



**BIODIVERSITY
CHALLENGE FUNDS**



Biodiversity Challenge Funds Projects **Darwin Initiative, Illegal Wildlife Trade Challenge Fund, and Darwin Plus**

Half Year Report

It is expected that this report will be a **maximum of 2-3 pages** in length.

If there is any confidential information within the report that you do not wish to be shared on our website, please ensure you clearly highlight this.

Submission Deadline: 31st October 2025

Please note all projects that were active before 1st October 2025 are required to complete a Half Year Report.

Submit to: BCF-Reports@niras.com including your project ref in the subject line.

Project reference	DPLUS183
Project title	Biodiversity metrics for conservation management in the British Virgin Islands
Country(ies)/territory(ies)	British Virgin Islands (BVI)
Lead Organisation	Royal Botanic Gardens, Kew (RBG Kew)
Partner(s)	National Parks Trust of the Virgin Islands (NPTVI)
Project Leader	Juan Viruel
Report date and number (e.g. HYR1)	HYR3
Project website/blog/social media	https://www.kew.org/science/our-science/projects/biodiversity-metrics-british-virgin-islands

1. Outline progress over the last 6 months (April – September) against the agreed project implementation timetable (if your project started less than 6 months ago, please report on the period since start up to end of September).

Although we are not looking for specific reporting against your indicators, please use this opportunity to consider the appropriateness of your monitoring, evaluation and learning (MEL) systems (are your indicators still relevant, can you report against any Standard Indicators, do your assumptions still hold true?). The guidance can be found on the resources page of the relevant fund website.

During the first six months of Y3 for DPLUS183, we have progressed towards estimating the Biodiversity metrics for all angiosperms in BVI.

Output 1. Biobank for the BVI flora established: tissue and DNA of all native plant species from the BVI secured in accessioned collections.

- Activity 1.1 *Collect tissue material from all specimens available at Kew and extract DNA. Quantify the DNA obtained to assess if it is suitable for sequencing methods (see activities in Output 2).*

This activity was complete in Y1.

- Activity 1.2 *Conduct fieldwork to collect plant material for ca. 150 native plant species not yet available at RBG Kew (Y1), and for any species not passing the DNA quality check in Activity 1.1 (Y2). Database all new herbarium and tissue samples.* This activity was complete in Y2, but we have expanded it by extracting DNAs for extra leaf tissue samples received from Puerto Rico herbarium MAPR (126), cacti samples collected in the BVI by a collaborator and CITES exported/imported by the team (96), and samples (120) collected from two USA herbaria (NY and US) when visiting with a complementary grant; totalling 342.

- Activity 1.3.1 *Extract DNA from newly collected materials. Confirm appropriate amounts of DNA were extracted as expected from recently collected materials & Activity 1.3.2 Database all DNAs and incorporate them in the DNA Bank and Tissue collection at RBG Kew.* All samples from 1.2 incorporated in the database; activity completed. The incorporation of samples in the DNA bank is in progress and will be completed by Y3.

- Activity 1.4 *Conduct fieldwork and carry out inventory lists of species in areas with low number of presence data, including areas that will be targeted for ecological restoration plans (Y1).*

All assumptions for Output 1 remain true: Kew staff are able to travel to the BVI to collect materials; Export and import (e.g., CITES) permits issued for all missing species; Being able to locate all the unstudied species; Kew remain committed to maintain and enhance their specimen databases and making these publicly available; Kew's UKOTs team retains capacity to be able to maintain the UKOTs Species and Specimens Database.

Output 2: A complete BVI Plant Tree of Life and biodiversity metrics calculated

- Activity 2.1.1 *Process samples to generate genetic sequence data for all native plant species in BVI (ca. 650). All DNA samples processed, and sequence data generated. Activity completed.*

- Activity 2.1.2 *Conduct bioinformatic analysis and reconstruct a phylogenetic tree including all native plant species in BVI. Share the data with our colleagues working in the Tree of Life Explorer (<https://treeoflife.kew.org/>). Tree of Life completed; sequence data shared with Kew Tree of Life team; activity completed. PAFTOL is preparing its next big release of data and tree, which will include the BVI data you shared with it, that should be out by end of March 2026. A scientific manuscript is in preparation.*

