



Darwin Initiative/Darwin Plus Projects Half Year Report (due 31st October 2020)

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; Centre of Agriculture and Bioscience Information (CABI); Zambia Environmental Management Agency (ZEMA).
Project leader	<i>Paul Kariuki Ndang'ang'a</i>
Report date and number (e.g. HYR3)	HYR4
Project website/blog/social media	www.birdwatchzambia.org

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).

During the reporting period, the following progress has been achieved:

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

- Previously completed output.

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

As part of increasing community interest through awareness raising, the following (seven) engagements were conducted, reaching a total of 106 people between April and September. Awareness raising was focused on the Dos and Don'ts regarding the success of the biological control intervention, how the *Cyrtobagous salviniae* work as well as care and maintenance of mass rearing sites. This was despite reduced activity due to COVID-19 restrictions on public gathering and social distancing:

- Nine fisheries management committee members were met to discuss their involvement as a local Site Support Group (SSG) for Chilwa island. This was a welcome suggestion and to that effect, a draft constitution was shared with the committee for revision and customisation. The establishment of this SSG is scheduled for the 3rd quarter of this project year.
- During the weevil (biocontrol agent) monitoring visit, the team raised awareness to a total of 10 community members from Waya, Chilwa and Chiyuni.
- Offsite, 30 tour operators along the Kafue River (within the same catchment as the Lukanga) were engaged in awareness raising on *Salvinia molesta* control methods, modes of spread and identification; as it similar to the invasive *Lymnobia laevitatum* within the same system.

- Three school visits were conducted in 2 schools within the project site.

In one school, a meeting was held with the school management to discuss the possibility of forming a Nature Club. The keenness from the school management led to a follow up visit to officially launch the Club. The new club at Chilwa School (Chilwa Nature Club) recruited a total of 29 pupils.

With the already established Nature Club at Meembe school, the team conducted education and awareness raising talks with 20 pupils. This was enhanced by an outdoor bird spotting and identification exercise.

- Eight Site Support Group (SSG) members were met in Waya to provide updates on the project and enhance project collaboration efforts. This meeting was also a platform to discuss possible livelihood interventions for consideration in anticipation of future funding opportunities.

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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)

- A survey visit to Lukanga Swamp was conducted in July as part of monitoring how the biocontrol agent (the *Salvinia* weevil- *Cyrtobagous salviniae*) is performing. So far, the weevil has been released at a total of 37 release points (11 in Y2, 14 in Y3 and 12 in Y4). Results from the survey indicated that the extent of spread of weevils since the first release in October 2018 covered a total area of 1538km² which is now above the target set in the output indicator. This is more than double of the 662km² covered in December 2019.
- Mass rearing activities of the biocontrol agent resumed in Chiyuni (one of the three entry points to the swamp) where it had previously been disrupted. This is being done in 2 troughs of weevil infested *Salvinia*. The total number of mass rearing avenues (troughs and concrete ponds) now stands at 14.
- The 2020 Satellite image analysis of the Lukanga swamp was conducted during the weevil monitoring exercise. The updated map shows the comparative progression of the Lukanga swamp land coverage between 2010 and 2020. Although the results show an increase in the *Salvinia molesta* coverage, it indicates the lowest rate (0.3%) of increase of *Salvinia* growth was between 2017 and 2020 (see attached maps and Figure 1 below). This was a clear indication of impact from the current project intervention.

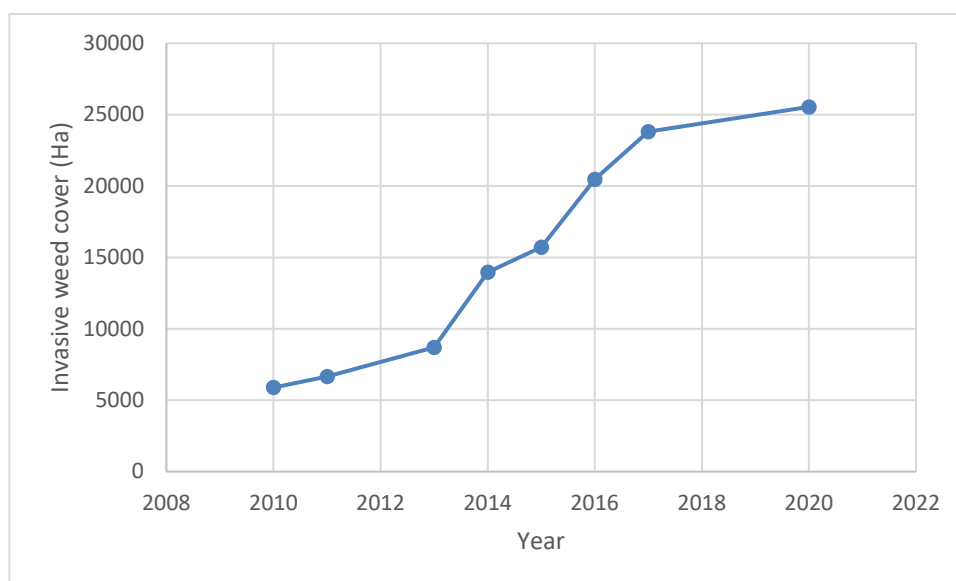


Figure 1: *Salvinia* (invasive weed) cover since 2010, showing slow spread rate since biocontrol start in 2018.

