

# Darwin Initiative – Final Report

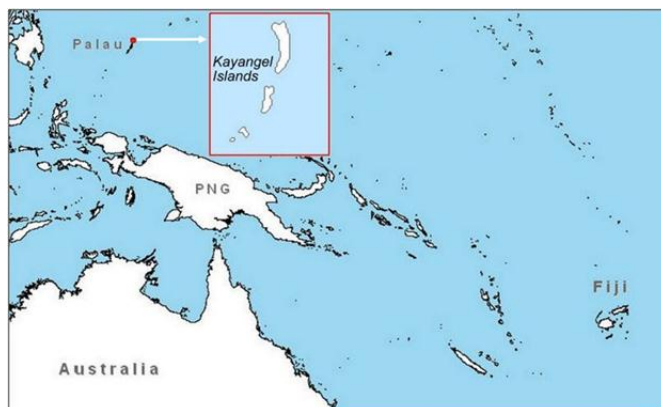
## Darwin project information

Project Ref Number	17-026
Project Title	Restoration of Priority Pacific Island Ecosystems for People and Biodiversity
Host Country(ies)	Fiji and Palau
UK Contract Holder Institution	BirdLife International
UK Partner Institution(s)	
Host country Partner Institution(s)	BirdLife International Pacific Partnership Secretariat; BirdLife International Fiji Programme; Palau Conservation Society
Other Partner Institution(s)	Government of Palau; State Government, traditional chiefs and local community of Kayangel, Palau; Government of Fiji, local communities on Ringgolds, Mabualau and Vatu-i-Ra islands in Fiji; Pacific Invasives Initiative, Pacific Invasives Learning Network and South Pacific Regional Environment Programme
Darwin Grant Value	GBP 288,703
Start/End dates of Project	1 April 2009 to 30 March 2012
Project Leader Name	Steve Cranwell
Project website	<a href="http://www.birdlife.org/regional/pacific/pacific_in_action/current_projects.html#h">www.birdlife.org/regional/pacific/pacific_in_action/current_projects.html#h</a>  <a href="http://www.palauconservation.org/cms/index.php?option=com_content&amp;view=article&amp;id=104&amp;Itemid=69">http://www.palauconservation.org/cms/index.php?option=com_content&amp;view=article&amp;id=104&amp;Itemid=69</a>
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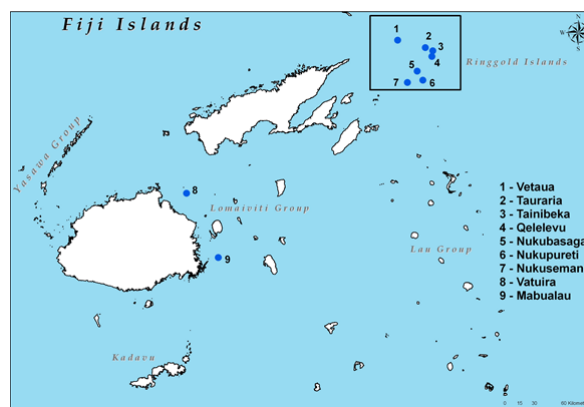
## 1 Project Background

Invasive alien species are driving the loss of native flora and fauna and negatively impacting the lives of local people in Fiji, and Palau. This project sought to safeguard islands of high biodiversity value (Important Bird Areas) and derive economic benefits for landowners and the community of Kayangel Atoll by eradicating rats and feral cats and establishing protected areas here and for restored islands in Fiji. These actions also sought to develop invasive species management and biodiversity conservation capacity in civil society organisations, government and local communities.

The project successfully delivered operations to eradicate two introduced species of rat and feral cats from Kayangel Atoll. This led to an increase in the globally endangered Micronesian Megapode (*Megapodius laperouse*) and improved agricultural productivity which, through a coconut mill is an enterprise aimed at establishing sustainable income sources for the island community. Awareness of the threat of invasive species to the environment and livelihoods has resulted in six project communities managing biosecurity controls for the 13 project islands. Seven new protected areas in Palau and Fiji have been established as a result of these same communities wanting to safeguard their natural resources.



Palau & Kayangel Atoll



Fiji project sites

## 2 Project support to the Convention on Biological Diversity (CBD)

This project has contributed to several CBD objectives for Fiji and Palau. Among the 20 Aichi Biodiversity Targets, the project has contributed to 16 and significantly 8 (Targets 1, 2, 5, 6, 9, 11, 12 and 17)

Local communities and resource owners of the project sites are highly dependent on agricultural production supporting subsistence lifestyles. Building an awareness of the native biological values (Target 1) among communities of project sites has been an important communications focus of the project and delivered through a variety of mediums (see section 4.4). The areas designated for protection by the communities came about as a result of this increased understanding of biodiversity conservation. More widely communications have highlighted the importance of the project sites, impacts of IAS and the role of communities in protecting high biodiversity areas.

The development of community based resource management plans for 12 of the 13 project islands in Fiji (9) and Palau (4) has enabled biodiversity values to be balanced against development interests for each island (Target 2). The management plans identify sustainable alternative livelihoods (including nature tourism and high value coconut products) and areas for conservation protection. The management plans are supported by local and national structures including provincial (Fiji) and state (Palau) decision making authorities. **MOV 3.1, 3.2, 3.3 – Kayangel, Vatu-I-Ra & Ringgold Management Plans**

The resource management plans have led to the establishment of six new protected areas comprising over 185,000ha of marine habitat, and 7ha of terrestrial area (Target 11) these are:

### Palau

- **Ngkesol Marine Protected Area.** Est. 2012; Size: 163km<sup>2</sup>; IUCN Cat: IV-C
- **Ngeriungs Bird Sanctuary.** Est. 2012; Size: 3.4ha; IUCN Cat: IV-C
- **Chermall Sacred Site & Atoll Forest Preserve.** Est. 2012; Size: 0.3ha; IUCN Cat: Ib-A
- **Ngerusebek Sacred Site & Atoll Forest Preserve.** Est. 2012; Size: 0.3ha; IUCN Cat: Ib-A
- **Kayangel Territorial Waters.** Est. 2012; Size: 1,685km<sup>2</sup>; IUCN Cat: VI-C

### Fiji

- **Vatu-I-Ra protected area,** Est. 2012; 3.0ha terrestrial and c.500ha marine habitat

The eradication and prevention of future IAS introductions (Target 9) has been a key focus for the project. Rats (two species) and feral cats have been successfully eradicated from 3 of 4 islets on Kayangel atoll, and biosecurity controls are being implemented here and to nine other alien vertebrate predator free islands managed under this project in Fiji. The biosecurity plans, and training of communities and other stakeholders in their implementation is sustaining the IAS free status at all sites where IAS have been eradicated (12 of 13 sites). **MOV 2.1, 2.2, 2.3 Biosecurity Plans**

The removal of predatory rats and cats has improved the conservation status of the endangered Micronesian Megapode (Target 12). This has removed the primary threat to

Megapodes on Kayangel and monitoring indicates Megapodes are being seen on the main island in greater numbers than ever observed in the past (up to 60% more). The removal of these predators is also expected to benefit other globally threatened species including the Near Threatened Palau Ground Dove and the Critically Endangered Fiji Petrel, Vulnerable Collared Petrel, and Near Threatened Tahiti Petrel over the longer term as new populations establish on the 'project islands' in Fiji. **MOV 1.6 – Biological survey data and results**

This project addresses priority actions in the Palau and Fiji National Biodiversity Strategy and Action Plans (Target 17). In Palau, it has addressed six of the eight NBSAP Strategic Themes, (Protected/Managed Areas; Species Protection; Biosecurity; Sustainable Economic Development; Agricultural Biodiversity; and Mainstreaming of Biodiversity Conservation). In Fiji it addresses five of six Focal Areas (Community Support; Protected Areas; Species Conservation; Invasive species; and Capacity Building). All project sites are sites of national significance. Project outputs have supported Palau's commitment to the Micronesia Challenge and contributed to global protected area targets for both countries.

Among the contributions to other Aichi targets the management plans and associated marine protected areas conserve important fish stocks and other marine wildlife under a regime of sustainable harvest (Target 6). The protection of marine and terrestrial habitats (Target 5) through the establishment of Protected Areas has also prevented further loss and degradation of areas heavily impacted by coastal development (such as lowland coastal forests in both Fiji and Palau) and overfishing, protecting threatened coral reef habitats.

The eradication of rats on Kayangel, saw an increase in traditional root crop production (yam, taro, and sweet potato) and other crops previously destroyed by rats including tomatoes, and corn. Increased productivity of staple foods has removed the pressure on forested areas for agriculture conversion and a wider range of crops has made the community more self-sufficient. The establishment of a coconut mill has enabled the community to utilise a locally abundant resource and collectively these initiatives are supporting more sustainable agricultural practices (Target 7). Other benefits include a greater nutritional balance and the potential to reduce dietary related non-communicable diseases.

The sharing of benefits arising from the use of natural resources (Target 16) has been secured for two project communities Ringgold Islands and Kayangel. On Kayangel a local cooperative has been formed mainly comprising women to run the coconut mill and income from the sale of oil will be shared among those harvesting and pressing the coconuts with a proportion reinvested in the mills operation and maintenance. In Fiji, landowning communities were trained in establishing and running small businesses as a mechanism for supporting income generation and sustainable use of island natural resources. The Ringgold Island community were trained in the production of handicrafts using locally available materials. The baskets, jewellery and other artworks produced are sold through resorts and tourist outlets with the income generated invested in their children's education. A further two communities have made progress toward establishing eco-tourism enterprises for Vatuira and Mabualau islands. In both instances benefits are to be shared among the landowning community and for Mabualau the enterprise will be managed by the islands youth. Support for education is the main focus for income generated.

The eradication of rats from Kayangel has enabled the resident community to grow traditional crop varieties particularly yams and sweet potato (Target 13). Kayangel people have also traditionally prepared corn based dishes and the ability to again grown corn revitalising this cultural practise (Target 18) for which they are nationally renowned. Through consultations the use of traditional knowledge has been in-cooperated in the project planning process and a number of community engagement lessons were learned in Palau **MOV 4.5 – Lessons learned document**

The removal of introduced predators has also helped safeguard food and water resources for resident communities particularly those of Kayangel atoll. The elimination of rats and cats vectors of non-communicable diseases (leptospirosis, and scrub typhus) reducing contamination of water bodies and transmission to people (Target 14). The increased diversity of food crops aiding nutrition and dietary defences against NCDs.

The 13 islands managed under this project vary from partial to complete indigenous forest cover. The removal of introduced rats, cats and goats will contribute to the restoration of natural processes including forest regeneration. The elimination of these predators of flowers, fruits, seeds and dispersal agents like birds and reptiles will enable a representative native forest cover to establish. Where present goats severely modified the forest structure and since their removal a comprehensive ground cover has established helping stabilise soils. Resilience to disturbance events (ie cyclones) will continue to increase as the forest condition improves (Target 15).

This project collected (and developed) information on eradication techniques, environmental and biodiversity indicators and responses, community engagement and natural resource protection, social and economic outcomes. The information has been shared across a range of platforms including the BirdLife World Bird Database, the Pacific Invasives Initiative toolkit (<http://www.pacificinvasivesinitiative.org/rk/index.html>), media, and national, regional and global meetings (Target 19) **MOV 4.1- 4.9.**

This project built capacity among government (Department of Environment, Biosecurity Authority, Ministry of Health) and non-govt agencies (NatureFiji-MareqetiViti, the National Trust of Fiji, Palau Conservation Society, BirdLife International) and community groups to manage IAS in the protection of endangered species. Through a participatory process landowning communities identified management interests for their islands natural resources securing protection for high biodiversity value areas and the development of environmentally sustainable income streams. Indications that this knowledge will continue to be used are: 1) across all 13 managed islands local community members are implementing the biosecurity plans; 2) incomes utilising natural resources (coconut products in Palau, and jewellery making in Fiji) continue and have community based management structures supporting them; 3) five permanent project staff trained in fundraising, IAS management, resource management planning and biodiversity monitoring techniques continue to apply these skills and knowledge in their countries of origin; 4) third-party participants are pursuing their own IAS eradication efforts based on their observations and or involvement in this project (in Palau rat and introduced macaque eradications are being developed). Additionally, capacity for management planning was increased significantly and three protected area plans developed are now being implemented. New management plans are being developed by staff employed on this project (and others) using the tools and methods developed in Fiji and Palau. **MOV 3.10, 3.12**

This project had contact with the CBD focal point and with political leaders important to CBD implementation. In Fiji this was chiefly through the Department of Environment CBD focal point and participation in NBSAP and PoWPA meetings as well as involvement of the CBD focal points in general protected area activities. Additionally, staff from this project attended the CBD COP10 and negotiated as part of the Palau Delegation. This staff led joint decision-making and position-setting with the negotiating team before leaving for Nagoya and during the meeting, project staff helped the CBD focal point (who was head of delegation) draft statements. By strongly engaging the CBD focal point, this project built the capacity for the local convention office (OERC) to meet its reporting requirements and helped the office build better relationships with other biodiversity organizations in Palau. **MOV 4.8 CBD COP10 Materials.** PCS also helped OERC raise awareness about the CBD. **MOV 4.9 CBD Awareness brochure.**

This project contributed to the Programme of Work on Protected Areas for Fiji, with project staff represented on the Protected Areas Committee (PAC). By the end of the project, PAC had completed a review of areas for protection in Fiji, and recommended the 9 sites included in this project as priority areas for protection **MOV 3.4 Fiji Priority Sites for Protection.** Fiji's cabinet has approved the protected area policy paper and commenced with the development of legislation. The legislation is not expected to be passed until after national elections are held (in 2014).

