

Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

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Darwin Plus Project Information

Project reference	DPLUS102
Project title	Saving Tristan's only native tree and its associated unique buntings
Territory(ies)	Tristan da Cunha
Lead organisation	Royal Society for the Protection of Birds (RSPB)
Partner institutions	Conservation Department, Tristan Government Centre for Agriculture and Bioscience International (CABI) Fera Science Ltd
Grant value	£306,653
Start/end dates of project	July 2020 – March 2024
Reporting period (e.g. Apr 2020-Mar 2021) and number (e.g. Annual Report 1, 2)	April 2021 – March 2022 Annual Report 2
Project Leader name	Andy Schofield
Project website/blog/social media	
Report author(s) and date	David Kinchin-Smith and Andy Schofield (RSPB); Norbert Maczey (CABI); Chris Malumphy (Fera)

1. Project summary

This project is an urgent intervention to prevent the collapse of the *Phyllica* forest ecosystem, and the global extinction of unique bunting species in Tristan da Cunha. Invasive alien species are one of the greatest threats to the archipelago's biodiversity. Over the course of the past decade, an invasive scale insect (*Coccus hesperidum*) has infested Tristan's only native tree species, *Phyllica arborea*, smothering and killing many on Tristan, Nightingale and Inaccessible Island World Heritage Site (WHS), (Figure 2). Endemic large-billed *Nesospiza* buntings, evolved to specialise on the fruit of *Phyllica* trees, are threatened with extinction due to insufficient availability of habitat and food. Invasive New Zealand flax (*Phormium tenax*) presents a further pressure to the *Phyllica* habitat on Inaccessible WHS, and has the ability to outcompete the island's native species.

In close collaboration with international experts and Tristan's Conservation Department, we will select, safely test, and release at least two biocontrol agents in heavily infested *Phyllica* stands on the three northern islands (see map, Figure 1) to sustainably manage invasive scale numbers. We will also control invasive flax on Inaccessible Island and build local capacity in specialist rope access skills. These actions will, in the long-term, deliver significant biodiversity benefits, facilitate the restoration of the *Phyllica* forest ecosystem - making it more resilient in a changing climate - and safeguard threatened bunting species.

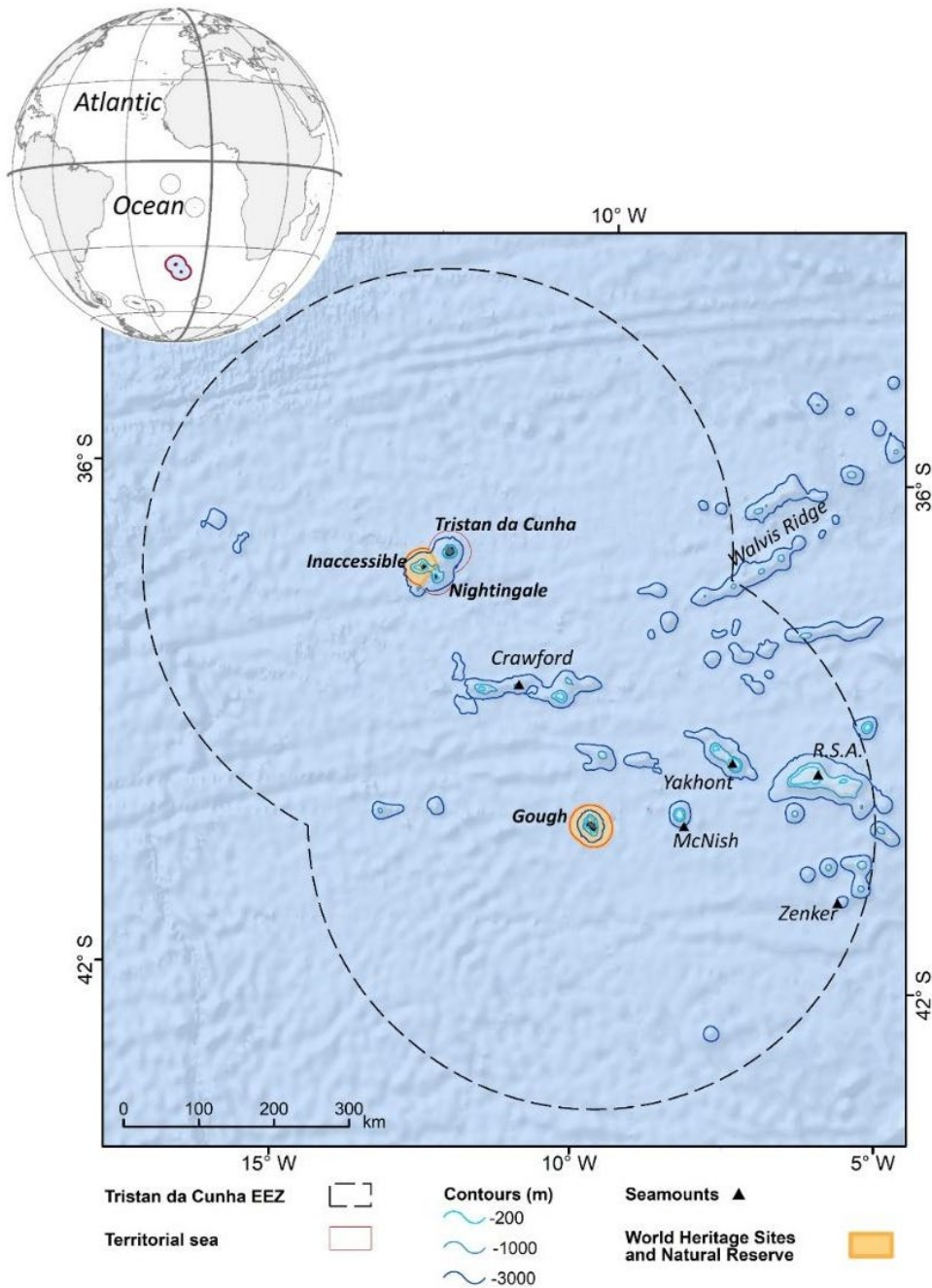


Figure 1. (left) Tristan da Cunha archipelago is the world's most remote inhabited island group, located almost half-way between South America and South Africa. The project will work on the three main northern islands: Inaccessible, Nightingale and Tristan.

Figure 2. (above) The devastation on Nightingale from invasive scale insects and the two storms in 2019.

2. Project stakeholders/partners

The partnership is made up of the **Conservation Department** within the **Tristan da Cunha Government**, the Centre for Agriculture and Bioscience International (**CABI**), **Fera science**, and the Royal Society for the Protection of Birds (**RSPB**). Each partner brings unique knowledge and experience to the project, providing technical skills, expert knowledge in biocontrol agents (BCAs) and invasive species, experience of working with Territories and on-the-ground conservation knowhow. The partnership was formed because of a request from Tristan to tackle the threats to the Critically Endangered bunting species, and partners with the appropriate expertise were brought together. In the last year, the partnership has been extended to include the **Agriculture Department** on Tristan, utilising the skillset of the team to propagate seedlings for the new *Phylica* nursery on the island.

