Department for Environment Food & Rural Affairs

DARWIN INITIATIVE

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Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the "Writing a Darwin Report" guidance: (http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

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Darwin Project Information

Project reference	25-007
Project title	Protecting Yap's Biodiversity and Livelihoods through Invasive Alien Species Removal
Host country/ies	Federated States of Micronesia
Lead organisation	Island Conservation
Partner institution(s)	Ulithi Falalop Community Action Program; One People One Reef
Darwin grant value	£350,000.00
Start/end dates of project	7/1/2018 - 3/31/2021
Reporting period (e.g., Apr 2018 – Mar 2019) and number (e.g., Annual Report 1, 2, 3)	July 2019 – March 2019, Annual Report 1
Project Leader name	Tommy Hall
Project website/blog/Twitter	www.islandconservation.org
Report author(s) and date	Tommy Hall, Nicole Crane, John Rulmal JR, March 31, 2019

1. Project rationale

Ulithi is a remote atoll in the Caroline Islands of the western Pacific Ocean, consisting of 40 islets. Ulithi supports some of the greatest biological diversity within the FSM, and is home to regionally important native seabird species, the endemic giant Micronesian gecko and a newly discovered endemic blind snake. Known as the "Turtle Islands," Ulithi provides nesting habitat for the greatest number of Green Sea Turtles (EN) in Micronesia. Two introduced and invasive species, the black rat and the mangrove monitor lizard, are present on Loosiep, one of the Turtle Islands. There they are impeding horticulture, diminishing critical natural resources and having a significant impact on the island's biodiversity. This damage is illustrated by the excavation and predation of green turtle nests by monitor lizards, the lack of roosting and nesting seabirds on Loosiep and the absence of coconut crabs which are abundant on surrounding islands. Rats are equally destructive, preying on marine turtle hatchlings, seabirds and crops.

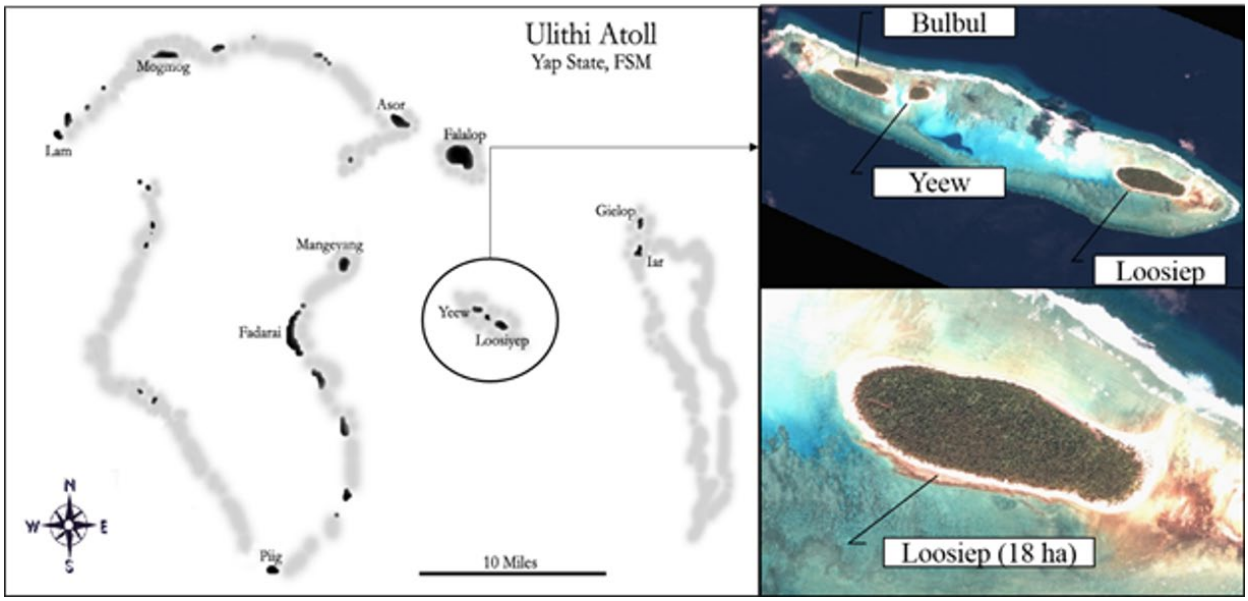

Figure 1. Map of Ulithi Atoll and Loosiep Island

Because of the atoll's extreme isolation, Ulithi's 1,000 residents rely heavily on the natural resources available to them such as food grown in gardens, and sustainable harvest of turtle and bird eggs. Rats and monitor lizards have depleted these resources on Loosiep. Monitor lizards frighten the community due to their large size and fearsome appearance. Consequently, gardening on Loosiep has been abandoned. Freshly grown foods are no longer readily available, and the community is faced with a serious dietary-related disease epidemic. These impacts have reduced the community's resilience at an especially vulnerable time in the face of increasingly severe storms and rising sea levels due to climate change.

Ulithi's subsistence economy is closely integrated with nature and the community has a strong interest on relying on its natural resources. To uphold these traditional values, the integrity of the atoll's living ecosystem must be maintained. Eradication of harmful invasive vertebrates will allow recovery of native species populations and enable the community to preserve its cultural values. The goal of this project is to remove invasive rats and monitor lizards and facilitate a transition back to a traditional subsistence lifestyle for the inhabitants of Ulithi. Once the island is free from these invasive vertebrates the community will re-establish traditional gardening practices on the island while also being stewards for the recovery of the ecosystem on the island, the sea turtle population and the surrounding reefs.

2. Project partnerships

There are two lead partners on the project: Ulithi Falalop Community Action Program (UFCAP) and One People One Reef (OPOR). UFCAP represents leadership and the community of Ulithi and are the primary partner on the project. UFCAP's role in the project is to engage community leaders, advise on planning and logistics and facilitate community involvement in all phases of the project. OPOR's role in the project is to lead the socio-economic monitoring and community engagement and outreach. OPOR is working closely alongside UFCAP to facilitate strong community relations and involvement of local scientists. The fourth partner, Blue Ecology, is involved in leading the engagement of the youth of the community on this project. Blue Ecology works closely with OPOR and has planned to involve youth from their Annual Youth Conservation Trip this coming June to incorporate fieldwork from this project in their objectives.

Over the course of year one we have developed excellent working relationships with the partners. The structure of this partnership was designed so each plays a different key role in the project and capitalizing on the strengths of each organization. A strong trust-based relationship has led to a very effective start to the project. We have had regular meetings that have focused on the key core components of the project: logistics and planning, biosecurity, biological monitoring and trials (field work), and community and socio-economic priorities.

The partnership with UFCAP has been based on mutual conservation and community goals. UFCAP has helped steer the planning phase of the project in a direction that benefits the interest of the community while staying focused on the conservation and biodiversity benefits. The project is on track in the planning phase and we have begun the implementation of actual work on Loosiep. The successes we have achieved thus far such as gaining support from the community, building effective local project teams and executing the logistics are all thanks to the capable support from UFCAP. We developed a working timeline during a planning workshop held on Falalop, Ulithi and have been able to manage it adaptively based on feedback from partners and the community. One of the unintended benefits from this project thus far has been the ability to incorporate some additional community objectives outside the scope of our project. For example, when we chartered a fishing vessel to transport supplies for the project, we were able to share the cargo space with the community to supply them with additional boat fuel, building materials and food. These outer island communities, and especially their leaders, are masters of logistics and there is never a wasted opportunity to move resources between islands. It has been rewarding to see how proactive they have been as unexpected delays have occurred. One People One Reef (OPOR) brings eight years' experience working productively with UFCAP and the community on Ulithi Atoll; bringing them on has been a great benefit to the partnership. They have been an asset in the planning phase by helping us identify and prioritize actions that are in the best interest of the community without sacrificing the objectives of the project.