The project has eradicated alien threats from islands with CITES listed species Green turtle (*Chelonia mydas*), Hawksbill turtle (*Eretmochelys imbricate*) Fiji Crested Iguana (*Brachylophus vitiensis*), Coconut crab (*Birgus latro*), and Pacific Boa (*Candoia caranita*) information on the islands status was provided to the country focal point (Director of Environment).

The project also contributed to the CMS with eight of the project sites (Vatuiria and the Ringgold Islands) having been put forward as potential Ramsar sites. BirdLife compiled information in support of their nomination and submitted this to the government and regional contacts for endorsement and subsequently put forward to the Ramsar Secretariat **MOV 3.5-3.9 Ramsar Nominations**.

### 3 Project Partnerships

The relationship between BirdLife International and the Palau Conservation Society remains one of mutual respect and equal partnership as a result of this project. Each partner brought unique talents; BirdLife brought expertise on the technical aspects of eradications, PCS brought expertise on community engagement and management planning. Both technical and community-based results have been shared with national stakeholders and through regional meetings. There were times during the project when there were disagreements between partners, but these were solved through discussion and compromise. The strength of the relationship is further demonstrated by PCS and BirdLife entering into other shared project agreements including projects with the European Union and Critical Ecosystem Partnership Fund advancing the biosecurity, protected area and livelihood activities initiated in this project. BirdLife personnel also built direct partnerships with Kayangel community members and as such are now seen as a resource for ideas and information for those people who are carrying out the ongoing monitoring, biosecurity and livelihood activities.

The partnership between PCS and BirdLife was established prior to the start of this project, but the project partnership originated from a request by PCS for eradications assistance in response to the Kayangel communities (leadership and community members) desire to eradicate rats from the Atoll. The planning and decision making process has been participatory which PCS led with technical advice from BirdLife, the Pacific Invasives Initiative and others coupled with reviews and community input. Each version of the plan was presented to the community for input including decisions. PCS believes that this participatory planning led to strong support from the community. Some important decisions were made through a process of compromise between BirdLife and PCS (particularly surrounding the baiting methodology).

The BirdLife Pacific Secretariat in Fiji, with the support of the International headquarters in the UK also managed the Fiji, component. The work was implemented by the BirdLife in-country programme led by the project coordinator (Tuverea Tuamotu) and supported by Elenoa Seniloli. In the last year of the project Tuverea resigned from BirdLife, to take up a position with NatureFiji-MareqetiViti, and Elenoa coordinated the project to its completion. BirdLife's intention was always to facilitate the establishment of a nationally represented, autonomous membership based conservation organisation and in working with local partners helped catalyse the formation of NatureFiji-MareqetiViti (NFMV). Once NFMV was ready the BirdLife Country Programme was to be succeeded to NFMV, this ultimately took place in 2012. By 2010 NFMV, had begun to take on an increasing number of projects including an EU funded project with biosecurity outputs that complimented both the capacity developed and results of the Darwin project. Tuverea, was ideally suited to this new role and became the first of three staff that transitioned from the BirdLife Country Programme to NFMV.

The Fiji component was supported by a number of national partners including the Department of Environment, Agriculture and the Biosecurity Authority of Fiji. There were no formal agreements and this input was largely coordinated through the Fiji Invasive Species Taskforce with representation from all agencies and the project coordinator. This group also acted as the local project steering committee.

The University of the South Pacific (USP) provided technical assistance and guidance in the preparation of resource management plans. The management planning for Vatuiria was led by USP and through a participatory process trained project staff who subsequently led the Ringgold's management planning (**MOV 3.3**). Provincial Councils (Cakaudrove and Ra) and their management institutions (Yaubula Management Society Taskforce and Ra Yaubula Management Society taskforce) provided important links with communities facilitating chiefly engagement and appropriate communication channels with communities. These networks

continue to support information exchange between communities, provincial authorities and the BirdLife partner (now NFMV)

BirdLife and PCS established a contractual agreement to carry out the project in partnership. PCS and Kayangel State established a formal MOU to implement the project in general partnership. PCS also established a formal MOU with the Koror State Animal Shelter to carry out one specific aspect of the project (feral cat control). In Year 2 of the project, PCS and the US Department of Agriculture National Wildlife Research Center (USDA NWRC) established a formal MOU of cooperation (**MOV 1.8**)

One challenging aspect of the project was the understanding of the requirements and standards necessary in adequately planning and implementing a successful cat and rodent eradication. While considerable effort was put into clarifying the importance of data collection and evidenced based decision making the detail of collecting, and communicating this information locally was at times incomplete (and insufficient) resulting in decisions being advocated on the basis of project timeframes or other local/organisational pressures. Should the Project Manager, (or another experienced eradication specialist) have been able to spend more time in Palau, supporting PCS with the field preparations this would have helped these decisions tremendously however, the travel distance/time between Palau and Fiji, and the length of the commitment prevented anything more than the 8 weeks that occurred. The result was that compromises had to be made on the information and justification for decisions made. From the PCS side this reluctance to proceed (by BirdLife) with a poorly informed decision was seen as BirdLife, exercising excessive control as both the technical partner and 'donor' (these responsibilities were handled by the same person at BirdLife). The differences were overcome largely by virtue of agreeing to disagree and from the perspective of the BirdLife project manager accepting that the eradication operation would carry higher levels of risk than would normally be necessary, but also that the process and result would be a learning experience for all and particularly PCS and BirdLife. From the PCS side they remained committed to completing the operation and keeping the community engaged. If there is a lesson learned (to which there are two viewpoints) it is that 'project equity' may be better achieved if the functions of technical advice and fiscal management are separated to different people. An addition or alternative to this is that in developing (and implementing) an eradication operation with an agency and or project leader that has no or little experience then the project must be able to provide experienced technical support on-site through to implementation.

From the outset it was envisaged the Kayangel operation would be supported by established eradication expertise. While not exclusive this was primarily BirdLife (Pacific Secretariat), the New Zealand Department of Conservation Island Eradication Advisory Group (DoC) and the Pacific Invasives Initiative (PII), the Pacific Invasives Learning Network (PILN) facilitated regional information exchange. This group formed the technical advisory group to the operation. The group would respond individually or collectively to technical requests by PCS (or the Project Manager), peer review technical planning documents and make recommendations on decisions to be taken by PCS/the Project Manager. This largely worked well however, there were instances where advice received by PCS, but not supported resulted in alternative views being sought by other 'technical experts'. The technical advisory group would respond to this advice which at times resulted in a difference in opinion, overcoming this position (with PCS) would require a complex series of discussions and management decisions and a protracted process in reaching these. For PCS this wider pool of technical advisors was seen to enhance decision making (particularly for the baiting methodology) whereas the Project Manager at times found this an unnecessary and time consuming complication appearing to justify a particular interest. One of these negotiations resulted in Diphacinone becoming the toxin for some of the islands treated and while there were different views as to the necessity and risk of this (from a proven bait type) ultimately it was successful and provides useful new knowledge. Conversely the necessity of having the village fully prepared both in managing alternative food sources for rodents and baiting areas of cultural importance were ultimately not to the standards required and are likely reasons the eradication was unsuccessful on the main island. This again highlighted the difficulties for those without experience in appreciating the rigorous standards required and how deviating from established practise increased the operational risk.

It was however a complex project which the presence of on-site expertise throughout would have overcome more readily.

PCS established relationships with a number of other regional organizations, including the Pacific Invasives Initiative and the Pacific Invasives Learning Network, in addition to the USDA and NWRC. PII was particularly important in providing advice on the monitoring and biosecurity plans. The relationship with both PII and USDA were strengthened through opportunities to meet in person and all organizations continue to work together on this project.

## 4 Project Achievements

### 4.1 Impact: achievement of positive impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

#### Biodiversity Impacts

Rats and cats were eradicated from three of the four islands of Kayangel removing the most prevalent threat to the endangered Micronesian Megapode (IUCN=EN). The three sites successfully treated support the breeding population. Monitoring during the operation and within six months found no evidence of non-target impacts. On the largest island of Kayangel, monitoring suggested a 68% increase in megapodes within six months of the operation and while the eradication was ultimately unsuccessful this influx of birds remain. Surveys also detected an increase in bird species and plant diversity. The period between the eradication operation and project end (6 months) is too short to appreciably measure a biodiversity impact however the continuation of monitoring (post project) is showing gradual recruitment of Megapode on the three rat free islands. The high numbers of Megapodes witnessed on Kayangel (the 4<sup>th</sup> island) suggest birds are emigrating from the rat free islands as no breeding has been detected on Kayangel. The eradication of rats from Kayangel will seemingly be necessary for a breeding population to establish.

In addition to measurable impacts on bird species, this project also initiated management planning for the entire atoll, including marine resources. The management plan, which was mandated by Kayangel's leadership and drafted by PCS with community support, has established five new protected areas totalling 4 hectares of terrestrial and 184,800ha of marine habitat;

- **Ngkesol Marine Protected Area.** Size: 163km<sup>2</sup>; IUCN Cat: IV-C
- **Ngeriungs Bird Sanctuary.** Size: 3.4ha; IUCN Cat: IV-C
- **Chermall Sacred Site & Atoll Forest Preserve.** Size: 0.3ha; IUCN Cat: Ib-A
- **Ngerusebek Sacred Site & Atoll Forest Preserve.** Size: 0.3ha; IUCN Cat: Ib-A
- **Kayangel Territorial Waters.** Size: 1,685km<sup>2</sup>; IUCN Cat: VI-C

The management plan has established conditions for these sites and the existing Marine Protected Area (Ngeruangel Marine Reserve, Est. 1996; Size: 3400ha; IUCN Cat: IV-A) which include enhanced enforcement reducing over-harvesting of key marine species (**MOV 3.1**). Other management plans produced in part due to this project also introduced aspects that improved use of protected areas to be more sustainable (e.g. through zones for tourist use, limits on harvesting, and reduction in sedimentation as a threat). There was a measurable increase in support for new protected areas (11% more support from survey respondents).

There has not been enough time for the human population to directly benefit from improvements to biodiversity; however, with the rat population now gone from the three islands with greatest nature tourism potential there is interest in developing this sustainably which is also reflected in the Management Plan. This work continues to be supported by PCS and BirdLife.

This project created measurable increases in awareness of biodiversity, invasive alien species, and biosecurity. Survey respondents were able to name key pathways for IAS introductions, correct misunderstandings about IAS (e.g. they no longer believe that migratory birds are IAS), and expand their understanding of IAS away from impacting plants alone to having more impacts on plants and animals and biodiversity in general (including on native species).

This project built significant institutional capacity for ongoing IAS management, with over 60 people participating in the operation alone, and more involved in monitoring and setup. Institutional capacity of the Kayangel community has been demonstrated by their ongoing ability to implement biosecurity without PCS personnel being present on the island. Post project monitoring has confirmed the three islands successfully treated remain rat and cat free.

This project led to increased funding for biodiversity protection, both directly in Kayangel and indirectly by helping to leverage funds for Palau in general. The acceptance of the Management Plan by the Kayangel State and national Protected Areas Committee has resulted in the inclusion of the protected areas within Palau's Protected Area Network (PAN). Funding from the PAN will be made available to the Kayangel State to support the implementation of the management plan. The inclusion of Kayangel's sites in the PAN also helped Palau meet its Micronesia Challenge commitments, thus triggering the release of over \$1 million dollars in leveraged funds for other projects.

This project generated a variety of information that will be useful to future rodent eradications, such as the application of different rodenticides, the vulnerability of Megapodes (and other Palauan fauna) to broadcast rodenticides and the labour and management needs within a Pacific Island context for these operations. This will have direct ramifications to rodent eradications being planned in the Commonwealth of the Northern Mariana Islands, which has the same species of megapodes.

Personnel supported by this project also made significant contributions to the development of a national monitoring program for the PAN and helped three other states complete and begin to implement management plans that immediately reduced threats to biodiversity.

In Fiji, the local biosecurity controls established for the 9 project islands have prevented the reintroduction of rats and cats eradicated (immediately prior to this project) and the introduction of other alien vertebrates. Seabird monitoring evidenced a stable population for the majority of breeding species and significant increases in Bridled Tern (*Sterna anaethetus*) previously unrecorded for all islands except one (Vatu-i-ra) where nesting had been observed once. By the end of the project 3 of the 9 islands had established Bridled Tern breeding colonies. Other native fauna that have benefited include reptiles, the Pacific Black skink (*Emoia nigra*) is observed to have increased significantly on many islands although monitoring data quantifying this is limited. Globally threatened seabirds are also being attracted to establish breeding colonies on these predator free islands. Audio attraction has been established on Vatu-i-Ra and Monuriki for Collared Petrel (*Pterodroma brevipes*), Fiji Petrel (*Pseudobulweria macgillivrayi*), Tahiti Petrel (*Pseudobulweria rostrata*) and White-throated Storm Petrel (*Nesofregatta fuliginosa*). This work continues to be supported by BirdLife and NFMV.

