CEPF Final Project Completion Report

Organization Legal Name:	Fiji Nature Conservation Trust
Project Title:	Resolving an Enigma: Conservation Management of the Fiji Petrel
Date of Report:	28 Feb 2013
Report Author and Contact Information	Dick Watling watling@naturefiji.org

CEPF Region: Polynesia-Micronesia

Strategic Direction: 1. Invasive species prevention

Grant Amount: $260,934

Project Dates: June 1, 2009-December 31, 2012

Implementation Partners for this Project (please explain the level of involvement for each partner):
This project was able to effectively engage a wide array of stakeholders in government, non-government, conservation and non-conservation and local communities.
Three village communities in Gau were active partners for much of the project – Nukuloa; LevukaiGau, Qarani and Naivukilagi, five other village communities were involved for shorter periods of time. All the 16 village communities were part of awareness raising initiatives. The Provincial Sub-Office on Gau was the centre of information gathering and dissemination and official reporting. The office was very interested and active throughout the project. The National Trust for Fiji provided support at critical junctures and the project co-opted their honorary warden on the island as a project team-member.
BirdLife International was a major technical supporter and provided funding support. NatureFiji-MareqetiViti progressively assembled an international Technical Advisory Group which provided expert technical advice, training and funding. Volunteers both local and international were a major contributing feature to the successful running of the project.

Table 1: Table of project stakeholders and their level of involvement in the Fiji Petrel project.

	Level of involvement in project			
Project Partner	**Active Participating Partners**	**Technical advice/ research**	**Funding**	**Personnel/ Awareness campaign**
Nukuloa-Levuka I Gau, Qarani, Naivukilagi Communities	+++			+++
5 other Gau Communities	++			++
Remaining 8 Gau Village Communtiies	+			+
Ministry of ITaukei Affairs – Provincial Office - Gau	++			+
National Trust of Fiji	+			+
University of the South Pacific (Institute of Applied Sciences)				+
BirdLife International	+	+	+	+
International Technical Advisory Group	++	+++		
Fiji Police Force (dog handler training)		+		
Volunteers	+++	++		+
MBZ Species Conservation Fund; Thrigby Hall Wildlife Gardens; Disney Conservation Fund			+	

Conservation Impacts

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

The best estimate is that there are up to 50 pairs of Fiji Petrel surviving in the world. It is an international iconic species and one of the few seabird species worldwide whose breeding sites remain unknown. The Fiji Petrel Project's key objectives are to locate the Petrel's nesting burrows somewhere in the 52 km^2 of rugged upland forests remaining on Gau, and once found undertake basic conservation management techniques to protect the nests and the breeding adults. That feral cat predation is the principal threat has been demonstrated on Gau at Collared Petrel colonies. If success is measured purely by whether the Fiji petrel's nests have been located and protected, the project has, unfortunately, not been successful. However, over the past three and a half years the project has proved very successful in methodically evaluating different techniques towards finding the nesting sites and initiating management measures on the ground using trained local community members. In this it has been very successful in developing knowledge and expertise vital to the successful implementation of the CEPF ecosystem profile.

Please summarize the overall results/impact of your project.

Project Approach (500 words)

The initial project approach was to determine if Fiji Petrels could be located at sea offshore Gau, and if they could, would it be possible to capture one and use radio telemetry to track it to the nest. Two pelagic chumming voyaging periods were undertaken, the first ever photographs of the Fiji Petrel at sea were taken and in all eleven Fiji Petrels were confirmed as observed at sea. We experienced the "close proximity" of Fiji Petrels i.e. less than 40 m from the boat, once in every 4.5 days of chumming and their behavior was transient or tentative. It was concluded that chumming would not ultimately lead to the location of Fiji Petrel nesting burrows – without massive effort and investment. As such the resources planned for further chumming were re-applied to locating the Fiji Petrel's nesting grounds by other means. Three techniques to locate nests were embarked upon:

1. The capture of Fiji Petrels on land by spotlighting and then using radio telemetry;
2. The training in New Zealand of two wildlife-detector dogs to be brought to Gau; and,
3. Cold searching using community groups.

Radio telemetry was attempted using Collared Petrels, but no Fiji Petrels were landed or observed at the spotlighting camps.

