Darwin Plus:
Overseas Territories Environment and Climate Fund
Annual Report

Important note *To be completed with reference to the Reporting Guidance Notes for Project Leaders:*

it is expected that this report will be about 10 pages in length, excluding annexes

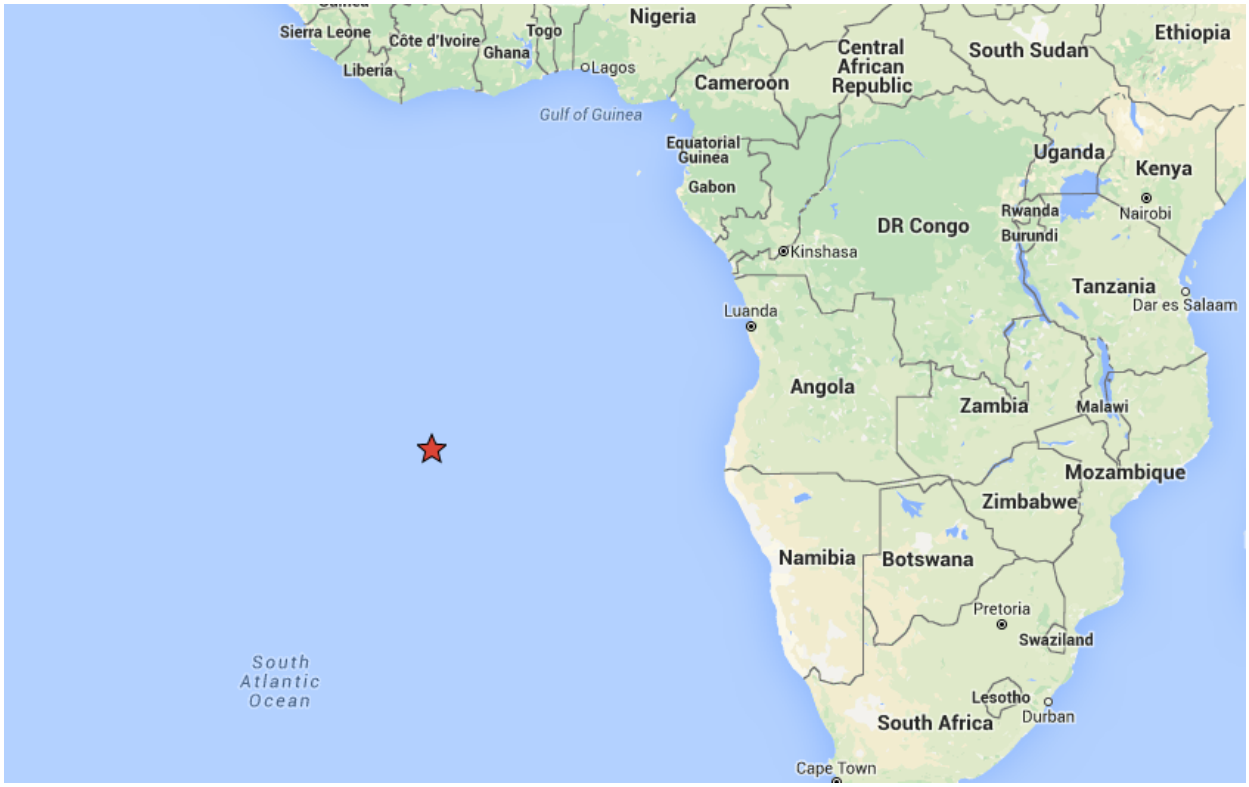
Submission Deadline: 30 April

Darwin Plus Project Information

Project Ref Number	DPLUS037
Project Title	Conserving the genetic diversity of St Helena's threatened endemic flora
Territory(ies)	St Helena
Contract Holder Institution	Royal Botanic Gardens Kew
Partner Institutions	St Helena Environmental Management Division (St Helena Government)
Grant Value	£69,247 (£61,337 2015/16)
Start/end date of project	1 April 2015 – 31 March 2017
Reporting period (e.g., Apr 2015-Mar 2016) and number (e.g., AR 1,2)	April 2015-March 2016
Project Leader Name	Thomas Heller
Project website/Twitter/Blog etc	https://storify.com/KewUKOTs/conserving-the-genetic-diversity-of-st-helena-s-th
Report author(s) and date	Thomas Heller, Marcella Corcoran & Vanessa Thomas-Williams 29th April 2016

