



**Darwin Initiative/D+ Project
Half Year Report
(due 31st October 2019)**

Project reference	24-030
Project title	Controlling an invasive aquatic plant for improved biodiversity and livelihoods
Country(ies)/territory(ies)	Zambia
Lead organisation	BirdLife International
Partner(s)	BirdWatch Zambia (BWZ); Centre of Agriculture and Bioscience Information (CABI); Zambia Environmental Management Agency (ZEMA)
Project leader	Paul Kariuki Nding'ang'a
Report date and number (e.g. HYR3)	HYR3
Project website/blog/social media etc.	https://www.birdwatchzambia.org/darwin-project/

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

Under **Output 1 (Environmental Impact and Risk Assessment guiding mitigation measures for biologically controlling *Salvinia molesta*)**:

- Output completed, and previously reported against.

Under **Output 2 (Fishing community members have increased the capacity and interest to participate in *Salvinia* control)**

- Within the half year, a total of 12 awareness raising meetings were held. Target groups included traditional leaders, Site Support Group (SSG) members, fishermen, traders and school pupils. The total number of individuals to whom awareness was raised during this period accumulates to 443 comprising of 294 (66%) males and 147 (33%) females. Two traditional leaders – a chief from Chiyuni and a headman from Chilwa were visited to give an update on the project activities. Both traditional leaders are enthusiastic about the approach and they are optimistic that the weevils will clear more of the swamp over time. They indicated that the *Salvinia molesta* infestation is however increasing in parts that have not been introduced yet as per their last visit to the swamp.
- Weevil monitoring training was conducted in Chiyuni and attended by 5 individuals – 1 fisheries officer, 1 bird guide and 3 community members. Topics covered included: weevil identification, weevil management, trough management and monitoring, and the Dos and Don'ts for weevil success. Now, 10 community members, in addition to the fisheries officers, are actively participating in weevil monitoring and nurturing, especially during the monitoring visits undertaken by the project team.
- The project was profiled at the BirdLife International Southern Region partners meeting held in Victoria Falls, Zimbabwe (22-25 May 2019). This meeting was attended by 15 participants from Zimbabwe, Botswana, Malawi, South Africa and RSPB.

- During the International Congress for Conservation Biology (ICCB) in Kuala Lumpur, Malaysia (21-25 July 2019), the BWZ participant shared with some invasive species experts about this project and sought their expertise. She also used every opportunity to share project experiences and progress with other conference participants. She met participants from Palestine who were presenting about their biological control of *Salvinia molesta* using *Cyrtobagous salviniae*, using a similar project approach with BWZ. The Palestinian participants shared insights and ideas that been helpful to the project, especially regarding enhancing mass rearing. BWZ will maintain contact with the team from Palestine and possibly work on a joint publication with them regarding avenues to improve the efficacy of *Cyrtobagous* mass rearing efforts.

Under Output 3 (*Salvinia molesta* control in Lukanga Swamp improves habitat for wetland biodiversity including increased fish stock leading to increased food security for fishing community households)

- The total number of mass rearing avenues (concrete ponds and movable troughs) was increased to 13 (from the six reported March 2019) and are now placed at five strategic locations: 2 concrete ponds in Waya, 4 concrete ponds at Chilanga fisheries headquarters, 2 troughs at BWZ office, 2 troughs in Chiyuni and 3 troughs in Chilwa. All these are taken care of by trained local weevil monitors who get in touch with BWZ every two weeks providing updates on: browning of *Salvinia molesta*, need to replenish water, observations of fresh *Salvinia* and any challenges. The 12 trained weevil monitors have also been helping with maintenance and weevil nurturing at those ponds and troughs, which includes draining, adding of fresh water and fresh *Salvinia molesta*.
- The total number of weevil introduction points throughout the swamp was increased to 24 (from 17 reported in March 2019). All the 24 introduction points have been georeferenced and monitored, assessing: extent of spread of the weevils, effect of the weevils on *Salvinia molesta* and associated plants, and the 'browning score'. Similarly, this assessment was also conducted on the 8 control points that been established. The weevils presently cover a total area of 345 km² (10% of the total swamp) within which *Salvinia* has been cleared as per the last monitoring exercise in May 2019.
- The mid-term biodiversity assessment was conducted in June 2019. A total of 20,335 individual birds belonging to 60 species were counted. In comparison 3,870 individual birds belonging to 88 species had been recorded during the biodiversity assessment conducted in June 2018. From the eight open water dependant indicator species (Fulvous Duck, White-faced Duck, Pygmy Geese, African Jacana, Common Moorhen, Black Crake, Lesser jacana and Red-knobbed Coot), there is an increase in the relative abundance from an average of 1.9% from June 2018 to 3.3% in June 2019. This increase could be attributed to *Salvinia molesta* control. Unfortunately, during the biodiversity survey evidence of bird trapping and heavy burning within the swamp was observed. BWZ are taking these issues very seriously and working with BirdLife International to secure funding to enhance enforcement and tackle these threats.

Under Output 4 (Project partners maintain and build on the outcome of the project and promote biological control of alien invasive species in areas under aquaculture across Zambia for livelihood improvement and biodiversity conservation):

BWZ identified and met with a Conservation Ambassador – a local musician with environmental conservation interest, who will be responsible of raising the profile of BWZ's work and the project at different levels of engagement. BWZ's objective of engaging the musician is to change the dynamics under which awareness raising is undertaken. Rather than the conventional talks, BWZ hopes to use music and story -telling, poetry to attract a larger and more diverse audience.

The 4th Project Steering Committee was held to monitor and evaluate project performance against the quarterly work plan. The committee gave guidance with regards to the progress, particularly around avenues to sustain and escalate current efforts on the swamp.

2a. 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.

From the interactions at ICCB, the team has learnt a technique to accurately count weevils and improve the mass rearing. Currently, we have employed a method to heat water to keep it at weevil optimum temperature (between 25.5°C and 33.5°C) to improve the feeding and breeding. This is to ensure that the weevils are not dormant but in an active state. Additionally, we have started adding nitrogen rich fertiliser to some mass rearing troughs and ponds to improve the growth of the *Salvinia molesta* which ultimately provides fresh growth tips which are good food for the weevils. Furthermore, the nitrogen in the fertiliser will improve the size of females and ultimately lead to larger egg clutches.

The reviewer of the last annual report had recommended revision of some of the outcome indicators. We have discussed these with Darwin, and it has been recommended that we put forward a change request in this regard. This will be submitted in early November 2019.

2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?

Discussed with LTS: Yes/No

Formal change request submitted: Yes/No

Received confirmation of change acceptance Yes/No

3a. 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: £

3b. If yes, then you need to consider your project budget needs carefully.

4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document. Additionally, if you were funded under R25 and asked to provide further information by your first half year report, please attach your response as a separate document.

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

Please send your **completed report** by email to Darwin-Projects@ltsi.co.uk. The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g. Subject: 25-035 Darwin Half Year Report**