The wildlife dogs, Bob and Tar arrived in mid 2011 and have worked 18 months on the island – of which 2012 should be regarded as the only productive year by which time the dogs were accustomed to their new environment and the handlers. Since their arrival, they have 'indicated' 50 burrows. Half of these are confirmed Collared Petrel burrows, the owners of the others (some are in the process of excavation) are not known at this stage. While it is possible that they could be Fiji Petrel, this is not entertained until it is confirmed. Not all the burrows are amenable for burrowscope examination (sharp bends, roots etc.) and some of the burrows are not yet completed. For these, cameras will need to be installed.

The other important component of the project has been to train community members in basic conservation management techniques. Three communities are actively participating in this and the activities focus on:

1. Cold searching for petrel nesting burrows;
2. Spotlighting, landing Collared Petrels (no Fiji Petrels during the project), taking mensural data, photographs and detailed notes; banding and release;
3. Feral predator control – rat baiting around Collared Petrel colony and nesting sites; snaring feral pigs; and, trapping feral cats
4. Installing artificial nest boxes and monitoring them;
5. Releasing of landed Fiji Petrels (in villages at night) – three occurred during the project.

This component has been very successful and the project is confident that should Fiji Petrel nests be found, we have trained personnel on the island who could carry out the basic conservation management requirements in the active nesting area.

Link to CEPF Investment Strategy

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

The long term objective of this project is to ensure the survival of the Fiji Petrel.

Actual Progress Towards Long-term Impacts at Completion:

No Fiji Petrel nesting burrows were found. One or more of over 20 burrows have been indicated by the detector dogs whose occupants/owners are not yet known. We will be working on those in 2013, if funding is available. This is a key objective which the project has not yet been successful in achieving. More important, however, is that the expertise in the form of trained personnel and trained dogs are present on Gau, thanks to the project, and will be able to continue work to find Fiji Petrel burrows and conserve them professionally thereafter, funding notwithstanding.

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

It is intended that by locating Fiji Petrel burrows on Gau, through the use of sniffer dogs and radio transmitters, further conservation actions can be undertaken to conserve the Fiji Petrel population. This would include:
- long term monitoring of the population dynamics on Gau
- predator control if needed
- awareness raising with the local community

Actual Progress Toward Short-term Impacts at Completion:

Training community members in basic conservation management techniques has been very successful, mainly because we have a suitable surrogate species on Gau – the Collared Petrel (Vulnerable) and so the communities have had hands on working with this petrel in all facets which will be used for the Fiji Petrel. Three communities are actively participating in this and the activities focus on:

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Please provide the following information where relevant:

Hectares Protected: n/a
Species Conserved: n/a
Corridors Created: n/a

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

The greatest challenge is the enormity of the task – finding a few nesting burrows in 52 km^2 of rugged, inhospitable rainforest with hundreds of thousands of land crab burrows which are outwardly similar in appearance. Maintaining the level of dedication and perseverance without reward among young, inexperienced project staff is extremely difficult.
The success of the petrel detector dogs in finding nesting burrows clearly indicates that it is just a matter of time given the ability of maintaining the teams on Gau, before they do find Fiji petrel nests.

Were there any unexpected impacts (positive or negative)?
Originally it was planned to bring the dogs to Gau for a period of two or three months, however, because of quarantine risks relating to the dogs' return to NZ this proved not to be possible and it was decided to train dogs in New Zealand for them to be brought permanently to Fiji. This required training local handlers, one of whom went to New Zealand for training with the dogs. The other underwent an attachment with the Fiji Police Force. In the event, detector dogs specifically for Gau is clearly what is required as the need is likely to be for a three to five year period.

