distributions and enable DoE to refine the definition of Primary Habitat areas, which trigger a requirement for agencies to consult the NCC on development applications.
- -DoE will report annual habitat changes to the public, use for natural capital accounting, and input into K4 protected area condition indicators.

Addressing Environmental Challenges

- -Designed to address the increasing volatility of hurricanes, the workflow reduces the financial and logistical burdens of traditional monitoring.
- -The Living Map approach will free-up GIS staff resources allowing for a more responsive approach to environmental changes.
- -The streamlined monitoring process will enhance reporting capacities and inform environmental policy with accurate data on habitat extent, type, and condition in almost real time.

Scalability and Sustainability

- -The project uses existing infrastructure, integrating the workflow into regular reporting and ensuring sustainability through ongoing training.
- -The approach is scalable, with potential application in other regions facing similar environmental and staff resource challenges
- -5 staff trained in the process provides greater resilience within DoE to manage and train new staff over time.

If necessary, please provide supporting documentation e.g. maps, diagrams, references etc., as a PDF using the File Upload below:

- ☐ Support Documents_DPR13S1-1011_Cayman Ы bitat Mapping and Condition
- □ 07/10/2024
- □ 19:42:23
- □ pdf 236.38 KB

Section 7 - Risk Management

Q20. Risk Management

Please outline the 6 key risks to achievement of your Project Outcome and how these risks will be managed and mitigated, referring to the Risk Guidance. This should include at least one Fiduciary, one Safeguarding, and one Delivery Chain Risk.

Risk Description	Impact	Prob.	Inherent Risk	Mitigation	Residual Risk
Fiduciary (Financial) Project funds are misused or mismanaged impacting delivery and reputation	Major	Possible	Major	DoE and JNCC will provide quarterly updates on project progress and finance (including receipts) to the project PSG. JNCC will maintain a fraud risk assessment framework, implement robust financial controls and perform due diligence to ensure a high level of financial management practices, in addition to required audits and reporting.	Major
Safeguarding: risk of sexual exploitation abuse and harassment (SEAH), or unintended harm to beneficiaries, the public, implementing partners, and staff. Any risk of abuse (sexual,				JNCC has a Safeguarding statement (https://jncc.gov.uk/about-jncc/corporate-information/safeguarding/) and policy (we can provide). JNCC and	
physical, emotional, financial, neglect or discrimination) or allegation of abuse takes place, resulting in physical, psychological, emotional or financial harm, to beneficiaries, the public, implementing partners, and staff.	Major Possible	Major	DoE staff will be provided with JNCC's Safeguarding Policy, expectations of conduct of partners, Risk Assessments and reporting procedures. In the event of an allegation being made, it will immediately be reported to JNCC's safeguarding officer.	Major	

Safeguarding: risks to health, safety and security (HSS) of beneficiaries, the public. Implementing partners, and staff.				Both partners are highly experienced in the activities they will be implementing. All activities (including travel) will be	
Any risks to health, safety and security (HSS) of beneficiaries, the public. Implementing partners, and staff, during project including travel. A separate risk related to fieldwork is identified below.	Major	Possible	Major	thoroughly risk assessed, with suitable mitigations in place (e.g. safety measures, insurance). The corresponding policies will be followed. The MoU will set out the responsibilities and policies in this regard.	Major
Delivery Chain Inherent delivery chain risks, should any project activities or transfer of funds be delayed, potentially impacting delivery of dependent activities.	Moderate	Likely	Major	This project builds on existing long partnership. Both partners have indicated their strong commitment and support for this work. The MoU will contain deliverables/activities/budgets agreed at the outset. Regular reporting to the PSG on delivery, finance and monitoring to ensure proactivity in delivery, adaptive management and financial control.	Major
Risk 5 Political climate or will changes and is not supportive of the project goals and outcome, impacting feasibility and success.	Major	Possible	Major	An election in CI is planned for Y1Q1. While political will is beyond the project control, this project has strong DoE and Governor's Office support. Partners will work to respond and replan. DoE has its budget approved to end Y1Q3. Activities relying heavily on DoE's in-kind time in Y1.	Major
Risk 6 Field work for ground truthing involves activities such as drone flying and walking in very rough terrain which have inherent risks to health and safety if not undertaken responsibly.	Major	Possible	Major	The MoUs will set out the responsibilities and policies in this regard. Surveys will be undertaken under guidelines outlined in DoE's internal Field Safety Manual. Drone work will be undertaken by UAV pilots certified in the Cayman Islands and under the guidelines set out in the DoE's internal Operations Manual.	Moderate

Risk 7 Risk that relevant staff are lost from JNCC or DoE, reducing capacity to manage and deliver the project, and reducing long term benefits for DoE.	Major	Possible Major	Five existing staff in DoE have been identified as trainees increasing resilience during the project and in the longer term. JNCC and DoE have teams of multiple staff qualified to deliver the project and outputs, creating resilience. Natural England technical support would also contribute to resilience.	Major
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Q21. Project sensitivities

Please indicate whether there are sensitivities associated with this project that need to be considered if details are published (detailed species location data that would increase threats, political sensitivities, prosecutions for illegal activities, security of staff etc.). Please note your response to this question won't influence the outcome of your application.

□ Yes

Please provide brief details.