1. Project Overview

This project is focussed on the conservation of the threatened endemic flora of St Helena in the South Atlantic Ocean, an isolated island more than 1000 miles from the coasts of Angola and Namibia.



St Helena is home to 45 endemic higher plant species, many under severe threat of extinction, with at least ten with fewer than 100 plants remaining in the wild, and several more with fragmented, small or declining ranges. *Ex-situ* material (banked seeds, plants in cultivation) are an important resource for conservation activities in St Helena, being used as a source of plants for habitat restoration and species reintroductions, as well as providing long term security for genetic diversity where the outlook for individual wild populations is uncertain. This project is seeking to improve the representation of the threatened endemics in *ex-situ* collections through a gap analysis of existing *ex-situ* collections, capacity building in seed conservation and horticulture (training and equipment), and collecting and banking seeds and spores of endemic plants.

2. Project Progress

2.1 Progress in carrying out project activities

The activities for the project are progressing well:

Activity 1.1 Data sources from Kew and St Helena have been assembled, standardised and compiled in a BRAHMS database. These data include, from Kew, seed collections banked at the Millennium Seed Bank (70 records), accessions from the Horticultural collections (45), and herbarium records (779). From EMD, data on seed collections held locally (813), as well as comprehensive records of wild populations from survey data (2591) have been included. As data on nursery accessions at EMD or other local agencies is not currently kept, these have not been included, but would be an important addition to data management to help monitoring of *ex-situ* collections in the future.

These data have been made available to staff of EMD as Microsoft Access tables and are being kept alongside EMD's existing database of locally held seed collections. BRAHMS software is not used by EMD, and limited internet connectivity makes the use of BRAHMS Online impractical. See Annex 1 for screen shots of the project BRAHMS and Access databases.

Activity 1.2 Priority lists and collecting plans have been prepared in the form of a gap analysis report, drawing on data from Activity 1.1. This includes, for each of St Helena's endemic flowering plants and ferns: a summary of *ex-situ* collections held at Kew (with notes on quality and quantity of seeds) and EMD (seed only); and a dot map showing all known wild localities on St Helena along with collection localities for all wild-provenance *ex-situ* material; a summary

of priority localities for future collections. The gap analysis is accessible here: https://goo.gl/Jvx4YH.

Activity 1.3 A DJI Phantom quadcopter drone has been acquired and a number of test flights have been made in St Helena, with the assistance of a local resident with extensive flight experience with similar equipment. However, with an unusually wet winter, there have not been any adequate windows in the weather to allow surveying using the drone to take place. With drier weather expected in the coming months, opportunities for surveying previously inaccessible sites are anticipated. See Annex 2 for photos of training and testing the drone.

Activity 2.1 Vanessa Thomas-Willams and Lourens Malan visited the UK 23rd September – 9th October 2015, to share experiences with horticultural staff at Kew and Wakehurst Place, and participate in a training course in Seed Conservation Techniques at the Millennium Seed Bank. Two days were spent at Kew, providing an opportunity to meet with Conservation Science staff, including the UK Overseas Territories team and Dr Mike Fay, head of the Conservation Genetics team. Vanessa and Lourens also spent time with Rebecca Hilgenhof, responsible for the collections of St Helena plants in Kew's Horticultural collections. An afternoon was also spent at Build Your Own Drone, who supplied the DJI Phantom quadcopter to the project and provided an hour's flying lesson to Vanessa and Lourens.