Figure 2: A combination of people from OPOR, UFCAP and the field team at the boat landing site on Loosiep Island.

Achievements:

- Established a multi-partner relationship that is effective in accomplishing objectives and reporting back on achievements.
- We have had sufficient support for this project from all partners. All of the partners have been working both collaboratively and independently on agreed upon activities.

- UFCAP hand selected a team of local scientist for the field team, they were selected because they have been identified as future leaders by the community. During our initial meetings, trainings and making preparations for the upcoming season of field work this team has proven to be incredibly motivated, capable and adaptive. We are confident they will be excellent leaders and ambassadors of the project.

Lessons

- Taking time to establish trust with local partners, interacting in-person with community leaders, and developing those relationships are all critical for a long-term successful partnership.

Strengths

- All partners have demonstrated action and follow through on activities, especially logistics.
- All partners have demonstrated active engagement and accountability.
- There has been a high degree of reciprocity.
- There has been excellent pooling of resources and knowledge.
- When we have encountered logistical challenges UFCAP has leveraged their relationships with local vendors to meet the project needs.
- All partners have demonstrated accountability in all financial interactions. UFCAP has proven to be very prompt and consistent in reporting their spending.

Our lead local partner, Ulithi Falalop Community Action Program (UFCAP) has been proactive in all aspects of the planning and logistics, which has been the primary project focus so far. Their important contributions are highlighted below.

- Have proven critical in leading all logistics for the project.
- We have developed trust in the partnership. There has been positive and effective communication and good follow through on deliverables.
- UFCAP is effective at making the most out of their existing capacity. They have an organized internal community decision-making structure. We always know who to engage with for various activities. If someone is not available another person is always available to act on their behalf.
- UFCAP worked closely with OPOR to conduct community engagement and has created excitement and momentum for the project within the community.
- The leaders of UFCAP have presented the project to other Micronesian leaders and government groups which has garnered interest in the potential for similar work, particularly on other outer islands.

The other primary partnership with One People One Reef (OPOR) has also proven to be very effective. They already have a strong partnership with UFCAP from eight years of community-driven conservation projects. They have been key to our ability to quickly garner the trust of UFCAP, the traditional leadership, and the community. Their essential contributions are below.

- Conducted community surveys and studies to establish baseline understanding of the project. This included evaluating the communities understanding of invasive species, their impacts and management strategies and potential outcomes.
- Provided excellent support in planning of field work, worked with several of the local Ulithi team to complete initial field surveys (terrestrial and marine) on Loosiep.
- They have engaged various community groups including the women, schools and leadership in small groups and large community “town hall” style meetings. The have also communicated with the communities on some of the smaller islands of Ulithi.

3. Project progress

3.1 Progress in carrying out project Activities

The overarching objectives for year one of the project have been to establish enabling conditions through successful community outreach and engagement, complete initial operational planning and complete logistics to prepare for field work which will start in April 2019. Our first activity was to formalize the project partnership and clearly identify roles and responsibilities for the partners. This process was effective in initiating project planning; the project is broken into clear outputs each with its own set of activities as identified in the Darwin Initiative panning process, the logical framework has provided an excellent reference to ensure that the project is progressing towards the desired outcomes. Presently, the project is proceeding as planned. There have been some variations from the timeline however and those adjustments are being managed adaptively. The timing for beginning field trials on Loosiep was delayed at the request of local leadership. The majority of activities thus far have been focused on planning, logistics and community outreach focused on Yap and Falalop.

The first output objective is the removal of invasive vertebrates from Loosiep Island with biosecurity in place to prevent reinvasion. An important first step in conducting an eradication project is the completion of field trials which inform the operation and also function to train the eradication team in eradication methods. For Loosiep Island these trials include a bait availability study using non-toxic rodent bait and evaluation of potential methods for removal of monitor lizards. An operational plan for the field trials was developed and reviewed internally by IC and externally by an eradication expert from New Zealand Department of Conservation. We worked with partners to gain permission to conduct the trials. This involved a special meeting with the Council of 10, the organized group chiefs, clan leaders and land owners of Ulithi. We used the meeting as an opportunity to explain the timeline and methods of the field trials and plan for logistical and resource needs. Traditionally the turtle islands are only accessed from April through July by permission of the community leaders and leadership requested that we wait until April to begin field work.

Figure 3: Installing trails cameras for eradication monitoring was part of initial training. These cameras will allow us to establish a baseline level of detection for monitor lizards pre-eradication.

An additional aspect of this project that we are excited to report is that 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”. We have expanded the project plans to survey these islands for presence of invasive vertebrates this year. Our eradication objective for this project is now expanded so that all five “Turtle Islands’ will be free of invasive vertebrates. Another activity that was not planned at the outset of this effort is the removal of introduced pigs from Loosiep Island. When we visited the island in 2018 the presence of pigs was confirmed, and their negative impact on the native forest was apparent. Since then we have worked in partnership with the community to begin removing pigs from Loosiep. Over a dozen pigs have been removed so far. The pigs are being relocated to Falalop where they are kept as livestock. We expect the complete removal of pigs to be completed and confirmed by the end of 2020. The communities desire to restore these islands and the level of engagement they have demonstrated has exceeded our expectations.

Education and outreach to the community about the eradication was initiated strategically by OPOR and UFCAP. The partnership developed an outreach plan to establish trust from the community in the early stages of project planning, before starting any field work. The goal was to establish trust and not to overwhelm people with too much information and activity. OPOR travelled to Ulithi during the summer of 2018 to conduct preliminary outreach and meet with various island groups on the main inhabited islands of Ulithi Atoll. They conducted surveys to establish a baseline of the community’s acceptance and understanding of the project. OPOR had another trip to Ulithi in January 2019 to follow up with the community about the eradication. They held a large community meeting with approximately 230 men and women of all ages and status. They also held additional smaller meetings with different groups such as the women from each community. A list of primary questions, concerns and ideas was collected from each meeting. For example, the women traditionally manage the farming on Ulithi and during an outreach meeting they came up with an idea to sell local hand-made goods on a web-based platform to raise funds for boat fuel to travel to and from Loosiep. Community outreach and engagement is a long-term component of the project and will continue through the life of the project.

The next activity towards the eradication output is to mobilize the field team to Loosiep and begin the eradication field trials, methods development and monitoring work on the island. UFCAP has identified a group of ten *youth* age 18 to 30 who will become the primary team of local scientists for the field season. The eradication trials began the first week of April 2019. This will require all ten team members plus some additional community members for support. Following the eradication trials, the team will start the turtle monitoring program. The community is excited to begin the turtle work which became a right-of-passage for the youth when the program was running in the past. We contracted a turtle biologist from Guam, who led the Ulithi Marine Turtle Program (UMTP) in the past. She will be on Ulithi in April along with a local biologist from Yap State Department of Agriculture to train the team on proper turtle tagging and surveying protocols. They will also complete some surveys of native flora and fauna. The turtle work is ongoing and will run continuously from April through July 2019.