From the DoE's perspective, this project has the potential to occasionally detect illegal clearing of primary habitat in situations where planning permission has not been granted. If the decision is taken internally to refer any such case for prosecution, then the evidence (a specific area of change in the habitat map) may become sensitive for a finite period. This will only limit publication of this specific detail if it occurs during the project period.

Section 8 - Workplan

Q22. Workplan

Provide a project workplan that shows the key milestones in project activities. Complete the Word template as appropriate to describe the intended workplan for your project.

- Workplan_DPR13S1-1011_Cayman Habitat Noting and Condition
- □ 07/10/2024
- 20:04:35
- □ pdf 401.18 KB

Section 9 - Monitoring and Evaluation (M&E)

Q23. Monitoring and evaluation (M&E) plan

Describe how the progress of the project will be monitored and evaluated, making reference to who is responsible for the project's M&E.

Darwin Plus projects will need to be adaptive and you should detail how the monitoring and evaluation will feed into the delivery of the project including its management. M&E is expected to be built into the project and not an 'add' on. It is as important to measure for negative impacts as it is for positive impact. Additionally, please indicate an approximate budget and level of effort (person days) to be spent on M&E (see Finance Guidance).

Roles and responsibilities

The JNCC Project Manager (PM) is accountable for successful project delivery and responsibility for monitoring and evaluation (M&E). The PM will coordinate activities to ensure the project is adaptively managed, output indicators are met, reporting is completed on time, to budget, and risks managed.

Both partners will share responsibility for project deliverables and input to M&E requirements, co-developed and agreed at project outset and administered via Memorandum of Understanding (MoU) developed and signed at project outset. The MoU will outline specific roles and responsibilities for the project staff, including inputting to, and completing, annual reports, financial information/claims, providing information at least quarterly to enable reporting against log-frame Output Level Indicators and adaptive project management, e.g. DoE will be responsible for assessing and providing baseline information on engagement they are delivering (e.g. Habitat Fest under Output Indicator 4.5), reporting on their progress and providing the required gender disaggregated information. Both partners will provide written inputs, photos or videos, and associated data to contribute to project reports.

Governance See Project Governance Diagram in supporting materials.

The PM will set up a Project Steering Group (PSG), comprising both project partners and chaired by the JNCC PM. Terms of Reference will agree the ways of workings with PSG meeting at project start up and at least quarterly thereafter. PSG will provide strategic direction, consider and report on progress, review outputs, consider shared risks and monitor finances, as well as reviewing learnings from project experiences and feedback on reports to Darwin, applying adaptive management. PSG will be support by the Project Working Group and will review and sign off all project outputs and reports.

PSG will be supported by a technical Project Working Group (PWG) comprising JNCC technical officers and DoE trainees. PWG will comprise 2 work streams; first technical meetings Chaired by DoE to discuss technical issues and information to feed into PSG, and second monthly JNCC-led 'learning-by-doing' task-oriented training. PWG will liaise with NE for technical support.

Communication

A dedicated SharePoint site will be set up by the PM and made accessible to all partners. This will host all relevant M&E project management documents and plans, including emails and meeting notes. Microsoft Teams will be used to facilitate work package delivery through virtual meetings and day-to-day discussions.

Staff time and budget
A total of of JNCC staff time on average, or approximate over the course of the project
will be spent on M&E. DoE will spend approximate uring the life of the
project. The PM will lead on monitoring of all outputs supported by the JNCC Technical Support Office
In total the budget estimated for M&E activities represents between of the total project budget and includes travel and subsistence costs to visit DoE. The PM and JNCC core project team will spend the greatest proportion of time overall on M&E and reporting.
Total project budget for M&E (£)
this may include Staff and Travel and Subsistence Costs)
Total project budget for M&E (%)
Number of days planned for M&E

Section 10 - Logical Framework & Standard Indicators

Q24a. Logical Framework (logframe)

Darwin Plus projects will be required to monitor and report against their progress towards their Outputs and Outcome. This section sets out the expected Outputs and Outcome of your project, how you will measure progress against these and how we can verify this.

- Logframe_DPR13S1-1011_Cayman Habitat dMonitoring Mapping
- □ 07/10/2024
- □ 20:27:10
- □ pdf 182.36 KB

Impact:

The Cayman Islands have the skills and tools for mapping and monitoring condition of their terrestrial habitats, enhancing biodiversity conservation efforts and mitigating negative anthropogenic impacts and climate change

Outcome:

Cayman Islands Department of Environment (DoE) employ advanced Earth Observation (EO) methods to assess and monitor habitat extent and vegetation condition, over-time, promoting evidence-based decision making for biodiversity conservation.

Project Outputs

Output 1:

Outputs:

Capacity Building through training and 'learning by doing' is provided to the Cayman Islands Department of Environment (DoE) on developing detailed habitat maps and vegetation condition assessments, through advanced remote sensing tools.

Output 2:

Baseline Habitat Mapping: Natural England's 'Living Maps' approach is rolled-out in the Cayman Islands DoE, and a baseline detailed habitat map is generated within this project (by DoE supported by JNCC) and DoE has the capability to generate similar future maps for monitoring purposes.

Output 3:

Vegetation Condition Assessment: Exploratory work is undertaken to understand how to assess for vegetation condition and an approach is developed, resulting in a baseline condition map for key habitats, and a framework that will assist DoE in monitoring their habitats (especially the rare and threatened habitats), assisting with reporting and monitoring commitments.