The following two weeks were spent based at Wakehurst Place, with time divided between the horticultural team headed by Joanna Wenham and the Seed Conservation Techniques course in the Millennium Seed Bank. See Annex 3 for the training timetable. While the original project plan intended for Vanessa and Lourens to receive bespoke training, the timing of their visit meant that it was sensible for them to attend relevant units of the Seed Conservation Techniques course, which coincided with their time in the UK, without compromising on the content or quality of the training.

Activity 2.2 Thomas Heller visited St Helena 6th – 21st February, to deliver in-country training and collecting support to staff with EMD's conservation nursery team. Additional training in seed conservation techniques was provided, as well as support in field work. Target populations for key species were visited and assessed for accessibility and collections made where possible. See https://goo.gl/KIkXK2 for Thomas Heller's field trip report.

Marcella Corcoran visited St Helena immediately after this, being on the island 26th February – 12th March. Marcella delivered a training programme to a large audience of staff working on the propagation of endemic plants, including participants from EMD's conservation nursery, the Peaks team, St Helena National Trust, and the St Helena Landscape and Ecology Mitigation Programme. See https://goo.gl/1QuC5R for Marcella Corcoran's trip report.

Activity 2.3 Various items of equipment have been purchased to improve the effectiveness of seed banking in-country. These include: a constant-temperature heat sealer to seal foil-laminate bags, providing a more effective seal than plastic clips for the long-term storage of seeds; an Agriculex column seed cleaner, which will help to efficiently clean the seeds of many of St Helena's endemic plants, with less risk of damage to seeds than relying on sieves alone; a DJI Phantom quadcopter drone (see Activity 1.3, above); a laboratory oven, primarily to recharge saturated silica gel (used to dry seeds), but also useful for sterilising soil and other tasks; a Gemini TinyTag datalogger with temperature and humidity probe for more accurately monitoring the moisture status of seeds; a Black & Decker portable battery-powered vacuum cleaner, to help collect seeds, especially, wind dispersed seeds of *Commidendrum* and other Asteraceae. Examples of some of this equipment in use may be seen in Thomas Heller's trip report: https://goo.gl/KIkXK2. Some items of equipment (the seed cleaner and oven) did not arrive on island until after this visit, and so are not included in the report, but evidence will be provided in future reports.

Activity 3.1 Frequent visits to the field are made by EMD staff, both through their normal routine duties, as well as specifically for seed collecting activities, whereby target species may be assessed for readiness of fruit for collecting. During Thomas Heller's visit to St Helena, several such excursions were made to the field to locate and assess populations not immediately familiar to EMD staff. See https://goo.gl/KIkXK2 for examples of such work.

Activities 3.2 to 3.5 23 collections of seeds and spores have been made for this project to date. See Annex 4 for a copy of the Notification of Transfer of material to Kew.

These include:

Two collections of *Bulbostylis lichtensteiniana*, a significant improvement in representation of this species, both in terms of size of seed collections banked at the MSB, and localities sampled.

A collection of *Carex dianae* from The Barn. Though a small collection, this is a population geographically well separated from much larger populations in the cloud forest of the central ridge, and not previously banked.

A collection of *Chenopodium helenense*, collected from cultivated progeny of a wild population at Prosperous Bay Plain, now cleared for the airport development, and not previously duplicated at the MSB.

Two new collections of *Commidendrum robustum* from Peak Dale and Peak Dale Hut, the largest remaining natural stands of this species.

A collection of *Commidendrum rotundifolium* from the field gene bank at Drummond's Point. A significant collection, with previous collections duplicated at the MSB having been very small, extremely low viability and one of which is likely the result of cross pollination with *Commidendrum spurium*.

Two collections of *Commidendrum rugosum* representing greater geographical spread of collections duplicated at the MSB.