Resource management planning was initiated for all 9 sites in Fiji, and completed for 8. The planning involved multiple workshops with landowners and their communities and built an understanding of biodiversity, resource values, needs and pressures. Through this participatory process resource allocation, protection and sustainable development interests were identified (**MOV 3.2**). This established culturally recognised protection (Tabu) for Vatu-i-Ra covering the island (4ha) and surrounding marine area (c.300ha) prohibiting fishing and unauthorised access to the island. A management plan was also developed for the Ringgold Islands using the same participatory approach (**MOV 3.3**). Areas for protection were identified and agreed to by the yavusa (landowning clan), but endorsement through traditional systems took some time to the extent that the process had to return to the community to be reconsidered by tribal leaders. Informally it has been agreed to protect the islands and the BirdLife Fiji Programme (BFP) focused on building awareness among local people in how to safeguard these values particularly through biosecurity. Through the PoWPA and Fiji Protected Areas Committee all sites have been recognised as nationally important areas for protection and meetings with Provincial leaders and community chiefs continue in formally recognised the proposed Protected Areas (**MOV 3.4, 3.11**)

## Social Impacts

In Kayangel the project had a nearly immediate positive impact on agriculture (over 70% of the population is reliant on agriculture for some part of their income or as a food source). Prior to



the project 67% of the population reported crop damage to some or all of their crops due to rats. By EOP, only 12% reported crop damage (cause unknown). The impact was particularly impressive for women, with 0 (zero) women reporting any crop damage.

This project also offered short-term income generation for the community through opportunities to participate in field work. Several individuals without any other possible income generating opportunities (including several elderly and handicapped individuals) benefitted from the project. In addition, all of the small business owners on the island (stores, equipment rental, rental properties) benefitted from the project.

CEPF co-finance to this project has also supported the development of a coconut mill on Kayangel. Prioritised by the community the mill has been established and will process oil for supply agreements with outlets in Palau's capital (Koror). The mill will be managed by a co-operative run primarily by women and income will be shared between coconut suppliers and reinvested into the operation of the mill. The mill is to begin operation in 2013

Although rates of water-borne illnesses are not measured in Kayangel, Palau's Ministry of Health endorsed the belief that removing rats from islands will improve catchment water quality and reduce gastrointestinal and other illnesses.

The main social impact of the Fiji project sites was the development of sustainable livelihood projects for the landowning communities. Through consultations and the management planning process livelihood interests were identified and those that also provided a link to the protection of sites were prioritised and supported by the Project. These included facilitating training for producing handicrafts using locally available materials (jewellery and bags) which were sold at markets and through tourism outlets also, how to setup and manage a small business, and bee-keeping. For the Ringgold communities a womens co-operative was established in support of the handicraft making a model that had some success and was promoted by the Cakaudrove Provincial Council to other communities. In all instances income generated was invariably invested in children's education.

The establishment of 3 Local Conservation Groups (LCGs) covering all project sites provided a recognised communications and implementation link for the project with communities. The LCGs members were elected by the community and were engaged in project activities for their islands. These groups were the focus of much of the biodiversity related training (monitoring practices, species identification, and general knowledge) which was also facilitated through exchanges between and the bringing together of LCGs. These groups provide feedback on the islands condition (collection of field data) and champion the biosecurity within their communities.

## **4.2 Outcomes: achievement of the project purpose and outcomes**

The purpose of this project was to enhance biodiversity, quality of life, and livelihoods through island restoration. As described in the section on impacts, biodiversity on Kayangel has been enhanced through eradication of rodents and also biosecurity controls here and for the Fiji sites preventing further losses in native fauna and flora, but also enabling increases in megapodes, seabird numbers and diversity, and improved forest structure and resilience. Quality of life is being added to through improved livelihoods (coconut production, handicrafts and small business management), crop production and reductions in water-borne disease. Improved crop production has multiple benefits in subsistence cultures, excess produce is sold for income and the area cropped can be reduced freeing time for other activities and lessening forest clearance pressure. All management plans developed agreed structures for the sustainable management and sharing of island resource benefits and established 6 new protected areas covering 39ha of terrestrial and 184,000ha of marine habitat. This project contributed new information to the science of island eradication and raised understanding of successful community engagement. The project leveraged new funding through the PAN in implementing the management plan for Kayangel and in support of livelihood activities for all project communities (government expertise, and donor investment). The Eradication Advisory Group which provided technical advice to the Kayangel operation was a new information sharing network. It has since gone on to support other projects led by BirdLife Partners including operations in Fiji, the Cook Islands

and French Polynesia. The development and sharing of best practice for invasive species management has also been improved through the provision of information, technical support, case studies and peer review of the Pacific Invasives Initiative led rodent and cat eradication toolkit <http://www.pacificinvasivesinitiative.org/rk/index.html>. Through participatory planning, the project communities have built skills in finding consensus, and planning complex projects. Skills and knowledge in identifying and assessing biodiversity values, invasive species and biosecurity, and small business operations (handicrafts, coconut processing and bee-keeping) have also been developed improving support for biodiversity conservation and generating income streams in cash poor economies. Management Planning also offered PCS and the BirdLife Fiji Programme the opportunity to build their planning skills and these lessons have been shared through new projects and embedded within new implementing organisations particularly NFMV in Fiji.

### 4.3 Outputs (and activities)

The four specified outputs were either fully or nearly achieved

1. Eradication of rodents and cats: By project end it was looking promising that the rat eradication had been successful for all four of Kayangels islands. Rats had been detected in the Kayangel village 3 months after the baiting operation but these were responded to and no further evidence found. However in August 2012 sightings were again reported and a local response was unable to eliminate them. A delimiting survey indicates rats are not yet all over the island but their distribution is such that the island will need to be completely re-treated to eradicate them. The community, PCS and BirdLife remain committed to achieving this result and a review of the operation is underway which will inform preparations for a repeat attempt. Cats remain present on Kayangel, as many were pets and consultations established there was little support for removing them all immediately. However, the community had agreed that no new cats would be introduced and all domestic cats were considered to have been spayed, neutered, or euthanized on the main island. Trapping for feral animals continued until mid-2012 with no cats caught after January. Monitoring in 2013 will establish if feral cats remain and any further response will be included in the project review.

On the three uninhabited islands the eradication of cats and rats appears to have been successful. Monitoring in January 2012 (and again in 2013) failed to detect rats or cats on the three islets. Observations from multiple visits by project staff and local people have also not observed evidence of either. An assessment planned for late 2013 early 2014 will be used to confirm the eradication result which is also in keeping with the standard two year post operation monitoring period before formally declaring eradication success.

Non-target monitoring during the operation and within six-months of it failed to find evidence of megapodes, birds generally or other wildlife as having succumbed to the baiting operation.

There were several delays in the preparation and implementation of this output largely a consequence of the complexity of the eradication (168 hectares with human habitation and non-target species) compounded by the loss of experienced staff early in the project cycle. Contracting an experienced person to help guide the eradication locally was discussed, but the option of sourcing all technical support through the Project Manager and Eradication Advisory Group was taken. This was partially successful, but the multiple social, technical, political and logistical dimensions were greater than what could be fully dealt with by remote expertise (in the opinion of the Project Manager). However, the output was implemented and achieved a good level of success with many important lessons learned by the community, implementing and host organisations.

2. Increased capacity to perpetuate and manage restored ecosystems: Over the life of the project many staff from PCS, partner organizations (Ministries of Health and Agriculture, Environmental Quality Protection Board and US Department of Fish and Wildlife) and a high proportion of the Kayangel community were to varying extents trained in and involved in the monitoring, the eradication operation, and biosecurity. Over 60 people were directly

involved in the implementation of the eradication operation alone many of these from the Kayangel community all of whom also received at least basic biosecurity training. Among personnel that received advanced technical training and or experiential development four from PCS, now understand the eradication planning process and are capable of organising field studies, documenting assessments, communicating technical information to communities and taking lead roles in eradication operations. Also two personnel from the EQPB and two each from the MOH and MOA have an advanced knowledge of the logistics and implementation of an eradication operation and the requirements for biosecurity on Kayangel. All are still employed in these agencies and through on-going involvement (with Kayangel and other projects) continue to apply and develop these skills (particularly biosecurity).

A biosecurity plan for the Atoll provides the basis and structure for preventing and managing IAS introductions (**MOV 2.1**). The community lead the implementation evidenced through the checks made to all boats and supplies arriving at the Atoll. The appointment of a locally based environment Ranger (funded through the Palau Protected Areas Network) will take responsibility for the coordination of biosecurity and receive training through PCS, BirdLife and PII.

3. Sustainable management through enhanced protection status: This project was directly responsible for a shift in attitude in Kayangel State for enhanced protection of the state's natural resources and engagement in the National Protected Area System. Prior to this project Kayangel's leadership was sceptical of the value of protected areas, but consultations and the participatory resource management planning process identified 5 new protected areas and together with one existing PA had this 4ha of terrestrial and 184,800ha of marine habitat adopted by the Palau Protected Areas committee for inclusion in the Palau Protected Areas Network;

- **Ngkesol Marine Protected Area.** Size: 163km<sup>2</sup>; IUCN Cat: IV-C
- **Ngeriungs Bird Sanctuary.** Size: 3.4ha; IUCN Cat: IV-C
- **Chermall Sacred Site & Atoll Forest Preserve.** Size: 0.3ha; IUCN Cat: Ib-A
- **Ngerusebek Sacred Site & Atoll Forest Preserve.** Size: 0.3ha; IUCN Cat: Ib-A
- **Kayangel Territorial Waters.** Size: 1,685km<sup>2</sup>; IUCN Cat: VI-C
- **Ngeruangel Marine Reserve.** (Est. 1996); Size: 3400ha; IUCN Cat: IV-A)

The protection of the terrestrial habitat is all the more significant given the small total land area of Kayangel (170ha) the indigenous ownership of all land and the cultural significance of the sites protected.

Through this project, management planning for the entire state was undertaken addressing sustainable development needs, and restrictions on natural resource use within and external to the protected areas. PCS also began assisting other states with existing protected areas to develop management plans and otherwise improve its on-the-ground conservation activities and management plans were developed for three states in addition to Kayangel (**MOV 3.1, 3.12**).

Each management plan was developed in partnership with communities through truly participatory planning, and each plan includes mechanisms for increasing community revenues through tourism, fees, and fines. PCS also helped five states develop proposed budgets and obtain funding for conservation work.

The approval of the Kayangel Management plan by PA committee means the national government will now make funding available to begin implementing its enforcement, surveillance, and monitoring activities.

In Fiji, resource management planning was initiated for all 9 project sites. Like Palau the planning was a community based participatory process which built understanding of an islands natural, historic, livelihood and cultural resources, how these are valued and identifying a sustainable balance between development and protection interests. With limited previous management planning experience the project staff were supported by the University of the South Pacific in facilitating workshops and developing the Vatu-i-Ra

management plan. In addition to the landowners and immediate community many other government (central and provincial) all neighbouring communities and other NGOs (Wildlife Conservation Society) with an interest in Vatu-I-Ra were also involved. The collective result was a Tabu (traditional protection) for the island (4ha) and surrounding marine area (c.300ha) (**3.2, 3.9, 3.11**).

The management planning for the Ringgold islands followed the same process, but was led by the BirdLife Fiji Programme with assistance from USP (and others) as required. Unlike Vatu-I-Ra the Ringgold Islands comprise three widely dispersed landowning groups (yavusa). Access to these people and their wider communities was often logistically difficult and for transportation reasons or other community commitments would often require meetings to be repeatedly rescheduled. This loss of continuity through the process is the main reason that the management plan when presented to the Cakaudrove Provincial Council for endorsement was referred back to the community chiefs. This process of finalising commitment to the plan continues (with NFMV) and similarly the recognition of protected areas for the 7 islands (and surrounding marine areas) agreed by landowners and the community (**MOV 3.3**).

The BirdLife Fiji Programme were also members of the national Protected Areas Committee which is tasked with recommending priority sites for protection and supporting legislation (**MOV 3.4**). Through this process all 9 project sites have been nominated as priority areas (among others) and the legislation to support these sites is being drafted. It is not expected government will consider the legislative recommendations until after national elections scheduled for 2014.

A regional fundraising training was held with all BirdLife Partners in Melbourne Australia in 2010. This further built PCS capacity in the area and their ability to support the Kayangel community. A fundraising workshop was held in Fiji, in 2011 attended by the Local Conservation Groups of the 5 project communities. As a result of this (and the assistance of BirdLife) the Vatu-I-Ra LCG received funding from the Vodafone 'Water for Life Foundation' for two water tanks improving water supply to the village.

4. Effective dissemination of good practices: This project produced numerous media materials that were distributed widely in country, across the region, and to international audiences. Media took many different forms. **MOV 4.1- 4.9**. An Eradication Advisory Group (EAG) was established supporting the Kayangel operation and remains active supporting other BirdLife Partner projects throughout the region. At the projects outset the Pacific Invasives Initiative (project partner) received support for an online cat and rodent eradication toolkit, this was a similar, but more detailed resource than planned under this project. To avoid duplication this project contributed technical expertise, information including case studies and peer review of the resource material.

