Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

To be completed with reference to the "Writing a Darwin/IWT Report" Information Note: (https://dplus.darwininitiative.org.uk/resources/reporting-forms-change-request-forms-and-terms-and-conditions/). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes). Submission Deadline: 30th April 2021

1. Darwin Plus Project Information

Project reference	DPLUS084
Project title	Identifying and conserving resilient habitats in the British Virgin Islands
Territory(ies)	British Virgin Islands (BVI)
Lead organisation	Royal Botanic Gardens, Kew
Partner institutions	National Parks Trust of the Virgin Islands (NPTVI), Fort Worth Zoo (FWZ)
Grant value	£275,258
Start/end dates of project	1st April 2019 – 31st March 2023
Reporting period (e.g. Apr 2020-Mar 2021) and number (e.g. Annual Report 1, 2)	April 2020 – March 2021, Annual Report 2
Project Leader name	Dr Martin Hamilton
Project website/blog/social media	Twitter: @KewUKOTs, #DPLUS084 Moment kew.org: https://www.kew.org/science/our-science/projects/resilient-habitats-bvis ResearchGate: https://www.researchgate.net/project/Identifying-and-conserving-resilient-habitats-in-the-British-Virgin-Islands-DPLUS084
Report author(s) and date	M.A. Hamilton [M], K. Bradley [F], N. Pascoe [F], T.M. Heller [M], C. Clubbe [M] 29 April 2021

2. Project summary

Through field survey and mapping, the project will improve understanding of the status of the British Virgin Islands (BVI)'s forests and the globally threatened plant and animal species and the ecosystem services they support. International partnerships will deliver up-to-date biodiversity information and resources, *ex-situ* collections of globally threatened plant species and strengthened local capacity key to habitat recovery and mitigation of natural disasters. This will enable management that promotes future resilience and BVI partners will be empowered to secure their biodiversity into the future.

Please note: Brackets following individuals' names denote gender with M = Male and F = Female in response to reviewer's comments for AR1.

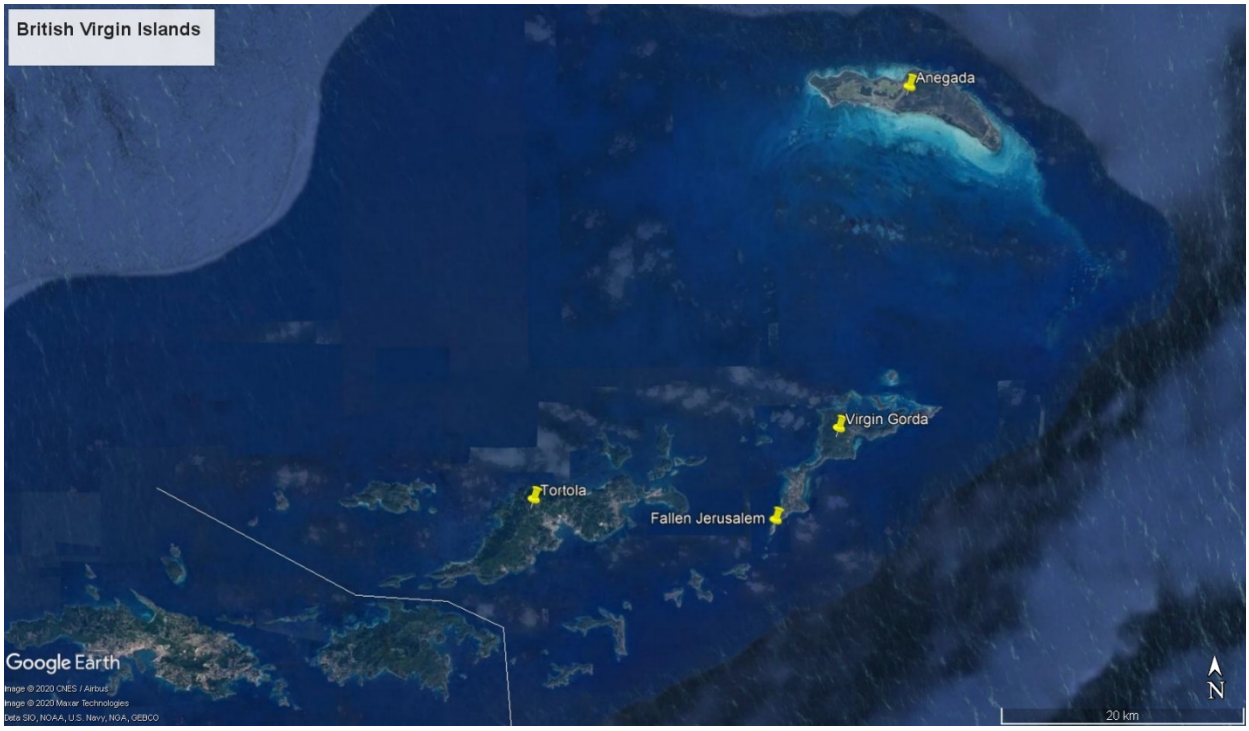

Figure 1. Map of the British Virgin Islands, with the four islands targeted by the project labelled.

3. Project stakeholders/partners

NPTVI has a long history of project collaboration with both Kew and FWZ, so uniting in this project is cost effective and time efficient in terms of joint fieldwork missions. It builds upon existing strengths within each partner organisation during training in flora and fauna identification and survey techniques.

The three project partners (Kew, NPTVI, FWZ) are represented on the project Steering Group, co-chaired by Dr Colin Clubbe [M] (Head of Conservation Science, Kew) and Dr Cassander Titley O'Neal [F] (Director, NPTVI, since October 2019), providing a regular forum for engagement in project planning, monitoring and evaluation and decision making. Meeting minutes are available in reports by Heller and Hamilton (2020a, 2020b) which are available online here.

4. Project progress

Very limited progress was possible due to the impacts of Covid-19 on the project with all funded project activity halted at Kew and overseas between 01 May 2020 and 31 March 2021 by agreement with Darwin through a formal change request made in December 2020.

4.1 Progress in carrying out project Activities

Output 1: Detailed census of globally threatened species (five plants and 2 animals) and population ecology profiled

Activity 1.1 Fieldwork to survey globally threatened species.
Please note that the standard IUCN threatened category abbreviations (IUCN, 2012, p. 5) are used throughout this report: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Least Concern (LC), Data Deficient (DD), and Not Evaluated (NE).

No activity was possible due to the impacts of Covid-19 on the project (including restrictions on international travel) with activities planned for Year 2 postponed.