A collection of *Commidendrum spurium* from the last remaining wild plants at Mount Vesey, an improvement in the representation of this species at the MSB.

A collection of *Eragrostis episcopulus* from Great Stone top, a population never previously sampled.

A collection of *Frankenia portulacifolia* from Cox's Battery, previously only represented at the MSB by a very small collection.

A collection of *Mellissia begoniifolia* from the last remaining wild population at Lot's Wife. The only existing wild collection of this species at the MSB was made in 1998, in which time several generations have been recruited and subsequently died.

A collection each of *Trochetiopsis ebenus* and *T. erythroxylon*, both from cultivated plants grown in isolation. These represent the only collections of these critically endangered species (the latter extinct in the wild) duplicated in the MSB where there is reasonable confidence these are not the result of inter-species pollination.

Eight collections of the endemic ferns *Asplenium platybasis* var. *platybasis*, *Ceterach haughtonii*, *Diplazium filamentosum*, *Dryopteris napoleonis*, and *Elaphoglossum furcatum*. These represent the first fern spore collections from St Helena to be banked.

All collections have been cleaned, dried and banked at EMD before duplicating at the MSB, or sent as fresh seed when sent very soon after collection. The fern collections have not been duplicated at EMD, as these are best stored in liquid nitrogen to prolong their longevity, a facility not available in St Helena. Wherever possible, when collecting from the wild, a leaf sample is also made to make available material for DNA analysis.

2.2 Project support to environmental and/or climate outcomes in the UKOT's

It is widely recognised that the native flora of St Helena today is but a tiny fragment of what once existed on the island, both in terms of numbers as well as genetic diversity. The ability of the remaining native flora to survive in the wild depends to a large extent on its fitness and adaptability to a changing environment that comes with genetic variability. It is therefore critical to the success of conservation efforts that what little genetic diversity remains is secured and utilised before any more is lost.

Through the undertaking of a gap analysis of *ex-situ* collections (Activities 1.1 and 1.2), this project is encouraging a strategic approach to future conservation work, enabling populations not previously sampled to be targeted, and highlight areas where there may be a risk of overharvesting. This approach is being implemented in the collecting programme (Activities 3.2

to 3.5), resulting in new collections that fill gaps in existing collections and therefore improve the range of material available for propagation and habitat restoration.

The achievements of EMD staff in seed conservation following a short training visit by Kew staff in 2009 have been great, as evidenced by the large number of collections stored locally. However, all of this prior work has been done with the bare minimum of equipment and training, and to a standard adequate for short-term storage of seeds only. The contribution that this project has made in the past year is to improve the capacity for seed conservation appropriate to the scale and ambition for what EMD wishes to achieve. The training Vanessa and Lourens received at the MSB in 2015 was a valuable opportunity for them to gain experience in a wider range of advanced techniques in seed conservation, and better understand which approaches were best applied to local circumstances in St Helena. The equipment supplied to EMD through this project is now enabling more efficient processing of seeds and robust application of seed conservation standards resulting in higher quality *ex-situ* collections. For example, the Agriculex column seed cleaner is enabling collections to be efficiently and sensitively cleaned, minimising damage to delicate seeds, whilst also saving processing time. The hygrometer has enabled the moisture status of seeds to be much more accurately measured, which will help ensure that viability and longevity in storage is as high as possible. Equipment alone is not sufficient to achieve high standards, and the training received is helping EMD get the most out of the facilities available to them. This applies not only to new collections being made, but also the care of existing collections, where EMD staff are able to check that banked collections are sufficiently dried and taking remedial action where necessary.