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:
The use of NZ-trained sniffer dogs to locate Fiji Petrel nests on Gau, to enable further conservation activities to be undertaken.
Component 1 Actual at Completion:
Two NZ-trained detector dogs, Bob and Tar, were trained by Steve Sawyer of Ecoworks Ltd., New Zealand's foremost wildlife detector dog trainer and brought to Fjii. Training of handlers was started with one, the Fiji Petrel Project Officer – Eleazar O'Conner undertaking dog-handler training in New Zealand before his return with the dogs and Steve Sawyer who then oversaw a month of training on Gau. The other handler, Poasa Qalo from Nukuloa, Gau underwent an attachment with the Fiji Police Force's Dog Unit.
The dogs found the first burrow (Collared Petrel) within a month of forest work on Gau but it clearly took them several months to get used to the hot and humid conditions on Gau and their new handlers. In the event it was the Collared Petrel breeding season Jan-August 2012 when the dogs started to find burrows consistently. At the end of the season – July over 45 burrows had been located including the first ever documented colony of Collared Petrels at Savalevu. By the end of November when the field work was completed a further 5 nests had been indicated by the dogs.
Each nest is GPS located and follow up work then requires examination with a burrowscope. The dogs work to a specific programme of ~ 3 days searching with a break of 3-4 days with an extended break of at least a week once a month. Heavy rain disrupts the searches and is a problem for the delivering a consistent programme. Each dog search is GPS tracked and the overall programme will see each part of the forest on Gau searched at least twice – 6 months apart to take into account the Fiji Petrel's breeding season which is not known.

Component 2 Planned:
Physically locate Fiji Petrel burrows by tracking the signals from radio transmitters and protection of sites through invasive species control.
Component 2 Actual at Completion:

Radio telemetry was undertaken during 2011 with an experienced volunteer, Mark Fraser, training a team of community members. Petrels had to be landed through spotlighting from the project's spotlighting camp at Waitabua. To be suitable for radio transmitter attachment, those landed had to be shown to be breeding – either through the presence of a brood patch or presence of mud on their beak or feet indicating the petrel is excavating or cleaning out its burrow.
No Fiji Petrels were landed during the project despite almost continuous spotlighting presence for 3-7 nights over the new moon each month for the duration of the project. Collared Petrels were commonly attracted to the site but not commonly landed. During the telemetry testing period (February to July 2011), 12 collared petrel were grounded at Waitabua Hill. Five of these were breeders and had transmitters attached. A total of 54 days or nights were spent using the telemetry gear (TR-4 receivers and Yagi antenna). Only one signal was received but insufficient to determine its track. It was concluded that we did not have sufficient resources for effective telemetry work which would require an automatic monitoring system and greater preparatory training for telemetry assistants.

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

No, all components were attempted with the full planned resources.

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

All project reports have been forwarded to CEPF Secretariat during the project as they were completed. The following is a list of the project reports.
Eleazar O'Connor – Quarterly Fiji Petrel Project Reports Qtr 1:2010 – Qtr 4: 2013

Fabian Jan, Qalo Moce, Amania Taukei. 2009 Fiji *Petrel* Pseudobulweria macgillivrayi – *June-September 2009 Report*. NatureFiji-MareqetiViti Report, Suva.

Theo Blossom, Eleazar O'Connor, Qalo Moce 2009. *Fiji Petrel Project: Rat Survey 2009.* NatureFiji-MareqetiViti Report, Suva.

Dick Watling 2010 *Chumming for the Fiji Petrel* Pseudobulweria macgillivrayi, *Gau, Fiji*. NatureFiji-MareqetiViti Report # 2010/10, Suva

Jill West 2010. *Report on Burrow Searches for the Fiji Petrel* Pseudobulweria macgillivrayi *on Gau, July 5 – 16, 2010.* NatureFiji-MareqetiViti Report, Suva.

Sue Waugh 2010. *Fiji Petrel Survey Report 9 – 24 August 2010*. NatureFiji-MareqetiViti Report, Suva.

Dick Watling 2012. *Completion Report Fiji Petrel* Pseudobulweria macgillivrayi – *Final Report to the Mohamed Bin Zayed Species Conservation Fund.* NatureFiji-MareqetiViti Report, Suva.

Mark Fraser 2012. *Fiji Petrel* Pseudobulweria macgillivrayi *and Collared Petrel Pterodroma brevipes Research, Gau Island, Fiji* NatureFiji-MareqetiViti Report # 2012/03, Suva

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.

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

Other lessons learned relevant to conservation community:

1). The project had specific plans of how to find Fiji Petrel burrows which were informed by previous work undertaken on Gau. The first of these was pelagic chumming at sea of Gau to attract Fiji Petrels at sea such that transmitters could be attached and the petrels followed back to their nests. Although the chumming work was very successful in that Fiji Petrels were attracted and photographed for the first time ever at sea, it became apparent that the rate of attraction of Fiji Petrels to the chum and close to a boat (1 per 4.5 days of chumming) and manner (tentative) such that chumming would not be a viable method of enabling the capture of the Fiji Petrel for attachment of a transmitter.