- Activity 2.2.1 *Run species distribution models for all native plant species in BVI. Activity 2.2.2* *Generate a map layer with estimates of species richness using the output from 2.2.1. 1 km analysis (SDMs and species richness) complete. Differences between 1km and 30m models were observed; analysis are being prepared to be run incorporating precipitation variables at 30 m resolution.*

- Activity 2.2.3 *Conduct conservation assessments and write a full Red List for all native angiosperms in BVI. All species assigned a Red List category, 190 species on submission queue for the next IUCN Red list update, and 80 Red List assessments in progress (i.e., the assignment of a category has been selected but the assessment has not been fully documented for all of them, this means we know the threatened status they'll have but we need*

to finalise the documentation required by IUCN for 80). A second review workshop, which validated assessments was conducted, with colleagues from the BVI, US Virgin Islands, Puerto Rico and Kew.

- *Activity 2.2.4 Integrate all data in Biodiverse software to calculate phylogenetic diversity across the territory.* A phylogenetic diversity map was generated with 1 km SDMs. We will improve this outcome when the 30 m SDMs analysis are complete.

→ Indicator: 2.2 Three biodiversity metrics calculated for the entire flora of the BVI: species richness, IUCN Red List assessments and phylogenetic diversity by YR3 Q2. [DPLUS-E03]. [DPLUS-E03]: Status of Threatened Species (DEFRA KPI). These indicators remain relevant and will be used to report the progress when all activities are finalised.

All assumptions for Output 2 remain true: DNA successfully extracted from problematic species (e.g., containing secondary metabolites, polysaccharides, etc.), The incorporation of new data and maintenance of the Kew Tree of Life Explorer continues at current levels, Sufficient presence points (10-15 per species) available from fieldwork activities and online resources (see methods) to adequately calculate species model distribution for each species.

Output 3: Capacity built for integrating biodiversity metrics into conservation management, action and decision-making, and public engagement

- *Activity 3.1 At least three NPTVI staff trained and actively collecting herbarium and tissue samples and associated data by YR1 Q4*

This activity was complete in Y1.

- *Activity 3.2 At least three NPTVI staff trained and step by step manuals produced for interpreting biodiversity metrics data and designing ecological restoration plans by YR3 Q4.* Activity planned for November 2025.

- *Activity 3.3 NPTVI Deputy Director trained to manage and update biodiversity metrics database and use it to design ecological restoration plans.* Activity planned for November 2025.

- *Activity 3.4 End of project workshop to integrate biodiversity metrics in conservation shared with wider stakeholders, including partners from other Caribbean islands (including overseas territories) by YR3 Q4.* Activity planned for November 2025.

All assumptions for Output 3 remain true: NPTVI retains trained staff, Appropriate designer is selected to produce cartoon.

Output 4: Biodiversity metrics used to direct conservation action in the face of current and future threats

Activity 4.1 GIS analysis to prepare maps with biodiversity metrics, and lists of species, split by island, TIPA and protected area. In progress: dependent upon SDMs analysis at 30 m resolution (see Activity 2.2.1), although it was complete for the 1 km analysis.

Activity 4.2 Presentation preparation by NPTVI Deputy Director for explaining to different government departments about using biodiversity metrics in development planning. In progress: dependent upon SDMs analysis at 30 m resolution (see Activity 2.2.1).

Activity 4.3.1 List inventories prepared for three sites withing National Parks targets. Activity planned for November 2025, although it was complete for the 1 km analysis.

Activity 4.3.2 Species richness and threatened species lists within these areas extracted from the main database. In progress: dependent upon SDMs analysis at 30 m resolution (see Activity 2.2.1), although it was complete for the 1 km analysis.

Activity 4.3.3 Analysis of biodiversity metrics to produce a list of key species for ecological restoration for Gorda Peak NP, Great Tobago NP, and Sandy Cay NP; and others if identified. In progress: dependent upon SDMs analysis at 30 m resolution (see Activity 2.2.1), although it was complete for the 1 km analysis.

Activity 4.4 Extract lists of species per island with those contributing more to biodiversity. Share these data with NPTVI for integration in the 2025/26 annual work plan for growing plants. In progress: dependant upon SDMs analysis at 30 m resolution (see Activity 2.2.1).