Establishing a biosecurity program for Ulithi is a high priority for the project. This includes preventing the spread of invasive species between islands as well preventing new incursion from outside the atoll. During the workshop in December we reviewed an interstate biosecurity plan that IC completed for an eradication project on Kayangel Atoll in 2018 — a small island community nearby in Palau which provides a good example for the community on Ulithi. We identified the primary biosecurity risks and categorized them on a smaller inter-atoll scale with a focus on Loosiep and the turtle islands, and on a larger scale including ships and planes arriving from Yap and other more distant islands. Biosecurity training and protocols are being initiated with the commencement of the trial that began in April 2019. Island Conservation is holding a biosecurity workshop with Kayangel State in Palau in 2019 and we have invited someone from Ulithi leadership to participate. We expect that Yap State and FSM federal government will be engaged in the development of a biosecurity program and UFCAP has expressed interest in seeing biosecurity in place for all of the outer islands of Yap.

The second output for the project is native biodiversity recovery on the island. The first activities associated with this output involve the development of monitoring plans for marine turtles, seabirds, reptiles and terrestrial flora. Experts in the local terrestrial flora and fauna have been identified and engaged in the development of plans. The marine turtle monitoring program will be the first major biological monitoring activity in the field to establish baseline data. Further biological baseline data will be collected during subsequent dedicated trips in April (ongoing) and June of 2019.

The third output is improved availability of natural resources and better crop production for the community. A monitoring plan is being developed to measure food consumption, natural resource and agricultural productivity. One of the instruments developed by OPOR was a calendar to be filled out by households that tracks which food crops are consumed and where they come from. This has provided an interesting set of data that hasn't yet been collected on Ulithi. In the past similar calendars have been utilized but these were focused on fish harvest. None of the calendars indicated the consumption food crops harvested from Looseip because there is not currently any gardening activity on the islands, however this is something the community is excited to see change. Natural resource availability on Loosiep will be measured in conjunction with the biological monitoring scheduled for June 2019.

The fourth output is the development of local capacity to plan and implement invasive species eradication projects. Island Conservation and UFCAP conducted a planning workshop on Falalop Island in December 2018. This involved a week of meetings and planning sessions, with local leadership, UFCAP, and potential field team members. The first major activity to increase capacity was educating the leaders of the community on invasive species and how they impact the natural environment and providing examples of successful eradication projects that have occurred on other tropical islands.

The project has engaged several different groups within the community so far. The design and building of infrastructure on Loosiep required UFCAP to bring in a construction crew of ten people. The eradication and monitoring operations will include two teams of five carefully selected youths and each team will have a chosen leader who will be responsible for their field team. These field team leads will interact closely with UFCAP leadership as well as managers from Island Conservation. A team will be responsible for managing logistics for the field team and data management. Each of these activities will require these local community members to learn new skill sets. Output five states that the project will recruit and employ ten local temporary employees for the project implementation. This output has been accomplished. It should be noted that there are additional people from the community that have simply volunteered or are interested in volunteering in the future.

3.2 Progress towards project Outputs

Output 1: Invasive vertebrates (rodents and monitor lizards) removed from Loosiep, with biosecurity in place to prevent reinvasion.

The first output for this project is the removal of invasive vertebrates and implementation of a biosecurity program. As the project is still in the planning and trials stage and we are still establishing baseline values for most of our indicators. Given Island Conservation's decades of experience in implementing and confirming eradication projects we are confident that our indicators and tools for confirming the presence or absence of invasive species will be adequate and are at the forefront of conservation science. Biosecurity discussions have been ongoing with the local community and agencies that service the island with supplies. A biosecurity plan is under development and will be in place by the close of 2019.

Output 2. Native biodiversity recovery on Loosiep Island

To achieve native biodiversity recovery on Loosiep we first need to complete the invasive vertebrate pest removal from the island. Based on initial observations on the island it has become even more apparent that full recovery of biodiversity on Loosiep can't occur without the removal of invasive vertebrates. A biological monitoring plan is being developed in preparation for measuring biodiversity. Local staff have begun training and biological monitoring began in April.

Output 3. Increased availability of natural resources and better crop production results in improved food security and quality for the Ulithi community, increasing resilience to climate change.

Increased availability of natural resources is also an output that will be realized after the removal of invasive vertebrates from Loosiep. The community has started making plans for resuming gardening on Loosiep. The construction of the structure that will be used as a camp/village site on Loosiep was the first step. This will be ideal for providing shelter for people to spend multiple days and weeks at a time while they manage gardens and agroforest plots. OPOR has held meetings with the women of the community who have started to formalize a plan for gardening on Loosiep. Gardening on Loosiep is not planned until rats have been removed from the island.

Output 4. Community capacity developed: The local community, Yap State, and National (Federated States of Micronesia) capability to plan and implement invasive species eradication projects is advanced.

Community capacity has been increased through the planning and outreach for this project. The Council of Ten approved the project and is looking forward to the results. A multitude of people have been in involved in various stages of planning, logistics, construction of the structure on islands and preparing for the fieldwork. UFCAP has kept records of who is involved in the various stages of the project thus far and records of formal meetings are kept by UFCAP officers.

Output 5. Period of employment is provided for local community representatives

Local community representatives have been hired for this project. See section 3.2 above for more detail.

3.3 Progress towards the project Outcome

The project outcome is the recovery of native and endemic species and improved conditions for horticulture, resulting in increased food security for the community. The indicators in place will be effective in measuring progress toward the outcome and baseline evaluations will be completed during the first season of field work (initiated April 2019). It is too early in the life cycle of the eradication project to observe recovery; however, we will report on the indicators here.

The first indicator is that no invasive vertebrates will remain on Loosiep. The only actions taken thus far to remove invasive vertebrates has been the removal of some of the wild pigs by the community; 17 pigs have been taken from the island and relocated to Falalop Island to be raised as livestock.

The second indicator is a net increase in the number and diversity of seabirds present on Loosiep. To date we have not observed any seabirds nesting or roosting on Loosiep island, however, they are inhabiting nearby islands which provides confidence that seabirds will return to Loosiep. A formal and more extensive pre-eradication baseline evaluation for seabirds is planned for June of 2019.

The third indicator is a net increase in the amount of food crops grown and harvested on Loosiep. As the eradication is still in the planning and field trials stage there has been no net change in the amount of food crops grown. However, since work has begun on the island the construction crew has begun harvesting coconuts for consumption (considered an important food crop in Ulithi and all of Micronesia), if we documented this it would show a net increase in quantity of resources harvested. Based on our initial assessment of the rat population on Loosiep it is not likely that any other food crops could be successfully grown without being destroyed by rats so our recommendation is to wait until after the removal of rats to begin attempting to grow food crops on Loosiep.

The fourth indicator is an increase in national and local capacity to plan, implement and monitor invasive species eradication and biosecurity programmes for 10 people. It is becoming apparent that we will be establishing capacity for more than 10 people. We have also invited

the Yap Department of Agriculture and the Environmental Protection Agency to participate in the project and they have indicated they are interested. Initial skills assessments for the field team began in early April 2019.

Figure 4-6 Progress on the camp structure on Loosiep Island. The final camp has an additional roofed section, an enclosed secure storage section, and a separate cooking unit, also two water catchments installed to collect water (final image n/a at time of writing).

3.4 Monitoring of assumptions

Assumption 1: No extreme or unusual weather conditions inhibit progress.