#### **4.4 Project standard measures and publications**

See Annexes 4 and 5

#### **4.5 Technical and Scientific achievements and co-operation**

This project contributed information to the science and practice of rodent eradication, through a research study and pre- and post- monitoring of project results.

##### **Megapode Mitigation Study**

This study was completed in August and September 2010 through a partnership with the USDA NWRC and PCS. Staff from the USDA NWRC (1 Hawaii, 3 Guam) worked with members of PCS and Kayangel State to determine the possible risks to endangered Micronesian Megapodes from ingestion of pelletized rodent bait. Previous studies in the Philippines indicated that megapodes might eat the cereal based bait compound, and calculations of the lethality of brodifacoum indicated that ingestion of only a small amount would lead to mortality or sublethal effects and the potential to negatively impact the small population of 60 birds.

Staff from USDA designed the study and supplied non-toxic bait. They directed PCS staff on where to place stations (Twenty 5x5m stations on the Important Bird Area of Ngeriungs, with the largest population of birds (60+)). 10 days prior to the study, PCS staff and Kayangel state staff distributed bait at each station in an effort to acclimatize birds to the presence of bait. USDA Staff installed motion-sensor infrared cameras at each station. For the following eight days, placebo bait was distributed at the stations and any photos captured by the cameras were downloaded. USDA Staff then analyzed the photos which provided evidence of Megapode interest in the bait. USDA Staff led the analysis and PCS and the EAG reviewed the resulting recommendations and report.

While there was evidence of megapodes foraging in baited areas and in one instance interacting with it this provided no confirmation of Megapodes consuming bait. However, a precautionary approach was adopted and for the three islands supporting the breeding population (Ngeriungs, Ngerebelas, and Orak) the decision was taken to use Diphacinone an anticoagulant less toxic to birds. The preferred toxin Brodifacoum (with an established rodent eradication success) was accepted on the larger island of Kayangel because of the small number of megapodes present and its effectiveness for mice which although unconfirmed were also potentially present on Kayangel only.

### **Pre- and Post-Project Biological Monitoring**

In an effort to measure the impacts of the project on biodiversity and to determine the influence of using different bait formulations a biological monitoring protocol was developed. PCS led the process with technical assistance from the EAG. Monitoring was carried out by PCS staff, Kayangel state staff, Kayangel community members, and Ngardmau State Staff.

Megapodes and birds were counted during an 8-minute point count (total heard or seen). Prior to implementing the protocol, PCS staff tested the point count time to determine the appropriate monitoring interval (5, 8, or 12-minutes). Stations were placed 150 meters apart on a transect running down the length of each island (based on prior bird surveys conducted on Palau and vetted by the US Fish and Wildlife Service). Forest density was estimated using a scale of 1-4 in two directions at each station, and total tree and large plant species were counted. A pitfall trap (sunken bucket) left out for 24 hours was used to count lizards and crabs, but failed to detect anything and due to time constraints not replaced with any other method. Monitoring was conducted two times prior to the eradication operation and one time before the project end (six months following the eradication operation). Further data collection (and improvements to data collection methods) has been conducted in 2012 and 2013 the collective results are yet to be analysed but the main results from the data collected during the project period indicate;

- A possible reduction in Megapode for Ngeriungs, Ngerebelas and Orak following the baiting operation however, with only one post operation assessment, the small sample size and change in observer experience gives this result a low level of confidence. Additionally intensive searches (20x20m grid covering each island) made at the time of the baiting operation detected no evidence of mortality. The exposure of Megapodes to bait was high with baiting rates of 25kgs/ha (brodifacoum) to 67.5kgs/ha (diphacinone) and anecdotally if Megapodes even had a low level of interest in the bait a high level of mortality (particularly on Kayangel) could be expected however, it would appear more likely the Megapodes did not ingest the green dyed bait compound.

While the data could be more rigorous this is an important insight into managing rodents in association with Megapode populations a need that exists in a number of Pacific Island countries (in addition to Micronesia also Tonga, Vanuatu and the Solomon Islands)

While the results suggest an increase in tree and bird diversity given the short-time frame its likely this is natural variation rather than anything associated with the operation. PCS and the community continue to collect monitoring data which in years to come will provide a better understanding of the biological response.

## Biological results for Kayangel during the project period

<i>Desired outcome</i>	<i>Indicator</i>	% change (Post-operation minus Pre-operation result)				
		Kayangel (N = 13)	Ngeriungs (N = 10)	Ngerebelas (N = 2)	Orak (N = 1)	All islands (N = 26)
Population of Micronesian megapodes increased	Percent change in <b>average number of megapodes per station</b>	68.4%	-6.2%	-49.4%	-17.9%	-11.2%
Population of Micronesian megapodes increased	Percent change in average <b>total birds per island</b>	68.4%	-10.7%	-49.4%	-17.9%	-10.0%
Bird diversity increased	Percent change in <b>Average number of bird species per station</b>	12.0%	17.8%	-20.0%	19.5%	7.4%
Bird diversity increased	Percent change <b>Average Maximum number of bird species observed per island</b>	27.3%	7.7%	-5.1%	33.3%	15.1%
Increased understory density	Percent change in Average understory - <b>lagoon</b> side	-8.5%	5.1%	0.0%	0.0%	-1.2%
Increased understory density	Percent change in Average understory - <b>oceanside</b>	-6.3%	12.5%	2.6%	9.8%	4.5%
Increased understory density	Percent change in Average understory - <b>total</b> island	-7.5%	8.8%	1.3%	5.1%	
Tree/ large plant diversity increased	Percent change in Average number of tree species per station	56%	24%	58%	55%	49%
Tree/ large plant diversity increased	Percent Change in Average Maximum number of tree species observed per island	40%	7%	60%	33%	33%
Population of lizards, skinks, geckos increased	Absolute Change in total number of lizards captured, total island	0	0	0	1	1
Population of crabs increased	Absolute Change in total number of crabs captured, total island	0	3	-3	-35	-35

### Pre- and Post-Project Socioeconomic Monitoring

Socio-economic Monitoring was conducted to determine the impact of the project on the community. The socio-economic survey was developed by PCS with input from BirdLife.

PCS followed the Sem-Pasifika method

([http://www.reefbase.org/pacific/pub\\_A0000003799.aspx](http://www.reefbase.org/pacific/pub_A0000003799.aspx)) in developing the survey questions.

The survey was conducted in person, with PCS staff going house-to-house on Kayangel and interviewing all residents on-island over the age of 18. The pre-survey was conducted in March 2010 and the post-survey in March 2012.

The results indicated that the project had short-term positive impact across almost all parameters. However, it also highlighted awareness of IAS pathways and the impacts of IAS on all aspects of biodiversity would benefit from further strengthening aspects that a subsequent EC funded project is addressing. Further monitoring will also take place in 2013 and 2014

Preliminary results within the project period (**MOV4.5-1 – Socioeconomic monitoring and results**):

<i>Desired Indicator Result</i>	<i>Description</i>	<i>Pre-Project Result</i>	<i>Post-Project Result</i>
Perceived number of cases of leptospirosis and scrub typhus declines	Number of respondents reporting real or perceived cases	1	6 months not enough time to make a determination about new cases. No cases in the six-month time period.
Number of cases recorded by DEH declines	Number of confirmed cases of disease	0	Despite reports of leptospirosis and scrub typhus on Kayange DEH have been unable to confirm any incidence
Perception of % crops damaged such as papaya, coconut, etc. declines (% crops damaged goes to zero)	% survey respondents with NO crop damage		
	<i>Total</i>	33%	88%
	<i>Females</i>	43%	100%
	<i>Males</i>	23%	82%
	<i>N</i>	27, 14, 13	17, 6, 11
% of respondents with awareness of invasive species and biosecurity measures increases	% of people indicating some knowledge of IAS	91%	92%
	Understanding of pathways for transport of IAS (proxy - number of pathways offered)	3%	5%
	Number of people with misunderstanding of IAS (IAS fly in, including migratory birds)	3	0
	People with knowledge that IAS impact:		
	<i>Plants</i>	67%	75%
	<i>Animals</i>	15%	33%
	<i>Disease</i>	15%	0%
	<i>Other</i>	12%	0%
	<i>Don't Know</i>	12%	8%
	Number of people with knowledge that rats are bad for BIRDS	0	4
	% answering correctly: Rats can hide in speedboats	76%	84%
	% answering correctly: Rats can hide in bags of food such as rice	72%	58%
% answering correctly: Rats can hide in construction material	94%	96%	
<i>N</i>	33	24	
Increased % support for protected area status	% responding yes to the question: Should other areas in Kayangel be protected	76%	87%
	<i>N</i>	34	23

#### 4.6 Capacity building

Significant capacity to undertake eradication operations (including monitoring, implementation, and biosecurity) was built in country, both at PCS and in partner communities. Technical support and training was provided by BirdLife and the EAG, but local staff led the preparation and implementation of activities. Planning for the eradication was done in Palau, with support provided primarily by email and Skype. Face to face interactions and technical training were held in Palau (operation planning) Fiji, Australia and New Zealand which included technical planning reviews, biosecurity and eradication information exchange between BirdLife Partners (French Polynesia, New Caledonia, Fiji, New Zealand, the Cook Islands and Australia). This experiential learning and the results achieved best illustrates the capacity developed by PCS. PCS, in turn transferred these skills to state staff and community members. Evidence for built capacity is that Kayangel staff and community members continue to implement activities without PCS staff being on island. This is particularly true for biosecurity. This project also raised PCS's profile in Palau as being able to successfully implement eradication projects. PCS has received requests from other state governments for assistance with IAS and has been

referred to as an important national IAS technical agency in a national resolution passed by Palau's national congress.

The two BirdLife Fiji Programme project staff developed substantial capacity for community based management planning. With little previous experience these staff (and others) were initially mentored by USP professionals in the process of running community workshops, facilitating information sharing and building understanding of natural resource values in pursuit of sustainable livelihood and protection interests. The techniques used have been developed in Fiji, and proven in achieving culturally sustainable management outcomes as evidenced by the protection agreements secured for Vatu-I-Ra. These staff have gone on to apply these skills in developing the management plans and negotiating protection agreements for the Ringgold Islands and to some extent Mabulau Island. This ability to effectively engage with local communities in progressing conservation and development needs is a fundamental skill to environmental management in Fiji. Most importantly this capacity has now been embedded within the newly formed and first locally based environmental NGO NatureFiji-MareqetiViti. The establishment of such an entity was a core aim of the BirdLife Fiji Programme, now realised with the transfer of the Programme in full to NFMV.

Capacity was built in the following ways:

**Institutional Development** – This project provided both core and operating funds for three years, much of which were used to hire higher level personnel at PCS capable of complex planning and big-picture thinking. As such, during the tenure of this project these personnel contributed to the development of PCS by drafting a new indicator-based strategic plan and multiple project plans that were readily accepted and implemented. A new Executive Director at PCS supported in part due to this project also aligned the staff organizational structure to better reflect priorities, many of which were defined by this Project due to its size and impact on the staff (at one point 75% of PCS staff were actively working on this project). Many leadership skills were gained through this project by individuals involved. The reporting and tracking requirements of this project also required PCS to update its project management systems. PCS's reputation was also improved in the area of IAS through this project.

The project has enabled the Fiji Programme staff to build skills, knowledge and experience in natural resource management planning, protected area systems and priority setting criteria, biodiversity monitoring and biosecurity management all important conservation capacity for Fiji, and NFMV. A legacy that will help support other national interests including the establishment of a 'national park' on the island of Taveuni one of the most important areas for protection in Fiji, and advocating biosecurity needs for high biodiversity islands two interests with which NFMV has a close association.

**Organizational development** – In addition to strengthening PCS as an organization, PCS in turn used this project as a springboard for strengthening community groups in Kayangel. In particular, through a project partially co-financing this one (CEPF) enabling development of a coconut oil mill on Kayangel, which PCS also supported by facilitating the development of a management structure and financial systems for the community group organized to run the mill.

The project established three Local Conservation Groups in Fiji. Membership is elected by the community and through the 'chairperson' forms the main conduit between Project staff and the community. A Terms of Reference and areas of interest are established for each group which the BirdLife Programme have provided training and general capacity development in support of. These skills include additional knowledge of native flora and fauna, biodiversity monitoring techniques including biosecurity which LCGs lead for their respective communities. Support for livelihoods has also been channelled through LCGs. This engagement has embedded much capacity within communities including new income streams.

**Technical Capacity** – Technical capacity to undertake the monitoring and eradication was raised directly through this project, both by person-to-person guidance and via remote communication methods. PCS and community members led all field components of the project. PCS also built significant capacity to undertake management planning and now leads management planning efforts for protected areas throughout Palau. PCS also further refined its abilities to work in partnership with communities, and through venues offered by this project



was able to share these skills with other organizations in the Pacific. In addition, because this project partnered with technical experts from the US and the South Pacific, it was able to share information on the different bait formulations, and initiate discussions between parties. The EAG formed as part of this project continues to advise other BirdLife partner projects throughout the Pacific. Both PCS and the Kayangel community have increased capacity to implement biosecurity measures. PCS also brought staff from Koror State, Ministries of Health and Agriculture into the project and is now helping them develop proposals and ideas for rodent eradication projects, furthering skills and capacity.