- Results from the 2020 biodiversity assessment conducted in June as in the previous years are as follows:
7009 birds from 60 species, 19 plant species, and 8 fish species were encountered. This was lower than results from the June 2019 biodiversity assessment (20,335 birds from 59 bird species, 19 aquatic plants, 11 fish species and 4 Reptiles). However, a basic trend analysis (2018 to 2020) of the 13 common and resident (non-migratory) water bird species count data shows that percentage composition of 9 open water dependent species continued to show a negative trend whereas the percentage composition of the 4 floating vegetation dependent species continued to show a positive trend (Figure 2). This is consistent with the above satellite image analysis that showed an overall increase in *Salvinia* coverage. In addition to *Salvinia molesta* infestation other minor threats observed included bird trapping for food using small pieces of fishing nets and sticky glue to catch birds, fires set out to clear canals and chase away predators such as crocodiles, and improper fishing methods such as use of drag nets. So far BWZ has been using the community engagement opportunity (Output 1) to raise community awareness against these threats.

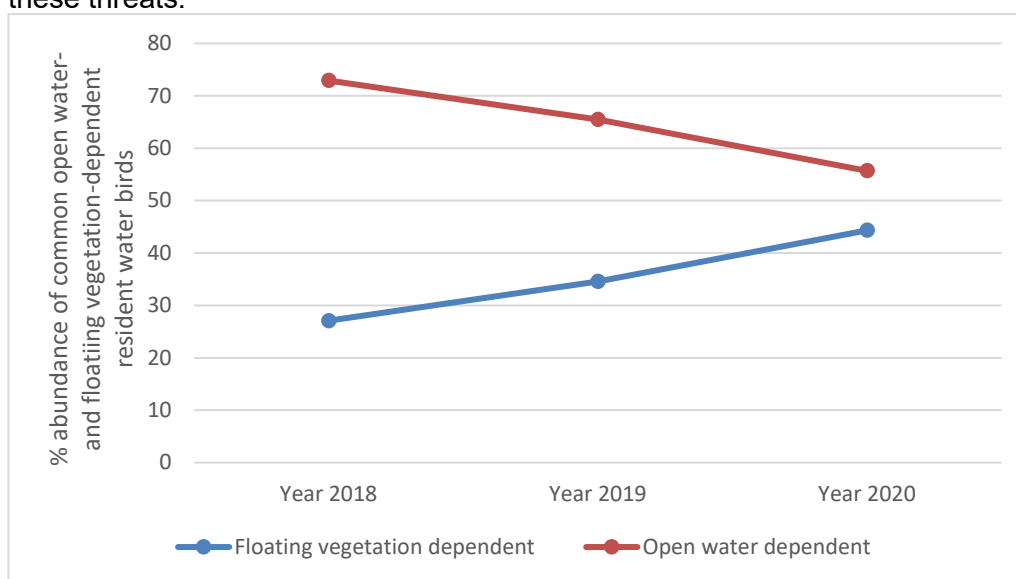


Figure 2: Trends in abundance of 9 common open water-dependent and 4 common floating vegetation-dependent resident waterbird species since biocontrol start in 2018.

- After a tip off from tour operators that *Salvinia molesta* was spotted in the Kafue River, the main river channel near the Lukanga, the team joined efforts with experts from within the Project Steering Committee to conduct a mapping survey to ascertain the extent of spread of the invasive weed. The survey covered approximately 170km length of the river within the National Park and Game Management Area and confirmed the presence of *Salvinia molesta* within the mentioned area. This was also a ground truthing exercise of the satellite image analysis map (July 2020) that showed *Salvinia* presence at the Confluence of the Lukanga swamp and the Kafue River. Proposed follow-up work to this project will place biosafety measures to control further spread of *Salvinia*.

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):

Over the last 6 months, the Project Steering Committee (PSC) had its 7th and 8th meetings since project inception. These meetings were held for the project team to provide an update of project progress and for the committee members to brainstorm on the forecast ahead after the project closes to protect the investment that has been made so far.

The keenness of the PSC members for follow-up work on the Lukanga was a prompt for involvement in the development of the proposed follow up project submitted to Darwin Stage 1. This was developed from lessons learnt and gaps perceived in the current project.

Through the PSC, the team was involved in the preliminary stage of the development of a Management Plan for the Lukanga Swamp through the Ministry of Lands and Natural Resources with various Government and Non-Governmental organisations.

2a. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months (for Covid-19 specific delays/problems, please use 2b). Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

Mass rearing of the biocontrol agent (weevil) in the four ponds in Chilanga (one of the 3 entry points to the swamp) has been discontinued due to constraints in obtaining consistent water supply. However, this didn't affect the project significantly since the ponds hadn't become fully operational anyway.

The boat engine (from Waya) used to facilitate field activities is no longer functional - it is an older model and spare parts are not available in-country. The Fisheries Department has however offered the project team another engine from Chibombo fisheries office situated in Chibombo district and supervisory office for the Chiyuni entry point).

2b. Please outline any specific issues which your project has encountered as a result of Covid-19. Where you have adapted your project activities in response to the pandemic, please briefly outline how you have done so here. Explain what residual impact there may be on your project and whether the changes will affect the budget and timetable of project activities.

While project activities, field work and procurements lagged in the first quarter of this year, the team has recovered on all lost out activities with a national ease in Covid19 related restrictions. However, with restrictions on mass gathering, awareness raising has been limited to extremely small groupings.

In response to the pandemic, field weevil monitors have been advised to conduct weevil introduction exercises in the absence of BirdWatch Zambia staff once agreed. This has enhanced communication to ensure both mass rearing and weevil introduction activities are on course as scheduled. However, the BirdWatch Zambia team is currently able to visit the site while strictly observing Covid19 safety measures.

Fortunately, all of the above have not had any budget implications.

2c. 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. 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 rebudget Change Request as soon as possible. There is no guarantee that Defra will agree a rebudget 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.

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.

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: 25-001 Darwin Half Year Report**