Comments: The risk of extreme weather will remain a risk for the duration of the project. The project leaders from all partner groups are aware of this risk and prepared to manage this risk and adapt to changes as needed.

Assumption 2: Enabling conditions to complete the project are in place for the duration of the project (e.g. access to Ulithi atoll, operable boats, local field team available, permission and mandate from local community remains in place).

Comments: As of this report the support from the community and the enabling conditions have exceeded expectations.

Assumption 3: Rats on Loosiep are susceptible to the same bait and baiting methods that are used on similar tropical islands in the Pacific Ocean.

Comments: Initial rat trapping efforts indicate that the species present is *Rattus tanezumi. M*ultiple eradications targeting *R. tanezumi* have been successfully completed including in Palau. We are confident rats can be removed from Loosiep and the other turtle islands.

Assumption 4: The tools and methods available for the monitor lizard eradication will be effective in detecting and removing the last individual.

Comments: The trials began in April 2019 with focus on establishing the best set of methods and strategies to target the last individual. A monitor lizard eradication has never been completed to date, which we see as an opportunity to further expand the conservation field and share our methods and lessons learned with the international conservation community.

Assumption 5: Existing programs to monitor coral reef and green sea turtle nesting on Loosiep will continue for the foreseeable future.

Comments: We expect our partners, OPOR, to continue monitoring the reefs over the next several years and plan to continue helping UFCAP raise funds for nesting green turtle monitoring to maintain momentum, however there is a risk that unless there is active fundraising the resources to continue turtle monitoring won't be available.

Assumption 6: No unusual and severe weather events inhibit ability to complete project or grow crops.

Comments: A typhoon came through Ulithi in 2015 and devastated Falalop destroying homes and agroforests, a second smaller system made landfall on Falalop in 2016. Loosiep was relatively untouched by the events. With the unpredictability of typhoon seasons we are aware that there is always a risk for a severe weather event.

Assumption 7: Trained persons remain engaged and motivated to pursue further work in conservation projects when opportunities are available.

Comments: We have been very impressed by the capacity and level of commitment from the community. We have already identified two individuals from the field team whom show potential for leading future projects.

Assumption 8: Council of Chiefs agrees with the proposed methods for the project. Based on the scoping trip completed in March 2017, and a letter of support received for the project, preliminary support is in place from local community leaders.

Comments: Support for the project is in place. As the project has progressed there has been activity in Yap, Ulithi and out on Loosiep and there has been an increase in excitement for the project.

Assumption 9: FSM Government has the capacity to task someone to participate in part of the project's implementation.

Comments: We have received interest from Yap State Department of Agriculture to participate.

3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation

We expect that after its completion, this project will have meaningful and measurable impacts on biodiversity and poverty alleviation in Loosiep and other nearby islands. We also expect, based on the enthusiasm and interest that this project has garnered within a short period of time, that there will be future projects modelled after this one in other islands nearby. Since the start of this project the local community has encouraged us to broaden this project to include the four other "Turtle Islands". Our eradication objective for this project is now expanded so that all five "Turtle Islands' will be invasive vertebrate free.

The additional conservation strategy to remove introduced pigs from Loosiep Island is expected to have additional positive impacts on biodiversity and natural resources, as feral pigs have well documented impacts on island communities through soil erosion and the disruption of soil nutrient cycling. This project will address concerns over essential resources related to the livelihoods and well-being of local populations. This project is designed to restore Loosiep island, safeguard essential terrestrial food resources, and reduce pressure on the food resources of adjacent islands.

The enthusiasm by the local community to restore these islands and the level of engagement they have demonstrated has exceeded our expectations and are excellent indicators that we will meet our biodiversity conservation and poverty alleviation goals.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

This project is still in the planning stages and therefore many of the anticipated contributions of this work to Global Sustainable Development goals have yet to be realized. Upon its completion, this project will support the United Nation's Global Goals for Sustainable Development, contributing to meeting both the overarching goal of 15 to: *sustainably mange forests, combat desertification, halt and reverse land degradation and halt biodiversity loss*.

This project will also support the more specific target 15.8: to *introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species*. The project will do this by removing invasive rats, feral pigs and monitor lizards from Loosiep and introducing measures to prevent their reintroduction, and by building capacity for future invasive species management in FSM.

In addition to the contributions above, the Federated States of Micronesia Strategic Development Plan (2004-2023) identifies invasive species as a key threat to FSM's environment and sustainable development. One of the strategies identified in the Plan is to *establish effective biosecurity (border control, quarantine and eradication) programs to effectively protect the FSM's biodiversity from impacts of alien invasive species*. Although our project aims to achieve this on a local scale, because the knowledge and skills are transferable it is anticipated that the project will catalyse better border protection for Ulithi and potentially other islands within FSM. In other regions of the world where these conservation strategies have been implemented, the positive impacts on local biodiversity and native species are measurable and long lasting. We look forward to reporting progress towards these goals in the coming years of this project.

5. Project support to the Conventions, Treaties or Agreements

In the current phase of this project we are actively seeking interactions with local and UK convention focal points. We are in the planning stages of this project and our biodiversity convention goals remain in progress as described below.

This project will address the following CBD Aichi Targets, and the project will help Federated States of Micronesia (FSM) meet its objectives under the Convention on Biological Diversity and the related Micronesia Challenge:

Target 9[1] - Through this work two invasive vertebrates (rats and monitor lizards) listed among the world's worst invasive alien species by the IUCN Invasive Species Specialist Group will be removed from the island of Loosiep and protocols to prevent their reinvasion will be developed. We have also added to this eradication project the removal of pigs from Loosiep Island.

Target 12[2] - The removal of invasive vertebrates will address a key threat to green sea turtles in Micronesia and help stem the declining population trend for this endangered species. The project will provide greater security from extinction for species found only on Ulithi such as the Ulithi blind snake.

Target 14[3] - This project will address concerns over essential resources related to the livelihoods and well-being of local populations. This project is designed to restore Loosiep island, safeguard essential terrestrial food resources, and reduce pressure on the food resources of adjacent islands.

Target 15[4] - The impacts of invasive species, although localized, have reduced the community's resilience at an especially vulnerable time in the face of increasingly frequent and severe storms and rising sea levels resulting from climate change. This project will contribute to both ecosystem resilience and community resilience through increased food security.

Target 17[5] - FSM prepared a National Biodiversity Strategy and Action Plan (NBSAP) in March 2002, to fulfil its obligations to the Convention. A Yap State Biodiversity Strategy and Action Plan (YBSAP) was also developed. Both plans identify invasive species as a major threat and constraint to biodiversity conservation in the FSM. The YBSAP also identifies invasive species as a threat to Yap's natural communities, economy and way of life and specifically identifies rat control and public awareness as priorities. Within the NBSAP, a Strategy and Action Plan was derived. This project advances the following overarching goals identified within this Action Plan:

Theme 4. Agrobiodiversity: The conservation and sustainable use of Agrobiodiversity contributes to the nation's development and the future food security of the FSM.

Theme 6. Biosecurity: Border control, quarantine and eradication programs are effectively protecting the FSM's native biodiversity from impacts of alien invasive species.

Theme 9. Traditional resource owners and communities are fully involved in the protection, conservation, preservation, and sustainable use of the nation's biodiversity.

This project will enable FSM to advance these goals by removing two invasive species from an area within FSM. It will raise local awareness of the threat of invasive species and the importance of biosecurity and it will develop capacity that can be used elsewhere within FSM to advance implementation of its NBSAP.