Although it is the primary responsibility of the RSPB to monitor and evaluate the project, the partners regularly meet to discuss project progress, make decisions together, and feed into planning. Due to the absence of a Project Officer for almost two months, and the new staff member getting up to speed with the project, full team meetings have only taken place approximately every two months (24/8/21, 9/11/21 and 9/2/22 - **Annex 3.1**). However, there have been regular discussions throughout the year with individual partners to plan how best to support the team on Tristan given travel restrictions.

Covid restrictions have continued to impact the project in its second year and have meant delaying certain activities, notably travel for both CABI and Fera to Tristan. Despite this, all partners have worked well together and remote supervision for Tristan has been effective at ensuring project activities remain on track. Visits for both CABI and Fera in year 3 are looking much more likely and should fall at a critical time in the project when monitoring the establishment of the parasitoid is key, and assessing whether further releases, or other bio-control agents, are required. Despite not receiving this on-island support, Tristan Conservation Department have worked incredibly hard to ensure the continuation and growth of the wasp culture, as well as carrying out two successful releases on Nightingale Island.

Kirsty Repetto of the Conservation Department has continued to be integral to the project, visiting the captive parasitoid wasps on an almost daily basis to ensure they have everything they need, and to keep a close eye on numbers. Kirsty writes: "I was quite daunted by the responsibility when the wasps first arrived, especially because of how much danger the Wilkins' bunting was in"....."one year on I am quite happy with what I've achieved and have learnt a huge amount; it's been stressful at times but very rewarding"....."I feel I have made a big contribution to conservation in my islands" (March 2022). Kirsty has engaged many members of the community, as well as children from the school, showing them the rearing set-up and answering questions. Her commitment has generated real on-island trust in the project.

3. Project progress

3.1 Progress in carrying out project Activities

The activities which have not commenced to date as per the project timeline, or which have already been completed, have not been reported on below.

Output 1. Suitable biological control agents for *C. hesperidum* on Tristan selected, risk assessed and tested

1.1 Identification of scale insect from samples collected on Tristan; use of molecular methods to identify the strain/subspecies present on Tristan

Our partners from Fera have successfully sequenced samples of *Coccus hesperidum* from Tristan and found a range of genetic variation (suggesting multiple introductions, or a single introduction of a genetically variable population). This is to be expected as *C. hesperidum* is parthenogenic and therefore each population consists of a series of clones. For an explanation of the sequencing in more detail, see **Annex 3.2**.

*1.2 Analysis of pre-project survey and literature survey to match agents to scale taxon present on Tristan; this includes climate matching of previous successful control projects of *C. hesperidum* with the conditions present on Tristan*

The BCA we are primarily working with, *Microterys nietneri*, was tested in a replicated assessment at a temperature regime of 18°C during daytime and 16°C at night (average ~16.5°C), resembling conditions on Tristan for long periods of the year. This has now been complemented with a second, replicated experiment at 26°C during the day and 24°C at night (average ~25.5°C) to allow an assessment of the efficacy of the BCA, comparing reproduction at lower temperatures with the higher ones in commercial greenhouses where the agent is frequently and successfully used to control brown soft scale (*Coccus hesperidum*).

The experiment has recently been completed and has demonstrated that lower temperatures (resembling outdoor conditions on Tristan) lead to a reduced reproduction rate; this is lower even accounting for expected increased development times at cooler temperatures (see **Annex 3.3** for information on this experiment in more detail, including a graph showing wasp emergence at the two temperature ranges). Despite a significantly reduced rate of reproduction at low temperatures, we still believe that the rate observed at the 18/16°C regime is likely sufficient to exert a substantial degree of *C. hesperidum* control, once fully established in the target area.

1.3 Selection of suitable and readily available agents, including use of agents commercially available and agents currently used in other research institutes

During the project year 2021/22 a lot of effort has gone into the selection of additional BCAs. An initial review into the availability and feasibility of the use of further agents resulted in the selection of the following species as possible additional agents to work on:

Microterys nietneri (additional outdoor strain), *Metaphycus stanleyi*, *Metaphycus helvolus*, *Chilocorus bipustulatus* and *Coccophagus scutellaris*.

The main criteria for the selection of further BCAs have been:

- The species should be host specific
- The species should already be present in South Africa to avoid any non-target effects in case it was accidentally transported back from Tristan after establishment there
- The species should be tolerant of the cool climate conditions on Tristan
- The species should not have a negative impact on the already released *M. nietneri*

Initially, the project team decided to focus on trying to obtain a second strain/population of *M. nietneri* from outdoors in the UK or elsewhere. They believed a release of a strain better adapted to outdoor conditions compared to the already released strain, which had been cultured in warm greenhouse conditions for many generations, would likely increase efficacy of control. It would also have the added benefit of increasing the genetic diversity of the released species. To this effect, several trap plants (Malabar spinach and *Citrus* sp.) infected with *C. hesperidum* were placed at suitable sites in the CABI-Egham grounds. This area was chosen,

as it is one of the few places in the UK with an outdoor record of the species (a specimen collected in September 2018). During summer 2021, a *Coccophagus* species was obtained from these trap plants which was sequenced at Fera for identification. Although recorded in the UK before, this taxon belongs to an undescribed species, which complicates the development of a suitable risk assessment. Nonetheless, a culture of this species was initially established at Egham but became dormant during the winter months. Further assessment of the species is planned for 2022.

In October/November 2022 a second *Microterys* species was bred from the trap plants, which was identified as *M. seyon*. Very little is known about the distribution and biology of this species, but its occurrence under outdoor conditions in the UK indicate that climatically, it might at least be equally suitable for release on Tristan compared to *M. nietneri*. A culture of this species has been established at Egham throughout the winter 2021/22; testing whether it can effectively control the *C. hesperidum* strain present on Tristan under the climatic conditions prevalent on the islands is scheduled for April/May 2022. Further trap plants have been exposed to scale insects and will be placed at suitable locations as soon as weather conditions indicate the start of parasitoid activity outdoors (April/May). In the remainder of the project the plan is to widen the search area by placing trap plants in other locations across Surrey, Berkshire and Kent.

Old records also show that *M. nietneri*, and a second target species *Metaphycus helvolus*, have been recorded from *C. hesperidum* on St Helena since the early 1990s. A visit to St Helena by a member of the project team for a different project was used to survey for these species in February/March 2022, using emergence boxes and sweep netting at sites with previous records. However, no specimens could be found, mainly due to low population levels of *C. hesperidum* on St Helena at the time of the visit. In parallel, collaborators from Rhodes University (Martin Hill) and CABI Nairobi (Arne Witt based, in South Africa) have started surveying for *C. hesperidum* parasitoids in South Africa. Early field site visits were unsuccessful, again due to low levels of *C. hesperidum*, which is very well controlled by natural predators in outdoor conditions. Surveys in SA will continue in this next year of the project

1.5 Culturing of C. hesperidum from Tristan at CABI for testing and mass rearing of agents

Further mass rearing of *M. nietneri* was conducted on Tristan itself by the Conservation Department rather than at CABI in the UK. This was hampered at times due to the restricted supply of fresh scales. Scales had to be brought in from Nightingale Island whenever weather conditions were suitable. Although scales were initially collected on Tristan itself, supply was difficult to maintain. However, in the last few weeks new sources of scales infecting apple (*Malus domestica*) and the native island berry (*Empetrum rubrum*) on Tristan were discovered and can now be used to maintain the parasitoid culture.

