



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

Project reference	25-007
Project title	Protecting Yap's Biodiversity and Livelihoods through Invasive Alien Species Removal
Country(ies)/territory(ies)	Yap State, Federated States of Micronesia
Lead organisation	Island Conservation
Partner(s)	Ulithi Falalop Community Action Program One People One Reef
Project leader	Tommy Hall
Report date and number (e.g. HYR3)	April 2019 - September 2019
Project website/blog/social media etc.	www.islandconservation.org

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).

Project activities in the past six months have continued to include planning, community outreach and education, which are critical for maintaining enabling conditions for the project. We are now in the implementation phase of the project and the scope of activities has increased significantly to include: field trials for the eradication, baseline monitoring of terrestrial biodiversity and natural resources, baseline monitoring of the marine ecosystem, and biosecurity program planning. We have increased our presence on Ulithi and leveraged numerous excellent opportunities to engage with the community. The project has been well received by the local community and the level of excitement around removing invasive species (particularly rats) is encouraging. The ongoing success of this project continues to be a result of the strong partnership that was established. This has helped Island Conservation earn the trust of the communities across the four inhabited islands of the atoll and set the stage for successful eradication projects.

The community has embraced the idea of restoring their islands and encouraged us to broaden the scope of work to include at least the four other "Turtle Islands". Our eradication objective for this project is now expanded so that all five 'Turtle Islands' will be maintained free of invasive vertebrates with a biosecurity program in place. In July we completed surveys on the four other turtle islands (Bulbul, Yew, Gielop and Iar) for sign of invasive rats and monitors and the islands were all discovered to be free of invasive vertebrates. With this information, we can be confident that the eradication project on Loosiep will result in a pest free Turtle Island group!

Overall, the eradication project is moving forward on schedule and we have achieved several key milestones. The permanent structure was completed on Loosiep and was in full-time use for the duration of the field season and as needed for follow up work. The typhoon season has been active this year and the constant severe weather has made it difficult to travel between islands since August, however this has not resulted in any loss of progress.

To move the rat eradication forward we completed the necessary field trials for rats allowing us to develop an operational strategy. We will implement the baiting operation in March 2020 which will achieve eradication. The knockdown phase of the pig eradication was completed in August. The animals were removed alive and brought back to Falalop where they are kept as livestock. We anticipate completing a successful pig eradication in spring 2020. We have completed several successful field trials to evaluate and further develop the strategy for eradicating monitor lizards. However, the field trial results indicate that the monitor lizard eradication may need consistent effort over several years. The trials we have completed with monitor lizards thus far have been informative and we are planning to publish a manuscript to describe our research into the efficacy and palatability of acetaminophen-laced fish bait as an eradication tool. We will move ahead with an island-wide monitor lizard knockdown after completing the baiting operation for rat removal. We will continue to manage our overall eradication strategy adaptively.

The development of the biosecurity program is ongoing. There have been several biosecurity trainings with the field teams and leadership. Community meetings were held on all four inhabited islands. At each of the meetings the biosecurity program was introduced, and feedback has been incorporated into the biosecurity plan. We discussed introducing biosecurity and invasive species into the education curriculum with the Director of Education on Yap proper and the Vice principal and science teacher at the Outer Islands High School. Next steps for the biosecurity program include formalizing the biosecurity plan and implementing the education and outreach component. This is scheduled to occur in the start of 2020.

Baseline data for the marine and terrestrial ecosystems was collected. Pre-eradication fish transects were completed at ten sites to assess abundance, diversity and biomass of key trophic guilds. Benthic surveys of reef crests were conducted at the same sites. Tissue samples for isotope analysis was collected from 12 sites. The goal is to demonstrate that the removal of invasive vertebrates from Loosiep will result in a healthier, more productive marine system. Terrestrial surveys included seabirds, vegetation, crabs and reptiles on Loosiep and two control islands without invasive vertebrates. Marine turtle surveys were completed on Loosiep island for the entire months of May and June. Turtle nest predation was documented as part of these surveys. We still expect that turtle nest predation will decrease to zero with this project.

A portion of this project is focused on community wellbeing. We brought a social scientist onto the project to help develop and survey to examine households' current status and possibilities to sustain livelihoods based on local marine resources, gardens, and imported foods and to better understand people's perception of resource management. These surveys are currently being conducted on all four inhabited islands and should be complete by the end of November.

The support from the community has continued to increase and, after a series of formal community-wide meetings at each of the inhabited islands, there is an interest in expanding eradication work to remove rats from the inhabited islands. This would result in a major improvement to the livelihoods of the local community and human health and safety as well as improved agriculture and food security. The partnership has discussed raising funds for such projects once the Loosiep Island project is complete.

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.

One of the biggest challenges of this project is the monitor lizard eradication component. A successful monitor lizard eradication has never been documented, so this project is both challenging and exciting in that we are forging new techniques that can be utilized in future invasive reptile eradications. We have been primarily focused on developing tools and strategies that will lead to eradication, however we are not confident that we can achieve and confirm monitor lizard eradication by the end of this grant period. Achieving eradication might take several years or a development of novel techniques, both requiring more funding. Our field

trials have demonstrated that we can be very effective at targeting and removing all adult monitor lizards and we are confident we can keep the population down to low levels. This in itself will benefit the livelihoods of the local community who will be able to resume gardening on Loosiep. However, our objective remains to achieve eradication of all species of introduced pests from the island (rats, monitor lizards, and pigs). The development and implementation of a successful eradication strategy will be ground-breaking and open doors for future work restoring island ecosystems.

A recent development that was brought to our attention in August was the outbreak of leptospirosis and dengue fever in Yap state resulting in a declaration of a state of emergency. Demonstrating a successful rat eradication on Loosiep may be a major driver in the demand for rat eradications on the other islands of Yap State, especially the inhabited ones. Rats are a vector for leptospirosis and removing them entirely from an island would significantly decrease the potential for an outbreak. We plan to work with state and national agencies so that they are informed on this project. The Loosiep eradication project is an excellent opportunity to build capacity for more eradication work in the region.

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: No. Please advise if we should contact LTS to discuss.

Formal change request submitted: 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?

No Estimated underspend: £0.00

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.

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**