2). Use of telemetry ashore required the landing of Fiji petrels at spotlighting camps. Despite extensive spotlighting for several nights over most of the new moon periods throughout the 3 year project, no Fiji Petrels were landed. However Collared Petrels were attracted and could be landed in low numbers.

It was found that transmitter attachment on Collared Petrels and the even smaller Fiji Petrel should be at the base of the tail not on the back feathers (as for larger petrels). It was also found that the project was unlikely to be able to train local community teams sufficiently well to undertake manual reception of the tagged birds (each frequency –i.e. for each bird tagged, has to be manually changed every minute of so) and the different directions scanned, all done at night often in bad weather. Without reinforcement/reward of regular reception of tagged birds, teams lose focus and concentration very quickly. It was decided that we would need to move to automatic scanning equipment which can be operated remotely. The project has the sites and the solar panels already installed to do this.

3). The most significant and humbling lesson learned is the fact that in one three month period the Bob and Tar – the detector dogs found 36 petrel nesting burrows which vastly outnumbers those found in many many thousands of man hours of searching over the past 29 years of intermittent project work !! It is quite clear that the dogs are an absolutely essential element of this work and maintaining these dogs on Gau is likely the only hope that we will ever have of finding the nest of the Fiji Petrel. It is possible that we may have already found one but we are not sure of all the occupants of the nests indicated by either Bob or Tar. Some are not amenable to burrowscope examination (sharp bends, roots etc.) and some of the burrows are not yet completed.

4).Even with trained detector dogs working well, searching all the forest on Gau (at least twice at different seasons) to find a nest of the Fiji Petrel may require another 3-5 years of effort.

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
BirdLife International	A	$20,000	Feral pig control – island wide training
Disney Wildlife Conservation Trust	A	$19,844	Additional Community involvement
Fiji Nature Conservation Trust	A	$18,750	Additional time of the Project Director – on island training
New South Wales Department Conservation & Climate Change	A	$10,000	In the form of training of project personnel in Fiji and in NSW
Mohamed Bin Zayed	A	$20,000	Additional Radio – Telemetry

Species Conservation Fund			equipment and work

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.

The project has developed a very sound foundation for finding the nesting burrows of Fiji Petrels and introducing conservation management immediately thereafter. However, although NatureFiji-MareqetiViti has worked hard to find follow up funding, only minor funding has been raised. In countries such as Fiji where there is no Government or local Business House funding at all for threatened species research or conservation, the dependence on international donor funding becomes ever more critical. Yet with considerable funding received, attracting more is very difficult and this conundrum facing NatureFiji-MareqetiViti at the moment.

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.
Not required

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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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.	Not relevant			
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?	Not relevant			
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.			52,000	Much greater awareness of the importance of the remaining forest area amongst the Gau island communities and forest landowners. Greater awareness at the Provincial Office level.
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	Not relevant			
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1below.	Not relevant			

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

Table 1. Socioeconomic Benefits to Target Communities

Please complete this table if your project provided concrete socioeconomic benefits to local communities. List the name of each community in column one. In the subsequent columns under Community Characteristics and Nature of Socioeconomic Benefit, place an X in all relevant boxes. In the bottom row, provide the totals of the Xs for each column.

Name of Community	Community Characteristics								Nature of Socioeconomic Benefit												
									Increased Income due to:												
	Small landowners	Subsistence economy	Indigenous/ ethnic peoples	Pastoralists/nomadic peoples	Recent migrants	Urban communities	Communities falling below the poverty rate	Other	Adoption of sustainable natural resources management practices	Ecotourism revenues	Park management activities	Payment for environmental services	Increased food security due to the adoption of sustainable fishing, hunting, or agricultural practices	More secure access to water resources	Improved tenure in land or other natural resource due to titling, reduction of colonization, etc.	Reduced risk of natural disasters (fires, landslides, flooding, etc)	More secure sources of energy	Increased access to public services, such as education, health, or credit	Improved use of traditional knowledge for environmental management	More participatory decision-making due to strengthened civil society and governance.	Other
Total																					

If you marked "Other", please provide detail on the nature of the Community Characteristic and Socioeconomic Benefit: