

CEPF FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	Simon Fraser University
Project Title:	Conservation of Endangered Tuamotu Sandpipers
Date of Report:	3 September 2013
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CEPF Region: Polynesia-Micronesia

Strategic Direction: 1. Prevent, control, and eradicate invasive species in key biodiversity areas. More specifically: 1.2 Control or eradicate invasive species in key biodiversity areas, particularly where they threaten native species with extinction

Grant Amount: \$48,829

Project Dates: May 1, 2012-June 30, 2013

Implementation Partners for this Project (please explain the level of involvement for each partner):

Island Conservation: Provided materials and technical assistance for follow-up assessment of rodent eradication project, and financial support to help fund visit an additional atoll supporting breeding Tuamotu Sandpipers (Reitoru). Will review translocation options report upon its completion.

Société d'Ornithologie de Polynésie (SOP) "Manu": Provided logistical assistance, arranged and funded survey expedition of additional atoll supporting a Tuamotu Sandpiper population (Morane).

USF&WS: Funding support for satellite phones, input on study design.

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

Please summarize the overall results/impact of your project.

We laid much of the necessary groundwork to establish the case for translocating Tuamotu sandpipers, an endangered endemic in French Polynesia, to rodent-free sites.

In the field, we:

- confirmed the success of a trial rat removal conducted in 2011 in collaboration with Island Conservation on an islet of Tahanea Atoll

- demonstrated that birds in the remaining populations could be captured and kept in captivity long enough to enable translocation
- documented an important population decline (down to 22 individuals) at Reitoru, one of the 6 remaining Tuamotu Sandpiper populations
- learned of a new small Tuamotu Sandpiper population of unknown size (on Raroia)
- gathered limited information on a small Tuamotu Sandpiper population found in 2011 (on Raraka)

This provides additional motivation for establishing new populations at sites where rat removal has created suitable habitat.

Finally, we are completing a review of translocation site options and conclude that Palmyra Atoll in the Line Islands provides an excellent site for an initial translocation due to its unique biosecurity. Palmyra also offers particularly easy logistics, enabling post-translocation follow-up and research. Once knowledge and expertise has been acquired there, a second translocation to Henderson Island, in the Pitcairn group, would create a refugium ensuring longer term survival of the species in the face of sea level rise.

Project Approach (500 words)

1) Assess the effect of habitat restoration:

M-H Burle returned to Tahanea in July-Sept 2012 and visited Toreauta Islet, where a rat eradication was conducted in July 2011, to assess its outcome as well as the number and state of the Titi breeding territories. We examined territory density in different habitat types on the islet to refine our definition of preferred habitat for the species, essential information for planning reintroductions elsewhere.

2) Assess Titi's ability to recover from population crash:

Burle assessed the medium-term consequences of the Titi population crash that occurred in August following the unusual salt water intrusion of the Tahanea islets. She obtained information on the population's ability to rebound from a natural or human-induced population crash once the intense crowding documented during previous visits was removed. During our first season, nearly all hatching young starved. Assuming vegetation recovers, we predicted that the survival of young would be higher when the population density was lower. These observations help us model potential population growth rates for reintroductions at currently unoccupied distant sites.

3) Tahanea Titi and rodent distribution map:

During the 2011 field season, Burle documented both Titi and rodents over most of the islets within Tahanea. We collated and increased this information, and will provide it to and solicit comment from the Faaite community, with ownership rights in Tahanea, about prospects for further rat removals. The information has been made available to Island Conservation and other conservation organizations to garner support for the eventual eradication of rodents from the entire atoll.

4) Update on Titi world population status:

We estimated the population size on 3 atolls (Tahanea, Morane and Reitoru) and gathered new information on the presence of the species on another atoll.

5) Develop reintroduction plan for protected habitat outside of Tahanea:

We developed plans for reintroduction of the species to rodent-free sites. MH Burle visited Morane and Reitoru (Tenararo proved impossible due to weather conditions) prior to her field season in Tahanea to assess the practicality of visiting these sites and obtained genetic samples from these populations. We have compiled a list of potential reintroduction sites, and ranked their suitability with respect to: habitat suitability, effects on other species, logistical considerations, identifying the most practical source population (Tahanea, Morane or Tenararo) and the potential for local political and financial support. We also identified relevant local legal jurisdictions; considered the number of birds to be transported; methods for transportation (plane, ship); methods for maintaining the birds during and after transport; veterinary participation, release protocols, biosecurity considerations, outlining a post-release monitoring program, and generation of a somewhat realistic budget. We further developed contacts within the Ministry of the Environment in French Polynesia which had previously only orally agreed in principle to consider authorizing translocations.