Activity 1.2 Genetic analysis of *Z. thomasianum* populations.
The known subpopulations of *Z. thomasianum* in the BVI on Tortola and Virgin Gorda were sampled as leaf tissue dried in silica gel during fieldwork in Year 1. Samples collected from populations of the species in the US Virgin Islands (Heller, 2020) funded by the Bentham Moxon Trust and Puerto Rico (Hamilton, Bárrios and Heller, 2020) funded by the US Fish and Wildlife Service (USFWS) were received at Kew in March 2021 following the successful procurement of a USFWS export permit, and together represent almost all known sub-populations of the species. These samples will form the basis of the population genetic analysis under this activity which was originally scheduled to take place in Year 2 of the project and has now been postponed due to the impacts of Covid-19. Laboratory work is now scheduled to begin in May 2021. Samples of closely related *Zanthoxylum* species are also available for phylogenomic analysis of the group.

Activity 1.3 Produce GIS occurrence layers for globally threatened species.
No activity was possible due to the impacts of Covid-19 on the project with activities planned for Year 2 postponed, with limited new data to add to the GIS.

Output 2: Habitat requirements of globally threatened species (five plants and 2 animals) characterised

Activity 2.1 Establish experimental design for vegetation survey plots.
The Rapid Botanical Survey (RBS) methodology developed by researchers at Oxford University (Hawthorne and Marshall, 2016) was adopted, with modifications, for the vegetation survey plots during Year 1 of this project (Hamilton *et al.*, 2020). No further activity is required.

Activity 2.2 Field work to gather vegetation and habitat data.
No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Activity 2.3 Consult archives, historical records for land use history and maps.
No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Activity 2.4 Produce GIS layers of forest plot data and forest habitat critical for globally threatened flora and fauna.
No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Output 3: *Ex-situ* collections of five globally threatened plants strengthened to support conservation

Activity 3.1 Collect seed material of five globally threatened plant species from wild populations for *ex-situ* conservation and seed storage behaviour studies.
A collection of seed of *Guaiacum officinale* (EN) was made opportunistically at Beef Island for *ex-situ* conservation. Otherwise, no new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Activity 3.2 Undertake seed storage behaviour studies.
As reported in AR1 (Hamilton *et al.*, 2020), seeds of *Bastardiopsis eggersii* (EN) were collected from plants cultivated at JRONBG, and used for a desiccation tolerance test. The test was still underway in Year 2 when Covid-19 impacted the DPLUS084 project. The Steering Group discussed the impacts of the pandemic on the test (Heller and Hamilton, 2020b) and agreed that data would be collected from seed studies, but no further activity would be possible due to Covid-19. Data will be processed once the project formally restarts in April 2021.

Activity 3.3 Collect plant material from wild populations for vegetative propagation and *ex-situ* conservation.

As reported in AR1 (Hamilton *et al.*, 2020), cuttings were taken from two *Z. thomasianum* trees impacted by road cut erosion at Leverick Bay, Virgin Gorda and a seedling growing in the middle of a path in Gorda Peak National Park on Virgin Gorda was rescued. These collections were transferred to JRONBG for *ex-situ* conservation. Likewise, vegetative cuttings of *Z. thomasianum* were made from plants at the Hawk's Nest population on Tortola for propagation and *ex-situ* conservation at JRONBG. The propagation/cultivation was still underway in Year 2 when Covid-19 impacted the DPLUS084 project. The Steering Group discussed the impacts of the pandemic on the propagation/cultivation activities (Heller and Hamilton, 2020b) and agreed that data would be collected from cuttings, but no further activity would be possible due to Covid-19. Data will be processed once the project formally restarts in April 2021. Further *ex-situ* collections will be made from threatened plant species in wild populations during the project.

Output 4: Capacity building to enable NPT to manage rare and threatened species

Activity 4.1 Training and Evaluation Plan produced.

A Training and Evaluation plan was produced and agreed by the Steering Group (Hamilton *et al.*, 2020). The plan includes training covering germination experiments (100 seed desiccation tolerance test), survey techniques (vegetation and reptiles), and species identification (plants and reptiles). Due to the impacts of Covid-19 on the project, the Steering Group agreed that the training plan will be reviewed and updated, as needed, in Q1 of 2021-22 (Heller and Hamilton, 2020b).

Activity 4.2 Training of four NPTVI staff in germination experiments, plot-based quantitative survey techniques, presence/absence survey and species identification delivered by Kew and FWZ specialists.

No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Activity 4.3 Training of four NPTVI staff evaluated by Kew and FWZ specialists and reviewed by Steering Group

No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Activity 4.4 Produce Final report 'Training and Evaluation' section

No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Output 5: Monitoring and Evaluation and project reporting

Activity 5.1 Produce Monitoring and Evaluation Plan

A Monitoring and Evaluation Plan was agreed by the project steering group early in the project. The M&E plan outlines the responsibilities of the project team members and the steps being taken to ensure the project is managed adaptively. As with the Training and Evaluation Plan, this document is intended to be continually developed and changes tracked using version control, see (Dani Sanchez *et al.*, 2020). Due to the impacts of Covid-19 on the project, the Steering Group agreed that the training plan will be reviewed and updated, as needed, in Q1 of 2021-22 (Heller and Hamilton, 2020b).

Activity 5.2 Produce quarterly reports

The project Steering Group has been kept up to date on project progress through regular email correspondence and the Monitoring and Evaluation Implementation Worksheet (see DPLUS084_M&E_Workbook_Implementation_AR2.pdf listed under Supplementary Materials) which is updated and circulated in advance of Steering Group meetings that were held in April 2020 (Heller and Hamilton, 2020a) and October 2020 (Heller and Hamilton, 2020b).

Activity 5.3 Undertake Steering Group meetings and produce minutes
Steering Group meetings have taken place to plan and review project progress during the second year of the project in April 2020 (Heller and Hamilton, 2020a) and October 2020 (Heller and Hamilton, 2020b).

Activity 5.4 Produce final report
The project activities recorded in Steering Group minutes described in 5.1 – 5.3 above and the M&E Workbook (see DPLUS084_M&E_Workbook_Implementation_AR2.pdf listed under Supplementary Materials) will be integral to producing the final project report to demonstrate the degree of success in achieving the desired Outcome.

