

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	DIR29S2\1068
Project title	Ecosystem restoration of watering holes in Cambodia's Northern Plains
Country(ies)/territory(ies)	Cambodia
Lead partner	Wildlife Conservation Society
Partner(s)	<ul style="list-style-type: none"> • Laos Buffalo Dairy, Luang Prabang, Lao PDR • Centre for Biodiversity Conservation (CBC) of the Royal University of Phnom Penh (RUPP), Cambodia • Provincial Department of Agriculture, Forestry and Fisheries (PDAFF), Cambodia • Ministry of Environment (MOE)
Project leader	Nev Broadis, Landscape Technical Advisor, WCS
Report date and number (e.g. HYR1)	October 2023, HYR1
Project website/blog/social media	www.wcs.org

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.

Overall, the project is progressing well, and is on target. None of the project indicators specified targets that were due for this reporting period. Some activities have begun prior to their start date to take advantage of an early calving season for the buffalo. A summary of each of the activities proposed during this reporting period follows.

Output 1.1 A Community Protected Area (CPA) assessment was conducted successfully beginning with a series of internal Community Engagement and Biodiversity Team meetings. The following factors were identified as important to the success of the project and were used to assess and score the 23 CPAs in the landscape for inclusion in the initiative. (1) Proximity to seasonal ponds was vital for the project and would also be a criterion for buffalo survival. (2) The accessibility of these ponds, by researchers, community, and the buffalo themselves was also considered and later verified in the field, based on maps produced during the data gathering phase. (3) Community ownership of buffalo and domestic cow herds was a negative factor as the ability to control experiment ponds would be hindered. Government data on this was useful but lacking, instead we drew on extensive previous camera trap survey effort in the landscape to create a heat map of locations where domestic cattle were captured in surveys. CPAs that were found to have a very high population of domestic cattle were then filtered out from the project. (4) Both the knowledge and experience of the community in buffalo herding, but also their willingness to take part in project activities was considered key to the success of the project – and additionally, CPAs whose members were perhaps not yet active in other conservation activities due to external factors. (5) Areas of high importance for mammals and nesting birds (based on surveys from 2021 to 2023 from across the landscape) was considered. This exercise resulted in a list of 4 CPAs to be included and 1 to be held in reserve should the project be capable of expansion, or if the field verification disproved the theory behind the CPA selection. Following this preassessment the project team conducted a further meeting to create an assessment protocol for seasonal ponds to identify those factors that might affect the selection of seasonal ponds to include as both experiment and control ponds. A full list of factors is available on request and will be included as an output of this project. Once this pond assessment protocol was complete, along with digital data collection form using Kobo Toolbox, the pond assessments took place in the field along with the community members from the relevant CPAs included in the study. Up to the time of writing, the pond assessments were completed in 2 of the 4 CPAs that were chosen as priorities for the project.

Output 2.2 A series of sessions both online and in person were held with the project team and partners at the Centre for Biodiversity Conservation at the Royal University of Phnom Penh in attendance. The goal was to create a seasonal pond survey protocol to assess biodiversity at experiment ponds. The initial surveys were scheduled to take part in the later stages of the dry season in April, however, as the project started later than anticipated and the wet season began early than expected, this was not possible. These surveys will instead take place at the start of the dry season. A draft protocol has been developed and procurement of pond monitoring equipment is underway that will allow us to assess several factors relating to a range of factors such as dissolved oxygen, pH, temperature, total dissolved solids, turbidity, coliform bacteria, nutrients and more. A final protocol will be produced as an outcome at the end of Year 1.

Output 2.3 WCS had previously developed a community research protocol for monitoring seasonal ponds using rudimentary means that allow for trained community members to assess the changes in pond substrates because of presence or absence of buffalo. During this reporting period the monitoring protocol was modified, finalised, and translated to Khmer language for training purposes. The data collection forms were created using Kobo Toolbox and handheld devices were purchased for community members. Community members from 2 CPAs have been trained in survey techniques including substrate identification and sketch mapping, however this is an ongoing process requiring repeated on-the-job training by the Biodiversity Team.

Output 3.4 The final activity to be conducted during this period was to enlist an MSc researcher from a national university to conduct research on habitat biodiversity of restored tropeangs. Royal University of Phnom Penh received a low influx of candidates for the 18th cohort of the

programme at the Centre for Biodiversity Conservation. Fortunately, our proposed research project looking at the changes to ponds following restoration by buffalo was chosen by one of the candidates. Following completion of contractual agreements, the candidate has travelled to the Northern Plains to conduct an initial series of meetings with the project team and spent time in the field assessing ponds to create a thesis topic. The feasibility of surveys for fish and amphibians were discussed and the development of a methodology is currently on-going.

We were pleased to instigate several activities that were not due to begin in this first half of the year.

Output 3.3 With CPAs selected, and a particularly busy nesting season for birds such as Giant Ibis and Sarus Crane, we were able to enlist the support of the community in joining the nest guardian program to protect 4 nests of Sarus Crane, 1 nest of Giant Ibis and 1 colony of Lesser Adjutants. All nests fledged successfully – an incredible achievement for this community-led initiative.

Output 1.3 & 1.4 With our existing buffalo herds coming in to calving season a little earlier than expected, we were also fortunate to organise an exchange trip with project partners at LBD in September 2023. The trip included visits to 3 CPAs to meet and train local community members. As a result, 1 CPA achieved the advanced stages of the project activities. The community and project team constructed a buffalo dairy featuring a rudimentary shelter for milking and a stall for vaccinations and tagging, secured the required equipment to operate the dairy – including a biodigester that uses buffalo dung to create methane for cooking, and successfully trained two community members to harvest milk from four female buffalo. During the same trip, the local school was invited to sample a nutritious rice and vegetable soup cooked with the buffalo milk from the community herd and the reviews were excellent. The community dairy is currently producing milk daily and is used locally in an informal basis while the nutrition aspect of the project is formalised. Many other activities were achieved during this trip and will be detailed in the next report.

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 most notable problem encountered was the early onset of the wet season this year. The implementation timetable had a project start date of April 1st allowing us one month to conduct some baseline surveys and conduct a rapid camera trap survey during the last month of the dry season to assess use of ponds by mammal and bird species. With the project agreement being finalised after this date, project activities could not start in April and additionally, the first rains fell in April and ponds began to rapidly fill. This meant wildlife was no longer concentrated on those ponds that had held water through the dry season and were instead dispersed across the landscape. To adapt to this change, we plan instead to conduct this camera trap survey during the dry season from December 2023 – March 2024. This may benefit the project as it will give us more data and by that time the ponds used for control and experiment will already have been finalised. Therefore, the impact on the project will be negligible, or will in fact strengthen it. There will be a slight modification to the implantation timetable, but no effect on the budget as we are moving activities within the same financial year.

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

Discussed with NIRAS: Yes/No

Formal Change Request submitted: Yes/No

Received confirmation of change acceptance	Yes/No
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: 0

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?

Although it appears, based on the 6-month financial report, that the project may result in an underspend within the first year this is due in part to a late start date. Additionally, some of the more expensive activities (such as building community dairies and purchasing buffalo) were scheduled to start in the second half of the year. This can be seen in the implementation timetable. We are very confident that we will spend the budget as per the proposal in its entirety within the financial year.

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**