As with EMD's achievements in seed conservation, the scale of native plant nurseries in St Helena has increased markedly in recent years. The horticultural skills of Vanessa Thomas-Williams and Lourens Malan are very advanced, with many years of experience working with conservation collections in St Helena and off-island. The time spent with horticultural staff at Kew and Wakehurst Place was a valuable opportunity for the exchange of ideas in both directions, with Kew staff also gaining insights into the cultivation of St Helenian endemics. The in-country training given by Marcella Corcoran in early 2016 enabled the building of horticultural capacity in the wider EMD nursery team, as well as other interested parties in the St Helena National Trust and LEMP, all of whom need to be able to produce large numbers of plants efficiently with few resources. Specific areas where it is clear that the training will lead to improvements in the management of horticultural collections include pest management and propagation planning, with Marcella providing action plans for the different teams with advice for improving practices (see Marcella's report here https://goo.gl/1QuC5R). Improvements in these practices will provide a means of verifying the effectiveness of the training, which has only recently been completed.

2.3 Progress towards project outputs

Output 1:	Gap analysis and action plan		
	Baseline	Change recorded by 2016	Source of evidence
Indicator 1.1	Data dispersed in various formats, e.g. Kew's Seed Bank Database, UKOTs BRAHMS database, databases held in-country.	Database of *ex-situ* collections and wild populations accessible in St Helena and Kew. Gap analysis undertaken, with key populations identified for targeted collecting	See Section 2.1, Activities 1.1 and 1.2, of this report, and Annex 1, attached. The resulting gap analysis available here: https://goo.gl/Jvx4YH
Indicator 1.2	Many localities and populations never explored in detail.	Poorly known populations visited for monitoring for seed collecting.	See Section 2.1, Activities 1.3 and 3.1, of this report, and Annex 2, attached.

	Many populations only accessible by abseil or difficult climbing, impractical for routine monitoring.	EMD now equipped with DJI Phantom drone for surveying difficult to access sites. Poor weather conditions have prevented the use of the drone in the field to date.	
Output 2:	Capacity building: seed conservation and horticulture skills and equipment		
Indicator 2.1	Government staff have received some seed conservation training during a visit by Kew staff in 2009, but training in cleaning and banking techniques limited. Horticultural skills good, but will benefit from input from specialist staff working with conservation collections at MSB.	Two EMD staff (Vanessa Thomas-Williams and Lourens Malan) have received advanced training in seed conservation techniques at the Millennium Seed Bank. Horticultural staff in St Helena received training in propagation and management of conservation collections, with additional support in seed conservation also.	See Section 2.1, Activities 2.1 and 2.2, of this report, Annex 3, attached, and trip reports at https://goo.gl/KIkXK2 and https://goo.gl/1QuC5R.
Indicator 2.2	Many populations only accessible by abseil or difficult climbing, impractical for routine monitoring. Many localities and populations never explored in detail.	EMD now equipped with DJI Phantom drone for surveying difficult to access sites. Poor weather conditions have prevented the use of the drone in the field to date.	See Section 2.1, Activity 1.3, of this report, and Annex 2, attached.
Indicator 2.3	Government labs currently equipped with simple drying equipment (silica gel drying chamber, sieves) and banking facilities (two refrigerators, foil bags and plastic clips).	EMD now equipped with a constant-temperature heat sealer, an Agriculex column seed cleaner, a DJI Phantom quadcopter drone, a laboratory oven, a Gemini TinyTag datalogger with temperature and humidity probe, a Black & Decker portable battery-powered vacuum cleaner.	See Section 2.1, Activity 2.3, of this report.
Output 3:	*Ex-situ* collections		
Indicator 3.1	70 collections representing 27	16 new collections representing 12 of St Helena's endemic	See Section 2.1, Activities 3.2-3.5, of

	endemic species banked at MSB. 368 wild origin collections representing 28 endemic species banked in St Helena	seed-bearing species made and banked at EMD and MSB. A further 20 seed-bearing species to target.	this report, and Annex 5, attached.
Indicator 3.2	No ferns banked at MSB.	Spores of 5 endemic fern species now banked at MSB. A further 7 fern species to target.	See Section 2.1, Activities 3.2-3.5, of this report, and Annex 4, attached.
Indicator 3.4	33 collections of fewer than 500 seeds at MSB.	Seed numbers not yet calculated for new collections. Spore collections all likely to be at least 5000 spores each.	
Indicator 3.5	Collections of *Trochetiopsis*, *Wahlenbergia*, and *Commidendrum* at MSB not known to be made under controlled conditions.	New collections of *Trochetiopsis ebenus*, *T.erythroxylon*, and *Commidendrum rotundifolium* grown in isolation now banked at MSB.	See Section 2.1, Activities 3.2-3.5, of this report, and Annex 4, attached.