4.2 Progress towards project Outputs

Output 1: Detailed census of globally threatened species (five plants and 2 animals) and population ecology profiled

No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Output 2: Habitat requirements of globally threatened species (five plants and 2 animals) characterised

No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Output 3: *Ex-situ* collections of five globally threatened plants strengthened to support conservation

Though much work has taken place in the BVI to improve *ex-situ* conservation of threatened species, with most of the BVI's globally threatened plant species represented in seed banks (Millennium Seed Bank in the UK, JRONBG in BVI), these are mostly as single accessions, and some species are not represented at all. *Ex-situ* nursery plants grown at JRONBG suffered major losses because of Hurricane Irma in 2017, leaving most of the BVI's threatened species not represented in *ex-situ* collections in the conservation nursery or plantings there. Those species represented in *ex-situ* collections are from limited genetic pools and many new collections are required to capture adequate genetic diversity.

Progress towards this output:

- 3.1 Data were collected from seed studies for *Maytenus cymosa* and *Bastardiopsis eggersii*, but no further activity was possible due to Covid-19. Data will be processed once the project formally restarts in April 2021.
- 3.2 Data were collected from propagated *Zanthoxylum thomasianum* material, but no further activity was possible due to Covid-19. Data will be processed once the project formally restarts in April 2021.
- 3.3 An opportunistic seed collection of *Guaiacum officinale* (EN) was made in November 2020 for *ex-situ* conservation at JRONBG.

Output 4: Capacity building to enable NPTVI to manage rare and threatened species

No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.

Output 5: Monitoring and Evaluation and project reporting

A coordinated effort to survey and provide training for flora and fauna did not exist prior to the project. To ensure successful delivery of project goals, effective Monitoring and Evaluation was one of the priorities to implement from the outset of the project.

Progress towards this output:

- 5.1 A Monitoring and Evaluation Plan was agreed by the project steering group in Year 1 and was reviewed in April 2020 (Heller and Hamilton, 2020a).
- 5.2 Reports for fieldwork and minutes of Steering Group meetings were produced and circulated to the Steering Group from April 2020 (Heller and Hamilton, 2020a) and October 2020 (Heller and Hamilton, 2020b), and a first year report AR1 was supplied to Darwin in April 2020 (Hamilton *et al.*, 2020).
- 5.3 Steering Group meetings held in April and October 2020, and an end-of-year meeting in April 2021. Minutes compiled and circulated to project team, see response above for 5.2 and under 4.1 for Activity 5.3 for list of citations.
- 5.4 Progress against project activities and milestones have been recorded in a Monitoring and Evaluation Workbook for final report development. The M&E Workbook is reviewed during Steering Group meetings and the progress recorded in the workbook is the basis for the responses provided in this report (see DPLUS084_M&E_Workbook_Implementation_AR2.pdf under Supplementary Materials).

4.3 Progress towards the project Outcome

The Project outcome, as defined in the original application is:

> "BVI's forest habitats resilient to natural disasters and critical for supporting threatened species are well understood and spatially identified; globally threatened species secured *ex-situ* to mitigate against future disasters."

As the project was paused for all but one month of the second year, there is still a great deal of work to undertake towards the project Outcome. However, we are satisfied with the progress we have achieved to date and, the impacts of the ongoing Covid-19 pandemic notwithstanding (see section 13, below), are still on schedule to achieving our desired Outcome according to our revised project delivery timeline.

Outcome indicator 0.1: No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project..

Outcome indicator 0.2: No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project..

New *ex-situ* collections of eight globally threatened plant species were established in the first year of the project, seven as banked seed collections, some of which are additionally being grown on from sown seed in the plant nursery at JRONBG, and one species propagated from wild-collected vegetative cuttings (Hamilton *et al.*, 2020). This exceeds the target set and includes three of the exemplar plant species; however, these collections do not provide adequate coverage of the species' genetic diversity nor enough material for population augmentation or re-introduction activities. Therefore, the project team will continue to develop *ex-situ* collections, especially for the exemplar plant species, over the lifetime of the project, securing as much genetically diverse material from different localities as possible.

4.4 Monitoring of assumptions

Assumption 0.1: Weather conditions allow boat access and fieldwork to be completed.

This risk continues to hold true for future fieldwork; however, weather is not the only issue to be considered as the global pandemic has shown that travel restrictions from health emergencies can also impact the project team's ability to undertake fieldwork.

Assumption 0.2: All target species can be reproduced from cuttings or produce enough seeds during the lifetime of the project to allow safe collection for storage and not impact the future survival of native populations.

The seven species secured in *ex-situ* seed bank collections to date have all produced sufficient seeds while staying within safe collecting limits. *Zanthoxylum thomasianum* is the only threatened species for which vegetative propagation has been attempted during the past year, and successfully so. This assumption still holds true for other species yet to be targeted.

Assumption 1.1 Team able to visit all sites to collect data unhampered by weather conditions.

See Assumption 0.1 about sea swell. Unfortunately, extreme weather events (e.g. hurricanes) or inclement weather conditions are no longer the only threat to conducting data collection as the global pandemic has revealed. This risk continues to hold true for future fieldwork.

Assumption 1.2 NPTVI boat/local ferries operational and able to transport team to field sites.

All known BVI subpopulations of *Zanthoxylum* have now been visited and samples successfully collected, with no transport problems.

Assumption 1.3 BVI NGIS continues to be maintained as the national GIS repository.

The BVI NGIS has been maintained during the first 2 years of the project. This assumption still holds true through project completion.

Assumption 2.1 Team able to visit all sites to collect data unhampered by weather conditions.

See responses to Assumptions 0.1 and 1.1.

Assumption 2.2 Adequate archives exist and are accessible.

Archives were not accessible during Year 2 due to Covid-19 pandemic; however, the project was paused for all but 1 month. This assumption still holds true through project completion.

Assumption 2.3 BVI NGIS continues to be maintained as the national GIS repository.

See response to Assumption 1.3.

Assumption 3.1 Adequate seed can be sourced for germination experiments.

For the two germination experiments started in Year 1, adequate quantities of seeds have been available without exceeding safe collecting limits. This assumption remains true for the project to be able to conduct future experiments.

Assumption 3.2 Target species can be reproduced from cuttings or produce sufficient seeds.

Vegetative propagation and seed banking have proved to be appropriate *ex-situ* conservation approaches for the species targeted to date. The assumption still holds true for other species not yet targeted.

Assumption 4.1 ResearchGate website continues to be maintained and available for free public use.

Reports pertaining to the progress of this project have been successfully uploaded to ResearchGate and remain accessible. This assumption still holds true through project completion.