A culture of *M. nietneri* has also been maintained at Egham in case further shipments to Tristan are required.

1.6 Survey in SA for additional agents; the survey will focus on areas with significant citrus growing where C. hesperidum is widespread

Due to continued strict travel restrictions to South Africa, some adjustment had to be made for the survey of natural enemies of brown scale in this country. Instead of a direct survey by the project team, it was decided to outsource this survey to biological control experts at Rhodes university to be coordinated by additional CABI staff located in South Africa. The survey started in summer 2021/2022, but due to unusually low levels of brown scale during the last year, none of the target species (mainly *Microterys nietneri* and *Metaphycus helvolus*) have been obtained thus far. The survey is still underway and will continue in this next project year.

An additional small-scale survey was conducted on St Helena in February/March 2022 after records for the two target species listed above were discovered. Again, it was not possible to find the target species during the short stay on the island due to low densities of naturally occurring scale insects.

1.7 Risk assessment for selected agents with a focus on published host specificity records

Additional RAs are scheduled for *Microterys seyon* and *Coccophagus* sp during 2022 (see 1.3).

1.8 Efficacy testing of agents in quarantine at Egham UK looking into infestation rates and rates of encapsulation by the target species

A culture of *M. nietneri* has been maintained at Egham. In 2021, the species was tested further at the Egham facilities for its compatibility with the scale population on Tristan. A repeat of an initial test comparing development on UK scales with the scale strain imported from Tristan commenced in February 2022 and is ongoing. Results to date indicate that *M. nietneri* both parasitises and develops in brown soft scale ex. Tristan, at a rate similar to that observed in UK scales. Given the potential for differing performance of parasitoids against different lineages of scale insect, and particularly given the findings of the molecular analysis of the Tristan scales indicating a distinct grouping close to a reference sequence from Israel, it is a very positive finding that the Tristan scale population appears to be a suitable host for the *M. nietneri* culture established at CABl and now also on Tristan. The success of the team on Tristan in establishing viable cultures of *M. nietneri* on Tristan's brown soft scale from very low starting numbers further supports the suggestion that this is a suitable host for the wasp.

A simple efficacy test for the second agent *M. seyon* is planned for May 2022.

Output 2. Tristan Council and community understand and approve of selected control agent release

2.1 Tristan Conservation Department screen educational video and share publicity materials to Council and with community. Community engagement lead visits Tristan in Q2 of years 2 and 3 to engage Council, school children and community members via public meetings, informal discussions, classroom teaching and film screening.

Our community engagement lead visited Tristan in September/October 2021 and March/April 2022. In the two visits they were able to have face-to-face meetings with all 12 members of Island Council, both government Administrators, the entirety of the school (24 children and two teachers) and could field questions about the project from the community on an ad-hoc basis. Kirsty Repetto (TdC Conservation Department) has been fantastic at not only keeping the culture going on island, but also for engaging many members of the community and showing them the rearing set-up of the parasitoids. She also arranged an open day in the lab for the 14 children from the upper school to come and see the wasps and ask questions, with two of the children helping with the first release on Nightingale in Autumn '21. Kirsty's commitment has generated real on-island trust in the project.



Figure 3. & 4. [REDACTED] tending to the wasps (left) and collecting wasps for a release (right)

2.2 The PRA is submitted to APHA for independent scrutiny, and their feedback then provided direct to Tristan Council both in writing and via a phone explanation.

No further control agents have been required so no additional PRAs have been submitted this year.

2.3 Tristan Council meeting discusses PRA and approves issue of an environmental permit by the 'Administrator in Council'.

No further permits have been issued as no new control agents have been required. The environmental permit for the release of *M. nietneri* is included with this report as it was absent in the previous report (**Annex 3.4**).

2.4 Visiting expert conducts pest assessments on potato crops of at least 8 growers, as well as the Agriculture Department vegetable production polytunnel, providing immediate verbal feedback and a follow-up report.

Covid restrictions have prevented our experts from visiting Tristan for a second year. Long quarantining periods, both during travel to and from Tristan, combined with a difficult sailing schedule could not be covered financially under current funding arrangements. This was partially compensated by remote supervision of the activities on Tristan, learning more about the pest problems on the island (spider mites and whitefly were identified as the most pressing issues). Based on the successful control of whitefly in polytunnels on St Helena using biological control methods, the uptake and implementation of a similar programme on Tristan was initiated and the first steps to arrange required training have been taken.

A visit from Fera and CABI staff to Tristan has now been rescheduled for the summer 2022/23 hoping that Covid restrictions will be lifted to an acceptable level soon.

Output 3. Selected control agent reared under controlled conditions on Tristan

3.1 Rearing of agents for release at CABI

The culturing of *M. nietneri* is ongoing at the CABI facilities in Egham to provide a backup in case the culture is lost on Tristan. So far, further shipments have not been required as the culture, now well established in the facilities on Tristan, has provided wasps for two releases on Nightingale Island, with further releases planned for Inaccessible Island later in year 3.

3.5 Culturing of agents on Tristan

During his visit in March 2022, the Project Lead spent a morning with Kirsty Repetto of the Conservation Department going over the rearing set-up on the island. Due to the relatively low numbers of wasps across multiple pop-up cages, the remaining parasitoids were moved into fewer clean cages with a fresh scale supply in each. This condensed set-up will simplify the process of monitoring numbers and should ensure the culture can be built back up for more successful releases in year 3.

3.6 Culturing of agents on Tristan in person and under remote supervision by FERA and CABI

As mentioned in **2.4**, it has not yet been possible for experts from CABI and Fera to visit Tristan, but this will hopefully now take place in summer 2022/23. Culturing of *M. nietneri* is ongoing and should further agents be required, training and suitable equipment will be delivered to the conservation team on Tristan.

Output 4. Control agents released and successfully established on Tristan da Cunha, Inaccessible & Nightingale Islands

4.1 Training of biosecurity staff on Tristan how to culture, release and monitor control agents

Further to the training delivered in the first year of the project, team meetings have continued (Annex 3.1) and additional training materials have been developed including a revised monitoring protocol (**Annex 3.5**) and instructional 'how-to' video – see: [Tristan training video - OneDrive \(sharepoint.com\)](#). The SOPs are in the process of being simplified to make them more achievable given the limited capacity of the Conservation Department.

4.2 First release of agent(s) on Tristan

From an initial population of just 17 wasps, the Conservation Department successfully raised numbers for two releases on Nightingale Island in autumn 2021. The releases were both in

heavily infested stands of *Phyllica* - the first release was of approximately 200 wasps at the base of the island and the second release was of approximately 100 wasps in trees higher up the peak.