Output 4:

Engagement and knowledge management towards better habitat mapping and condition monitoring: User-products generated to enable full replication of Outputs 2 and 3, and government and civil society outreach undertaken to showcase project approach and outputs, and that the potential of scaling up to other areas is explored.

Output 5:

No Response

Do you require more Output fields?

It is advised to have fewer than 6 Outputs since this level of detail can be provided at the Activity level.

□ No

Activities

Each activity is numbered according to the Output that it will contribute towards, for example, 1.1, 1.2, 1.3 are contributing to Output 1.

Output 1: Capacity Building

- 1.1 JNCC delivered capability surveys for Project Working Group (PWG) to gauge knowledge on habitat mapping/remote sensing at beginning, middle and end of project.
- 1.2 Online kick-off meeting to introduce 'Living Maps' approach (Output 2) to the Project Steering Group (PSG) and PWG.
- 1.3 JNCC to create a test sample of data for training purposes for use at the in-person training (1.4).
- 1.4 JNCC-led, one-week, in-person training (Y1Q1) to build/level-up 5-DoE trainees' knowledge on; training & spatial data requirements, segmentation, R scripts and GIS processes for the CI Living Map (Output2).
- 1.5 PWG to hold monthly online meetings throughout the project to: (a) provide task-orientated, 'learning by doing' training, supported by 10 additional training when required, which will be flexible to accommodate DoE work, and (b) discuss project technical needs.
- 1.6 JNCC-led, one-week, in-person training (Y2Q1) with DoE trainees to review lessons learnt from Y1, scope approach (3.2) and data needs (3.3) and start testing relationships between field and EO data for condition assessments (Output3).

Output 2: Baseline Habitat Mapping

- 2.1 JNCC/DoE to adjust Natural England's latest R code to local servers for input into activities 2.6 & 2.7.
- 2.2 DoE to define the habitat classification for mapping (2.6), and to inform field training/validation data collection (2.3).
- 2.3 DoE to collect (e.g. via drone) and DoE/JNCC to process habitat training/validation data (for 2.6 & 2.7) and where possible for condition classes to facilitate activity 3.3.
- 2.4 JNCC/DoE to generate spatial predictor variables from remote sensing imagery (e.g. NDVI, greenness) and auxiliary data (e.g. landcover, topography) needed for the Living Maps R scripts (2.6).
- 2.5 JNCC/DoE to test satellite image resolutions, and capability of two software's (eCognition & ArcPro) for developing segmentation layers and select best layers to use in 2.6.
- 2.6 DoE/JNCC to run the Living Maps R scripts (i.e. that use a machine learning Random Forest algorithm with training (2.3) and spatial predictor variables (2.4) and segmentation layer (2.5) to produce habitat probability maps.
- 2.7 DoE/JNCC to assess habitat map accuracy and comparison between resolutions, through user/producer assessments, uncertainty descriptive statistics, and DoE expert knowledge; advise on any reiterations/modifications, and select final habitat map.
- 2.8 JNCC to package-up final annotated R scripts for Output 2 for the technical user-guide (4.3) to enable DoE to rerun and train future staff.

Output 3: Vegetation Condition Assessment

- 3.1 JNCC to undertake a literature review and consultation with key agencies to provide most-up-to-date information on EO/remote sensing methods for assessing vegetation condition.
- 3.2 DoE to select key vegetation types and define their condition classes to then enable more detailed scoping (by DoE/JNCC) of the vegetation condition work, facilitated through an in-person visit from JNCC (1.6).
- 3.3 DoE to collect and DoE/JNCC to process additional ground-level data (e.g. via drone) for defined condition classes to augment data collected through activity 2.3, to ensure sufficient data for condition classes defined in scoping activity (3.2).
- 3.4 JNCC/DoE to trial and test relationships between condition class ground-level data (2.3 & 3.3) with key remotely sensed layers (2.4), e.g. using boxplots and summary statistics, to identify which layers best discern

condition, with results (e.g. range and threshold values) documented for 3.5-3.7.

- 3.5 JNCC/DoE to use range and threshold values (3.4) of key remotely sensed layers to map condition classes with independent ground- validation data and DoE expert knowledge, used to validate and assess accuracy.
- 3.6 JNCC (DoE to support) will use the results from 3.5 to inform the potential development of a condition indicator framework.
- 3.7 JNCC to package-up final annotated R scripts for Output 3 for the technical user-guide (4.3) to enable DoE to rerun and train future staff.