Overall progress towards the project outputs has been good, with the data consolidation and gap analysis completed. Capacity building is also completed, in terms of equipment and training delivered. It had been anticipated that the quadcopter would have been in deployment by this stage in the project, but this has not been possible with the weather conditions experienced since the drone became available on the island in November 2015. Relatively dry and calm conditions are necessary, and these have been infrequent in the past few months. The experiences of the owners of similar equipment on the island suggest that this is not usual, and better conditions for conducting surveys are expected in the coming months.

Making new seed and spore collections has begun, with a total of 24 new collections made for the project, representing 17 of the 45 endemic species. The remaining year of the project will be focussed on targeting the remaining 27 species for additional collections. One endemic fern species produces green spores and is not expected to be bankable.

2.4 Progress towards the project outcome

"Output 1 will ensure that collecting is done in a targeted manner and thus new *ex-situ* collections will be a valuable addition to those already existing, capturing a greater range of threatened genetic diversity". The gap analysis is proving to be a useful exercise in directing collecting efforts for this project. Combining data from recent comprehensive field surveys with known *ex-situ* collections has been revealing. While it was known at the beginning of the project that EMD had amassed significant numbers of seed collections in their local seed bank, (of cultivated and wild origin), with very good coverage of the most well-known and largest populations, the gap analysis shows that for many of the endemics, a number of sites have not previously been sampled (see gap analysis https://goo.gl/Jvx4YH). These gaps should be high priorities for targeted collecting because, although few of the species have been the subject of genetic analysis, there is a strong likelihood that these isolated populations harbour genetic variation not present in 'core' populations. Several of these gaps have been addressed through collecting for this project so far, and continuing work will work towards filling more (see Annex 4 for Notification of Transfer of material sent to Kew, along with Activities 3.2 to 3.5 in Section 2.1, above). However, the nature of these populations presents challenges,

with many in locations difficult to access (and hence previously overlooked by seed collecting teams). They also tend to very small populations, making it difficult to secure larger collections without risking harm to the wild population (see Indicator 3.4, above). It is hoped that the use of the drone will help to discover new populations of endemic plants, given the number of such discoveries in recent years without this equipment and the large number of inaccessible sites.

"Output 2 will ensure that conservation activities are carried out according to best practice during the lifetime of the project as well as building capacity for future conservation efforts". Much of the capacity building work took place in the last quarter of the year, so evidence to demonstrate progress towards this outcome is not yet available. However, it is clear that some of the equipment supplied will enable existing collections banked locally by EMD can be better managed according to best practice. Some initial measurements of seed moisture by EMD staff, using skills and equipment gained through this project, suggests that collections need additional drying to ensure maximal longevity in storage. The heat sealer will enable existing and new collections to be properly sealed in foil bags to prevent them from reabsorbing moisture from the atmosphere. Likewise, the horticultural training delivered in St Helena was specifically tailored to help local workers to deal with challenges they face during their duties. See section 2.2, above. Work will continue to monitor the impact of capacity building during the course of the project.