Assumption 4.2 NPTVI staff available to attend training.

Training was not possible during Year 2 due to Covid-19 pandemic; however, the project was paused for all but 1 month. This assumption remains true through project completion. Staff turnover is a concern with one member of staff having left NPTVI and the planned retirement of three Wardens later this year. See Section 10, below.

Assumption 4.3 Specialists and Steering Group able to agree training successfully delivered and capacity built.

Documents and reports pertaining to the training provided to date have enabled the Steering Group to agree training successfully delivered and capacity built during Year 1 (Heller and Hamilton, 2020a). This assumption remains true through project completion.

Assumption 4.4 ResearchGate website continues to be maintained and available for free public use.

See Assumption 4.1, above.

Assumption 5.1 ResearchGate website continues to be maintained and available for free public use.

See Assumption 4.1, above.

5. Project support to environmental and/or climate outcomes in the UKOTs

The main stakeholder is the local project partner, NPTVI, which is BVI's statutory body with responsibility for managing terrestrial and marine biodiversity within protected areas. The outputs of this project will provide NPTVI with direct evidence and the tools required to advocate for the BVI's forest habitats to be actively and sustainably managed and protected in a way that delivers resilience. This can be through recommendations of new sites for inclusion in the protected area network, GIS mapping of sensitive forest habitats that provide ecosystem services to reduce the impacts of natural disasters, and the submission of technical advice to the Town and Country Planning (TCP) Department during the development planning process to reduce land clearance beyond the construction area.

The Ministry of Natural Resources, Labour and Immigration (MNRLI) and Government Departments will be engaged during the project through participation in workshops and press events and circulation of project reports. The MNRLI will benefit through access to updated occurrence information for globally threatened flora and fauna and locations of forest habitat critical for globally threatened flora and fauna to inform the development of the local biodiversity legislation. The project will benefit the VI Government as it provides information to the NGIS that is required across multiple departments for their management activities. The BVI Tourist Board will benefit as the variety of plants and collections at the J.R. O'Neal Botanic Garden will be enhanced to provide a unique visitor experience. Resilient forests strengthen the BVI's green economy.

The project is contributing to the Global Strategy for Plant Conservation (GSPC) targets, especially:

- Objective 1, Targets 1, 2 & 3;
- Objective 2, Targets 8 & 10;
- Objective 4, Target 14;
- Objective 5, Targets 15 & 16

The project is helping the BVI to achieve progress towards several of the UN Sustainable Development Goals related to the topics Small Island Developing States (SIDS), Gender equality and women's empowerment, Climate change, Capacity Development, Biodiversity and ecosystems, Forests and Science:

- Goal 5, particularly the targets 5.5 and 5.b;
- Goal 13, particularly the targets 13.1, 13.3 & 13.b;
- Goal 15, particularly the targets 15.5 & 15.6
- Goal 17, particularly the targets 17.6, 17.9 & 17.8.

The project also contributes to NPTVI's legal obligations under the National Parks Act 2006, Section 4, namely its duties to carry out scientific research and promoting public understanding of the Virgin Islands' natural heritage.

6. OPTIONAL: Consideration of gender equality issues

The project team is very balanced in terms of gender, at all levels, across the field team and Steering Group, and those receiving training. The project is ensuring shared authorship of reports/outputs (see References) and shared responsibilities for undertaking and delivering project activities which are demonstrated in field reports available on ResearchGate. The project team have modified the project M&E workbook to enable the disaggregation by gender for training delivered and we will also use identifiers across our project outputs (e.g., participants in activities and authors of reports) in response to the AR1R reviewer's comments.

7. Monitoring and evaluation

Monitoring and Evaluation has been explicitly included as an Output in the project logframe. One of the first activities of the project was to form a project Steering Group and agree a Monitoring and Evaluation plan that engages all partners in M&E. Quarterly meetings provide the opportunity to evaluate progress against the project logframe and make decisions on project implementation, making changes as necessary to version-controlled documents, see also responses for Output 5 under sections 4.1 and 4.2. The M&E process has been designed to review progress quarterly enabling the implementation of the project to be adaptive. Outcome-level indicators and means of verification that are logically and directly linked to the outputs have been chosen to ensure the impact intended. We have visualised this as:

Accessible species and habitat data + *ex-situ* collections + capacity building → effective management of resilient habitats that support threatened species.

Although scheduling meetings when all members of the Steering Group are available and the technical hurdles of conducting effective meetings online can be challenging – particularly during the Covid-19 pandemic, the M&E system adopted by the project is proving to be effective and good communications and discussion fora have been maintained.

8. Lessons learnt

As mentioned in section 7, scheduling meetings when all members of the Steering Group are available and the technical hurdles of conducting effective meetings online has proved challenging. To address these challenges in Year 1, we started using Doodle to arrange meeting times and agreed a single, free to use platform, Skype, for holding meetings remotely. This has continued to work well and is now an established process for arranging and conducting meetings.

Global pandemics are very disruptive to travel and threaten the stability of institutions reliant on tourism for financial security! Governments need to provide greater financial support for institutions responsible for leading biodiversity conservation programmes. Better financial security would help mitigate against some of the impacts of disruption to projects. Such risks need to be better characterised to inform project planning in future.

9. Actions taken in response to previous reviews (if applicable)

AR1 Comments and queries for Project Leader

No. 1
Under section 5 (support to environmental and/or climate change outcomes) it would be useful to list a few more of the main statutory instruments (e.g. national biodiversity strategies) and multi-lateral responsibilities this project is helping the BVIs to deliver.

Actions taken
Additional text has been added to section 5 specifically highlighting the GSPC, UN SDGs and the National Parks Act 2006, to which the project is relevant.

No. 2
Please provide a summary of activities disaggregated by gender where that makes sense *e.g.* training delivered, local staff hires *etc*.

Actions taken
No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project; however, the project team have modified the project M&E workbook to enable the disaggregation by gender for training delivered, participants in activities and authors of project outputs in response to the AR1R reviewers comments. This was done by adding brackets following individuals' names to denote gender with M = Male and F = Female. Evidence is provided in this report and under the Supplementary Materials in DPLUS084_M&E_Workbook_Training_AR2.pdf

No. 3
The 3-year Project planned to establish *ex situ* collections for five threatened species. Collections for eight species have already been established in the first year. Please provide a summary indication of the extent to which the project considers each collection to be complete or sufficient.