Significant new technical capacity was developed among the Fiji Project staff particularly in management planning and protected area processes. Biodiversity monitoring surveys organised and led by project staff also furthered their skills and those of LCGs in collecting and interpreting field data. Biosecurity knowledge was built through the biosecurity planning and particularly the community consultations which required good technical (and interpretive) ability in identifying locally appropriate techniques and sustainable procedures.

Both the BirdLife Fiji Programme and PCS benefited from the introduction to new professional networks. PILN, PII as well as the wider BirdLife partnership in addition to participation in regional and international conferences (i.e the International Conference on Island Invasives) provided a host of new contacts in helping support a range of technical and professional needs.

**Sustainable Financing** – This project helped PCS build a stronger reputation in the Pacific and helped it refine its proposal writing and reporting skills, thus making it more competitive for grants. The coconut mill and management plan in Kayangel will also raise the ability for the community to bring in sustainable natural resource-based financing. On Kayangel there was immediate improvement of crops which the community benefitted from financially. This project also directly benefitted disadvantaged members of the community through income.

**Individual Capacity** – Several individuals involved with this project developed on a personal level and those the project provided significant support to were:

Ms. Anu Gupta – Project Coordinator in Palau – Anu learned new skills for planning and many new technical skills related to the operation. She also gained valuable experience in coordinating aspects of a complex project and working successfully with communities. Although no longer in Palau for reasons beyond the control of this project, Anu continues to consult on biodiversity issues in the Pacific.

Ms. Heather Ketebengang – Project Assistant in Palau – Heather gained new confidence and skills in technical aspects of the eradication. More importantly, however, is that Heather, a young Palauan woman, gained skills to be a leader both in terms of scientific and community-based work. Heather continues to work in Palau on biodiversity-related projects.

Mr. Lazarus Meyar – Kayangel Conservation Officer – Lazarus gained many technical skills. He also built his skills as a leader. He continues to lead biosecurity efforts in Kayangel.

Mr Tuverea Tuamoto – Project Coordinator in Fiji – Tuverea, developed new skills in resource management planning, protected area priority setting and biosecurity. He also developed experience and confidence in project management including work-planning, priority setting, and financial administration. Tuverea, has strong community engagement skills which he shared with the Project Assistant (Eleona), in building her confidence. Tuverea, received a post graduate diploma in environmental science during the project period from the University of the South Pacific.

Ms Elenoa Seniloli – Project Assistant in Fiji (and Coordinator for the final six months) – Elenoa, developed the same skill set as Tuverea, but having more experience in biosecurity techniques was able to share this with Tuverea. Elenoa, also received a post-graduate diploma from USP during the project period.

## **4.7 Sustainability and Legacy**

The eradication of rats and feral cats together with the biosecurity will provide an enduring legacy. While the eradication is known to have failed for one island it appears highly likely that it has succeeded for the other three. The benefits of this will continue to accrue for biodiversity as

species previously impacted by rats and cats (such as Megapode) increase in number. Others formerly present can re-establish (such as Palau Ground Dove) and as the health of ecosystem processes improves so too will the islands resilience to stochastic events (such as cyclones).

The biosecurity developed for all project sites has been developed around a local understanding of its importance and contribution and embedded within national and local structures to sustain it. While there will be further support needed in the short-term to fully establish a bio-security culture at all sites (and is being supported by the EC) there is some evidence of success with the continued predator free status of all 9 project sites in Fiji.

This project generated new interest in eradications in Palau, and new projects have been started at partner organizations to build capacity or conduct feasibility studies for future eradications. This project had a significant impact in generating this interest and in creating a sense of possibility for even complex eradications. Thus, eradication work will continue.

The protected areas established are supported by a national framework including funding in Palau. The resource management plans developed in support of these sites and endorsed by local and national leaders provide a strong mechanism for ensuring values are protected and sustainable development interests benefit local communities. The participatory management planning process has developed strong local ownership for the management plan actions.

The lessons learned in Fiji and Palau continue to be implemented in support of new projects and shared with other organisations (NFMV, and other BirdLife partners) and through LCGs the wider community.

All project staff have gained significant capacity and brought new skills and expertise to their respective organizations. PCS staff remain employed at PCS (or their position remains funded) and Kayangel staff remain employed at the state. The BirdLife Fiji Programme staff have taken these skills to NFMV and LCGs continue to operate furthering community capacity. Elenoa, has become a 'subject matter expert' assisting the delivery of the 'rat and cat eradication resource kit'. The majority of resources used as part of this project were for services or bait and few physical resources remain. Among those that have are biosecurity materials (traps, and tracking tunnels) which support surveillance monitoring at the project sites and other field related equipment (camping etc).

All Partners continue to keep in touch (locally, national and regionally), both formally through new projects and contracts that have already been established and informally. PCS, NFMV and BirdLife remain contractual partners and PCS and NFMV have MOUs with their LCGs providing support and cooperation for environmental monitoring, and capacity development and livelihood assistance (i.e coconut mill).

## 5 Lessons learned, dissemination and communication

A document has been drafted laying out many of the lessons learned during this project (**MOV 4.5, 4.6**). Lessons fell into three major categories:

1. Technical lessons – This project provided lessons on the types of bait and methods that could be used safely with non-target species present. This project also showed that the initial conclusions from the Feasibility Study required further consultation in advance of acting on the recommendations.
2. Community engagement – The project developed partnerships with several communities and gained valuable insight into processes, methods and expectations in securing sustainable environmental and livelihood outcomes.
3. Project Management /General Implementation lessons – This was a complex project and many lessons were learned about planning, leadership, money management, and other aspects of project management. This project showed that flexibility in funding is an important component to the success of complex, 'long-term' projects.

## 5.1 Darwin identity

The project made every effort to recognize all donors and partners on materials associated with the project. The Darwin Initiative logo was used in every printed or visual document or product produced and was used or mentioned regularly during television and radio broadcasts (MOV4.3-1). It was included on web pages and on video.

The Darwin Initiative was listed as one of the three primary donors for the project in Palau, but due to the size of the project, additional donors and partners were also acknowledged on documents. The rodent eradication project was part of PCS's Conservation and Protected Areas program and fell under PCS's "protecting species" strategy. As such this program was the cornerstone of a larger program.

Understanding of the Darwin Initiative is largely among non-profit organizations and to some extent governments associated with this project. Local communities are familiar with the logo and name, but beyond the contributions made through this project it's unlikely they have much understanding of the goals and purpose of the Darwin Initiative.

## 6 Monitoring and evaluation

The project went largely according to plan (**MOV 1.1 Operational plan and deviations**), except for delays in implementing the Kayangel field operation. This had some impact on the monitoring largely reducing the observable change among biological and to some extent economic indicators within the project period.

A monitoring plan for Kayangel submitted (as a MOV) in previous reports included socioeconomic, biophysical, and process-based indicators (e.g. number of people involved). The indicators from the full logframe were integrated into the monitoring plan and methods devised and implemented to measure those indicators. For instance, one of the logframe indicators was "Reduced damage to traditional crops." In the socioeconomic survey developed to measure progress in this project, surveyors asked a series of questions on agriculture and crop damage.

Baseline conditions were assessed through two types of surveys (start-of-project socioeconomic survey and two pre-operation biological surveys), counting existing resources and baseline process-based indicators based on stakeholder knowledge (e.g. counting number of people already trained in eradication), or assuming a baseline of zero. The socioeconomic and biological surveys were repeated at the end of the project in an effort to measure change in indicators. Additional indicators were simply tracked during the project (e.g. number of people involved, number of articles published). Relevant results of the monitoring activities have been included in Section 4.5 and Annex 1.

For the most part indicators developed in the logframe were relevant and helpful in developing the project's monitoring plan. There were some indicators that turned out to be difficult to track, often because they were third-party indicators (e.g. reports produced by an agency, when the agency did not produce such reports). The largest discrepancies were with the Means of Verification. Proposed MOVs were at times different from actual MOVs as a result of field activities. Third party MOVs were also difficult to obtain, but the project implemented monitoring ensuring key indicators were assessed. For instance, the proposed MOV was the national CBD report to show an improvement in conservation status of the megapode. Given that the Palau government is far behind on its CBD reports, the project then implemented biological monitoring to show the change in conservation status.

The M&E system was helpful in setting project plans as it gave parameters for field work – for instance, the project knew it had to target a certain minimum number of people for training. In terms of internal assessments the M&E system was useful; however, partners did not receive much feedback from the M&E system from third parties. One of the weaknesses of the M&E System itself was that it did not allow for reporting of achievements that were not in the logframe; the format of the annual report was instead helpful in allowing for those results to be conveyed.

The project has not been evaluated as a whole however pieces of it have along the way. A review is being conducted of the eradication operation assessing all key parts of the project (including management, technical support, decision making, financing etc) this is expected to be finalised in 2013 and will help guide a future eradication attempt.

## 6.1 Actions taken in response to annual report reviews

Feedback from Darwin was shared with project partners. There were no outstanding issues.

## 7 Finance and administration

### 7.1 Project expenditure

The budget was largely spent as forecast, with some minor variation in budget lines, two exceeding 10%:

1. 'Operating Costs' were exceeded by 17% due to the larger bait volume and number of bait stations than originally anticipated.
2. 'Other Costs' comprised technical advice, awareness and information, and community consultation and capacity development. A 39% reduction in expenditure was made possible through co-finance (CEPF) supporting more of these costs enabling the higher operational costs to be met under Darwin

Capital items comprised two laptops and a digital camera.

Grant Expenditure (as audited)

	BUDGET	Annual expenditure			TOT	Audit
		2011/12	2010/11	2009/10		
<b>Salaries</b>	XXX	XXX	XXX	XXX	XXX	XXX
<i>Project Manager</i>	XXX	XXX	XXX	XXX		
<i>Technical Advisor</i>	XXX	XXX	XXX	XXX		
<i>Communications</i>	XXX	XXX				
<i>Finance Manager (UK)</i>	XXX	XXX				
<i>Fundraising Manager</i>	XXX	XXX	XXX	XXX		
<i>Project Coordinator (PCS)</i>	XXX	XXX	XXX	XXX		
<i>Project Assistant (PCS)</i>	XXX	XXX		XXX		
<i>Director (PCS)</i>	XXX	XXX		XXX		
<i>Education Officer (PCS)</i>	XXX	XXX	XXX	XXX		
<i>Financial Admin (Fiji)</i>	XXX	XXX	XXX	XXX		
<i>Project Coordinator (Fiji)</i>	XXX	XXX	XXX	XXX		
<i>Project Assistant (Fiji)</i>	XXX	XXX	XXX	XXX		
<b>Travel &amp; Subsistence</b>	XXX	XXX	XXX	XXX	XXX	XXX
<b>Operating costs</b>	XXX	XXX	XXX	XXX	XXX	XXX
<b>Capital items</b>	XXX	XXX	XXX	XXX	XXX	XXX
<b>Other (Awareness, Advice &amp; Community Consultations)</b>	XXX	XXX	XXX	XXX	XXX	XXX
<b>Overheads</b>	XXX	XXX	XXX	XXX	XXX	XXX
<b>TOTALS</b>	XXX	XXX	XXX	XXX	XXX	XXX

### 7.2 Additional funds or in-kind contributions secured

The amount of co-finance secured for the Palau portion of the project was lower than planned, as the amount provided by the Micronesia Conservation Trust was USD 65,000 less than anticipated. The CEPF funding was also USD 4000 less than anticipated. However, a

European Union-funded project secured in the last year of Darwin complimented biosecurity activities. This enabled re-prioritisation of expenditure and the project remaining within budget.

PCS invested significant personnel time to the project that was not paid for directly using DI or co-finance sources. PCS did not institute an hourly tracking system until mid-2011, thus the amount of non-project funded personnel time is unknown; however one estimate is that between March and August 2011 non-project personnel contributed 142 hours of field time alone, with additional contributions for planning and leadership not counted.

There were many additional hours of service provided in-kind to the project by the EAG and other project partners. The amount contributed is unknown, but fell into these categories:

<b><u>Partner providing co-finance</u></b>	<b><u>Type of Cofinance</u></b>
Kayangel Government & Traditional Leaders	Paid and volunteer staff time
Kayangel Community	Volunteer time, food
Vatu-I-Ra, Ringgold and Mabualu Communities	Volunteer time
Fiji Ministry of Agriculture	Paid staff time
Ngardmau State Government	Paid staff time
Koror State Animal Shelter	Paid staff time, supplies
Helen Reef Project	Paid staff time
Palau Animal Welfare Society	Volunteer time
USDA National Wildlife Research Center	Paid staff time, supplies, equipment, airfare
Pacific Invasives Initiative	Paid staff time
Pacific Invasives Learning Network, SPREP	Paid staff time
New Zealand Department of Conservation	Paid staff time

### **7.3 Value of DI funding**

The achievements of this project would not have been possible without the amount and flexibility of DI funding. This project itself was nearly half a million dollars (US\$) and Darwin funded a large portion of that. Few donors are willing to commit such a large amount, nor are they willing to wait several years for the result. DI funding was used to pay for materials that other donors would not have paid for (particularly bait), but more importantly, DI funding supported several staff. The funds also enabling qualified staff to be hired. These staff not only contributed to this project, but also made significant contributions to PCS, BirdLife and increasingly NFMV programs in general. This project has spurred additional restoration/eradication and biosecurity work in Fiji and Palau, which is unlikely to have occurred without seeing the successes from this project.