Target 18[6] - For thousands of years, Ulithi's natural resources were effectively controlled through traditional management. However, like many other small island communities, this traditional management was abandoned over the last century, resulting in the decline of turtles, fish and other crucial marine resources. Traditional management has now been reimplemented and has proven to be effective. However, invasive species have interrupted the community's ability to manage their natural resources. Removing these invasive species will restore balance on Loosiep and enable traditional management by the local community for the conservation of biodiversity and sustainable use of terrestrial and marine resources.

Biodiversity target references:
[1] Aichi Biodiversity Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated and measures are in place to manage pathways to prevent their introduction and establishment. https://www.cbd.int/sp/targets/default.shtml
[2] Aichi Biodiversity Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.
[3] Aichi Biodiversity Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.
[4] Aichi Biodiversity Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.
[5] Aichi Biodiversity Target 17: By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.
[6] Aichi Biodiversity Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

6. Project support to poverty alleviation

It is too early in the project to demonstrate quantitatively that the project is working to alleviate poverty. OPOR has identified a social scientist who will lead the development of a well-being instrument to document the impacts of invasive species removal and establishment of gardens on Loosiep. This instrument will be used for the poverty alleviation assessments as well as other impacts the project might have on individuals and communities. An important target for this instrument is women and girls as their role in gardening is dominant on Ulithi.

We do expect that there will be beneficiaries from the work. From a food resource standpoint, we expect the communities of Falalop (primarily), and communities of the other nearby inhabited islands with whom food is traded, Asor and Mog Mog. Federai Island will benefit to a lesser extent, but they will benefit as well since food is traded there for fish.

We expect the direct impact from this project will include community engagement in gardening and collaborative work, and additional productive gardens for food. Also, an awareness of invasive species and steps to remove them to improve human wellbeing. Another important set of impacts will be a chance for sea turtles and birds to have a higher reproductive success rate.

The impact of improved natural systems to human well-being needs to be measured but evidence from other projects suggests that there may be a measurable link.

The project will enhance human well-being directly by providing an opportunity to revive gardens that have been non-operable for some time. It will also provide a camp/village space that can be occupied for periods of time, making gardening and fishing possible from this island. Both have traditionally and historically been important. The community have said they are looking forward to reviving these resource garnering activities.

Important achievements this year have been active outreach with the communities, building awareness, and initiating discussion among the people about the gardening activities. The people have begun planning for once the island is free of invasive vertebrates.

7. Project support to gender equality issues

The outreach and community engagement from the project has sparked a discussion about the roles of men and women in gardening specifically. In recent history men's roles have declined and the women would like to see their participation increase. Particularly in the digging, clearing and preparations of the gardens. This project, with the re-establishment of gardens, will provide an opportunity for that. One the direct impacts in gender equality could be men re-engaging with gardening, especially the physically-demanding portion of the work that has fallen to women in more recent years.

8. Monitoring and evaluation

We use the logical framework developed for Darwin proposal process as a tool to monitor overall progress on the project. We refer to the framework regularly as a checklist for progress toward objectives. We are also using our internal standardized project management system referred to as Island Conservation Project Planning Process. Additionally, Island Conservation has an internal review process which is completed by the Island Conservation Eradication Advisory Team (ICEAT). These ICEAT reviews will begin over the course of the next year including a review of the operational plan in fall/winter 2019 and a follow up readiness check in early 2020 prior to implementing the rodent eradication.

The partnership holds regular meetings to check on progress of activities and ensure that roles and responsibilities are clear, and objectives are being met. Online shared timelines, budgets and inventory lists are being used to facilitate communication and to track what has been accomplished and what is in still progress. Improvement in internal project monitoring is needed, specifically documentation of meetings with a focus on the objectives and outcomes. Many of the project meetings with community members are held in informal settings and using simple methods to ensure that community members are included in these important aspects of the project. However, this results in the creation of fewer electronic documents and materials. This is an aspect of the project that can be improved in the coming year with efforts to document those activities shortly after they occur.

To evaluate the effectiveness of the socio-economic and community engagement components of the project we rely on the dialogue with the community – quantitative feedback as well as qualitative (interview and focus group) are being used. This feedback will validate the outputs from the perspective of the people they affect.

9. Lessons learnt

Overall the project is running smoothly; there is a lot of support from the communities on Ulithi and the local partners have proven to be extremely capable, well organized and effective. A strong point for us on the project thus far is the level of trust and reciprocity we have established with the local partners; this was likely a result of being very intentional in taking the time up-front to develop these relationships. The community on Ulithi (and island communities elsewhere in the Pacific) have seen numerous aid groups and projects come and go, our

understanding is that when organizations come in and attempt to force their initiatives onto the community before developing a relationship the success of the project is diminished or short lived.

We have learnt several lessons around the logistics of operating on Ulithi, if I were to pass on advice to anyone planning a project here it would be to budget twice as much time and money for shipping/boat/plane charter as seems appropriate and don't rely on any government operated vessel timeline. Also, never underestimate the capability of your local partners on implementing logistical operations.

As we begin the real field work component there will be many lessons to be learned. We will implement a practice of holding an After Action Review after each major project accomplishment, field deployment or significant milestone.

A major component of the eradication is the removal of monitor lizards, there has not yet been a successful monitor eradication therefore the initial period of the project will be a series of trials, we plan to document the results of the trials and the eradication strategy (both successes and failures) and disseminate them to other practitioners, we hope that the lessons learned will be used for future successful monitor lizard eradications.

10. Actions taken in response to previous reviews (if applicable)

This is the first report for this project, so this is not applicable.

11. Other comments on progress not covered elsewhere

Once the implementation component of the project is underway we will begin to see any major challenges unfold. Eradications are difficult projects (physically and emotionally for those involved and often include sudden logistical challenges) and there is always risk of burnout. We are working to develop a good "eradication ethic" in the partnership, meaning a commitment to following through with the project until the end and a solution-oriented mindset when it comes to overcoming challenges that are sure to come up.

A major risk to the project is the potential for a loss of critical resources, specifically boats. There are not many boats remaining on Ulithi after the typhoon in 2015. Currently there are three boats available to the project, however these are also used for all major community needs. If there become significant maintenance issues on more than one of the boats the project will slow to a standstill. The ideal solution is to find resources to buy an additional reliable boat that can be dedicated to this and other conservation/restoration projects occurring on Ulithi.

12. Sustainability and legacy

State and National Government entities are starting to become more and more aware of the project through word of mouth. We have held meetings with the Yap State Department of Agriculture, and Environmental Protection Agency and the Council of Temul all of which are interesting in building their capacity for managing invasive species.

Our planned exit strategy is to complete the project with a good biosecurity program in place, trained biosecurity officers on Ulithi that enforce the program and a group of locals who are trained in early detection and rapid response to an incursion on the turtle islands. This will help ensure the sustainability and long-term recovery of the project. There is now interest from some of the other communities on Ulithi to remove rats from their garden islands to restore resources. We hope to continue to find funds to continue doing follow-up work to make this a *program of work* across the greater atoll and other outer islands, this however will require more fundraising and more resources such as boats and equipment.

13. Darwin identity

So far, we have publicized the Darwin Initiative though our website, blog and social media accounts (twitter). We intend to increase the visibility of the project as activities on the islands(s) increases and will incorporate the Darwin Initiative Logo as is appropriate.