Actions taken
A brief summary of the limitations of the *ex-situ* collections has been added to section 4.3. These limitations are being explored and will be documented in the final report for the complementary Darwin COVID-19 Rapid Response Round project CV19RR01.

10. Other comments on progress not covered elsewhere

Despite the loss of Kew MSc student projects, two new projects (MSc student Michalla Friis [F] & Postdoc Dr. Alwin A. Hardenbol [M]) working with Dr Bo Dalsgaard [M] at the University of Copenhagen have been engaged during year 2 and are actively working on projects that will provide useful data and results in Year 3 toward the DPLUS084 Outcome.

Unfortunately, Natasha Harrigan [F] left NPTVI in March 2021; however, NPTVI were able to quickly recruit Creightanya Brewley [F] who had been a regular volunteer and previous intern that is familiar with the *ex-situ* collections and has fieldwork experience with the DPLUS084 project team. However, this is for four months only as Ms. Brewley will be returning to study in the Summer.

11. Sustainability and legacy

The project activities that took place in Year 1 and all the project outputs will have a legacy impact beyond the life of the project, especially the work undertaken for Output 3: development of *ex-situ* collections and Output 4: capacity building. The legacy of Outputs 1 & 2 will be seen through the availability of species census and habitat data for making informed management decisions and informing recovery, mitigation and planning activities. This will be achieved through incorporation of project compiled data into the BVI National Geographic Information

System (NGIS). The project outputs will also be invaluable in supporting the dissemination of information to the wider BVI community, with NPTVI's goal to make this research accessible to all sectors of society, from Government decision makers to students and visitors. New information is to be incorporated into pages of the NPTVI website and other educational materials. The annual Iguana Festival event on Anegada has been identified as an important outlet for communicating the project's outputs to the wider community. This is an all-day outdoor iguana ecology engagement event open to all citizens of the BVI, and an ideal forum for raising awareness of the project's activities.

The project Steering Group feel that the exit strategy is still valid.

12. Darwin identity

The Darwin Initiative has been acknowledged as the funder of this project wherever information on the project has been presented in the public domain. The Kew team make regular use of Twitter, from the @KewUKOTs account, and individual team member's accounts, tagging posts with @Darwin_Defra, #KewBVI and #DPLUS084 to ensure that the project has a distinct identity through that channel.

Likewise, all reports and documents produced for the project have the Darwin Initiative prominently acknowledged as the funder, including the Darwin Initiative logo. The project has an open access page on ResearchGate, where project reports can be accessed and downloaded.

The Darwin Initiative has long been a supporter of environmental and conservation initiatives in the BVI, having funded several projects in the past 25 years. The role the Darwin Initiative has in enabling the positive impact of this work is well recognised, especially within government agencies, local NGOs and environmentally engaged members of the public. Kew, NPTVI and FWZ are pleased to ensure that this legacy is widely acknowledged.

13. Impact of COVID-19 on project delivery

The global pandemic and restrictions which the UK, the USA and the BVI governments have imposed, resulted in Kew, FWZ and NPTVI not being able to operate as normal with activities temporarily ceased in all three institutions for varying, but significant, periods of time. The team could not carry out the activities needed at Kew and BVI to deliver outputs, i.e. fieldwork to collect data (Activities 1.1 & 2.2), samples (Activity 1.2) and plant material (Activities 3.1 & 3.3), or training (Activity 4.2). Kew, NPTVI and FWZ undertook no-cost administrative tasks and M&E (Output 5) including email communication about the status of project staff, working arrangements and national restrictions; options for project delivery; drafting of a change request and a formal Steering Group meeting in October 2020 with minutes produced (Activity 5.3).

The impacts of COVID-19 on institutional funding, particularly for Kew and NPTVI, and travel, both international and inter-island, have been unprecedented. With international and inter-island travel severely curtailed, the pandemic impacted conservation research and practice, with progress on DPLUS084 halted. Collaborative monitoring and survey work were not possible and significant challenges in the maintenance and development of *ex-situ* conservation collections of flora and fauna were experienced.

Kew project staff were furloughed for varying periods and percentages of time from April 2020 through March 2021 under the UK Government's Job Retention Scheme and had limited access to offices and labs leading to home working for most of the financial year and necessary postponement of planned lab work. International travel was not allowed for Kew staff at any point during the financial year. These impacts resulted in cancelled fieldwork and the loss of two Kew MSc student projects that were due to provide significant data and results for the project. A major field trip missed in June 2020 would have enabled two MSc student projects to be undertaken and supply critical data, samples acquired for genetic analyses and data

collected by the project team (Outputs 1 & 2) to inform overall field methodology for the remainder of the project, collect plant material (Output 3) and contribute to the primary project outcome.

The NPTVI lost most of its recurrent funding due to the loss of tourism related income as the BVI borders were closed from March until December 2020 due to the COVID-19 pandemic. This resulted in staff hours being cut to four days per week, no inter-island travel for fieldwork due to insufficient funds and very limited *ex-situ* and *in-situ* conservation activities that require the purchase of supplies, especially the running costs of the conservation nursery at the JR O'Neal Botanic Gardens.

The impacts of Covid-19 on FWZ finances were less pronounced due to grant income and limited impact to gate receipts. Staff had limited access to offices leading to home working for much of the financial year. International travel was not allowed for FWZ staff at any point during the financial year.

Due to the impacts of COVID-19 on institutional funding and travel, the project steering group agreed that the project would need to seek an 11-month pause in all funded activity through a formal change request (see DPLUS084 Change Request Submission DEC2020.pdf) and additional funding needed to be sought to support project funded staff and to undertake *ex-situ* and *in-situ* conservation activities (Heller and Hamilton, 2020b). Kew were able to move the Co-PI who is fully funded by the Darwin Plus project onto another project while partially furloughed to remove the financial burden from the DPLUS084 budget.

Kew submitted an application for funding under the Darwin Plus COVID-19 Rapid Response Round to secure funds for 2020-21 Q4 that enabled the project team to assess the impacts and consequences of the pandemic on conservation in the BVI. Between 01 January and 31 March 2021 (Year 2 Q4), the project team were actively involved in a Darwin COVID-19 Rapid Response Round project to investigate the *Impacts and consequences of Covid-19 on conservation in the BVI* (NPTVI, Royal Botanic Gardens Kew and FWZ, 2021). The project press release is available here. The Covid-19 project has enabled these assessments to be undertaken without drawing resources from the current project and will inform actions for the current project ensuring that it is able to progress rapidly to meet its targets and new timeline.