"Output 3 will ensure that the genetic diversity of St Helena's threatened flora is conserved for future generations and available for use in plant reintroductions, habitat restoration and research". As has already been described, new collections representing 12 of St Helena's endemic plants have been made and banked as a result of this project. These have been aimed to ensure that these address priorities identified by the gap analysis and thus have the greatest potential for positive impacts in plant conservation. In particular, they have significantly improved the range and quality of accessions stored at the MSB, which at the outset were identified as being inadequate as *ex-situ* conservation collections of St Helena's threatened flora (see Section 2.1, Activities 3.2-3.5, above). However, more work needs to be done to focus collecting on the more obscure populations described above, which will contribute more to the stated outcome, as these continue to be entirely absent from *ex-situ* accessions.

2.5 Monitoring of risks

The three principal risks identified in the project proposal were:

1) **Unusual seasonal weather results in poor seed production.** To some extent, this has been the case, with the months following Vanessa and Lourens' visit to the UK having been unusually wet, resulting in delayed fruiting for some species. However, it is unlikely that this will continue to be the case, and the original assessment is unchanged.
2) **Quadcopter is damaged or lost in inaccessible location.** The steps to manage this risk have been exercised during the course of the project so far: training in use of the drone in the UK and in St Helena, and restricting flights to calm weather conditions. Flying the drone is a more difficult task than originally anticipated, but the presence of a local drone operator willing to assist and provide guidance is helping to reduce the risk of losing the craft.
3) **Injury due to difficult terrain.** The original assessment of this risk is unchanged. That a number of target populations are in sites hard to access means that this risk remains a very important one to manage carefully. To access some populations is impossible with the resources available to this project, while others may be accessible, but require careful assessment and planning.

3. Project Stakeholders/Partners

The Environmental Management Division of the St Helena Government has responsibility for effective management of the environment on the island, including its plant life, and is therefore the principal stakeholder and partner in this project. Much of the capacity building and activities are focussed on the teams working within EMD. The project proposal was developed in direct collaboration between Kew and EMD from the outset, and feedback from EMD has helped guide aspects of the project. For example, collections data and the gap analysis was influenced by feedback from EMD staff, where relatively limited use of databases and GIS meant that information needed to be delivered in an easily accessible format (see Section 2.1, Activity 1.1, of this report).

For the in-country horticultural training, staff of the St Helena National Trust and the Landscape and Ecology Mitigation Programme were invited to participate. Staff from these teams all are involved in propagation of endemic plants for conservation work in collaboration with EMD and expressed interest in benefiting from the training on offer (see Section 2.1, Activity 2.2, of this report).

4. Monitoring and evaluation

The ongoing monitoring and evaluation of this project is through regular reference to the table of outputs and indicators submitted in the proposal, and as elaborated through this report.

The first activity of this project to be completed was the data consolidation and gap analysis undertaken for Output 1. These provide a key baseline by which the ongoing collecting (Output 3) can be monitored, by the extent to which new collections fit the priorities identified. By comparing the range of seed collections banked by the end of the project with what existed at the outset we will have a good means of demonstrating an improvement in the range of material secured for future conservation work, an important outcome for this project.

During the course of the in-country horticultural training, key areas for improvement were identified (pest management, for example) and approaches for tackling these were developed. Feedback on what progress has been possible as a result of capacity building will be gathered as the project continues, such as an improvement in pest levels and consequently a reduction in seedling mortality. Likewise, with regard to seed conservation, indicators that new skills are helping partners to identify steps to improve the management of locally-banked seeds are described in Section 2.4, above, and will continue to be monitored. However, as much of the capacity building work took place in the last two quarters of this year, there has been little opportunity to identify changes that demonstrate improvements towards the outcome in this area.

5. Lessons learnt

The opportunity for Vanessa and Lourens to visit the MSB was a worthwhile one, allowing them to learn in much greater detail the various approaches to seed conservation and directly seek advice from specialists at the MSB, an approach not possible through visits to St Helena by individual Kew staff and support via email alone. Also, the opportunity to meet course participants from other countries was identified as a useful aspect of participating on an organised course. It was more difficult to get similarly high value from the horticultural training at Wakehurst. This was largely because both Vanessa and Lourens' horticultural skills are very high, though it nevertheless allowed both parties to exchange experiences and advice on propagating difficult species. If we had to do it again, it would have been good to have other members of EMD come to the UK for the horticultural training, though this of course would have had cost implications. Conversely, the programme of in-country training had the advantage that more people could participate in the training, meaning that each approach has brought different benefits to the project.