4.3 Follow on shipments and releases of agent(s) to cover all three target islands

Follow on shipments of *M. nietneri*, or a new agent, have not been necessary as the culture on Tristan has been successfully maintained. Due to the scarcity of scales for the latter part of this year, wasp numbers have reduced and need to be built back up before further releases are considered. Cultures are maintained at CABI's facilities in Surrey, and we hope another culture will be established in South Africa should the survey prove successful.

4.4 Monitoring of establishment by local staff once every year in late summer/early autumn

Monitoring was planned to take place along with the first release on Nightingale Island in April 2021. However, due to deteriorating weather conditions on this uninhabited island there was no time to do this. An estimated 50% decrease in scale numbers on Nightingale was reported in Spring 2021, although this is purely from observations rather than monitoring data; it has not been possible to ascertain whether this change is the result of the parasitoid or a combination of factors (**Annex 3.6**). In the last few weeks, branches with scales have been collected from Nightingale and placed in emergence boxes to see if *M. nietneri* emerges from any. Any emergence would be fairly conclusive evidence that the wasps have established on the island.

*4.5 Monitoring of impact (infestation rates of *C. hesperidum*)*

During 2021, weather conditions did not allow for the Tristan team to implement baseline monitoring as planned. To adjust to this situation, a more simplified approach was developed. Training for the updated protocol(s) (**Annex 3.5**) was provided in November 2021. To account for the unstable internet on Tristan when using Zoom/Teams, a training video was produced and made available for the Tristan team via a private YouTube channel.

When trying to implement the new protocols, the team on Nightingale encountered only heavily diminished scale densities meaning they were unable to monitor populations in any meaningful way. Currently, it is not known for certain whether the drastic reduction in scale populations is a result of the released control agents. As mentioned in **4.4**, emergence boxes should hopefully shed some light on this. For the time being, additional training from our experts has been put on hold as maintaining the culture through the cooler months is the priority.

Output 5. Invasive New Zealand flax closest to *Phyllica* habitat controlled on Inaccessible Island World Heritage Site, with an increased local capacity to undertake control activities

See **Section 9** for a description of new funding for this specific output and the change request submitted for this project in December 2021.

5.2 All island plateau flax, and the top 50m of invaded cliff beneath the plateau, is cleared of flax in year one

Due to the challenges stated in previous reports around plant numbers and logistics of accessing some areas, it was not possible to clear all flax from the target area. The team decided to concentrate their efforts on "Waterfall Ridge" (200-250m high cliffs – **Fig. 3**) which surveys in previous field seasons have shown to have the greatest density of flax plants. Logistically, it made more sense to remove plants down the entire cliff face rather than just the top 50m due to the significant time spent rigging the area.

During 20/12/21 - 27/2/22, 867 personnel hours were spent actively clearing plants. The team had a very successful season removing 4,410 flax plants from this area (3,498 small, 679 medium and 233 large), compared with 119 plants in year 1. Considering a large plant can take on average two hours to remove (and eight hours in extreme cases), this is an impressive effort (see **Annex 3.7** for flax report). Approximately 60% of all plants have been removed from "Waterfall Ridge" and 95% of all plants from "Waterfall Plateau". Accurate surveys are essential for next field season to ascertain how many flax plants remain on Inaccessible and the time required to remove them all.



Figure 5. *Inaccessible living up to its name with two of the team abseiling down “Waterfall Ridge” (© I-Rigging Solutions)*

5.3 Experienced flax control team revisit Inaccessible in year two to re-check and re-control year one clearings where necessary

The flax team returned to Inaccessible in December 2021. They revisited sites where plants had been controlled in year 1 and discovered several new seedlings. The team treated areas with herbicide after manual removal this year, so they are expecting fewer seedlings in cleared areas when they return in year 3.

5.4 One Tristanian resident accompanies the experienced flax team on each visit to Inaccessible Island and receives on-the-job training

Christiaan Gerber joined the flax team on Inaccessible for a second season and spent a further 193 hours on the ropes during his time on the island. Unfortunately, Christiaan injured his shoulder after six weeks and so returned to Tristan a month earlier than originally planned. Christiaan built on his experience of rope access techniques (ascending/descending, knots, hitches, rigging, simple rope rescues, personal safety and equipment maintenance) and he has now clocked up 243 hours during the two years on Inaccessible; these hours will contribute towards his IRATA level 2 qualification. A detailed trainer’s report for Christiaan can be found in annex 3.8. Additionally, the experienced flax team spent a morning with the conservation team on Tristan giving basic rope access training which will be built upon in year 3.

NEW - Output 6. Community nursery of scale-free *Phylica* trees established on Tristan for Nightingale reforestation

*6.1 *Phylica* nursery established on Tristan*

A nursery team has been established utilising the skillset of two members of the Agriculture Department (both female). So far, 97 seedlings (**Fig. 4**) are germinating in a heated vitopod and 50 cuttings (**Fig. 5**) have been taken in the hope that some will take root. We have also established a link with Kew Gardens who will hopefully be trialling different methods of sowing seed and taking cuttings in the UK in the next few months to see what works best. Marcella Corcoran from Kew’s UKOT programme has since provided a helpful document (**Annex 3.9**) with *Phylica* growing advice which has been shared with Tristan’s Agriculture Department. The polytunnel and other nursery equipment has been purchased and is enroute to Tristan.



Figure 6. & 7. [redacted] planting seedlings in vitopods (left) and [redacted] taking *Phyllica* cuttings (right)

6.2 Successful mass-propagation of *Phyllica* seedlings in nursery by Tristanian team

On-track to propagate 500 seedlings by end of next year. See numbers of seedlings/cuttings above.

6.3 Ground cleared of scrub and prepared in previously forested areas of Nightingale by Tristanian team

Not specifically started as per project timeline. However, 3-person team (all male) spent a week on Nightingale Island in Q4 clearing scrub and planting 50 young *Phyllica* trees established prior to the project beginning.

3.2 Progress towards project Outputs

Output 1. Suitable biological control agents for *C. hesperidum* on Tristan selected, risk assessed and tested

See section 3.1, Output 1. Output 1 is largely on track, with the exception of indicator 1.4 which is slightly behind schedule. However, all indicators should still be completed by the end of the project.

Several surveys have been undertaken this year to collect and acquire further parasitoid cultures (Indicator 1.1). The survey in South Africa has not yet yielded any parasitoids due to low levels of *C. hesperidum* found in the field. A focus in the UK was to obtain a second strain of *M. nietneri* from outdoor populations as the strain currently cultured on Tristan has been used for many generations controlling *C. hesperidum* in glass houses/polytunnels. Not only will a second strain hopefully boost efficiency through better climatic adaptation to weather conditions on Tristan, but it will also increase the overall genetic diversity of the currently used agent. Unfortunately, the species wasn't obtained from trap plants at CABI's facilities this year, but it was possible to obtain a very closely related species *M. seyon*, which may be an equally suited agent for the control of *C. hesperidum*. A culture of *M. seyon* has been established and the species is currently in the process of being risk assessed and tested for climate suitability (Indicator 1.2).