Activity 4.5.1 GIS analysis overlapping habitat resilience to climate change from DPLUS180 and to extreme weather events from DPLUS084 with the biodiversity metrics herein developed. In progress: dependant upon SDMs analysis at 30 m resolution (see Activity 2.2.1).

Activity 4.5.2 Produce a list of key species per habitat in the context of climate change and their contributions to biodiversity. In progress: dependant upon SDMs analysis at 30 m resolution (see Activity 2.2.1).

All assumptions for Output 4 remain true: Kew staff are able to travel to the BVI to collect materials and new data, We have continued access to high-capacity computing at Kew and capacity to maintain databases, Biodiverse software is maintained, Evidence bases successfully established from outputs 1 and 2, BVI National GIS maintained by BVI Government, J. R. O'Neal Botanic Garden maintains capacity (facilities and staff) to grow native plants in the nursery.

5. Outreach activities to reinforce the importance of conserving native plant species.

All assumptions for Output 4 remain true: Kew staff are able to travel to the BVI for training and educational activities.

Activity 5.1.1 Preparation of report explaining step by step the practical for DNA extraction.

Activity planned for November 2025.

Activity 5.1.2 Demonstration with NPTVI staff and training session. Demonstration with school group at JRO'Neal Botanic Garden. Activity planned for November 2025.

Activity 5.2 Script and story preparation for educational animated cartoon. Production of the cartoons. Potential ideas and contents for the Cartoon shared with NPTVI Director and Deputy Director.

2. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

Changes in the communication policies at RBG Kew led to the closure of the Kew UKOTs team X account. We are requesting them to give publicity to the activities conducted in DPLUS183 via Kew social media channels and blogs.

NPTVI Deputy Director would have liked to be more involved in the SDM analysis and design, and that she could have provided precipitation data at local scale. Specific meetings regarding the modelling, with all team members present, had taken place since the beginning of the project, and several meetings with NPTVI Deputy Director happened to discuss and design the SDM analysis and which data were available to run the analysis. Steering group chair suggested that the team could improve communication and create more opportunities for discussion in future projects.

3. Have any of these issues been discussed with NIRAS and if so, have changes been made to the original agreement?

Discussed with NIRAS:

No

Formal Change Request submitted:

No

Received confirmation of change acceptance:

No

Change Request reference if known: *If you submitted a financial Change Request, you can find the reference in the email from NIRAS confirming the outcome*

Guidance for Section 4: The information you provide in this section will be used by Defra to review the financial status of projects. This review will identify projects at random for spot checks on financial management and will include requests for evidence of the actual spend information provided below. Please ensure the figures you provide are as accurate as possible and that you have the evidence to support it. You do not need to provide it now.

4a. Please confirm your actual spend in this financial year to date (i.e. from 1 April 2025 – 30 September 2025)

Actual spend: £ [REDACTED]

4b. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this financial year (ending 31 March 2026)?

[REDACTED]

4c. If you expect an underspend, then you should consider your project budget needs carefully. Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project, please submit a re-budget Change Request as soon as possible, and not later than 31st December. There is no guarantee that Defra will agree a re-budget so please ensure you have enough time to make appropriate changes to your project if necessary.
Please DO NOT send these in the same email as your report.

NB: if you expect an underspend, do not claim anything more than you expect to spend this financial year.

5. Are there any other issues you wish to raise relating to the project or to BCFs management, monitoring, or financial procedures?

Suspensions or allegations related to fraud and error concerns should be reported to fraudanderror@Defra.gov.uk

Nothing to report.

6. Project risk management

6a. If your project has an Overseas Security and Justice assessment, please provide an update on any related risks, and any special conditions in your award paperwork if relevant for your project.

Nothing to report.

6b. Have any concerns or allegations relating to sexual exploitation, abuse or harassment been reported in the past 6 months?

[REDACTED] ☒

[REDACTED]

Suspensions or allegations related to safeguarding concerns should be reported to ODA.Safeguarding@defra.gov.uk

7. Please use this section to respond to any feedback provided when your project was confirmed, or from your most recent Annual Report. As a reminder, all projects that were scored as 'Not Yet Sensitive' in the Gender Equality and Social Inclusion (GESI) assessment of their latest Annual Report should demonstrate how they are meeting the minimum GESI-Sensitive standard.

Nothing to report.