Link to CEPF Investment Strategy

Our project is linked to several CEPF investment strategies, but it is aimed mostly at “eradicat[ing] invasive species in [a] key biodiversity area” since our goal is to make sure we successfully eradicated rats from a small islet and to prepare for a future larger scale eradication and establishment of new demographically independent populations. Furthermore, this project fits perfectly within the species prioritization strategy of the CEPF:

- Tuamotu Sandpipers “need species-focused actions”: they need rat removals and translocations to be conducted.

- Tuamotu Sandpipers are in a “red list category”: they are endangered (IUCN 2010) and score “2” for “priority rank” in the CEPF ecosystem profile.

- Tuamotu Sandpipers also fit in the “taxonomic distinctiveness” criteria since they represent the last species of a whole taxon (the tribe Prosoboniini), which is otherwise extinct. Their phylogenetic position is still unknown, but their distinctiveness is nevertheless clear in that they show adaptations unique amongst shorebirds (e.g. nectar feeding, Pierce and Blanvillain 2004, M.-H. Burle and D.B. Lank, pers. obs.) or unique amongst sandpipers (e.g. sedentary behaviour, reduced clutch size, record breeding density, record slow egg laying interval, record slow growth rate of chicks). They score “0.333” for “distinctiveness” in the CEPF ecosystem profile.

Planned Long-term Impacts - 3+ years (as stated in the approved proposal):

- 1) Decrease the probability of extinction of endangered Tuamotu Sandpipers, endemic to French Polynesia, and last surviving representative of at least 6 known related species of resident sandpipers by establishing new breeding populations at sites distant from the four currently known populations. The existence of additional independent breeding populations substantially lowers the risk of extinction.

- 2) Increase knowledge on the conservation biology of the Tuamotu Sandpiper as regards habitat preferences and resilience to population crashes.
- 3) Enlarge areas of restored habitat in the Tahanea Atoll for the benefit of Tuamotu Sandpipers and potential other endangered flora and fauna in French Polynesia.

Actual Progress Towards Long-term Impacts at Completion:

- 1) We are completing our assessment of potential reintroduction sites with long term persistence as the goal. We have identified the best two practical potential locations.
- 2) We obtained additional information on demographic rates, parental care strategy, foraging behaviour and diet, and have a clearer description of suitable habitat.
- 3) We increased rodent-free habitat on one atoll by ca. 15%, but not yet established new populations, due to the decrease in population density following the ocean swell event in 2011.

Planned Short-term Impacts - 1 to 3 years (as stated in the approved proposal):

1) Increase the availability of suitable breeding habitat in Tahanea atoll by 6.7ha, and thus potential local breeding population size, by 10-20% (e.g. 12-24 more breeding individuals), for one of the four known populations of Tuamotu Sandpiper, in Tahanea Atoll, French Polynesia. The rat removal executed also increases the biosecurity of currently rat-free islets where the bulk of Tahanea's Tuamotu sandpipers breed.

The following persons will be directly involved in this project:

SFU: David Lank, Ronald Ydenberg (grant administration)

Marie Helene Burle (graduate student, principle field worker), Francois Sanz (assistant)

Island Conservation: Alex Wegmann, Richard Griffiths, Madeleine Pott

USF&WS – Rick Lanctot, Beth Flint, Holly Freifeld

SOP – Phillippe Raust, Thomas Ghestemme, Jean Kape

DIREN (French Polynesia Environment department): Claude Serra

Local citizens of Faaitie: mayor and council, landowners (ca. 15 persons)

2) Provide information to local managers and international conservation agencies regarding potential action that would be needed to further enlarge suitable habitat in Tahanea through rodent eradication or other measures. Reports will be distributed to: the CEPF, the mayor and local council on Faaitie, the landowners of Tahanea, to the DIREN, SOP, and Island Conservation and other interested parties.

3) Provide updated information on the Tahanea population after a strong catastrophic event.

4) Provide 'proof of concept' that will increase the likelihood of establishment of new

populations through translocations of breeders from existing populations to suitable habitat at distant sites, including those already undergoing habitat restoration.

Actual Progress Toward Short-term Impacts at Completion:

- 1) The removal was successful, but recolonization has been slower than expected due to ocean-surge induced population decline that occurred following the rat removal.
- 2) Two of three planned reports have been distributed to: the DIREN, SOP, and Island Conservation and other interested parties. The third, exploring translocations options will be completed and distributed by December 2013. We also completed two additional reports: one updating the situation on Reitoru, one of 4 substantial populations, which may also have been adversely affected by the widespread ocean swell, and an additional one for Rakara, where a small population was recently reported. We have distributed these for feedback to the most relevant parties, and will provide copies of revised versions to the CEPF as a package once the final translocation report is completed.
- 3) This information is contained in one completed report. In brief, population recovery on Tahanea was occurring slowly if at all.
- 4) As outlined in reports, we held birds in captivity during the rodenticide application, establishing that this component will not be a major difficulty for a translocation operation. Measuring the rate of natural colonization of reclaimed habitat was complicated by the ocean surge event. Because population recover on Tahanea is occurring slowly, we obtained limited information with respect to the rate of potential reoccupation of rat-freed areas.