M. nietneri continues to be highly effective at developing and reproducing on *C. hesperidum*, so much so that numbers have been built up from the 17 that survived the journey to Tristan to make two successful releases of wasps (a first release of c.200 and second of c.100) on Nightingale (Indicator 1.3). Additional control agents have been difficult to source this year and haven't been required on island, so no additional PRAs have been completed. Testing is ongoing and PRAs will be completed in year 3 for *M. seyon* and any other recommended species (Indicator 1.4).

Output 2. Tristan Council and community understand and approve of selected control agent release

See section 3.1, Output 2. Output 2 is largely on track, with the exception of Indicator 2.4 which has been delayed but will be achieved by the end of the project.

Although additional publicity materials have not been produced in year 2, discussions have been had with Chris Malumphy (Fera) who, as a former STEM Ambassador, has agreed to provide educational materials and spend a morning with the school when he travels out to Tristan later this year. Kirsty Repetto has been fantastic at engaging the local community, showing the wasp rearing set-up and answering questions, generating real on-island trust in the project (Indicator 2.1). Additional control agents have been difficult to source this year and haven't been required on island, so no additional PRAs have been submitted (Indicator 2.2). Tristan approved the release of *M. nietneri* in year 1 (Annex 3.4) and two releases were successfully carried out on Nightingale at the start of year 2 (Indicator 2.3). Testing is ongoing with additional agents and Council/community approval will be sought in year 3 should another species be suitable/necessary. Once again, it was not possible to carry out a potato crop pest assessment due to Covid travel restrictions. However, discussions have been had about the pest problems growers face (spider mites and whitefly), and a visit from CABI/Fera is looking more likely in year 3 (Indicator 2.4).

Output 3. Selected control agent reared under controlled conditions on Tristan

See section 3.1, Output 3. Output 3 is largely in track, with the exception of Indicator 3.4 which is now not deemed necessary but may be replaced with an additional school activity, and Indicator 3.5 which is slightly behind schedule.

The polytunnel hasn't been necessary for the rearing of *M. nietneri*, with numbers reaching sufficient levels in the pop-up cages (Indicator 3.1) to make two successful releases this year (Indicator 3.2). Kirsty Repetto has taken real ownership for the wasps after receiving training from our expert partners in year 1, visiting the cages on a near-daily basis (Indicator 3.3).

For the first half of the year, infested *Phyllica* branches from Nightingale were the most reliable supply of hosts for the wasps. With the scale population diminishing on Nightingale, additional sources were discovered on apple and the native island berry on Tristan, and these are now used to sustain the culture. An alternative was for the school to culture suitable host plants in order to maintain a sufficiently large-scale insect population. This was however, deemed too complex and time-consuming when only remote supervision was possible (Indicator 3.4). So that the school can still be involved, there are plans to provide them with several emergence boxes so that the children can monitor if any parasitoid emerges from infested *Phyllica* branches from Nightingale and Tristan. It hasn't been possible to increase wasp numbers to sufficient levels to make further releases after those made on Nightingale at the start of the year (Indicator 3.5). This is mainly because weather conditions did not allow many visits to Nightingale to obtain infested branches, and because the scales became increasingly difficult to source. However, the discovery of good quantities of scales on alternative hosts should make it possible to increase wasp numbers to levels for releases in year 3.

Output 4. Control agents released and successfully established on Tristan da Cunha, Inaccessible & Nightingale Islands

See section 3.1, Output 4. Output 4 is slightly behind schedule, but it should still be possible to deliver it by the end of the project.

The first two releases of *M. nietneri* were made on Nightingale in Q1 of this year, in two sites with heavily infested stands of *Phyllica* (Indicator 4.1). Nightingale was the first priority island for control agent releases as it has the most critically endangered bunting species present, the Wilkins bunting. It hasn't been possible to do the same on Tristan or Inaccessible Island due to the reasons stated under Output 3 around sourcing enough scales. With the discovery of the new scale host plant, *E. rubrum*, further releases should be possible in year 3. Samples of *Phyllica* branches with scales showing signs of parasitoid infestation were collected from Nightingale in February/March 2022. These branches have been placed in emergence boxes to ascertain whether *M. nietneri* has successfully established on the island (Indicator 4.2).

Output 5. Invasive New Zealand flax closest to *Phylica* habitat controlled on Inaccessible Island World Heritage Site, with an increased local capacity to undertake control activities

See section 3.1, Output 5.

Due to the logistical issues highlighted previously, the flax team concentrated their efforts this season on the heavily infested area of “Waterfall Ridge”. A total of 4,410 flax plants (3498 small, 679 medium, 233 large) were removed this year (compared with the 119 removed in years 1) (Indicator 5.1 - 5.4 - Annex 3.7). Additional funding has secured an extra year of fieldwork which will be invaluable for removing flax from priority areas, and for future flax removal planning.

Christiaan Gerber built on his skillset from year 1, adding another 193 hours of rope work which will contribute towards his IRATA level 2 qualification (Indicator 5.4; Annex 3.8).

Output 6. Community nursery of scale-free *Phylica* trees established on Tristan for Nightingale reforestation

See section 3.1, Output 6. Output 6 is new to the project this year, but good progress is being made towards the activities/indicators.

The Agriculture Department have made a great start with a team of two already established and well over half of the 250 target *Phylica* seeds/cuttings planted (Indicators 6.1 and 6.2). Although not scheduled until the final year of the project, a three-person team spent a week on Nightingale Island in January clearing scrub and planting 50 young *Phylica* trees which were growing before the project started (Indicators 6.3 and 6.4).

3.3 Progress towards the project Outcome

Outcome: Sustainable community-supported control of *Coccus hesperidum* successfully established, community nursery created and invasive flax buffer provided that enables recovery and planting of *Phylica* trees, restoration of seed-setting and ultimately increased food availability for *Nesospiza* buntings.

The first few months of this year were very successful with two parasitoid releases on Nightingale Island. Anecdotal and photographic evidence have shown the scale insect population to be well down on pre-project numbers on Nightingale. The priority has shifted to maintaining the wasp culture as numbers are well down and releases on Inaccessible Island have had to be delayed until year 3 when numbers are built back up. The flax eradication team had a successful season clearing a large proportion of plants from the most heavily infested area of Inaccessible, and the establishment of the community *Phylica* nursery will further ensure the recovery of forest across the islands.

Due to reduced capacity in the Conservation Department, and need to maintain the wasp culture, it still hasn't been possible to carry out either baseline monitoring or monitoring of parasitoid establishment. Our partners are currently working on simplifying the SOP's, so they are more achievable and fit for purpose; this does however mean that we don't currently have data to support the observed reduction in scale numbers on Nightingale - i.e., is the decline in scale densities a direct result of the release of the control agents. The indicators outlined remain adequate for measuring achievement of the project Outcome, but a trip to Tristan from our biocontrol experts in year 3 is key to ensuring we know if the parasitoid has established on Nightingale or not, as well as establishing a baseline on Tristan and Inaccessible.