This project was recognized as a Darwin Project by partners from the outset of the proposal process, additionally it has been perceived by the community as a component of the work done by One People One Reef and the Ulithi Marine Turtle Program. The momentum from the project is building quickly and there is interest from leadership on other communities of Ulithi as well as other outer islands to expand this into a larger program of work.

The leadership of Ulithi has a general understanding of the Darwin Initiative and acknowledge the role it has played in funding the project. However, it is unlikely many of them are aware of other Darwin Initiative projects. Ulithi does not have internet or telephone services so it is difficult for people to learn about opportunities like the Darwin Initiative. The individual most familiar with the Darwin Initiative is John Rulmal JR who is our local lead and point of contact on the project.

Island Conservation maintains an active Twitter account and blog. Here is a link to an Island Conservation blog about the project: https://www.islandconservation.org/protecting-land-sea-conservation-ulithi-atoll/ containing attribution to the Darwin Initiative for financial support of this project.

The Darwin Initiative has also been linked on our Island Conservation Twitter feed about the project here: https://twitter.com/NoExtinctions/status/1121822521077239808

We are in the process of designing a project page on our website that is specific to this project where we plan to include logos and names of funders. For an example see the Island Conservation Floreana page: https://www.islandconservation.org/floreana-island-galapagos/

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2018 – 31 March 2019)

Project spend (indicative) since last annual report	2018/19 Grant (£)	2018/19 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2018-2019

Project summary	Measurable Indicators	Progress and Achievements April 2018 - March 2019	Actions required/planned for next period
Impact Recovery of native and endemic biodiversity and improved food security increases the community's resilience to climate change and inspires further action to restore and protect FSM's unique biodiversity		Enabling conditions are established to move forward with the restoration project. Plans are in motion for all components of the project to restore and protect the ecosystem of Ulithi. The scope of the project has been expanded to include the five turtle nesting islands.	[redacted]
Outcome Removal of harmful invasive species will result in native and endemic species recovery and improved conditions for horticulture, resulting in increased food security for the community.	0.1 No invasive vertebrates remain on Loosiep by the end of the project. 0.2 Net increase in the number and diversity of seabirds present on Loosiep by the end of the project. Pre-eradication baseline measures collected to allow measurement of expected long-term population change (e.g. 5-10 years). See Output 2.1 for specific measures by taxa. 0.3 Net increase in the amount of food crops grown and harvested on Loosiep by project end date. No food is currently grown on Loosiep. Gardening on the island resumes with 75% of the community having access to food grown on Loosiep by the end of the project. See Output 3 for additional specific measures. 04. Local and national capacity to plan, implement and monitor invasive species eradication and	There aren't yet results to report on for means of verification for the outcome. However, the outcome is reported on in more detail in section 3.3 above.	The eradication field trials will begin in year 2 as well as eradication activities. Baseline evaluations of seabirds will also be completed. Capacity will continue to increase as the project progresses.

	biosecurity programmes is raised for 10 people by the project end date as measured by a pre-and post-skills assessment. See Output 4 for additional specific measures.		
Output 1. Invasive vertebrates (rodents and monitor lizards) removed from Loosiep, with biosecurity in place to prevent reinvasion.	1.1 No rats remain on Loosiep island by end of year 2. 1.2 No monitor lizards remain on Loosiep island by project end date. 1.3 Biosecurity protocols are in place prior to project implementation and followed by local island users.	*It is still too early in the project life cycle to report on these indicators.*	
Activity 1.1 Complete operational, monitoring and biosecurity planning for rat and monitor lizard eradication.		In progress. Field trial operations that will inform the operational plan are currently underway.	Rodent eradication trials, operational plan, monitor lizard methods development trials, biosecurity plan development, biological monitoring.
Activity 1.2 Work with project partners to complete planning for community education and outreach program.		Completed October 2019 however this is an ongoing process for the duration of the project.	Meetings with partners to evaluate outreach and establish plans for further follow up.
Activity 1.3 Conduct community outreach on all communities of Ulithi to educate people about components of the project including: methods, impacts and benefits from the project, opportunities for involvement, and updates on project status. Outreach is designed for traditional leaders, schools and individual households. Note: Community engagement will be continued through the duration of the project life cycle.		Completed initial community engagement. See annex 3 for notes describing engagement activity. See annex 4 for a presentation given to the UFCAP and community.	Follow up outreach with communities will occur in June 2019
Activity 1.4 Conduct surveys to measure community interest and understanding of project.		Completed by OPOR.	Follow up surveys will be conducted
Activity 1.5 Complete field trials and methods development for rat and monitor lizard eradication project.		Planning completed. Trials have begun.	Analyse date and determine need for follow up trials. Develop operational plan.

Activity 1.6 Implement biosecurity program.		In progress. Discussions about biosecurity are ongoing within UFCAP.	Develop biosecurity plan conduct biosecurity training workshop on Falalop.
Activity 1.7 Implement eradication operation for rats.		Not yet started	Complete trials, evaluate results and data, develop operational strategy.
Activity 1.8 Implement eradication operation for monitor lizards.		Not yet started	Complete methods trial, develop operational strategy
Activity 1.9 Confirm success of rat eradication.		To be completed in year 3	N/A
Activity 1.10 Complete monitoring to confirm success of monitor lizard eradication.		To be completed in year 3	N/A
Activity 1.11 1.11 Complete operational reporting.		To be complete in year 3	N/A
Output 2. Native biodiversity recovery on Loosiep Island.	2.1 By 2021, sea turtle nest predation by invasive vertebrates is eliminated (reduced from: 80-100% of nests predated currently to zero predated by project end). 2.2 Monitor lizard and rat predation on seabirds is eliminated, allowing recruitment of seabirds within the next 5-10 years. Baseline measures of seabird diversity and abundance (e.g. red footed booby, black and brown noddy) are collected pre-eradication, methods can then be repeated at 5-10 years post eradication to measure recovery. 2.3 A baseline pre-eradication habitat assessment for the blind snake is completed and can be repeated 5 years post-eradication. 2.4 Local staff trained in monitoring protocols in year 1; Baseline surveys completed pre-eradication,	*A biological monitoring plan is being developed baseline monitoring will be conducted in June 2017; reports will be produced following the completion of surveys.*	

	post eradication survey completed 1 year after implementation.		
Activity 2.1 Develop monitoring plans for marine turtles, seabirds, reptiles and terrestrial fauna.		In progress. A separate plan is being developed for turtles.	Finalize biological monitoring plans
Activity 2.2 Complete baseline monitoring working with project partners and local field team; collate existing data.		In progress.	Turtle monitoring is beginning the last week of April 2019. Flora, seabirds and reptiles will begin June 2019.
Activity 2.3 Undertake operational monitoring of eradication and detection methods.		In progress. Detection methods for monitors and rodents have been tested on Loosiep including a network of trail cameras and traps.	Continue eradication monitoring until completion of project.
Activity 2.4 Complete post eradication monitoring for marine turtles, seabirds, reptiles and terrestrial fauna.		Not yet started. To be completed in Year 3 and beyond.	N/A
Activity 2.5 Complete eradication and biodiversity monitoring reports.		Not yet started.	Biodiversity monitoring reports will be completed by the end of 2019. Eradication reports to be completed in Year 3.
Output 3. Increased availability of natural resources and better crop production results in improved food security and quality for the Ulithi community, increasing resilience to climate change.	3.1 Horticulture is resumed on Loosiep, with 5 gardens planted by end of year 2. 3.2 The subsistence economy is strengthened by increased trade and sharing of resources between islands by end of year 3. 3.3. 75% of the community (750 individuals) have access to improved food variety and quantity, with an increase in the carbohydrate and nutrient-rich plant-based foods necessary for a healthy diet by end of year 3. 3.4. Women are empowered to resume food production on Loosiep,	Surveys have been completed on Loosiep, the results (as expected) are that no gardening has occurred on Loosiep. Meetings have been held with women and other focus groups of Ulithi all of whom have shown interest in the project.	