Output 4: Engagement and Communications

- 4.1 JNCC to create a project landing page on the JNCC website to showcase project and host links to communications products developed in Output 4.
- 4.2 To showcase the project, JNCC/DoE to present to the Governor's Office and other relevant Government Departments at the end of the first year and end of project.
- 4.3 JNCC (DoE to review) to produce two technical user-guides (with annotated R codes) to enable replication of Outputs 2 & 3 for trained and future DoE staff.
- 4.4 JNCC (supported by DoE) to produce and submit an open-source peer-reviewed paper showcasing methods and application of Outputs 2 & 3.
- 4.5 JNCC/DoE to create 3 blogs; (1) Launch-post (project introduction, importance of habitats and monitoring and drone technology); (2) Mid-post (highlighting "Habitat Fest" in 4.8); (3) End-post (disseminating key project findings and webinars).
- 4.6 DoE to include project related material in their existing social media programme, at least once per quarter.
- 4.7 DoE to develop and manage subcontractor to produce educational resources for use within and post-project, including infographics, pull-up banners, habitat ecosystem cards, animated explainer videos, and explainer videos using drone footage.
- 4.7.1 DoE to organise and deliver a public face-to-face event "Habitat Fest" on Earth Day 2026 that will include booths, talks, videos, quizzes etc. to create awareness for the Cayman Islands unique habitats and their threats. 4.7.2 DoE to do public/student presentations (integrated into their existing communications plan) for at least 5 events.
- 4.8 JNCC/DoE to co-deliver webinars to (1) other OT stakeholders to showcase the work and gauge interest in upscaling the project to the wider region/other OTs; and (2) Islands Innovation Summit to highlight work and inspire global thinking.

Project Management, Monitoring and Evaluation

- 5.1 JNCC/DoE to agree and sign a MoU between parties that defines: ToR for PSG and PWG, project deliverables/roles and responsibilities, timescales, funds transfer etc.
- 5.2 JNCC to set up and hold quarterly online PSG meetings to support technical progress, with minutes recorded.
- 5.3 JNCC to hold internal monthly project delivery meetings with JNCC project staff.
- 5.4 JNCC to develop the project Monitoring and Evaluation Plan with DoE, including methods for gender disaggregation and social inclusion.
- 5.5 JNCC to share project risk register and issues log and present these to PSG, with JNCC responsible for updating and sharing these to the PSG throughout the life of the project.
- 5.6 JNCC to prepare and submit the activity and financial reports for DPlus (half year and annual) in line with the reporting timetable.
- 5.7 JNCC to put in place strategies for good project financial monitoring and control with DoE and all partners to produce formal quarterly implementation and finance reports back to PSG.
- 5.8 JNCC/DoE project evaluation and reporting, mid-year findings reported back to PSG and to DPlus and project final evaluation and report. To upload to the JNCC landing page.

Q24b. Standard Indicators

Standard Indicator Ref & Wording	Project Output or Outcome this links to	Target number by project end	Provide disaggregated targets here
e.g. DPLUS-A01: Number of people in eligible countries who have completed structured and relevant training	e.g. Output indicator 3.4 / Output 3	e.g. 60	e.g. 30 women; 30 men
DPLUS-A03: Number of local or national organisations with enhanced capability and capacity	Outcome / Indicator 0.1	1 (i.e. DoE)	1 UKOT Government organisation
DPLUS-C01: Number of best practice guides and knowledge products published and endorsed	Outcome / Indicator 0.5	3	2 x technical user-guides; 1 x paper submitted to peer-reviewed journal
DPLUS-A01: Number of people in eligible countries who have completed structured & relevant training	Output 1 / Indicator 1.1 and 1.2.	5	3 men; 2 women
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response
No Response	No Response	No Response	No Response

If you cannot identify three Standard Indicators you can report against, please justify this here.

No Response

Section 11 - Budget and Funding

Q25. Budget

Please complete the appropriate Excel spreadsheet which provides the Budget for this application and ensure the Summary page is <u>fully completed</u>. Some of the questions earlier and below refer to the information in this spreadsheet.

☐ C20241007_JNCC_BCF Budget over £100k M€R

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□ xlsx 100.99 KB

Q26. Alignment with other funding and activities

This question aims to help us understand how familiar you are with other work in the geographic/thematic area, and how this proposed project will build on or align with this to avoid any risks of duplicating or conflicting activities.

Q26a. Is this new work or does it build on existing/past activities (delivered by anyone and funded through any source)?

Development of existing work

Please provide details:

This project builds on past activities while introducing new methodologies to enhance habitat monitoring and conservation in the Cayman Islands.

- -We use and build upon existing work by the DoE and JNCC, including habitat mapping and environmental monitoring used in Natural Capital (DPlus108) and CSSF Disaster Resilience Assessments.
- -The project builds on DoE's long history of habitat assessments, which provide extensive ground-truthing information to support the new automated mapping process. Advanced EO techniques and new UAV (Unmanned Aerial Vehicle) technologies, such as the Wingtra UAV (drone), offer significant innovation in data collection, enabling more frequent, detailed updates on habitat conditions and new data for remote habitats.
- -The project uses existing, tried and tested approaches, particularly the use of R based habitat analysis through Natural England's Living Maps. This approach has been pivotal in domestic conservation efforts for England and Northern Ireland, TCI and Chile.
- -This work complements the DoE's existing responsibilities for habitat protection, monitoring, and reporting oversight.
- -The project supports national and international conservation commitments, improving DoE's capacity to meet long-term environmental objectives.
- -Collaboration will prevent conflicting or duplicating activities by promoting best practices and knowledge sharing to other UKOTs and wildlife management organisations.

Q26b. Are you aware of any current or future plans for work in the geographic/thematic area to the proposed project?

☐ Yes

If yes, please give details explaining similarities and differences, and explaining how your work will be additional, avoiding duplicating and conflicting activities and what attempts have been/will be made to cooperate with and share lessons learnt for mutual benefit.