Due to the economic burden caused by Covid-19, NPTVI also secured funding from the Mohamed bin Zayed Species Conservation Fund to support a three-month project entitled *Ensuring the continued conservation of four endangered plant species in the British Virgin Islands (BVI)* (project # 202525294) to enable staff to undertake *ex-situ* and *in-situ* conservation activities impacted by the loss of funding from international tourism during the pandemic. Funding for this project was received in April 2021 and will enable fieldwork to continue that complements the DPLUS-084 project.

The project team will be required to consider alternative options for collection of samples, lab work, data gathering and training due to the impacts of Covid-19 which will require considerable input from the project team. This coupled with the administrative burdens caused by the impacts of Covid-19 across all parts of Kew and NPTVI to deal with the fallout from the pandemic on projects and institutional finances means that we are unable to operate under normal parameters and were forced to request a change request.

A formal change request was made to Darwin to postpone the funded elements of the project from 01 May 2020 with no alteration to the log frame and transfer all budget lines forward such that expenditure begins again on 01 April 2021 resulting in a new project end date of 31 March 2023 (see DPLUS084 Change Request Submission DEC2020.pdf under the Supplementary Materials). The request was agreed by Darwin in writing (see DPLUS084 Change Request Accepted Email E Young 08FEB2021.pdf under the Supplementary Materials).

14. Safeguarding

Please tick this box if any safeguarding violations have occurred during this financial year. ☐

If you have ticked the box, please ensure these are reported to ODA.safeguarding@defra.gov.uk as indicated in the T&Cs.

Projects funded through Darwin Plus must fully protect vulnerable people all of the time, wherever they work. All projects are expected to provide a safe and trusted environment which safeguards anyone who the organisation has contact with, including beneficiaries, project staff, volunteers, and downstream partners. In order to provide assurance of this, projects are required to have appropriate safeguarding policies in place. **Please outline and/or provide any updates on your lead organisation's policies or procedures, outlining how you have ensured all project action (including activities led by downstream partners) has applied these principles in practice. Please provide any information on how safeguarding concerns relevant to your project have been managed during the reporting year, and how future risks will be mitigated.**

Kew, the lead organisation for this project, has two policy documents pertinent to this matter: a staff Code of Conduct, which forms part of staff contract of employment at Kew, and a safeguarding policy. The latter is publicly available on Kew's website: https://www.kew.org/about-us/reports-and-policies/safeguarding.

The Code of Conduct outlines Kew staff roles and responsibilities (professional, legal, ethical), and protocols for reporting improper conduct, with further guidance on Kew's stance on bullying and harassment.

Though the main focus of Kew's safeguarding policy is safeguarding children and vulnerable adults visiting Kew and Wakehurst, and furthermore, this project does not have a significant component that is working directly with communities or informant networks, there are a number of articles relevant to carrying out this project, namely: 5.6 (compulsory awareness training for all staff, volunteers and students); 5.11 (safeguarding and social media); 5.15 (overseas work and safeguarding).

The project has not encountered any safeguarding issues nor have any concerns been raised. The steering group is aware of the safeguarding requirements including keeping a detailed register of safeguarding issues; have clear investigation and disciplinary procedures; have a whistle-blowing policy; and have in place a Code of Conduct for staff and volunteers. Kew's safeguarding policy has been shared with our partners, NPTVI and FWZ, and was recirculated in response to this report (see DPLUS084 Safeguarding Email 08APRIL2021.pdf under Supplementary Materials).

15. Project expenditure

The 2020-21 budget was revised from £[redacted] to £[redacted] (see DPLUS084 Change Request Submission DEC2020.pdf under the Supplementary Materials) and agreed by Darwin through a formal change request (see DPLUS084 Change Request Accepted Email E Young 08FEB2021.pdf under the Supplementary Materials).

Table 1: Project expenditure <u>during the reporting period</u> (1 April 2020 – 31 March 2021)

Project spend (indicative) in this financial year	2020/21 D+ Grant (£)	2020/21 Total actual D+ Costs (£)	Variance %	Comments (please explain significant variances)

Staff costs	[redacted]
Consultancy costs	
Overhead Costs	
Travel and subsistence	
Operating Costs	
Capital items	
Others (Please specify)	
TOTAL	

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2020-2021

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
Impact The status of the BVI's forests, and the threatened species and ecosystem services they support, is improved through evidence-based recovery, management and restoration, and more resilient to future natural disasters.		In the second year of the project, we made very little progress towards the outcomes that will enable the project to achieve its desired impact as shown in sections 4.1, 4.2, 4.3 and below due to the impacts of the Covid-19 pandemic (see also section 13).	
Outcome BVI's forest habitats resilient to natural disasters and critical for supporting threatened species are well understood and spatially identified; globally threatened species secured *ex-situ* to mitigate against future disasters.	0.1 Locations of forest habitat critical for globally threatened flora and fauna on four islands identified, mapped and GIS layer produced 0.2 Live plants and/or seeds of at least five globally threatened plant species secured at the J.R. O'Neal Botanic Garden	0.1 No fieldwork possible due to Covid-19 restrictions. 0.2 No fieldwork possible due to Covid-19 restrictions.	0.1 Further forest surveys to be undertaken on four islands and data collated in GIS. 0.2 Further *ex-situ* collections secured, including remaining two exemplar plant species, *Myrcia neokiaerskovii* (syn. *Calyptranthes kiaerskovii*), *M. neothomasiana* (syn. *C. thomasiana*).
Output 1. Detailed census of globally threatened species (five plants and 2 animals) and population ecology profiled	1.1 Detailed quantitative surveys of known populations and unsurveyed areas 1.2 Population genetics of BVI populations of *Z. thomasianum* researched 1.3 GIS occurrence layers of	1.1 No fieldwork possible due to Covid-19 restrictions. 1.2 Preparatory work for the genetic analyses of Zanthoxylum samples assembled to date was undertaken, including securing export permits from USFWS, receiving all collected samples at Kew, organising samples and cleaning data. Evidence is presented in the tables of samples collected appended to fieldwork reports from the BVI, USVI and Puerto Rico, see list of evidence cited for Activity 1.2 under section 4.1.	