	with restoration of the island's food resources under the direction of women during year 2-3.		
Activity 3.1 Develop monitoring plan that outlines the protocols, instruments, and methods for measuring changes in natural resources available, agricultural productivity, and poverty alleviation because of removing invasive vertebrates from Loosiep.		In progress. Several of the instruments have been developed and implemented but an overarching plan has not been produced.	Work with partners to formalize the plan that is achievable.
Activity 3.2 Undertake baseline monitoring and collate all existing data on current food consumption, natural resource and agricultural productivity. This will include a Household Consumption survey completed by a subset of households in the beginning of grant term (August 2018).		Household consumption surveys completed (food garden calendar). Baseline monitoring on natural resource availability on Loosiep is in progress.	Complete monitoring.
Activity 3.3 Develop plan to facilitate creation of new gardens on Loosiep Island		Discussions of the plan have been held with women of Ulithi.	Formalize plan that can be implemented post eradication.
Activity 3.4 New gardens are established on Loosiep Island.		To be completed in Year 3	To be started in year three once rats have been eradicated.
Activity 3.5 In year two and year three, complete outcome monitoring of consumption of land-based food sources and establish enabling conditions for follow up monitoring and reporting.		N/A	
Output 4. Community capacity developed: The local community, Yap State, and National (Federated States of Micronesia) capability to plan and implement invasive species eradication and biosecurity projects is advanced.	4.1 At least 10 people from Ulithi are hired and trained in invasive species detection and removal methods in year one and apply their skills to the eradication on Loosiep in years two and three. 4.2 The Council of Chiefs and landowners on Ulithi are involved in the planning, implementation and monitoring stages of the eradication throughout the duration of the project. 4.3 At least 2 people from the Yap State government and 1 person	The approval from the Council of 10 to initiate the field trials was a major milestone and indicator of success. The formal approval will depend on the presentation of the results from these trials. A team of ten was hired for the project and have started the eradication field trials. The skills assessment will be conducted in in the field as a part of the training process. UFCAP is maintaining records of community participation in the project.	

	from the FSM government participate in the eradication in year two. 4.4. In year two, women participate in the operational teams. Girls participate in the youth groups, with a 50% male:female participation ratio. 4.5 Community workshop is completed to highlight biosecurity risks and provide training on effective biosecurity that includes quarantine, surveillance and response.		
Activity 4.1 Conduct workshop to engage key stakeholders in project planning, community outreach and monitoring.		Completed.	Follow up meetings and engagement with stakeholders.
Activity 4.2 Build local project teams, incorporating the local women, girls, and youth.		Project teams selected, and field work has begun.	Work to increase incorporation of girls and women into the project.
Activity 4.3 Run training programme(s) for local project teams to conduct: biological surveys, community outreach, eradication operations and monitoring surveys.		All are in progress.	Continue to increase the level of complexity and strive towards the goal of these teams operating with minimal input required.
Activity 4.4 Support field teams (combination of remote and on island) for duration of operation.		In progress. The team mobilized to Loosiep field camp on April 8.	Develop reliable strategy for communication with field team when they are operating independently.
Activity 4.5 Engage key stakeholders in baseline and outcome monitoring.		In progress.	Continue to engage stakeholders; this may take a bit of accommodation.
Activity 4.6 Maintain communication with the local community and help source funds for future work.		In progress.	Active search for funding opportunities is needed.

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Impact (Max 30 words): Recovery of native and endemic biodiversity and improved food security increases the community's resilience to climate change and inspires further action to restore and protect FSM's unique biodiversity.			
Outcome: (Max 30 words) Removal of harmful invasive species will result in native and endemic species recovery and improved conditions for horticulture, resulting in increased food security for the community.	0.1 No invasive vertebrates remain on Loosiep by the end of the project. 0.2 Net increase in the number and diversity of seabirds present on Loosiep by the end of the project. Pre-eradication baseline measures collected to allow measurement of expected long-term population change (e.g. 5-10 years). See Output 2.1 for specific measures by taxa. 0.3 Net increase in the amount of food crops grown and harvested on Loosiep by project end date. No food is currently grown on Loosiep. Gardening on the island resumes with 75% of the community having access to food grown on Loosiep by the end of the project. See Output 3 for additional specific measures. 04. Local and national capacity to plan, implement and monitor invasive species eradication and biosecurity programmes is raised for 10 people by the project end date as measured by a pre-and post-skills assessment. See Output 4 for additional specific measures.	0.1 Project confirmation and biosecurity monitoring reports. 0.2 Biological monitoring data and report. 0.3 Agricultural harvest reports. 0.4 Report summarising results of skills assessment.	No extreme or unusual weather conditions inhibit progress. Enabling conditions to complete the project are in place for the duration of the project (e.g. access to Ulithi atoll, operable boats, local field team available, permission and mandate from local community remains in place).

Outputs: **1.** Invasive vertebrates (rodents and monitor lizards) removed from Loosiep, with biosecurity in place to prevent reinvasion.	1.1 No rats remain on Loosiep island by end of year 2. 1.2 No monitor lizards remain on Loosiep island by project end date. 1.3 Biosecurity protocols are in place prior to project implementation and followed by local island users.	1.1 and 1.2 Detection methods confirm absence of rats and monitor lizards and this information is summarized in a confirmation monitoring report. 1.3 Biosecurity plan completed. Biosecurity officer appointed by the community.	Rats on Loosiep are susceptible to the same bait and baiting methods that are used on similar tropical islands in the Pacific Ocean. The tools and methods available for the monitor lizard eradication will be effective in detecting and removing the last individual.
2. Native biodiversity recovery on Loosiep Island.	2.1 By 2021, sea turtle nest predation by invasive vertebrates is eliminated (reduced from: 80-100% of nests predated currently to zero predated by project end). 2.2 Monitor lizard and rat predation on seabirds is eliminated, allowing recruitment of seabirds within the next 5-10 years. Baseline measures of seabird diversity and abundance (e.g. red footed booby, black and brown noddy) are collected pre-eradication, methods can then be repeated at 5-10 years post eradication to measure recovery. 2.3 A baseline pre-eradication habitat assessment for the blind snake is completed and can be repeated 5 years post-eradication. 2.4 Local staff trained in monitoring protocols in year 1; Baseline surveys completed pre-eradication, post eradication survey completed 1 year after implementation.	2.1-2.4 Biological monitoring plan completed 2.1-2.4 Reports produced from monitoring surveys and data analysis.	Existing programs to monitor coral reef and green sea turtle nesting on Loosiep will continue for the foreseeable future.