Output 3 will complement an indicator framework for the Cayman Islands, contributing to the development of Indicator K4, "Extent and condition of terrestrial and marine protected areas in the UK Overseas Territories," which is part of the 25-Year Environment Plan Outcome Indicator Framework. This will be achieved by providing regular and repeatable habitat maps in the Cayman Islands and developing a method to assess vegetation condition using remote sensing data. However, his work only pertains to Caymans protected area network and would not involve the monitoring and reporting on the condition of habitats across the island.

Q27. Balance of budget spend

Defra are keen to see as much Darwin Plus funding as possible directly benefiting UKOT communities and economies. While it is appreciated that this is not always possible every effort should be made for funds to remain in-Territory.

Explain the thinking behind your budget in terms of where Darwin Plus funds will be spent. What benefits will the Territory/ies see from your budget? What level of the award do you expect will be spent locally? Please explain the decisions behind any Darwin Plus funding that will not be spent locally and how those costs are important for the project.

The project will deliver 100% of its benefits to the Cayman Islands although of Darwin Plus funding will be in-Territory direct spend. This includes the purchase of drone survey equipment, which will be used post-project for future habitat assessments, and the purchase of satellite imagery necessary for method development, providing long-term value to local conservation. The equipment will also support other on-island projects, extending its impact.

To further benefit the local economy, the communication materials will be designed and produced locally, using a Cayman-based graphic designer and animator for a video. All meetings and face-to-face training sessions will be held in the Cayman Islands, ensuring that costs contribute to the local economy.

JNCC staff time will focus on project coordination, capacity building, and knowledge-sharing, including codeveloping tools and codes with the DoE. Through mentoring and coaching, JNCC will transfer key technical skills, strengthening local expertise in habitat mapping and data analysis, and enhancing the DoE's capacity for long-term environmental monitoring and management.

Any funds spent outside the Cayman Islands support essential technical expertise, project management, and high-quality outputs, which are crucial to the project's success and will ultimately strengthen local conservation efforts.

Q28. Value for Money

Please describe why you consider your application to be good value for money including justification of why the measures you will adopt will secure value for money.

This project uses an existing UK-funded tool and applies the investment, learning and experience to a UKOT context. Applied and proven to be adaptable in different country contexts by JNCC, this project also brings the wealth of local and Natural England's knowledge (through in-kind contribution) to maximise project success and delivery. Value for money is achieved through:

- -Building DoE capability and use the open-source Living Maps approach, created, developed and refined over many years by Natural England.
- -Future iterations of the Living Maps codes are freely available to CI.
- -The ability to regularly and efficiently calculate habitat presence, where and how much is lost or potentially lost, the condition of each habitat, is essential in making timely informed decisions that benefit, and will continue to benefit, the department and the Cayman Islands as a whole.
- -By using remote sensing data to infer condition and calculate extent of vegetation the project is delivering a monitoring method which can replace years of extensive and costly field work.

Leveraging existing relationships and synergies

- -JNCC has invested significantly in the Cayman Islands and has a long-term close working relationship with the DoE.
- -All of DoE's staff time, vehicle and fuel costs is provided in in-kind demonstrating the partner's commitment to this project.

Developing tools to inform work in other OTs

- -All tools are transferable to other OTs and territories
- -Inform development of the K4 condition Indicator (as part of the UK Governments 25-Year Environmental Plan) with benefits for the UK and OTs.

Q29. Capital items

If you plan to purchase capital items with Darwin Plus funding, please indicate what you anticipate will happen to the items following project end. If you are requesting more than 10% capital costs, please provide your justification here.

Capital items account for collecting training and ground-validation data, ensuring the project's sustainability.

- · WingtraOne GenII VTOL UAV/Drong This drone replaces the DoEs Wingtra, which is at the end of its operational lifespan. The new drone will facilitate essential field-data collection, validation and monitoring of habitats, providing robust landcover assessments during and post-project. Its advanced capabilities will enable ongoing habitat and condition mapping, thus maximising its value for the DoE's future conservation initiatives.
- Two payload cameras The multispectral camera will capture high-resolution (3cm) vegetation health data and species identification, while the 61mp true-colour camera will enhance aerial coverage and streamline data collection. This dual-camera setup is particularly advantageous for surveying remote, inaccessible areas on foot.

This equipment will remain on-island, serving as a long-term investment, securing indispensable tools for effective ongoing monitoring and various future conservation projects.

Section 12 - Safeguarding and Ethics

Q30. Safeguarding

All projects funded under the Biodiversity Challenge Funds must ensure proactive action is taken to promote the welfare and protect all individuals involved in the project (staff, implementing partners, the public and beneficiaries) from harm. In order to provide assurance of this, projects are required to have specific procedures and policies in operation.

Please upload the following mandatory policies:

- <u>Safeguarding and/or PSEAH Policy</u>: including a statement of commitment to safeguarding and a zero tolerance to inaction statement on bullying, harassment and sexual exploitation and abuse. Policy should include a commitment to either Core Humanitarian Standard (CHS), IASC minimum operating standards for PSEA MOS-PSEA) or CAPSEAH minimum standards.
- Whistleblowing Policy: which details a clear process for dealing with concerns raised and protects whistle blowers from reprisals
- <u>Code of Conduct</u>: which sets out clear expectations of behaviours inside and outside the workplace for staff and volunteers involved in the project and makes clear what will happen in the event of noncompliance or breach of these standards, up to and including dismissal.
- <u>Safety and Security Policy or Security Plan</u>: that outlines a plan on how to mitigate and respond to potential health, safety and security threats.