Please provide the following information where relevant:

Hectares Protected: 6.7 ha

Species Conserved: Titi (*Prosobonia parvirostris* or *Aechmorynchus parvirostris*),

Corridors Created: na

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives.

Were there any unexpected impacts (positive or negative)?

Project Components

Project Components: *Please report on results by project component. Reporting should reference specific products/deliverables from the approved project design and other relevant information.*

Component 1 Planned: Verify rat removal conducted on Toreauta Islet (6.7 ha) in June 2011 was successful.

Component 1 Actual at Completion:

Completed, rat removal successful, reported to primary stakeholders.

Component 2 Planned:

Determine how many birds have settled in restored breeding habitat, compared to changes in areas that were not treated (controls) to establish by what fraction the reproductive capacity of the local population has increased.

Establish habitat type preference by monitoring where, on restored islet, Titi settled. Determine territoriality status of the birds and look for breeding clues.

Component 2 Actual at Completion:

Information on resettlement following rat removal Toreauta completed and distributed to DIREN SOP, and Island Conservation. Proving habitat preferences proved difficult due to slow territory reestablishment following ocean-swell-induced population crash. However, additional field experience by MSB at new atolls (Morane, Reitoru, Rakara) provides wider observational experience with respect to habitat usage than previously available from Tahanea alone. Two additional reports updating status of the bird on Reitoru and Raraka also sent to IC and DIREN.

Component 3 Planned:

Provide new estimates of Titi population size islet by islet as a follow-up of swell event which occurred in August 2011.

Component 3 Actual at Completion:

Estimates provided in Tahanea reports awaiting review by partners.

Component 4 Planned: Provide distribution information for use in planning of an eradication of rats for the entire Tahanea Atoll.

Component 4 Actual at Completion:

Information provided in Tahanea reports awaiting review by DIREN and other partners.

Component 5 Planned: Produce translocation plan.

Component 5 Actual at Completion:

This report is substantially completed, and will be sent to partners for review in October 2013. We will circulate the final version no later than December (see following section).

Were any components unrealized? If so, how has this affected the overall impact of the project?

Basic goals of components were met. The population response to habitat restoration was slower than originally expected, when the population was larger, and a longer time frame will be needed to assess longer-term impacts of habitat restoration and post-swell response.

As of 1 September 2013, the translocation report is not yet completed. We have obtained additional support from Simon Fraser University to enable completion of the report, and will distribute it no later than Dec 2013.

Please describe and submit (electronically if possible) any tools, products, or methodologies that resulted from this project or contributed to the results.

Relevant reports will be submitted to CEPF following review by partners. We expect to have all reports completed by Dec 2013.

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

Much knowledge was gathered from peer-reviewed and grey literature on: potential future impact of sea level rise on low-laying atolls (Tuamotu Sandpiper current sole habitat); translocation guidelines and recommendations; state of several Pacific atolls as regards introduced predators, eradications past and planned, vegetation state and habitat.

Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

The design was reasonable, if ambitious.

Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)

In retrospect, it would have been better to revisit Tahanea a longer period after the ocean swell disturbance, and to have done so during a later season of the year, during a separate expedition, rather than combining the Tahanea work with the tour of additional atolls planned by the SOP for May-June 2013. In the event, it proved too soon after the population crash to provide as much information as we would have liked on this aspect. Both budget and the financial time frame of the CEPF grant restricted our options in this respect.

Other lessons learned relevant to conservation community:

Additional Funding

Provide details of any additional funding that supported this project and any funding secured for the project, organization, or the region, as a result of the CEPF investment in this project.

Donor	Type of Funding*	Amount	Notes
Simon Fraser Univ	A	24,000	Support for student, PI
Island Conservation	A	2100	Direct field support (\$2100) Staff time to review reports (5180, in future)
USF&WS	A	1500	Satellite phone time

**Additional funding should be reported using the following categories:*

- A Project co-financing (Other donors or your organization contribute to the direct costs of this project)*
- B Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF funded project.)*
- C Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.

Summarize any unplanned sustainability or replicability achieved.

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

Additional Comments/Recommendations

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

Please include your full contact details below:

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*****If your grant has an end date other than JUNE 30, please complete the tables on the following pages*****

Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

Provide a numerical amount and brief description of the results achieved by your grant.
Please respond to only those questions that are relevant to your project.

Project Results	Is this question relevant?	If yes, provide your numerical response for results achieved during the annual period.	Provide your numerical response for project from inception of CEPF support to date.	Describe the principal results achieved from July 1, 2007 to June 30, 2008. (Attach annexes if necessary)
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.				
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?				
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If so, please indicate how many hectares.				
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.				
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1 below.				

If you answered yes to question 5, please complete the following table

