

## Biodiversity Challenge Funds Projects Darwin Initiative, Illegal Wildlife Trade Challenge Fund, and Darwin Plus Half Year Report

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

**Submission Deadline: 31<sup>st</sup> October 2022**

<b>Project reference</b>	DPLUS144
<b>Project title</b>	Protecting South Georgia's terrestrial communities from climate change-invasion synergies
<b>Country(ies)/territory(ies)</b>	South Georgia and the South Sandwich Islands
<b>Lead partner</b>	Durham University
<b>Partner(s)</b>	RBG Kew, British Antarctic Survey
<b>Project leader</b>	<i>Wayne Dawson</i>
<b>Report date and number (e.g. HYR1)</b>	<i>HYR2 Oct 2022</i>
<b>Project website/blog/social media</b>	<i>@SG_bio_invasion</i>

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

The Activities listed below are those that were due to be implemented over April-September this year. Responses are in italics.

**Output 1:**

1.12 Plant DNA extracted and sequenced to verify species ID of unidentified samples (Kew)

*This Activity has not been implemented, because no plants were unidentifiable in the field during the first field season. There is still a possibility that we will encounter plants that cannot be identified in the second field season. If this is the case, we will perform sequencing at a later stage.*

1.13 Plant and invertebrate community data compilation and analysis after PDRA return to UK

*Initial analyses of plant community data have been conducted for the first three sites surveyed during the first field season. The invertebrates sampled have also been sorted and mostly identified. The work was partially done by two summer studentship undergraduate students (funded by the Biosciences Department in Durham). While we have sampled the minimum number of sites we aimed for (3), we want to increase the representative power of our analyses, and so will try to sample 2 other sites of glacial retreat in the second field season. Thus the analyses for Output 1 will be completed in the first half of 2023.*

1.14 Project Management Group Meeting 3 (online)

*We had this meeting on 21 June 2022. The minutes have been sent with this form.*

## Output 2:

2.3 Order materials required for experiment/germination trials

*Materials ordered and used to set up experiment.*

2.4 Identify current and future (year 2060) climate and light regimes for realistic experimental treatments and germination trial conditions

*Current and future temperatures and light regimes calculated, and applied in experimental treatments. Warming treatment involves an increase of 1.5 degrees C on top of 24-hour mean fluctuating temperatures experience over recent decades on SG.*

2.5 Durham and Kew: Apply any germination pre-treatments to seeds prior to sowing, as required, and sow

*Seeds cold-wet stratified for 1 month prior to placement in germination conditions*

2.6 Durham: Set up and conduct climate experiment

*Experiment currently running. Start delayed due to breakdown of climate chambers. Experiment expected to finish at end of December 2022. Image below shows plants growing in one of the chambers:*



2.7 Durham: Terminate experiment, harvest biomass, weigh and collate data

*Start delayed due to breakdown of climate chambers. Experiment expected to finish at end of December 2022.*

2.8 Kew: Conduct germination trials in incubators at current and future climates

2.9 Kew: Terminate germination trials, collate data and publish in Kew's seed information database

*For 2.8 and 2.9, germination has taken place at Durham. The need for any further germination trials was discussed during an in-person project Team meeting in September 2022, and will be confirmed by the end of 2022.*

2.10 Durham: Data compilation and analysis from climate experiment

*Due to experiment delay, data compilation and analysis will take place in the first half of 2023.*

2.12 Write up and publish year report online, combining key results and progress for Outputs 1 and 2

*Due to experiment delay, write up and publication of year report will be delay until the end of the experiment.*

**Output 5:**

5.4 Write blog about first field season on project web-page, promote on Twitter

*Project webpage has been updated. As a microblogging site, Twitter has become our main mean of outreach and communicating project updates ([https://twitter.com/SG bio invasion](https://twitter.com/SG_bio_invasion)) : 50 tweets have been sent out, and the project profile has 104 followers. Tweets include a video describing the project and first field season:*

[https://twitter.com/SG bio invasion/status/1554752576524107776](https://twitter.com/SG_bio_invasion/status/1554752576524107776)

5.5 Advertise 2nd project webinar on Twitter/through SCAR/ISSA, IAATO, SGHT; collect registration

*Rather than producing a webinar for our target audience- which requires significant extra effort to set up, Pierre Tichit has instead presented his work and promoted the project at three conferences:*

*NeoBiota conference, Estonia 2022:*

[https://twitter.com/SG bio invasion/status/1569617138070994945](https://twitter.com/SG_bio_invasion/status/1569617138070994945)

*European Congress of Conservation Biology, Prague, 2022 (see attached pdf certificate of attendance). Talk entitled: "Protecting terrestrial communities from climate change - invasion synergies on South Georgia Island."*

*Scientific Committee on Antarctic Research online conference, 2022:*

<https://www.youtube.com/watch?v=YAAksQcX1TU> (talk starts at 1h 08m, 50s).

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

The only unexpected problem that has emerged during this period, is the delay in starting the climate simulation experiment (Output 2), due to malfunctioning of the climate chambers and the time required for them to be fixed and brought back into use. However, the experiment is now running and has not been jeopardised, thus it will be completed within the intended financial year. Therefore there was no reason to discuss the issue with NIRAS-LTS International.

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

Discussed with NIRAS-LTS: No

Formal Change Request submitted: No

Received confirmation of change acceptance NA

Change request reference if known: NA

**4a. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this year?**

Yes  No  Estimated underspend: £

**4b. If yes, then you need to consider your project budget needs carefully.** Please remember that any funds agreed for this financial year are only available to the project in this financial year.

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

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

The only issue to raise is the potential delay that may occur in the second field season required for Output 3, which is out of our control. The field season may have to last into April 2023, when we had originally planned for it to last until March 2023. The change is due to the lack of options for boats visiting/returning from South Georgia. [REDACTED]

[REDACTED] This means that we may not be able to avoid field season costs straddling the financial year, which was problematic last time. We would in effect have to estimate the total cost of the field season and request for funds to be carried over into the next financial year when we would get the invoice of costs from BAS.

**If you are a new project and you received feedback comments that requested a response (including the submission of your risk register), or if your Annual Report Review asked you to provide a response with your next half year report, please attach your response to this document.**

**Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also** be raised with NIRAS-LTS International through a Change Request. **Please DO NOT send these in the same email.****

Please send your **completed report by email** to [BCF-Reports@niras.com](mailto:BCF-Reports@niras.com). The report should be between 2-3 pages maximum. **Please state your project reference number, followed by the specific fund in the header of your email message e.g. Subject: 29-001 Darwin Initiative Half Year Report**