If any of these policies are integrated into a broader policy document or handbook, please upload just the relevant or equivalent sub-sections to the above policies, with (unofficial) English translations where needed.

Please outline how your project will ensure:

- a) beneficiaries, the public, implementing partners, and staff are made aware of your safeguarding commitment and how they can confidentially raise a concern,
- b) safeguarding issues are investigated, recorded and what disciplinary procedures are in place when allegations and complaints are upheld,
- c) you will ensure project partners also meet these standards and policies.

Indicate which minimum standard protocol your project follows and how you meet those minimum standards, i.e. CAPSEAH, CHS, IASC MOS-PSEA. If your approach is currently limited or in the early stages of development, please clearly set out your plans address this.

JNCC is committed to creating a safe environment for all staff and those with whom we work. For JNCC, safeguarding means protecting our staff, partners and communities from potential harm from encountering anyone working for, or with us, or from our activities/programmes of work. Our primary safeguarding objective is to do no harm, and we take a zero-tolerance approach to anyone who contravenes our policies.

JNCC will work with DoE to implement JNCC's Safeguarding Policy for the duration of the project. Our safeguarding policy makes clear our policy applies to all partners and contractors.

JNCC will ensure safeguarding assessments are prepared at project inception, monitored and reviewed through a standing item at the PSG and as part of the M&E process.

The JNCC/DoE MoU will: (a) incorporate JNCC's Safeguarding Policy or otherwise implement reasonable due diligence and monitoring procedures consistent with JNCC's Policy; (b) include appropriate language requiring contracting entities/individuals, and their employees/volunteers to abide with a Code of Conduct that reflects standards of JNCC's Policy; and (c) expressly state that the failure of those entities/individuals to take preventative measure against sexual harassment, exploitation and abuse and child abuse, to investigate and report allegations in a timely manner, or to take corrective actions when breaches have occurred, shall constitute grounds for JNCC to terminate such agreements.

In the event of a safeguarding incident a report must be passed to JNCC's Designated Safeguarding Officer who will then assess what action would be appropriate, if the allegation involves matters of criminality, these will be referred to the appropriate law enforcement. DoE will be provided with contact details for the Safeguarding Officer to enable confidential reporting, should it be required.

Q31. Ethics

Outline your approach to meeting the key principles of good ethical practice, as outlined in the guidance.

JNCC and all project partners are committed to maintaining the highest ethical standards and ensuring responsible project delivery. This project will ensure the following:

-Cayman Islands Government and Local Partners: Strong leadership from the Cayman Islands Government and local partners will be central to the Project Management Group (PMG). They will be responsible for all legal and ethical obligations within their jurisdiction and organisations, ensuring alignment with national priorities.

-Community Engagement: The project will prioritise community participation by integrating local knowledge, perspectives, and traditions with international scientific approaches. The DoE will ensure that stakeholder discussions are equitably facilitated, with informed consent obtained from participants where appropriate.

-Risk Management and Safety: The risk register outlines how the project will safeguard the rights, privacy, and safety of all involved. This includes adhering to privacy laws, ensuring proper data sharing agreements, and implementing safety measures such as insurance and risk assessments. The project will also follow stringent safety protocols for fieldwork activities.

-Evidence Quality and Review: All research findings will be subject to rigorous Evidence Quality Assurance in line with JNCC's standards and policies. Where necessary, findings will undergo international peer-review to maintain the credibility and reliability of the evidence produced.

Section 13 - Project Staff

Q32. Project staff

Please identify the core staff (identified in the budget), their role and what % of their time they will be working on the project (these should match the details you provide in the budget).

Name (First name, Surname)	Role	% time on project	1 page CV or job description attached?
Eleonora Manca	Project Leader	22	Checked
Nicola Abram	Technical Project Lead	39	Checked
No Response	No Response	No Response	Unchecked
No Response	No Response	No Response	Unchecked

Do you require more fields?

□ No

Please provide 1 page CVs (or job description if yet to be recruited) for the project staff listed above as a combined PDF.

- ☐ <u>Project Staff CVs_DPR13S1-1011_Cayman Hobt</u>

 <u>Mapping and Monitoring</u>
- □ 07/10/2024
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- □ pdf 2.13 MB

Have you attached all project staff CVs and job descriptions?

□ Yes

Section 14 - Project Partners

Q33. Project partners

Please list all the Project Partners (including the Lead Organisation who will administer the grant and coordinate delivery of the project), clearly setting out their roles and responsibilities in the project including the extent of their engagement so far.