3. Increased availability of natural resources and better crop production results in improved food security and quality for the Ulithi community, increasing resilience to climate change.	3.1 Horticulture is resumed on Loosiep, with 5 gardens planted by end of year 2. 3.2 The subsistence economy is strengthened by increased trade and sharing of resources between islands by end of year 3[1]. 3.3. 75% of the community (750 individuals) have access to improved food variety and quantity, with an increase in the carbohydrate and nutrient-rich plant-based foods necessary for a healthy diet by end of year 3. 3.4. Women are empowered to resume food production on Loosiep, with restoration of the island's food resources under the direction of women during year 2-3.	3.1 Survey documenting # new gardens planted. Crop yield measured and logged as crops are harvested. 3.2 Focus groups and written surveys completed in year 1 (baseline) and year 3 (after harvest) to quantify the amount of Loosiep-sourced food that is traded and shared among the inhabited islands. 3.3. Household food consumption surveys to collect data on food consumed. Surveys will be conducted in August 2018 to collect pre-eradication data and each year after to measure change. Additional funding will be required for monitoring after year 3 of the grant term. Significant long-term changes are expected after crops become established. 3.4 Record of community meetings and focus group surveys with women.	No unusual and severe weather events inhibit ability to complete project or grow crops.
4. Community capacity developed: The local community, Yap State, and National (Federated States of Micronesia) capability to plan and implement invasive species eradication and biosecurity projects is advanced.	4.1 At least 10 people from Ulithi are hired and trained in invasive species detection and removal methods in year one and apply their skills to the eradication on Loosiep in years two and three. 4.2 The Council of Chiefs and landowners on Ulithi are involved in	4.1 Pre and post training assessments conducted by IC field manager(s) to measure participants' change in knowledge as a result of training workshops and participation in the project. The assessment will be standardized, and results will be documented. To measure	Trained persons remain engaged and motivated to pursue further work in conservation projects when opportunities are available. The Council of Chiefs agrees with the proposed methods for the

[1] The traditional role for nearest inhabited islands of Falalop (80 households) and Asor (12 households) is to provide and trade crops in exchange for seafood from the neighbouring islands Mogmog and Federai. Increasing supply of land-based food will strengthen socio-economic status for the Falalop and Asor communities by increasing ability to trade. This will in turn, increase variety of food available on all islands.

	the planning, implementation and monitoring stages of the eradication throughout the duration of the project. 4.3 At least 2 people from the Yap State government and 1 person from the FSM government participate in the eradication in year two. 4.4. In year two, women participate in the operational teams. Girls participate in the youth groups, with a 50% male:female participation ratio. 4.5 Community workshop is completed to highlight biosecurity risks and provide training on effective biosecurity that includes quarantine, surveillance and response.	employment: Records will be maintained detailing name, level of employment, and compensation. 4.2 The Chiefs approve the eradication plan and sign a letter of endorsement prior to the commencement of the eradication. 4.3 Records kept of individuals participating in community and stakeholder meetings; meeting minutes collected. 4.4. Records of individuals participating in project, disaggregated by age and gender. 4.5. Workshop attendance certificates.	project. Based on the scoping trip completed in March 2017, and a letter of support received for the project, preliminary support is in place from local community leaders. FSM Government has the capacity to task someone to participate in part of the project's implementation.

Activities (each activity is numbered according to the Output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

Output 1: Invasive vertebrates (rodents and monitor lizards) removed from Loosiep, with biosecurity in place to prevent reinvasion. Activities:

Activities

1.1 Complete operational, monitoring and biosecurity planning for rat and monitor lizard eradication.

1.2 Work with project partners to complete planning for community education and outreach program.

1.3 Conduct community outreach on all communities of Ulithi to educate people about components of the project including: methods, impacts and benefits from the project, opportunities for involvement, and updates on project status. Outreach is designed for traditional leaders, schools and individual households. Note: Community engagement will be continued through the duration of the project life cycle.

1.4 Conduct surveys to measure community interest and understanding of project.

1.5 Complete field trials and methods development for rat and monitor lizard eradication project.

1.6 Implement biosecurity program.

1.7 Implement eradication operation for rats.

1.8 Implement eradication operation for monitor lizards.

1.9 Confirm success of rat eradication.

1.10 Complete monitoring to confirm success of monitor lizard eradication.

1.11 Complete operational reporting.

Output 2. Native biodiversity recovery on Loosiep Island

Activities

2.1 Develop monitoring plans for marine turtles, seabirds, reptiles and terrestrial fauna.

2.2 Complete baseline monitoring working with project partners and local field team; collate existing data.

2.3 Undertake operational monitoring of eradication and detection methods.

2.4 Complete post eradication monitoring for marine turtles, seabirds, reptiles and terrestrial fauna.

2.5 Complete eradication and biodiversity monitoring reports.

Output 3. Increased availability of natural resources and better crop production results in improved food security and quality for the Ulithi community, increasing resilience to climate change.

Activities

3.1 Develop monitoring plan that outlines the protocols, instruments, and methods for measuring changes in natural resources available, agricultural productivity, and poverty alleviation as a result of removing invasive vertebrates from Loosiep.

3.2 Undertake baseline monitoring and collate all existing data on current food consumption, natural resource and agricultural productivity. This will include a Household Consumption survey completed by a subset of households in the beginning of grant term (August 2018).

3.3 Develop plan to facilitate creation of new gardens on Loosiep Island

3.4 New gardens are established on Loosiep Island.

Activity

Output 4. Community capacity developed: The local community, Yap State, and National (Federated States of Micronesia) capability to plan and implement invasive species eradication projects is advanced.

Activities

4.1 Conduct workshop to engage key stakeholders in project planning, community outreach and monitoring.

4.2 Build local project teams, incorporating the local women, girls, and youth.

4.3 Run training programme(s) for local project teams to conduct: biological surveys, community outreach, eradication operations and monitoring surveys.

4.4 Support field teams (combination of remote and on island) for duration of operation.

4.5 Engage key stakeholders in baseline and outcome monitoring.

4.6 Maintain communication with the local community and help source funds for future work.

Output 5. Period of employment is provided for local community representatives.

5.1 Recruit and employ 10 local temporary employees for project implementation.

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
5	The eradication field team. Training began in year one during preparation for field work. The team is currently out on Loosiep conducting eradication training and	Male Female	Ulithian	10 male	10 male 2 female	10 male 5 female	10 male	10 -15 male 2-5 Female Between 12 and 20 people total
5	Data management. A database was developed for marine turtle monitoring and training began in year one.	Female	Ulithian	1 female	1 male 1 female	1 male 1 female	1 female	1 male 1 female 2 people total
9	Field Trials Operational Plan. Describes methods to be used during the rodent and monitor lizard operational trials to occur beginning April.			1			1	1
9	Rodent eradication operational plan				1		1	1
11B	Paper on Acetominiphen toxicity Trial on invasive montor lizards.					1	0	1
12A	Database for marine turtle monitoring.				1		0	1
13B	Biological census for Loosiep and at least one other island. Includes: Seabirds, Reptiles, Flora				1		0	1
14A	Project seminars organized to present results of Darwin Project. Includes presentations to Ulithi Community, Yap				2	3	0	5

	and FSM government, presentation to Island Conservation and all interested attendees							
20	Field shelter on Loosiep and supplies used for project including (radios, trapping supplies, tools and general field equipment)							
21	Field structure on Loosiep Island.			1	0	0	1	1
23	Value of resources raised in addition to Darwin Funding: Grant from USA Department of the Interior Office of insular Affairs							
20	Field shelter on Loosiep and supplies used for project including (radios, trapping supplies, tools and general field equipment)							

Annex 4 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	x
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Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	x
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	no
Have you involved your partners in preparation of the report and named the main contributors	x
Have you completed the Project Expenditure table fully?	x
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