## Annex 1 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements - full life of project
<b>Goal:</b> Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.		Removal and reduction of threats posed by invasive alien species to endangered Micronesian Megapodes in Palau, and safeguarding of 9 other high biodiversity islands in Fiji Establishment of 6 new protected areas protecting over 180,00ha of marine and 7ha of terrestrial habitat. Nomination of 8 sites in Fiji for Ramsar protection (Ringgold islands 7 and Vatuira 1) Capacity raised to implement further IAS management.
<b>Sub-Goal:</b> Restoration and conservation of unique island ecosystems and their values and services in the Pacific for the benefit of people and biodiversity	Number of extinctions on Pacific islands caused by IAS show decrease  Populations of endemic species currently severely predated by IAS show increase  Social, economic and environmental benefits derived from restored islands show increase	Likelihood of extinction of Micronesian Megapodes reduced due to decreased threat from IAS.  Increases in bird diversity at Fiji and Palau sites and forest density in Palau  IAS threats removed (rats and cats) and prevented. Agriculture improved. Eco-tourism, sustainable forest product (e.g. coconut oil) and small scale business enterprises (bee keeping, handicrafts and small business management) progressed.
<b>Purpose:</b> Biodiversity, quality of life and livelihoods are enhanced by the restoration and sustainable management of island ecosystems at key sites in Palau and Fiji	- Monitoring established and data collected for key biodiversity indicators (annually)  - Cases of <i>Scrub typhus</i> , <i>Leptospirosis</i> or other rat-transmitted diseases detected in people residing on restored islands significantly reduced between start of project and after completion of rat eradication campaign  - Reduced damage by rats to traditional crops / systems by end of year 3 compared to year 1 baseline	Monitoring plans in place for all project sites, capacity built and baseline data collected. Monitoring shows preliminary changes. Resources secured including capacity developed to continue monitoring across all sites.  At the project start previous reports of Scrub typhus or Leptospirosis for Kayangel could not be verified (Ministry of Health) however there have been no instances within the project period.  A probable reduction in water-borne diseases (e.g. gastrointestinal) carried by rat vectors for three of Kayangels 4 islands.  Measurable reduction in number of community members suffering from cop destruction caused by rats, with a notable improvement for women on Kayangel.

Project summary	Measurable Indicators	Progress and Achievements - full life of project
	<p>- Protected Area status <b>and management plans</b> for at least 3 islands in Palau and Fiji by EOP show enhanced opportunities for community-based sustainable development (including ecotourism)</p>	<p>Management plans completed for Kayangel, the Ringgold Islands and Vatu-I-Ra specifying environmental protection and sustainable development interests.</p> <p>The Kayangel Management Plan has been endorsed by the national Protected Areas Committee and accepted into the Palau Protected Areas Network (PAN). This providing state funding in support of the management plan actions.</p> <p>Management plans have also been completed for Melekeok (Ngardok Nature Reserve, a Ramsar Site), Ngardmau (2 marine and 2 terrestrial protected areas), Ngaraard (2 marine and 2 terrestrial protected areas), and Aimeliik (1 terrestrial area). All sites became members of the PAN and all plans were funded at least 25% of their first-year budget. All plans include sustainable financing mechanisms, such as from eco-tourism, fees, fines, permits, and the PAN.</p>
<p><b>Output 1.</b> All rodents and cats eradicated from Kayangel atoll in Palau</p>	<p><b>1.1</b> Peer reviewed planning documentation completed prior to bait application</p>	<p>The monitoring, eradication operational, and biosecurity plans for Kayangel were peer reviewed (BirdLife, PII, PILN, USDA NWRC) prior to implementation.</p>
	<p><b>1.2</b> No rats or mice are found on any of the four Kayangel islands at EOP</p>	<p>No rodents have been observed on the islands of Orak, Ngerebelas, and Ngeriungs since September 2011, but are confirmed (post project) for Kayangel.</p>
	<p><b>1.3</b> No cats are found on any of the four Kayangel islands at EOP</p>	<p>Cats have not been observed on Orak, Ngerbelas, and Ngeriungs since early 2012. Cats have been spayed or neutered on Kayangel and all feral cats are thought to have been removed. Monitoring in 2013 and 2014 will confirm this result</p>
	<p><b>1.4</b> No domestic stock losses or significant mortality at a population level among non-target species at EOP</p>	<p>No non-target losses were recorded. There was no observed mortality of any wild or domestic animal attributable to the project (e.g. from ingestion of bait). Megapodes were accidentally captured in feral cat traps but were released unharmed.</p>
<p><b>Activity 1.1</b> Establish Project Steering Committee (PSC) in Palau for continuous monitoring of project progress (meeting twice a year)</p>		<p>A formal PSC was never convened as a sitting body due to multiple conflicts. Instead, the project coordinated information and feedback through email and other communications among PSC members. Feedback from these individuals was regular throughout all aspects of the project.</p>
<p><b>Activity 1.2</b> Consult with community, key stakeholders, and local partner agencies in Palau</p>		<p>Interactions with community, key stakeholders, and local partner agencies was integral to the project, regular (all intervals – daily, weekly, monthly, and quarterly), and ongoing. Partners consulted included:</p> <ul style="list-style-type: none"> <li>• Kayangel State Government and Traditional Leaders</li> <li>• Kayangel Community</li> <li>• Ngardmau State Government</li> </ul>

Project summary	Measurable Indicators	Progress and Achievements - full life of project
		<ul style="list-style-type: none"> <li>• Koror State Animal Shelter</li> <li>• Helen Reef Project</li> <li>• Palau Animal Welfare Society</li> <li>• USDA National Wildlife Research Center</li> <li>• Pacific Invasives Initiative</li> <li>• Pacific Invasives Learning Network, SPREP</li> <li>• BirdLife International</li> </ul> <p>Through:</p> <ul style="list-style-type: none"> <li>• General community meetings</li> <li>• Formal leadership and partner meetings</li> <li>• Telephone and skype calls</li> <li>• Email</li> <li>• Written documents</li> <li>• Daily interaction</li> </ul>
<b>Activity 1.3</b> Prepare eradication, biosecurity and monitoring plans in Palau		All plans prepared, reviewed, adopted, and implemented.
<b>Activity 1.4</b> Conduct trials to inform appropriate mitigation for non-target species and provide training in mitigating techniques in Palau		<p>A trial was conducted in partnership with USDA NWRC to determine whether megapodes will eat bait. Interaction with bait was identified through trail and photographic evidence and the results used for mitigation methods in the operational plan.</p> <p>Global and local technical experts consulted to determine if moving and captive rearing of megapodes was feasible/practicable which it was not.</p> <p>All partners provided expertise and assistance in determining mitigating techniques. PCS and BirdLife provided in-person training on use of mitigating techniques to reduce exposure to bait.</p>
<b>Activity 1.5</b> Establish and implement monitoring of biological and social indicators in Palau		Monitoring plan finalized, adopted, and implemented. Pre-project monitoring established baseline and one post-project monitoring activity completed. Preliminary data analysis completed.
<b>Output 2.</b> Government and civil society stakeholders in Palau have the capacity to perpetuate and manage restored island ecosystems	<b>2.1</b> At least 12 staff from PCS, Palauan government agencies and Kayangel community trained in island restoration and use skills in their work at end of year 2	75 (total) people trained in, having used, or still using island restoration skills 60 people from Kayangel; 8 people from PCS; 1 from Ngardmau; 1 from Koror; 3 from Helen Reef; 2 from other communities
	<b>2.2</b> At least 3 exchange programmes will have been	6 exchanges



Project summary	Measurable Indicators	Progress and Achievements - full life of project
	implemented by EOP	<ol style="list-style-type: none"> <li>1. Koror-Kayangel</li> <li>2. Helen Reef &amp; Ngardmau-Kayangel</li> <li>3&amp;4. PCS-BirdLife in Fiji (2 separate times)</li> <li>5. PCS-USDA (Cocos Island, Guam)</li> <li>6. BirdLife-PCS-Kayangel</li> </ol>
	<b>2.3</b> A simple but comprehensive biosecurity system is available for Kayangel and implemented by collaborative partners at EOP	Biosecurity plan drafted and submitted to the Kayangel state for adoption. Community are leading the implementation and will be supported by a state funded Ranger who will manage and coordinate the activity.
	<b>2.4</b> At least 5 representatives of the local community at Kayangel have been trained in biosecurity and monitoring, and are effectively implementing new skills at all four islands at EOP	The entire Kayangel community (c.60 people) have received information on biosecurity controls 7 people have had training; 3 in surveillance monitoring procedures 4 others in search and response techniques
<b>Activity 2.1</b> Agree and arrange training, exchange, and workshop needs in Palau and Fiji		Capacity development was centred on the technical planning, monitoring and field studies supporting the operation. Expert support provided 'on the job training/learning' for the mitigation, monitoring and biosecurity needs. Others held in support of formal eradication planning and biosecurity.
<b>Activity 2.2</b> Skill and capacity building exchanges between Palau/Fiji and other projects in Palau/Fiji and the Pacific		6 exchanges implemented (see 2.2) plus multiple other national and regional meetings enabling 'project relevant' information sharing and networking
<b>Activity 2.3</b> Train 3 PCS staff, 4 Palauan government staff, and 5 Kayangel community in rat/cat eradication, biosecurity and monitoring practices		75 people were directly involved throughout project in monitoring, project planning, implementation, and biosecurity. All received specific training and while there's few specifics for the relative disciplines the training well exceeded the target numbers. There were many more tangentially involved in the project and thus learned from it, plus hundreds more learned about the project, its methods (including mitigation), and lessons learned through mass media.
<b>Activity 2.4</b> At least 5 representatives of the local community at Kayangel have been trained in biosecurity and monitoring, and are effectively implementing new skills at all four islands at EOP		The entire Kayangel community (c.60) has received detailed biosecurity information of these 7 have been involved in the monitoring and biosecurity activities and received training in carrying out these activities. Biosecurity is currently being managed by the Kayangel community.

Project summary	Measurable Indicators	Progress and Achievements - full life of project
<p><b>Output 3.</b> Sustainable management of restored island ecosystems in Fiji and Palau is improved through enhanced protection status of islands</p>	<p><b>3.1</b> At least 2 restored islands in Fiji and 1 in Palau have some kind of formal Protected Area status, taking local human aspirations into account, at EOP</p>	<p>The project has established 5 new protected areas for Kayangel protecting 184,800ha of marine and 4ha of terrestrial habitat:</p> <ul style="list-style-type: none"> <li>• <b>Ngkesol Marine Protected Area.</b> Size: 163km<sup>2</sup>; IUCN Cat: IV-C</li> <li>• <b>Ngeriungs Bird Sanctuary.</b> Size: 3.4ha; IUCN Cat: IV-C</li> <li>• <b>Chermall Sacred Site &amp; Atoll Forest Preserve.</b> Size: 0.3ha; IUCN Cat: Ib-A</li> <li>• <b>Ngerusebek Sacred Site &amp; Atoll Forest Preserve.</b> Size: 0.3ha; IUCN Cat: Ib-A</li> <li>• <b>Kayangel Territorial Waters.</b> Size: 1,685km<sup>2</sup>; IUCN Cat: VI-C</li> </ul> <p>The Ngeriungs Bird Sanctuary is one of the three islands the project is likely to have successfully eradicated rodents and cats from. The management plan also completed by the project includes sustainable development interests for these areas (and the existing PA <b>Ngeruangel Marine Reserve.</b> Est. 1996; Size: 3400ha; IUCN Cat: IV-A) such as nature tourism and fishing limits.</p> <p>In Fiji locally agreed protection (Tabu) has been secured for the island of Vatu-I-Ra 3ha and the surrounding marine area c.300ha. The 8 other project sites have also been designated as national priorities for protection by the national protected areas committee. Supporting legislation has been developed and is expected to be considered by the Fiji government following national elections scheduled for 2014</p> <p>An increase from 76% to 87% in community support for new protected areas on Kayangel was measured between the start and EOP</p>
	<p><b>3.2</b> PA designation for another 7 islands in Fiji and a further 3 islands in Palau is assessed, agreed and under development at EOP</p>	<p>In Palau the national emphasis has moved away from new PAs towards effective management of the existing 47 PAs. One major step towards this is by having PAs become part of the PAN. PCS personnel supported by project funds helped 5 states establish 12 protected areas for PAN sites:</p> <p>Ngaraard – 5  Ngardmau – 4  Aimeliik – 1  Airai – 1  Kayangel – 1</p> <p>PAN membership is considered a necessary definition for “effective conservation” of protected areas in Palau.</p> <p>In Fiji, progress was made in establishing Protected Areas for a further 8 sites of which 7 are in the late stages of negotiation. Nominations have been agreed by landowners and communities but protracted Fijian administrative process has delayed this requiring further</p>