Lead organisation name:	Joint Nature Conservation Committee (JNCC)
Is the Lead Organisation based in a UKOT where the project is working?	□ No
Please explain why this project is led from outside the UKOT	The JNCC possesses the technical expertise and capacity to support the DoE in fully implementing this project, Co-developed with the DoE and embedding it as Business-as-Usual within the Department. JNCC has a long-established track record of successfully delivering project outcomes in collaboration with UKOT Governments, including in Cayman Islands.
	The JNCC, as the UK's international statutory nature conservation adviser, is uniquely positioned to lead this project. Key responsibilities include:
Why is this organisation the	-Project Management, Quality Control and Oversight: Lead overall project management, leveraging over 20 years of experience in UKOTs. JNCC will chair the PSG with start-up and quarterly meetings and hold internal monthly meetings. A Memorandum of Understanding (MoU) will outline roles, responsibilities, and fund transfers. JNCC will collaborate with the DoE on a Monitoring and Evaluation Plan, manage a risk register, and ensure quality control. Financial and implementation reports will be produced quarterly, with JNCC responsible for the project auditing.
Lead Organisation, and what value to they bring to the project? (including roles,	-Technical Leadership: JNCC's expert team will lead on technical aspects of habitat monitoring using EO, supported by Natural England where needed.
responsibilities and capabilities and capacity):	-Data Management and Processing: JNCC will manage the processing of satellite imagery and data, empowering the DoE with the skills to continue these processes independently post-project.
	-Capacity Building: By transferring technical skills in monitoring and data analysis, JNCC will strengthen the DoE's capacity to sustainably manage habitats
	-Communications and Outreach: JNCC will co-create outreach materials with DoE, website publication and in a peer review journal With its extensive expertise, JNCC will drive the project's success, ensuring long-term conservation impact.
Allocated budget (proportion or value):	
Representation on the Project Board (or other management structure)	□ Yes
Have you included a Letter of Support from the Lead Partner?	□ Yes

Do you have partners involved in the Project? □ Yes Department of Environment (DoE), Government of Cayman Islands. 1. Partner Name: Website address: The DoE is the principal government body responsible for environmental management and conservation in the Cayman Islands. Its involvement ensures the project is locally relevant and aligned with national policies. Key roles and responsibilities include: -Core PSG Member: DoE will serve as a core PMG member, providing strategic oversight and facilitating coordination with other government agencies and NGOs. -Local Ecological Expertise and Direction: DoE brings extensive experience in habitat conservation, ensuring project activities address key national conservation priorities. -Data Collection, Management, and Processing: DoE will be responsible for What value does this Partner collecting the training/ground-truthing data, using field and drone bring to the project? (including campaigns. Their extensive existing experience with drones ensures highroles, responsibilities and quality, relevant data for project outputs. capabilities and capacity): -Co-Development of Assessment Frameworks: DoE will co-develop the vegetation condition assessment aspects, facilitating the method development and verifying outputs. -Communications and Outreach: DoE will use their existing network on Island to manage and enhance the communication, event, and engagement materials needed to disseminate project outputs to local communities. -Project Sustainability: DoE will ensure integration of deliverables to support long-term conservation objectives, including habitat monitoring and natural capital assessments. Their involvement ensures the project's outputs are sustainable, accurate, and integrated into national environmental management processes. ■ UKOT-based **UKOT-based/other Partner Allocated budget (proportion** or value): **Representation on the Project** □ Yes **Board (or other management** structure) Have you included a Letter of □ Yes Support from this organisation?

2. Partner Name:	No Response
Website address:	No Response
What value does this Partner bring to the project? (including roles, responsibilities and capabilities and capacity):	No Response
UKOT-based/other Partner	□ UKOT-based □ Other
Allocated budget (proportion or value):	No Response
Representation on the Project Board (or other management structure)	□ Yes □ No
Have you included a Letter of Support from this organisation?	□ Yes □ No
3. Partner Name:	No Response
Website address:	No Response
What value does this Partner bring to the project? (including roles, responsibilities and capabilities and capacity):	No Response
UKOT-based/other Partner	No Response
Allocated budget (proportion or value):	□ UKOT-based □ Other
Representation on the Project	
Board (or other management structure)	□ Yes □ No
Board (or other management	
Board (or other management structure) Have you included a Letter of Support from this organisation?	□ Yes □ No
Board (or other management structure) Have you included a Letter of Support from this organisation? 4. Partner Name:	☐ No ☐ Yes ☐ No No Response
Board (or other management structure) Have you included a Letter of Support from this organisation?	□ Yes □ No

UKOT-based/other Partner	□ UKOT-based
OROT-based/other Faither	□ Other
Allocated budget (proportion or value):	No Response
Representation on the Project	□ Yes
Board (or other management structure)	П No
Have you included a Letter of	□ Yes
Support from this organisation?	П No
5. Partner Name:	No Response
Website address:	No Response
What value does this Partner	
bring to the project? (including roles, responsibilities and	No Response
capabilities and capacity):	
UKOT-based/other Partner	□ UKOT-based
	☐ Other
Allocated budget (proportion or value):	No Response
Representation on the Project	□ Yes
Board (or other management structure)	□ No
Have you included a Letter of	□ Yes
Support from this organisation?	□ No
6. Partner Name:	No Response
	<u> </u>
Website address:	No Response
What value does this Partner bring to the project? (including roles, responsibilities and capabilities and capacity):	No Response
UKOT-based/other Partner	□ UKOT-based
	□ Other
Allocated budget (proportion or value):	No Response

Representation on the Project Board (or other management structure)	☐ Yes ☐ No
Have you included a Letter of	□ Yes
Support from this organisation?	□ No

Please provide a combined PDF of all letters of support.