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
	globally threatened species produced	1.3 No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.	
Activity 1.1 Fieldwork to survey globally threatened species		No fieldwork possible due to Covid-19 restrictions.	Further sites will be surveyed for threatened trees and reptiles, with detailed quantitative surveys of known populations and unsurveyed areas to be undertaken on Anegada, Tortola, Virgin Gorda and Fallen Jerusalem.
Activity 1.2 Genetic analysis of Z. thomasianum populations.		Leaf tissue samples collected from wild plants for fine-scale genetic structure analysis of the species and sampling of historic herbarium specimens for phylogenomic analysis all received at Kew and accessioned.	Final gaps in phylogenomic sampling of herbarium specimens will be filled. DNA extraction of all samples completed and undertake microsatellite (population studies) and target capture (phylogenomic) analysis of *Zanthoxylum* samples.
Activity 1.3 Produce GIS occurrence layers for globally threatened species		No fieldwork possible due to Covid-19 restrictions.	All new field data will be cleaned and added to the project GIS.
Output 2. Habitat requirements of globally threatened species (five plants and 2 animals) characterised	2.1 Quantitative forest surveys undertaken within and outside of globally threatened species habitat on four islands 2.2 Study of vegetation history on	2.1 No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project. 2.2 No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the	

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
	four islands completed 2.3 GIS layers produced of forest plot data and an expert reviewed layer showing locations of forest habitat critical for globally threatened flora and fauna	project. 2.3 No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.	
Activity 2.1 Establish experimental design for vegetation survey plots		Activity completed in Year 1.	No further activity required.
Activity 2.2 Field work to gather vegetation and habitat data		No fieldwork possible due to Covid-19.	Rapid Botanical Surveys will be carried out at a broad range of sites across Anegada, Tortola, Virgin Gorda and Fallen Jerusalem.
Activity 2.3 Consult archives, historical records for land use history and maps		No activity possible due to Covid-19.	Archives in the BVI will be consulted for evidence of historical land use.
Activity 2.4 Produce GIS layers of forest plot data and forest habitat critical for globally threatened flora and fauna		No activity possible due to Covid-19.	All new field data will be cleaned and added to the project GIS.
Output 3. *Ex-situ* collections of five globally threatened plants enhanced to support conservation.	3.1 Seed quality and storage behaviour studies completed for five plant species 3.2 Seed or cuttings from 5 globally threatened plants held at J.R. O'Neal Botanic Gardens for propagation	3.1 Data were collected from seed studies, but no further activity was possible due to Covid-19. Data will be processed once the project formally restarts in April 2021. 3.2 Data were collected from propagated material, but no further activity was possible due to Covid-19. Data will be processed once the project formally restarts in April 2021.	

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
Activity 3.1 Collect seed material of five globally threatened plant species from wild populations for *ex-situ* conservation and seed storage behaviour studies		No activity possible due to Covid-19.	Seed collections of threatened species will be made as plants come into fruit and seeds can be harvested in Year 3.
Activity 3.2 Undertake seed storage behaviour studies		Seed storage behaviour study data recorded for *B. eggersii*, but no further activity was possible due to Covid-19.	Data collected in Year 2 will be processed. Seed storage behaviour studies will be undertaken on further threatened species as seed becomes available, with high priorities species being *Z. thomasianum*, *M. neokiaerskovii* and *M. neothomasiana.*
Activity 3.3 Collect plant material from wild populations for vegetative propagation and *ex-situ* conservation		Data were collected from propagated material, but no further activity was possible due to Covid-19.	Data collected in Year 2 will be processed. Further cuttings of threatened species will be made in Year 3 with high priorities species being *Z. thomasianum*, *M. neokiaerskovii and M. neothomasiana*.
Output 4. Capacity building delivered to enable NPTVI to establish new ex-situ collections of globally threatened plant species, identify suitable habitat for those species and implement	4.1 Training and Evaluation Plan produced 4.2 Training of four NPTVI staff in germination experiments, plot-based quantitative survey techniques, presence/absence survey and species identification	4.1 No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project. 4.2 No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.	

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
management to enhance resilience	delivered by Kew and FWZ specialists 4.3 Training of four NPTVI staff evaluated by Kew and FWZ specialists and reviewed by Steering Group 4.4 Final report 'Training and Evaluation' section produced	4.3 No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project. 4.4 Details of the training delivered to date has been documented in meeting minutes (see Output 4 for evidence provided) and project M&E Workbook, to be used as evidence for the final Training and Evaluation report.	
Activity 4.1 Training and Evaluation Plan produced		Training and evaluation plan produced and updated as appropriate through Steering Group approval.	The Training and Evaluation Plan will be updated as necessary in order to provide the most effective capacity building.
Activity 4.2 Training of four NPTVI staff in germination experiments, plot-based quantitative survey techniques, presence/absence survey and species identification delivered by Kew and FWZ specialists		No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.	Training of more NPTVI staff is planned, both during joint fieldwork in the BVI, as well as at FWZ and Kew where good use can be made of the expertise and facilities available at each location.
Activity 4.3 Training of four NPTVI staff evaluated by Kew and FWZ specialists and reviewed by Steering Group		No new activity beyond what was reported by Hamilton *et al.* (2020) in DPLUS084 AR1 was possible due to the impacts of Covid-19 on the project.	Further training is planned that will be evaluated by specialists and reviewed by Steering Group.
Activity 4.4 Produce Final report 'Training and Evaluation' section		Training updated in project M&E Workbook for final report	Details of training delivered will continue to be documented for

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
		development.	the final report.
Output 5. Monitoring and Evaluation and project reporting	5.1 Monitoring and Evaluation Plan produced 5.2 Quarterly reports produced 5.3 Steering Group meetings held, and minutes produced 5.4 Final report produced	5.1 A Monitoring and Evaluation Plan has been agreed by the project steering group and updated in February 2020, see Appendix 7 of Dani Sanchez *et al.* (2020) . 5.2 M&E Workbook circulated prior to Steering Group meetings which were minuted, see Output 5 under section 4.2 for list of evidence provided. 5.3 Steering Group meetings held in April and October 2020 and an end-of-year meeting in April 2021. Minutes compiled and circulated to project team, see Output 5 under section 4.2 for list of evidence provided. 5.4 Progress against project activities and milestones have been recorded in a M&E Workbook that was used to complete this report and will be used for final report development.	
Activity 5.1 Produce Monitoring and Evaluation Plan		Monitoring and Evaluation Plan agreed and updated as appropriate through Steering Group approval.	The Monitoring and Evaluation Plan will be updated as necessary in order to manage the project adaptively.
Activity 5.2 Produce quarterly reports		M&E Workbook circulated prior to Steering Group meetings to enable quarterly updates.	Meetings and project activities will continue to be fully documented in M&E Workbook, minutes and reports and circulated among the project team.
Activity 5.3 Undertake Steering Group meetings and produce minutes		Steering group meetings held in April and October 2020 and an end-	Project progress will continue to be reviewed during regular

Project summary	Measurable Indicators	Progress and Achievements April 2020 - March 2021	Actions required/planned for next period
		of-year meeting in April 2021. Minutes compiled and circulated to the project team.	Steering Group meetings with necessary actions identified. and tracked
Activity 5.4 Produce final report		Project activities recorded in M&E Workbook for final report development.	Project activities will continue to be recorded in M&E Workbook for final report development.