Project summary	Measurable Indicators	Progress and Achievements - full life of project
		confirmation from chiefly leaders. These meetings are underway and approval of Tabu areas is anticipated in 2013. Discussions have been held with the Mabalau landowners who are supportive of a Tabu, but the project has been unable to get representatives together regularly enough to achieve this.
	<b>3.3</b> Community-based island management plans agreed which include equitable benefit sharing among local people at EOP	<p>The Kayangel Protected Areas Management Plan has been endorsed by all state and national authorities resulting in its acceptance (and the 6 PAs it recognises) to the PAN. Funding is now available from the PAN to support the implementation of the management plan actions.</p> <p>In Fiji the management plan for Vatu-I-Ra has been approved by landowners, and the governing the Provincial Authority. The Ringgold Islands Management plan is seeking endorsement by the Cakaudrove Provincial Council</p> <p>In addition 4 states in Palau receiving support from project personnel agreed on final community-management plans (Melekeok, Ngaraard, Ngardmau, Aimeliik).</p>
	<b>3.4</b> Trained partners and communities develop at least 3 fundraising proposals	<p>Some of the community supported fundraising proposals developed included;</p> <ul style="list-style-type: none"> <li>• 2 GEF small grants Fiji LCG exchange (Funded)</li> <li>• Vodafone –Vatu-I-Ra community water tanks (Funded)</li> <li>• The David &amp; Lucile Packard Foundation LCG ‘citizen science’ (Funded)</li> <li>• UNDP Equator Prize Award-Sisi Initiative (Funded)</li> <li>• Airai-MCT (Funded)</li> <li>• Ngaremlengui-Nando Ferreti (Denied)</li> <li>• Ngaremlengi-AusAID (Denied)</li> <li>• Ngaraard-MCT (Denied)</li> <li>• Koror-Government of Spain (Outstanding)</li> <li>• Melekeok-Ramsar (Partially funded)</li> <li>• Sonsorol-CEPF (Not submitted)</li> <li>• Kayangel, Ngaraard, Ngardmau, Aimeliik, Melekeok-PAN Fund (25% funded)</li> </ul>
<b>Activity 3.1</b> Establish PSC in Fiji for continuous monitoring of project progress (meeting twice a year)		The Project Steering committee was hosted through the Fiji Invasive Species Taskforce. This group included all national partners whom constitute a small group of expertise with considerable time demands and coordinating interests was seen to be more efficient. Additional coordination and communications by project staff were also used in guiding project progress

Project summary	Measurable Indicators	Progress and Achievements - full life of project
<b>Activity 3.2</b> Train at least 4 Fiji and Palau project / government staff in Protected Area planning and management plans		<p>In Palau, 34 total  PCS – 4  Kayangel – 9  Aimeliik – 9  Ngardmau – 5  Helen Reef – 1  Ngaraard – 7</p> <p>In Fiji, 3 people were formally trained and c.50 others developed knowledge through participation in the planning process  BirdLife Fiji Programme Staff - 3  Vatu-I-Ra community – 18  (3) Ringgold Communities - 32</p> <p>PCS has also helped share it lessons learned from management planning with a wider audience. <b>MOV 4.6 Lessons learned from management planning.</b></p>
<b>Activity 3.3</b> Establish community conservation groups on the islands in Fiji and Palau, assess community needs, support regular meetings and set up monitoring systems		<p>In Palau, project assistance helped 4 planning teams or conservation boards become established for management of PAN sites and management planning (Kayangel, Aimeliik, Ngardmau, Ngaraard).</p> <p>In Fiji three Local Conservation Groups were established for Mabualau, Ringgold’s and Vatuira. The groups have a recognised structure (TOR, membership and nomination procedure) and collectively a core membership of 15. They are the contact points for BFP and are central to all the activities including management planning, ongoing monitoring and livelihood activities.</p>
<b>Activity 3.4</b> Discuss PA options with island communities in Fiji and Palau and support PA designation (or progress towards designation)		<p>PCS had meetings with landowners and sent information to landowners about specific areas it desired to be protected. PCS also discussed protected area option and PAN with the general community, leaders, and the planning team during a series of meetings.</p> <p>PCS is fully supporting Kayangel through management planning, financially and technically (legislation, facilitation, scientific resources, etc.).</p> <p>The BirdLife Fiji Programme ran a community participative process in developing the resource management plans and identifying areas for protection. The Vatuira PA has been fully endorsed and the Ringgold PAs are awaiting Provincial Council authorisation</p>
<b>Activity 3.5</b> Develop management plans using participatory methods with local communities in Fiji and Palau		<p>PCS met with leaders and encouraged planning efforts, including by assisting with drafting of supportive legislation. PCS facilitated planning meetings, field visits, leadership meetings, gathering and interpretation, writing, review, and printing of management plans.</p>

Project summary	Measurable Indicators	Progress and Achievements - full life of project
		<p>PCS also helped states submit plans to the PAN and advocated for their funding.</p> <p>The BirdLife Fiji Programme developed resource management plans for Vatu-I-Ra and the Ringgolds using participatory planning methods. These have been endorsed by the local and regional leaders and are being implemented by stakeholders</p>
<p><b>Activity 3.6</b> Identify sources / activities for sustainable livelihoods in Fiji and Palau</p>		<p>The socioeconomic survey identified agriculture as important for subsistence and monetary economies in Palau. The eradication led to immediate improvements in crops. PCS and its partner SIUL determined that a virgin coconut oil mill would be feasible on Kayangel and secured funds to procure one. This will lead to direct financial benefits for the community.</p> <p>All protected area management plans have included sustainable development options such as nature tourism. In addition, plans include mechanisms for sustainable financing through fees, fines, permits, and the PAN.</p> <p>The Participatory Learning and Action Planning (PLAP) and management planning workshops identified sustainable livelihood activities for Vatuira and the Ringgolds. Projects implemented include handicraft making, small business management and bee keeping. Income supporting daily needs but primarily education</p> <p>The project also identified grant opportunities relevant to communities and helped communities draft, submit, and in some cases, implement grant proposals.</p>
<p><b>Activity 3.7</b> Train partners and communities in Fiji and Palau (40 people) in fundraising, financial management and project governance</p>		<p>BirdLife partners (representing 6 countries), LCGs, and other national partners (National Trust of Fiji, Provincial Council Staff, NFMV) were trained in fundraising, financial management and or project governance.</p> <p>The fundraising training resulting in multiple proposals being submitted to funding agencies</p>
<p><b>Activity 3.8</b> Assist community groups in Fiji and Palau to raise financial resources for activities on islands with PAs/management plans</p>		<p>The project helped 13 communities prepare at least 14 proposals for activities in protected areas. These included proposals to private foundations, international funding mechanisms, and the national PAN. PCS and BirdLife also raised money for a coconut oil mill in Kayangel.</p>
<p><b>Activity 3.9</b> Support Masters student in Oxford, working on conservation and livelihoods opportunities on the Ringgold islands</p>		<p>The Masters topic was changed (and of little relevance to the project) but was completed and reported in the first year of the project</p>
<p><b>Output 4.</b> The development and implementation of island restoration projects in Palau, Fiji,</p>	<p><b>4.1</b> Targets for media profile are achieved (launch, debrief, news articles, radio, tv broadcasts, project web page and blog)</p>	<p>The project met and exceeded its media targets, in number and type of outputs. Refer Annex 4</p>

Project summary	Measurable Indicators	Progress and Achievements - full life of project
and other Small Island Developing States is enhanced through effective dissemination of best practice	<b>4.2</b> Presentations about the project and lessons learned are made at at least 1 international and 2 regional meetings before EOP	3 international meetings (AAG in Washington, DC; SCB in New Zealand; Int Conf on Island Invasives New Zealand)  4 regional meetings (BirdLife Pacific in Fiji, Micronesia Conservation Trust in Palau; CEPF in Fiji; BirdLife Pacific Partnership Meeting Melbourne Australia)
	<b>4.3</b> A regional Eradication Advisory Group reviewing participant project plans is set up in yr 1 and effectively functioning in Yr3	The EAG is established with representation from NZ DoC, PII, Island Conservation, PILN and BirdLife. Technical advice was provided to this project and continues to do so in support of other IAS operations in the Pacific region.
	<b>4.4</b> A best practices manual is produced and disseminated among at least 50 agencies across the Pacific at EOP	The Project contributed through technical advice, case studies, and peer review to the development of a cat and rodent eradication resource kit. Available online and hosted through PII. Project staff have also supported the delivery of resource kit training modules as 'subject matter experts'
<b>Activity 4.1</b> Launch the project in Palau and Fiji at the start, and debrief to stakeholders at the end of the project		The Project was launched in Year 1, in Fiji and Palau, the former hosted by the British Embassy. In Palau an additional launch meeting was made when a new High Chief was installed. Community members were debriefed at two EOP meetings. Other stakeholders were debriefed remotely on the eradication operation and continue to be updated
<b>Activity 4.2</b> Make project reports, awareness materials and planning documents widely accessible through networks and website		All project documents were circulated to partners by email and many have been posted online. (including MOVs 2.1-2.3, 3.1-3.3, 4.5-4.9)
<b>Activity 4.3</b> Produce awareness and educational materials		There were numerous awareness and educational materials produced for the project communities, including Powerpoint presentations, brochures, fact sheets, and signs. Some television and newspaper articles also included educational information. <b>MOV 4.1-4.9.</b>
<b>Activity 4.4</b> Attend / make presentations at international, regional and national/Provincial meetings		Palau project staff attended 5 different meetings and Fiji staff participated in three regional meetings three International conferences and one national conference. Multiple provincial Council meetings were supported in Fiji
<b>Activity 4.6</b> Collate and disseminate information on island restoration principles through a 'best practices manual'		The project contributed island restoration case studies to cat and rodent eradication resource kit. PCS also developed information on: management planning lessons, a template for management plans, information on risks to megapodes from presence of bait, and lessons learned from the eradication operation.
<b>Activity 4.7</b> Communicate project progress/results through variety of media		Media was used to communicate progress, information, and results throughout the project on a regular basis. (Annex 4)

## Annex 2 Project's final logframe, including criteria and indicators

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p><b>Goal:</b> Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p>			
<p><b>Sub-Goal:</b> Restoration and conservation of unique island ecosystems and their values and services in the Pacific for the benefit of people and biodiversity</p>	<p>Number of extinctions on Pacific islands caused by IAS show decrease</p> <p>Populations of endemic species currently severely predated by IAS show increase</p> <p>Social, economic and environmental benefits derived from restored islands show increase</p>	<p>CBD, CITES and CMS reports IUCN Red List data BirdLife World Bird DataBase NBSAP reports in Palau and Fiji Social, economic and other relevant government reports in Palau and Fiji</p>	
<p><b>Purpose:</b> Biodiversity, quality of life and livelihoods are enhanced by the restoration and sustainable management of island ecosystems at key sites in Palau and Fiji</p>	<p>Monitoring established and data collected for key biodiversity indicators (annually)</p> <p>Cases of <i>Scrub typhus</i>, <i>Leptospirosis</i> or other rat-transmitted diseases detected in people residing on restored islands significantly reduced between start of project and after completion of rat eradication campaign</p> <p>Reduced damage by rats to traditional crops / systems by end of year 3 compared to year 1 baseline</p> <p>Protected Area status and management plans for at least 3 islands in Palau and Fiji by EOP show enhanced opportunities for community-based sustainable development (including ecotourism)</p>	<p>Baseline report including PRA Biodiversity monitoring reports Department of Health Reports Department of Agriculture reports Project monitoring reports against baseline Final project report</p>	<p>Governments, regional and local stakeholders continue to support invasive species eradication as a viable methodology to enhance quality of life and conserve biodiversity</p>
<p><b>Output 1.</b> All rodents and cats eradicated from</p>	<p>Peer reviewed planning documentation completed prior to bait application</p>	<p>Baseline surveys Peer reviewers' reports of</p>	<p>Physical and political climate continue to support island restoration projects</p>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Kayangel atoll in Palau	<p>No rats or mice are found on any of the four Kayangel islands at EOP</p> <p>No cats are found on any of the four Kayangel islands at EOP</p> <p>No domestic stock losses or significant mortality at a population level among non-target species at EOP</p>	<p>eradication plan</p> <p>Eradication implementation report</p> <p>Monitoring reports</p> <p>Final project report</p>	
<b>Output 2.</b> Government and civil society stakeholders in Palau have the capacity to perpetuate and manage restored island ecosystems	<p>At least 12 staff from PCS, Palauan government agencies and Kayangel community trained in island restoration and use skills in their work at end of year 2</p> <p>At least 3 exchange programmes will have been implemented by EOP</p> <p>A simple but comprehensive biosecurity system is available for Kayangel and implemented by collaborative partners at EOP</p> <p>At least 5 representatives of the local community at Kayangel have been trained in biosecurity and monitoring, and are effectively implementing new skills at all four islands at EOP</p>	<p>Training reports and evaluations</p> <p>Exchange visit reports</p> <p>Project reports [demonstrating work that builds on skills and knowledge gained]</p> <p>Printed biosecurity plan, including allocation of tasks and responsibilities</p> <p>References to biosecurity measures in government publications</p> <p>List of measures taken by the people of Kayangel to prevent reintroductions (project reports)</p> <p>Monitoring sheets filled in by local people</p>	Trained staff remain working in relevant fields in Palau
<b>Output 3.</b> Sustainable management of restored island ecosystems in Fiji and Palau is improved through enhanced protection status of islands	<p>At least 2 restored islands in Fiji and 1 in Palau have some kind of formal Protected Area status, taking local human aspirations into account, at EOP</p> <p>PA designation for another 7 islands in Fiji and a further 3 islands in Palau is assessed, agreed and under development at EOP</p>	<p>PAs gazetted</p> <p>Reports of community consultation meetings</p> <p>Printed management plans</p> <p>Training reports</p> <p>Project proposals</p> <p>Project final report</p>	<p>Appropriate designation exist to provide biodiversity and resource management needs and support community livelihoods</p> <p>Process of designating Protected Area status does not take 'too long'</p>