Indicator 0.1 In year four at least one control agent successfully established on each of the three northern islands in compliance with Tristan legislation and Council permissions.

Island Council permitted the release of *M. nietneri* on Nightingale in year 1 of the project (Annex 3.4), with two successful releases at the beginning of year 2. Our partners have adapted the monitoring protocol (Annex 3.5) and have created an excellent 'how-to' video this year. However, the Conservation Department have requested that the methodology is

simplified due to the limited number of trips to the Northern islands, so CABI/Fera will be working on this over the next few months.

Recent observations from the team have all been similar with multiple people remarking 'it's very difficult to find scale insects on Nightingale'. It is unknown whether such a dramatic change is down to the parasitoids, without baseline data, and these observations have certainly surprised our partners from CABI and Fera. Follow up releases on Tristan and Inaccessible, whilst our biocontrol experts are on the island, is vital for this next year of the project.

Indicator 0.2 In year four, lower densities of *C. hesperidum* and 10% reduction in sooty mould cover of foliage recorded on *Phyllica* compared to 2020 baseline.

As mentioned previously, the Conservation team were unable to obtain baseline data during the first releases due to deteriorating weather conditions on Nightingale Island and need to get back to Tristan safely. Due to very few visits being possible to Nightingale Island throughout the year because of rough seas, and the fairly rapid reduction in scale numbers, it is no longer possible to establish a baseline on Nightingale. As Tristan and Inaccessible have not had releases, they will now be used as a baseline and to monitor the establishment. It may be possible for the flax eradication team to assist in monitoring activities on Inaccessible as they're based on the island for the summer.

Indicator 0.3 No New Zealand flax is recorded on the plateau of Inaccessible Island or top 50m of surrounding cliff by end of year 2

The 2021/22 proved much more successful with a total of 4,410 flax plants removed (compared with the 119 last year). It was not possible for the team to remove all plants due to the sheer number discovered in year 1 and the many logistical challenges on the island; this is now unlikely to happen within this project. However, securing additional funding this year (see EU BEST 2.0+ funding mentioned previously) has made this indicator more achievable with an additional year of flax removal work and future planning.

Indicator 0.4 3 Tristan Conservation Department staff (2 male / 1 female) trained and able to successfully rear, release and monitor a biological control agent

As already mentioned, the Conservation Department (2 male / 1 female) were able to boost numbers of wasps in the culture to successfully make two releases on Nightingale Island last year. Approximately 200 wasps were released in a lower site of heavily infested *Phyllica* trees and 100 wasps in a heavily infested upper site. Monitoring has not been possible for the reasons stated previously and this will be a focus for year 3, with in-person training during CABI and Fera's visits. The team were able to maintain and increase the culture by harvesting heavily infested *Phyllica* branches on Nightingale and bringing them back to Tristan, producing multiple generations of wasps. Recent observations have shown a marked reduction in scale insect numbers on Nightingale, so the next few months are critical in ensuring the continuation of the culture in preparation for more releases in year 3.

Indicator 0.5 Within 3-5 years of project start, increased number of seeds/fruits recorded on *Phyllica* compared to 2021 baseline, and population density of buntings stabilised.

A count of Wilkins' buntings (global population of c. 30 individuals) on Nightingale Island in March 2022 showed the population to be stable compared with numbers reported in 2021, but still at concerning levels. As it was not possible to establish a baseline for *Phyllica* fruits/seeds this year, this activity is going to take place in year 3 when the Conservation Team have on-island support.

Indicator 0.6 At least 125 *Phyllica* trees planted in priority sites on Nightingale Island by end of year 4

This is a new indicator for the project and is well on track with 97 *Phyllica* seedlings and 50 cuttings in vitopods/propagators already. 50 young *Phyllica* trees, which were growing prior to the project starting, were planted in priority sites on Nightingale in January 2022.

3.4 Monitoring of assumptions

All key assumptions are outlined in the log-frame (**Annex 2**). Most of the identified assumptions that have been tested have held true, with the following exceptions:

Assumption: Suitable weather conditions allow field releases.

Comments: This has largely held true with field releases being restricted by wasp numbers rather than weather conditions. However, being dependent on infested *Phyllica* branches from Nightingale to maintain the culture this season has shown how weather conditions may be suitable, but sea state can be very restrictive for the team getting to the other northern islands.

Assumption: Environmental conditions allow establishment of agents (which is highly likely as testing will have aimed to replicate conditions on Tristan as much as possible)

Comments: Monitoring of the scientific outputs of the project has been challenging because CABI/Fera haven't been able to travel to Tristan this year - i.e., we do not know if the parasitoid is established, which we would hopefully know by now if the experts had been able to visit. Similarly, being unable to establish a baseline in the first two years of the project may impact our ability to measure the achievements for Outcome indicators.

Assumption: Unmapped first-hand reports from February 2019 team on flax presence on the island plateau suggest that full removal is possible.

Comments: The logistical issues raised over the last two field seasons have shown that full removal is very unlikely to be possible in the span of this project. Much of the island is very difficult to survey on foot, and time-consuming when using ropes, so it is difficult to estimate the number of remaining plants. The priority in the next year will shift to maximising flax control and carrying out a thorough survey to ascertain the effort required to remove all remaining plants.

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

The project is making good progress on a key environmental issue for the Territories. Invasive species were identified as a core biodiversity challenge by 57% of the respondents to Defra's Call for Evidence on 'Safeguarding the Environment in British Overseas Territories' (second only to the threat from economic development as an issue). Invasive scale insects and flax are identified as a threat in Tristan's Biodiversity Action Plan, and the project is delivering against this plan under Objective 4: The impact of invasive species is reduced or eliminated.

Should the first biocontrol agent successfully establish, this project will result in the effective control of the invasive scale insect population and reduce the associated sooty mould. The *Phyllica* will subsequently have suitable conditions to recover which will in turn provide food and habitat for the Critically Endangered Wilkins' Bunting. Furthermore, reducing two pressures (invasive flax and scale insect) from the habitat to allow the recovery of the *Phyllica* forest, as well as reforesting areas where trees were lost using nursery *Phyllica*, will, in turn, improve the climate resilience.

5 OPTIONAL: Consideration of gender equality issues

This project continues to achieve its gender-based indicator of training 2 male / 1 female members of staff from the Conservation Department in rearing, releasing and monitoring BCAs. Kirsty Repetto, especially, has taken on substantial new responsibilities on top of her administrative role in the department and has been integral to rearing the BCAs and building numbers to a level where two releases have been possible. Despite being a recent addition to the project, the *Phyllica* nursery/planting output is already delivering on its gender-based indicator. Natasha Glass and Kelly Swain from the Agriculture Department are overseeing the establishment of the *Phyllica* nursery whilst Trevor Glass, Julian Repetto and Wayne Swain have begun the clearing and planting work on Nightingale Island. The project team on Tristan is currently at a 3:3 gender ratio.