Annex 2: Project's full current logframe

A minor correction was made to Assumption 2.2 for AR1. The AR1 reviewer agreed that the change did not require a change request or confirmation from Darwin (see DPLUS084 AR1R.pdf in Supplementary Materials).

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact: The status of the BVI's forests, and the threatened species and ecosystem services they support, is improved through evidence-based recovery, management and restoration, and more resilient to future natural disasters.			
Outcome: BVI's forest habitats resilient to natural disasters and critical for supporting threatened species are well understood and spatially identified; globally threatened species secured ex-situ to mitigate against future disasters.	0.1 Locations of forest habitat critical for globally threatened flora and fauna on four islands identified, mapped and GIS layer produced 0.2 Live plants and/or seeds of at least five globally threatened plant species secured at the J.R. O'Neal Botanic Garden	0.1 Summary report published on ResearchGate 0.2 UKOTs Species and Specimens Database for plant data and GIS layers in BVI NGIS for all taxa and plot data	0.1 Weather conditions allow boat access and fieldwork to be completed 0.2 All target species can be reproduced from cuttings or produce enough seeds during the lifetime of the project to allow safe collection for storage and not impact the future survival of native populations
Output 1. Detailed census of globally threatened species (five plants and 2 animals) and population ecology profiled	1.1 Detailed quantitative surveys of known populations and unsurveyed areas 1.2 Population genetics of BVI populations of Z. thomasianum researched 1.3. GIS occurrence layers of globally threatened species produced	1.1 Raw field data available to partners and fieldwork reports available on ResearchGate 1.2 Population genetic data summarised in Final report available on ResearchGate 1.3.BVI NGIS	1.1 Team able to visit all sites to collect data unhampered by weather conditions 1.2 NPTVI boat/local ferries operational and able to transport team to field sites 1.3 BVI NGIS continues to be maintained as the national GIS repository
Output 2. Habitat requirements of globally threatened species (five	2.1 Quantitative forest surveys undertaken within and outside of globally threatened species habitat	2.1 Forest survey documented in fieldwork reports available on	2.1 Team able to visit all sites to collect data unhampered by weather

Project summary	Measurable Indicators	Means of verification	Important Assumptions
plants and 2 animals) characterised	on four islands 2.2 Study of vegetation history on four islands completed 2.3 GIS layers produced of forest plot data and an expert reviewed layer showing locations of forest habitat critical for globally threatened flora and fauna	ResearchGate 2.2 Report on vegetation history of four islands available on ResearchGate 2.3 BVI NGIS	conditions 2.2 Adequate archives exist and are accessible 2.3 BVI NGIS continues to be maintained as the national GIS repository
Output 3. Ex-situ collections of five globally threatened plants enhanced to support conservation	3.1 Seed quality and storage behaviour studies completed for five plant species 3.2 Seed or cuttings from 5 globally threatened plants held at J.R. O'Neal Botanic Gardens for propagation	3.1 Results of study available on ResearchGate 3.2 UKOTs Online Herbarium database and Final report listing accession available on ResearchGate	3.1 Adequate seed can be sourced for germination experiments 3.2 Target species can be reproduced from cuttings or produce sufficient seeds
Output 4. Capacity building delivered to enable NPTVI to establish new ex-situ collections of globally threatened plant species, identify suitable habitat for those species and implement management to enhance resilience	4.1 Training and Evaluation Plan produced 4.2 Training of four NPTVI staff in germination experiments, plot-based quantitative survey techniques, presence/absence survey and species identification delivered by Kew and FWZ specialists 4.3 Training of four NPTVI staff evaluated by Kew and FWZ specialists and reviewed by Steering	4.1 Training and Evaluation Plan available on ResearchGate 4.2. Training documented in project reports available on ResearchGate 4.3 Minutes circulated to Steering Group 4.4. Final report available on ResearchGate	4.1 ResearchGate website continues to be maintained and available for free public use 4.2 NPTVI staff available to attend training 4.3 Specialists and Steering Group able to agree training successfully delivered and capacity built 4.4 ResearchGate website continues to be maintained and available for

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	Group 4.4 Final report 'Training and Evaluation' section produced		free public use
Output 5. Monitoring and Evaluation and project reporting	5.1 Monitoring and Evaluation Plan produced 5.2 Quarterly reports produced 5.3 Steering Group meetings held, and minutes produced 5.4 Final report produced	5.1 M&E Plan circulated to Steering Group 5.2. Reports published on ResearchGate 5.3 Minutes circulated to Steering Group 5.4. Report published on ResearchGate	5.1 ResearchGate website continues to be maintained and available for free public use
Activities: 1.1 Fieldwork to survey globally threatened species 1.2 Genetic analysis of Z. thomasianum populations 1.3 Produce GIS occurrence layers for globally threatened species 2.1 Establish experimental design for vegetation survey plots 2.2 Field work to gather vegetation and habitat data 2.3 Consult archives, historical records for land use history and maps 2.4 Produce GIS layers of forest plot data and forest habitat critical for globally threatened flora and fauna			

Project summary	Measurable Indicators	Means of verification	Important Assumptions
3.1 Collect seed material of five globally threatened plant species from wild populations for ex-situ conservation and seed storage behaviour studies 3.2 Undertake seed storage behaviour studies 3.3 Collect plant material from wild populations for vegetative propagation and ex-situ conservation 4.1 Training and Evaluation Plan produced 4.2 Training of four NPTVI staff in germination experiments, plot-based quantitative survey techniques, presence/absence survey and species identification delivered by Kew and FWZ specialists 4.3 Training of four NPTVI staff evaluated by Kew and FWZ specialists and reviewed by Steering Group 4.4 Produce Final report 'Training and Evaluation' section 5.1 Produce Monitoring and Evaluation Plan 5.2 Produce quarterly reports 5.3 Undertake Steering Group meetings and produce minutes 5.4 Produce final report			

16. Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	✓
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	