- ☐ <u>Letters of Support_DPR13S1-1011_Cayman</u> **b** <u>tat Mapping and Monitoring</u>
- □ 07/10/2024
- □ 21:58:14
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Section 15 - Lead Organisation Capability and Capacity

Q34. Lead Organisation Capability and Capacity

Has your organisation been awarded Biodiversity Challenge Funds (Darwin Plus, Darwin Initiative or Illegal Wildlife Trade Challenge Fund) funding before (for the purposes of this question, being a partner does not count)?

☐ Yes

If yes, please provide details of the most recent awards (up to 6 examples).

Reference No	Project Leader	Title
DPLUS143	Megan Tierney	What goes thump at night-managing bird-strike in South-Georgia
DPLUS119	Megan Tierney	Technical assistance programme for effective coastal- marine management in TCI
DPLUS147	Bryony Meakins	Collaborative approach to managing impacts of SCTLD in three OTs
DPLUS154	Megan Tierney	Sustainable management planning for St Helena's 14 terrestrial National-Conservation-Areas
No Response	No Response	No Response
No Response	No Response	No Response

Have you provided the requested signed audited/independently examined accounts?

□ Yes

Section 16 - Certification

Certification

On behalf of the

Company

of

Joint Nature Conservation Committee

I apply for a grant of

£335,344.00

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct. I am aware that this application form will form the basis of the project schedule should this application be successful.

(This form should be signed by an individual authorised by the applicant institution to submit applications and sign contracts on their behalf.)

- I enclose CVs for key project personnel, a cover letter, letters of support, a budget, logframe, Safeguarding and associated policies, and project workplan.
- Our last two sets of signed audited/independently verified accounts and annual report (covering three years) are also enclosed.

Checked

Name	Eleonora Manca
Position in the organisation	Senior International Biodiversity Officer
Signature (please upload e- signature)	☐ <u>Firma</u> ☐ 07/10/2024 ☐ 19:43:50 ☐ jpg 178.21 KB
Date	07 October 2024

Please attach the requested signed audited/independently examined accounts.

□ JNCC ARA 2223	□ J <u>NCC ARA 23-24</u>
□ 07/10/2024	□ 07/10/2024
□ 19:45:53	П 19:45:43
□ pdf 10.18 MB	□ pdf 1.4 MB

☐ <u>JNCC ARA 21-22</u>

- □ 07/10/2024
- □ 19:45:40
- □ pdf 1.12 MB

Please upload the Lead Organisation's Safeguarding and Associated Policies as a PDF

□ jncc-Response-to-serious-incidents-202306	□ pol-Safeguarding-Policy-20230523	
□ 07/10/2024	П 07/10/2024	
□ 19:56:29	□ 19:56:27	
□ pdf 1.28 MB	□ pdf 253.96 KB	
□ pol-code-of-conduct-2008	□ pol-Whistleblowing-Policyv2.3-20210408	
□ 07/10/2024	п 07/10/2024	
□ 19:56:27	□ 19:56:27	
□ pdf 334.12 KB	□ pdf 135.42 KB	

Section 17 - Submission Checklist

Checklist for submission

	Check
I have read the Guidance, including the "Guidance Notes for Applicants", "Monitoring Evaluation and Learning Guidance", "Standard Indicator Guidance", "Risk Guidance", and "Finance Guidance".	Checked
have read, and can meet, the current Terms and Conditions for this fund.	Checked
I have provided actual start and end dates for the project.	Checked
have provided a budget based on UK government financial years i.e. 1 April – 31 March and in GBP.	Checked
have checked that our budget is complete, correctly adds up and I have included the correct final total at the start of the application.	Checked
Γhe application been signed by a suitably authorised individual (clear electronic or scanned signatures are acceptable).	Checked
have attached the below documents to the application: • a cover letter from the Lead Partner, outlining how any feedback received at Stage 1 has been addressed where relevant and referencing any potential conflicts of interest, as a single PDF.	Checked
 the completed logframe as a PDF using the Stage 2 template provided and using "Monitoring Evaluation and Learning Guidance" and "Standard Indicator Guidance". 	Checked
the budget (which meets the requirements above) using the template provided.	Checked
 a signed copy of the last 2 annual report and accounts (covering three years) for the Lead Organisation, or provided an explanation if not. 	Checked
the completed workplan as a PDF using the template provided	Checked
• a copy of the Lead Organisation's Safeguarding Policy, Whistleblowing Policy, Code of Conduct and Safety and Security Policy or Security Plan (Question 30).	
 1 page CV or job description for each of the Project Staff identified at Question 32, including the Project Leader, or provided an explanation of why not, combined into a single PDF. 	Checked
• a letter of support from the Lead Organisation and partner(s) identified at Question 33 and relevant OT Governments, or an explanation of why not, combined into a single PDF.	Checked

The additional supporting evidence is in line with the requested evidence, amounts to a maximum of 5 sides of A4, and is combined as a single PDF. (If copying and pasting into Flexi-Grant) I have checked that all my responses have been successfully copied into the online application form.	
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 the Darwin Initiative and our sister grant scheme, the IWT Challenge Fund. We also provide occasional updates on other UK Government activities related to biodiversity conservation and share our quarterly project newsletter. 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 the Darwin Initiative including project details (usually title, lead partner, project leader, location, and total grant value).