6 Monitoring and evaluation

Monitoring and evaluation is primarily lead by the RSPB with partners feeding into the process. The logframe and project timetable are continually referenced to monitor project progress and identify delays, and partners self-evaluate and feed into the overall project monitoring during more formal partner meetings (e.g., Annex 3.1) and regular informal catch ups.

The primary indicators of achievement are the establishment of at least one biocontrol agent on three of the northern islands, removal of flax and propagation of *Phyllica* seedlings; all are being measured quantitatively via monitoring protocols (Annex 3.5) or mapping activities.

Unfortunately, monitoring of the establishment of the parasitoid has not been possible this year due to reduced capacity in the Conservation Department and CABI/Fera being unable to travel to the islands given Covid unpredictabilities. It is worth noting that not establishing a baseline in the first two years of the project may also impact our ability to measure the achievements for Outcome indicators. However, releases have only been made on Nightingale so a baseline is still attainable for Tristan and Inaccessible; trips for our experts next summer may also mean it's possible to measure parasitoid establishment from the first releases, if not before.

The community support is being managed by the Conservation Department and Tristan project lead and will largely be understood through informal conversations with the community. Kirsty Repetto's commitment to the project and on island engagement has generated real trust and interest in the work, which has been invaluable.

7 Lessons learnt

- First releases were carried out in April 2021, which is a fantastic result for the partnership and project, particularly given the very challenging pandemic context we've been operating in. This is testimony to how well we've been able to adapt the project to remote-working, the incredibly changeable conditions on Tristan and the dedication of the Conservation team on the island.
- Prior to the first releases on Nightingale, it was not possible to undertake a survey of scales and their impact on *Phyllica*. Whilst this is unfortunate, it was not within the capacity of Tristan Conservation Department, who at the time were working with reduced staff numbers and a heightened workload which included rearing the parasitoids. This highlights the role which our experts at CABI and Fera had to play in terms of on-the-ground capacity and in delivering the scientific objectives of the project, and how the continued COVID-related travel restrictions have impacted the project. Our partners have adapted the parasitoid survey SOP's brilliantly, creating a 'how-to' video that will act as a lasting resource and accessible reference guide for Tristan Conservation Department in the absence of in-person training.
- As mentioned above, the lack of monitoring has been one of the few omissions from what otherwise has been a very successful second year. It has become apparent that there isn't the capacity in the three-person Conservation Department to carry out the extensive monitoring planned for this project, on top of rearing the parasitoids and the many other duties of the team. CABI and Fera are meeting over the next few weeks to 'strip back' the SOPs to something that is achievable whilst still providing valuable data. The 'how-to' video will ensure the team are supported in monitoring tasks prior to our experts hopefully visiting later in the year.
- Managing interest levels in the project from government and funders has presented a new challenge. As the project has the potential to have a high impact, interest has been high. We added a fourth year to the project due to Covid and were seeking additional funding sources to bridge the deficit. This was unexpectedly very successful with three donors (The John Ellerman Foundation, EU BEST and the UK Government's GB INNS programme) looking to support the programme of work resulting in a surplus of funding. We have been very grateful for Darwin's understanding and flexibility in managing this surplus, and as a positive we have been able to expand the programme to establish a community-run *Phyllica* nursery, extended our partnership to work with the Agriculture

Department on Tristan, added an additional year of flax eradication work and increased the project management capacity on the project. This will drastically improve the sustainability of the project, the restoration of the forest ecosystem and outlook for the endangered landbirds that depend on *Phyllica*.

- Although numerous control agents are commercially available for the control of brown scale, most of these turned out to be not suitable for a release on Tristan. This is either because they are not present in Southern Africa and would pose a potential biosecurity risk for this country, or they are not sufficiently climate matched requiring higher average temperatures. Other species like *Metaphycus helvolus*, a potentially very good candidate, had been cultured for commercial or research purposes in the past, but is not available anymore. We have therefore resorted to outdoor surveys for additional control agents. Under outdoor conditions *C. hesperidum* is normally well controlled by natural enemies. This is not only due to host specific parasitoids but also through more generalist predators such as lacewing larvae. Due to the resulting low scale populations, it therefore turned out to be rather difficult to source additional species for testing, both within the UK and in South Africa but also on St Helena. We plan to address this by increasing efforts throughout 2022 in all surveying areas.

8 Actions taken in response to previous reviews (if applicable)

The first shipment of M. nietneri wasps from the UK reached Tristan, although a high mortality rate was recorded. Will further shipments be necessary, and if so, is it possible to ensure that they avoid exposure to high and freezing temperatures?

- Fortunately, a further shipment of *M. nietneri* has not been necessary due to the sterling efforts of the Conservation Department on Tristan who have kept the culture going for the past year. Should the culture fail, or other species of parasitoids be required, it is highly unlikely that the wasps would have to go through such a convoluted journey (with its varied temperatures) again, as that was only made so by Covid travel restrictions. However, if it is required then we have increased our knowledge of how to transport live samples to Tristan which would minimise the exposure to temperature extremes that the first shipment was subject to. Furthermore, one of the aims of the survey in South Africa is to establish a culture there, which would remove the need for the wasps to travel by air to reach Tristan.

It was disappointing to read that the propagation project with school children did not go ahead. Has the project considered remote teaching, or the provision of simple training materials on propagation suitable for teachers and children to follow? Even if Phyllica plant material is not available, would it be possible to encourage schools to propagate other material, to learn some of the skills for when Phyllica is available.

- The Conservation Department have been sourcing infested *Phyllica* branches from Nightingale Island to maintain and increase the wasp population. Scale insects have recently been discovered on both apple (*Malus domestica*) and Island Berry (*Empetrum rubrum*) on Tristan, so it hasn't been necessary to propagate and infest new *Phyllica* trees. However, with the addition of Output 6 to the project, Natasha Glass and Kelly Swain of the Agriculture Department are planning on spending a morning with the school children showing their work propagating *Phyllica* with the hope that some of the older children may be able to assist with the nursery set-up. It may also be possible to provide the school with some emergence boxes so the children can check each day to see if any wasps emerge from scales-infested branches; if any do, they can be preserved and sent back to the UK for identification.

The project briefly mentions complementary activities including more intensive bunting monitoring, increased Phyllica propagation and planting, and has considered captive breeding options for worse-case scenarios. It would be very interesting to learn more about these activities in the next annual report.

- Due to limited capacity within the Conservation Department and reliance on calm seas to sail to Nightingale, it hasn't been possible to carry out more intensive bunting monitoring. Their efforts have been directed towards harvesting infested branches to maintain the wasp culture, which will hopefully lead to more successful releases, thereby safeguarding the bunting population. However, the addition of Output 6 this year has provided the resources and staff time to increase *Phyllica* propagation and the establishment of a nursery on Tristan, in the hopes that new healthy trees can reforest areas of Nightingale by project end. The Wilkins' Bunting captive breeding plan is still in the developmental phase (**Annex 3.10**), using the expertise and lessons learnt from the Gough Island Restoration Programme where Gough Buntings were successfully taken into captivity.

