

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: 31st October 2023

Project reference	DPLUS166
Project title	Improving identification of fish bycatch in the Antarctic krill fishery
Country(ies)/territory(ies)	British Antarctic Territory and South Georgia and the South Sandwich Islands
Lead partner	BAS-British Antarctic Survey
Partner(s)	Newcastle University, Royal Botanical Garden Edinburgh, MRAG, Government of South Georgia and the South Sandwich Islands
Project leader	Philip Hollyman
Report date and number (e.g. HYR1)	HYR2
Project website/blog/social media	https://www.bas.ac.uk/project/fish-by-catch-in-the-antarctic-krill-fishery/

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).

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

The project is advancing well and is in line with the log frame, having completed 9 of the 14 activities for Output 1. Since the last report in April 2023, an extra 238 samples have been sub-sampled for DNA, making a total of 362 DNA samples that are ready for primer testing and barcoding sequencing. Moreover, all samples collected by the fishery observers within the krill fishery between 2021 and 2023 have already been identified, subsampled for DNA and photographed.

The development of mitochondrial DNA genetic identification tool-box for fish bycatch species is now in the testing phase, with 20 primers designed for the amplification of the COX1 gene and 10 primers for the amplification of the control region of the mitochondrial genome. Following the successful amplification by PCR the samples for COX1 will be sent externally for barcoding sequencing.

The sequencing of the control region will be performed in house with the newly purchased Minlon sequencer, a next generation sequencing device that will allow sequence amplicons of >700bp per sequence. Training for working with the Minlon will be provided by William Goodall-Copestake (Royal Botanical Garden Edinburgh), taking place in late October.

The work on Output 2, addressing the review of early life history stages of know bycatch species within the krill fishery, has advanced rapidly and we have already selected 263 papers that provide relevant information related to habitat, fecundity, reproduction, and development. The next steps will be the review of 214 papers and the quality control check of the data extracted from the selected literature. Following this, a manuscript will be put together and submitted to the CCAMLR working group on fish stock assessment.

The project was introduced at the South Georgia and the South Sandwich Islands Marine Protected Area (Hosted by GSGSSI) symposium in June (13th-15th) by William Reid (Newcastle University) and at the Fisheries Society of the British Isles symposium in July (24th-28th) by Lorena Romero-Martinez (BAS).

A paper outlining the project was presented at CCAMLR (Commission for the Conservation of Antarctic Marine Living Resources) Working Group for Fish Stock Assessment in Hobart, on the 9th of October. This was to engage with the wider scientific community working on the Antarctic krill fishery. The project was well received and the working group has asked that the results of the project are presented to CCAMLR upon completion, as the outputs will have broad appeal for several groups.

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.

As part of the integrative taxonomy approach for the identification of fish bycatch, it was considered that using the NGS technology Minlon sequencer would be both time and cost efficient compared to standard Sanger sequencing. This was only applicable for the barcoding sequencing of the control region, due to the high variability observed between fish species in this region. Thus, to enhance the probability of amplification, primers were designed within more conserved areas of the genome that are flanking the region of interest. However, this would amplify >1000bp which under standard sequencing methods would be costly and time consuming. Hence, it was considered beneficial for the project to purchase the Minlon sequencer, as this will advance the completion of Output 1. This approach will not result in any overspend in the budget and should enhance our ability to complete this work.

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

Discussed with NIRAS: N/A

Formal Change Request submitted: N/A

Received confirmation of change acceptance	N/A
Change request reference if known:	

4a. Please confirm your actual spend in this financial year to date (i.e. from 1 April 2023 – 30 September 2023)
Actual spend: £ [REDACTED]

4b. Do you currently expect to have any significant (e.g. more than £5,000) underspend in your budget for this financial year (ending 31 March 2024)?
Yes **No** Estimated underspend: £

4c. 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.
NB: if you expect an underspend, do not claim anything more than you expect to spend this financial year.

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

No

If you are a new project and you received feedback comments that requested a response, 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.

All new projects (excluding Darwin Plus Fellowships and IWT Challenge Fund Evidence projects) should submit their Risk Register with this report if they have not already done so.

Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also be raised with NIRAS 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. 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**