The gap analysis combined with field work has also worked well, revealing both the extent of existing seed collections and the nature of the populations not sampled. Indeed, while the results of the gap analysis are being used to direct targeted collecting, it has presented

unanticipated challenges to overcome. Firstly, the degree to which many of the unsampled populations are not familiar to EMD staff. With little experience of using handheld GPS units, it is difficult to translate data on target populations into information that collecting teams can easily use to locate obscure populations, and so some extra support will be needed. Secondly, the field work undertaken to date to locate target populations has shown the extent to which some plants really are inaccessible. While this should not seriously affect the delivery of Output 3 (part of which is to bank at least one new collection of each of St Helena's endemic plants), it does mean that some high priority populations will be impossible to be sample. Thirdly, many of the 'gaps' are represented in the field by populations of just a few individuals, making it especially difficult to obtain reasonable numbers of seeds (i.e. collections of more than 500 seeds), where limits to collecting levels need to be carefully adhered to. Nevertheless, it is important to continue to target these populations, whilst recognising this constraint.

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

N/A

7. Other comments on progress not covered elsewhere

N/A

8. Sustainability

The project has a good profile within St Helena, with Thomas Heller giving two presentations on the project during his visit to the Island. The first was a presentation at the museum in Jamestown, which was well attended. This was followed by a presentation to the Government's Legislative Council, who expressed great interest in the project and St Helena's plant conservation challenges more generally. The project has also featured in the EMD's March newsletter, available online (http://goo.gl/OJdixj) as well as distributed in print in St Helena. During Kew staff's visits to St Helena, the @KewUKOTs Twitter feed was used to bring the project activities to a wider audience, with a good response in terms of retweets, favourites and comments. The St Helena activities have been brought together as a Storify page here: https://goo.gl/miHe6g.

The project has been designed to have a sustained legacy. The exercise to bring together various data sources and produce a gap analysis will help our partners with planning conservation activities beyond the lifetime of the project. Likewise, the capacity building (training and equipment) enabled by this project will improve the management of seed and horticultural collections, improving seed viability and longevity, as well as the success and efficiency of propagation work. The resulting improvement in *ex-situ* collections themselves is intended to have a long-term legacy, in that it is specifically intended to prevent further loss of genetic diversity from what remains of the endemic plant species, diversity which is key to their long-term survival.

9. Darwin Identity

The Darwin Initiative has been identified as the funder wherever possible, including during presentations and in the EMD newsletter (with the Darwin logo used in both), as well as frequently on our Twitter feed. The project has a clear identity among conservation activities on the island, with this being the only active project that Kew is working on in St Helena at this time. However, we have also been keen to emphasize its relevance to wider efforts to conserve the St Helenian flora. With other Darwin Plus projects underway in St Helena, the Darwin Initiative enjoys a good level of understanding, and is widely recognised as an extremely important supporter of conservation on the island.

10. Project Expenditure

Table 1 Project expenditure during the reporting period (1 April 2015 – 31 March 2016)

Project spend (indicative) in this financial year	2015/16 D+ Grant (£)	2015/16 Total actual D+ Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs			-30%	£8000 budgeted for bespoke training saved b participants attending Seed Conservation Techniques Course funded through other sources.
Consultancy costs	0	67	+∞	Fee for quadcopter drone training session not in original budget.
Overhead Costs			+3%	
Travel and subsistence			-12%	T&S for Kew staff travel t St Helena less than budgeted.
Operating Costs			-5%	
Capital items			+6%	
Others (Please specify)				
TOTAL				