9 Other comments on progress not covered elsewhere

- The funding bid to BEST 2.0+ to provide much-needed resources and an additional year to the invasive flax removal effort was successful. Given that this work proved to be much bigger than anticipated in year 1, it was felt it would be better placed as a standalone project that we could fundraise against and thereby simultaneously address the funding gap created by the one-year extension. The first year of Darwin Plus funding was integral to definitively clarifying the extent of the issue and ease of control, and we will continue to update Darwin with progress towards this output.
- An additional *Phyllica* nursery output was approved and added to the project in early January 2022. This was deemed necessary given the extent of the damage caused by two hurricanes in 2019 where 80% of the overall *Phyllica* forest was lost on Nightingale Island due to trees already being severely weakened by the invasive scale insects. The IUCN consequently changed the Red List rating for *Phyllica arborea* to 'Endangered'. Whilst the parasitoids provide the only long-term and sustainable means of saving the forest, in the short-term there is a greater need to assist the recovery of the forest. As well as being highly complementary to the biocontrol element of the project, the nursery would provide a shorter-term solution for the now 'Critically Endangered' Wilkins Bunting as *Phyllica* trees are known to fruit within just four years of being sown. If successful, similar planting could be carried out in the future on Tristan and Inaccessible to increase forest cover in the archipelago.

10 Sustainability and legacy

The project is a very welcomed and urgently needed intervention to prevent the collapse of the *Phyllica* forest ecosystem and associated buntings. Good communications with Tristan have been key to delivering the workplan with minimal delays and getting community buy-in; this project is recognised as a priority by Island Council, the joint Administrators, and the community. As already mentioned, Kirsty Repetto's commitment to the work, and rearing the parasitoids especially, has generated real on-island interest and trust in the project. This has no doubt been helped by expanding the project to establish a community-run *Phyllica* nursery on Tristan, extending our partnership to work with the Agriculture Department on the island as well. This addition is highly complementary to the other outputs, promoting sustainable ecological benefits such as the recovery of the *Phyllica* forest ecosystem and associated biodiversity.

The Conservation Department have only built upon their specialised skillset with rearing parasitoids, with the potential for a knowledge exchange visit to St Helena in the future. The fact that travel hasn't been possible for our partners from CABI and Fera this year has meant that despite only remote supervision, the team have ensured the continuation of the culture as well as producing sufficient numbers for two successful releases on Nightingale Island. In recent weeks we have also established a link between the Agriculture Department and Kew Gardens where both groups are learning from each other for the successful germination/propagation of *Phyllica* seedlings.

Assuming that sufficient monitoring can take place next year, and a baseline can be established on the islands where releases haven't occurred yet, the exit strategy remains unchanged. Monitoring the establishment of the BCAs and identifying further BCAs for release will inform whether any further changes are needed.

11 Darwin identity

The Darwin identity continues to be positively regarded within the community on Tristan da Cunha and there is a good understanding of Darwin, particularly within the Fisheries and Conservation Departments. Approximately 10% of the community have worked directly on a Darwin project, and project updates are given at the fortnightly Government Department meetings. With the additional *Phyllica* nursery output the Agriculture Department are now involved, extending the reach and community involvement of the project.

The project, alongside the Darwin handle or hashtag, has been promoted on Twitter by both [Tristan Admin](#) and [Tristan Nature](#): accounts both run by Tristan Government with a combined audience of over 14,000. Some example tweets are posted below – one celebrating the creation of the new *Phyllica* nursery on Tristan for #WorldPlantingDay and two (featuring the Darwin logo) highlighting the vital flax removal work on Inaccessible Island:

<https://twitter.com/NatureTristan/status/1506205565957165059> = 668 impressions

<https://twitter.com/NatureTristan/status/1508423154099761157> = 2,543 impressions

<https://twitter.com/NatureTristan/status/1509170645678104577> = 1,929 impressions

An article was written for the latest Darwin newsletter on the theme of 'Charismatic Conservation', highlighting the importance of the project for saving Tristan's only native tree species and Critically Endangered Wilkins' Buntings. The article featured the work of the Conservation Department and Kirsty Repetto in particular:

[Darwin-Newsletter-March-2022-Charismatic-Conservation-FINAL.pdf \(darwininitiative.org.uk\)](#)

12 Impact of COVID-19 on project delivery

Covid-19 has continued to impact the project for a second year, with severe travel restrictions introduced in South Africa (Tristan's gateway) and Tristan itself. The arrival of the Omicron variant in the latter part of 2021 meant that nearly all travel to South Africa once again ceased. Restrictions are now easing but a minimum of 10 days quarantine is required before boarding any vessel to Tristan and Covid outbreaks amongst crew has resulted in delayed sailings and even some cancellations. The knock-on effect is that berth space is at a real premium and is quite rightly prioritised for Tristanians. Fortunately, the Tristan community lead was also able to make it to Tristan for the first time in two years. This extended period away meant that there was a significant backlog of tasks to be completed resulting in a further trip in Q4.

Travel restrictions made a visit by the CABI/Fera team to Tristan this year unviable. Although partially compensated through remote training and supervision, some aspects of the project could not be covered as planned, notably the survey for crop pests on Tristan and the collection of scale and parasitoid population data on Nightingale. There is still time to cover these activities and objectives in the final project year and visits are planned for the next summer season on Tristan.

Some adjustment had also to be made regarding the survey of natural enemies of brown scale in South Africa due to the continuing impact of Covid on travel and work routines. Instead of a direct survey by the project team we decided to outsource this survey, which is still ongoing, to biological control experts at Rhodes University and CABI staff located in South Africa.

Despite the limited availability of berths, the flax-removal team were able to travel to Inaccessible Island aboard the RSPB-chartered *Urchin* expedition yacht which was enroute to Gough Island to collect personnel from the eradication effort there. Had it not been for this, it

would have been unlikely that the team would have made it out at all this year. Prior to boarding the yacht, the team followed the protocols outlined by the Tristan da Cunha Government; having received a negative Covid-19 test, stayed in an approved Covid-safe hotel, and were isolated for a minimum of 10 days before coming into contact with the Tristan community.

Despite the impact of Covid-19 this year, the project activities remain on track, thanks in large parts to a very successful first year under challenging circumstances, the efforts of the Conservation Department to maintain the culture on the island and a real collective effort amongst our partners. Although we're now proceeding as if the worst of the pandemic is behind us, the unpredictability of the last two years tells us that Covid could still pose a risk to the outputs of the project should travel be impacted in year 3.

13 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.

The RSPB's Safeguarding policy was updated in 2019 which adheres to Darwin's terms and conditions. RSPB staff on the project have completed the safeguarding training, and our policy has been shared downstream with partners.

14 Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2021 – 31 March 2022)

These figures are indicative at this moment in time. Finalised figures will be available at the end of May.

Project spend (indicative) in this financial year	2021/22 D+ Grant (£)	2021/22 Total actual D+ Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs	██████			
Consultancy costs	█			
Overhead Costs	██████			
Travel and subsistence	██████			
Operating Costs	██████			
Capital items	██████			
Others (Please specify)	██████			
TOTAL	██████			

- **Checklist for submission**

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	✓
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.	