Project summary	Measurable Indicators	Means of verification	Important Assumptions
	<p>3 Community-based island management plans agreed which include equitable benefit sharing among local people at EOP</p> <p>Trained partners and communities develop at least 3 fundraising proposals for livelihood activities on their islands</p>		
<p><b>Output 4.</b> The development and implementation of island restoration projects in Palau, Fiji, and other Small Island Developing States is enhanced through effective dissemination of best practice</p>	<p>Targets for media profile are achieved (launch, debrief, news articles, radio, tv broadcasts, project web page and blog)</p> <p>Presentations about the project and lessons learned are made at at least 1 international and 2 regional meetings before EOP</p> <p>A regional Eradication Advisory Group reviewing participant project plans is set up in yr 1 and effectively functioning in Yr3</p> <p>A best practices manual is produced and disseminated among at least 50 agencies across the Pacific at EOP</p>	<p>Media reports and compendia of media articles</p> <p>Website / blog hit counter</p> <p>Meeting reports</p> <p>Eradication Advisory Group (EAG) listserv</p> <p>Manual (electronic) and dissemination list</p> <p>Final project report</p>	<p>People are receptive to information and utilise it</p> <p>Relevant stakeholder institutions have the resources to use the results and products of the project in their work</p>

## Annex 3 Project contribution to Articles under the CBD

### Project Contribution to Articles under the Convention on Biological Diversity

Article No./Title	Project %	Article Description
6. General Measures for Conservation & Sustainable Use		Develop national strategies that integrate conservation and sustainable use.
7. Identification and Monitoring		Identify and monitor components of biological diversity, particularly those requiring urgent conservation; identify processes and activities that have adverse effects; maintain and organise relevant data.
8. In-situ Conservation	70%	Establish systems of protected areas with guidelines for selection and management; regulate biological resources, promote protection of habitats; manage areas adjacent to protected areas; restore degraded ecosystems and recovery of threatened species; control risks associated with organisms modified by biotechnology; control spread of alien species; ensure compatibility between sustainable use of resources and their conservation; protect traditional lifestyles and knowledge on biological resources.
9. Ex-situ Conservation		Adopt ex-situ measures to conserve and research components of biological diversity, preferably in country of origin; facilitate recovery of threatened species; regulate and manage collection of biological resources.
10. Sustainable Use of Components of Biological Diversity		Integrate conservation and sustainable use in national decisions; protect sustainable customary uses; support local populations to implement remedial actions; encourage co-operation between governments and the private sector.
11. Incentive Measures		Establish economically and socially sound incentives to conserve and promote sustainable use of biological diversity.
12. Research and Training		Establish programmes for scientific and technical education in identification, conservation and sustainable use of biodiversity components; promote research contributing to the conservation and sustainable use of biological diversity, particularly in developing countries (in accordance with SBSTTA recommendations).
13. Public Education and Awareness	20%	Promote understanding of the importance of measures to conserve biological diversity and propagate these measures through the media; cooperate with other states and organisations in developing awareness programmes.
14. Impact Assessment and Minimizing Adverse Impacts		Introduce EIAs of appropriate projects and allow public participation; take into account environmental consequences of policies; exchange information on impacts beyond State boundaries and work to reduce hazards; promote emergency responses to hazards; examine mechanisms for re-dress of international damage.
15. Access to Genetic Resources		Whilst governments control access to their genetic resources they should also facilitate access of environmentally sound uses on mutually agreed terms; scientific research based on a country's genetic resources should ensure sharing in a fair

Article No./Title	Project %	Article Description
		and equitable way of results and benefits.
16. Access to and Transfer of Technology		Countries shall ensure access to technologies relevant to conservation and sustainable use of biodiversity under fair and most favourable terms to the source countries (subject to patents and intellectual property rights) and ensure the private sector facilitates such assess and joint development of technologies.
17. Exchange of Information		Countries shall facilitate information exchange and repatriation including technical scientific and socio-economic research, information on training and surveying programmes and local knowledge
19. Bio-safety Protocol		Countries shall take legislative, administrative or policy measures to provide for the effective participation in biotechnological research activities and to ensure all practicable measures to promote and advance priority access on a fair and equitable basis, especially where they provide the genetic resources for such research.
Other Contribution	10%	Smaller contributions (eg of 5%) or less should be summed and included here.
Total %	100%	Check % = total 100

## Annex 4 Standard Measures

Code	Description	Totals (plus additional detail as required)
<b>Training Measures</b>		
2	Number of Masters qualifications obtained	1 Oxford UK
3	Number of other qualifications obtained	3 Post graduate diplomas (USP Fiji)
6a	Number of people receiving other forms of short-term education/training (ie not categories 1-5 above)	<p>Total c.192</p> <p>5 - Participatory Learning and Action Plan (Sep 2009)</p> <p>30 - Vatuira Participatory Learning Action Plan workshop (14-17 Oct 2009)</p> <p>30 - Ringgold PLA workshop 18-19 March 2010</p> <p>30 - Ringgold communities &amp; SSGs undertook handicraft training (19-23 June 2010)</p> <p>24 - Vatuira community based resource management planning</p> <p>29 - June-1 July 2010</p> <p>2 - Biosecurity training (29 June -1 July 2010)</p> <p>30 - Biosecurity training workshop 12-15 June 2010.</p> <p>7 - First Aid &amp; CPR training 1-2 November 2010</p> <p>5 - Seabird survey training: use of burrowscope 30-31 March 2011</p> <p>1 - Facilitators &amp; Subject Matter expert Workshop (28-30 March 2011)</p> <p>3 - PII Resource kit use training (11- 15 April 2011)</p> <p>4 - GIS training ( 22-24 September 2011)</p> <p>2 - Goat feasibility assessment 10 June 2010</p> <p>2 - On job training: Goat eradication (12 August - 25 November)</p> <p>3 - Aerial Eradication training 13-25 October 2011</p> <p>1 - Seabird Fellowship (24 May-August 27 2012)</p> <p>43 - people learning megapode study or eradication preparation, total of 75 people learning eradication techniques, most overlap with 43</p>
6b	Number of training weeks not leading to formal qualification	<p>Total 10 weeks</p> <p>6 weeks Palau: megapode study – 2 weeks; eradication preparation – 24 days (3); 1 week (total) on eradication field methods</p> <p>4 weeks Fiji: Vatuira Resource management planning workshop (1 wk); Ringgold Resource management planning workshop (1 wk); Biosecurity &amp; Fundraising workshop (1 wk); Eradication Planning (1wk)</p>
7	Number of types of training materials produced for use by host country(s)	<p>Total 4</p> <p>2 Palau: Presentation on eradication preparation; presentations on eradication operation methods and safety, safety brochures</p> <p>2 Fiji: Biosecurity training notes &amp; presentations; Fundraising presentations &amp; resources</p>

Code	Description	Totals (plus additional detail as required)
<b>Research Measures</b>		
8	Number of weeks spent by UK project staff on project work in host country(s)	10 weeks 4 Fiji: 2 weeks- Conservation data Manager for WBDB training Feb 09; 1 week WBDB refresher; 1 week Fundraising training 6 Palau: Project Manager, project planning, monitoring training and eradication operation support
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country (s)	Total 6 4 Palau: Kayangel, Ngaraard and Aimeliik (completed); Ngardmau (nearly completed) 2 Fiji: Vatuiria and Ringgolds
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country	1 World Bird Database
<b>Dissemination Measures</b>		
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work	Total 15 MCT meeting Palau; Pacific Partnerships meetings Melbourne Australia 2009; BirdLife Int Global Conference Argentina; (2) community management planning workshops Vatuiria (29 June-1 July, 2010) and Ringgolds (5-7 <sup>th</sup> April 2011); Biosecurity & fundraising workshop (12-15 June 2011); International conference on Island Invasives; Regional facilitator training for eradication planning workshop (21-24 <sup>th</sup> March 2011) and subsequent participant workshop (11- 15 <sup>th</sup> April 2011); Fiji National Biosecurity training workshop; 3 <sup>rd</sup> PILN meeting Christmas Island, 13-23 March 2012; Fiji Conservation Forum September 2011; Island Eradication Management (NZ), 9-12 February 2010; Helping islands adapt, 11-15 April 2011; Biological Science Conference (NZ), Dec 2010
14b	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/ disseminated.	5 BirdLife International Congress Ottawa Canada (2013); Tropical islands eradication review NZ (2013); SCB, CEPF, MCT
15a	Number of national press releases or publicity articles in host country(s)	40
15b	Number of local press releases or publicity articles in host country(s)	7
15c	Number of national press releases or publicity articles in UK	5 <b>Palau:</b> BirdLife newsletter with article on Biodiversity presentation <b>Fiji:</b> 2 articles on BirdLife website, 1 article in Rare Bird Club Newsletter; World BirdWatch

Code	Description	Totals (plus additional detail as required)
16a	Number of issues of newsletters produced in the host country(s)	10 2 articles in Pacific Initiatives Initiative Newsletter, 2 article in Pacific e-bulletin; 1 article in PCS newsletter; 1 Lawedua newsletter Contributed: PILN newsletter, PII newsletter, NTF newsletter, MES newsletter
16b	Estimated circulation of each newsletter in the host country(s)	Lawedua (50 copies/4 villages); 40 PILN newsletters; 50 MES newsletters; PII Newsletter c.100; Pacific E-Bulletin c.50; NTF newsletter c.200
16c	Estimated circulation of each newsletter in the UK	BirdLife newsletter, PII, PILN c.500
17a	Number of dissemination networks established	1 EAG
17b	Number of dissemination networks enhanced or extended	2 PILN & PII
18a	Number of national TV programmes/features in host country(s)	6 1 environmental news and 1 feature on local access channel; 3 environmental news on TV, 1 full-length video
18c	Number of local TV programme/features in host country	Same as national
19a	Number of national radio interviews/features in host country(s)	7 15 minute radio FJ March 2008; 15 minute radio Australia March 2009; 15 Minute Radio Australia (Mamanuca eradication) September 2011; 15 Minute Radio NZ (October 2011) ; 15 minute radio interview Radio Fiji One; 15 minute radio Fiji (August 2011)
19c	Number of local radio interviews/features in host country (s)	Same as national
<b>Physical Measures</b>		
20	Estimated value (£s) of physical assets handed over to host country(s)	5500 Eradication preparation materials (machetes, wheelbarrows, compasses) Most materials expendable (bait, transportation, services). Also handed over – walkie-talkies, tent, other equipment
23	Value of additional resources raised for project	c.200,000 for Palau and Fiji primarily EU but also MCT CEPF GET small Grant
<b>Other Measures used by the project and not currently including in DI standard measures</b>		

## Annex 5 Publications

Type * (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Video	Restoration of Priority Habitats in Kayangel, H. Ketebengang, 2012	PCS	<a href="http://www.youtube.com/watch?v=TWILH14KFQs">http://www.youtube.com/watch?v=TWILH14KFQs</a>	1000
Plan	Kayangel Biosecurity Plan, 2011	PCS	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_Biosecurity_Plan.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_Biosecurity_Plan.pdf</a>	
Plan	Kayangel Rodent Eradication Monitoring Plan, 2010	PCS	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_Monitoring_plan.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_Monitoring_plan.pdf</a>	
Plan	Kayangel Rodent Eradication Operational Plan, 2011	PCS	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_Operational_Plan.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_Operational_Plan.pdf</a>	
Presentation	Kayangel Birds and Biosecurity Presentation, 2011	PCS	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_Birds_Biosecurity_Presentation.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_Birds_Biosecurity_Presentation.pdf</a>	
Fact Sheet	Kayangel Rodent Eradication Fact Sheet, 2011	PCS	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_fact_sheet.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_fact_sheet.pdf</a>	
Report	Kayangel Rodent Eradication Lessons Learned, 2011	PCS	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_Lessons_learned.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_Lessons_learned.pdf</a>	
Fact Sheet	Kayangel Rodent Eradication Safety Document, 2011	PCS	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_Safety_Document.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/Kayangel_rodent_eradication_Safety_Document.pdf</a>	
Booklet	State of Palau's Birds 2010, H. Ketebengang and A. Gupta	PCS	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/PCS_State_OfPalauBirds2010.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/PCS_State_OfPalauBirds2010.pdf</a>	

Plan	Management Plans for: Ngerderrar (Aimeliik); Kerradel (Ngaraard); OSCA (Ngardmau); all 2011	PCS	<a href="http://www.palauconservation.org/cms/index.php/resources">http://www.palauconservation.org/cms/index.php/resources</a> (Protected Area Management Plans)	
Report	Lessons learned from our year of management planning, 2011, A. Gupta, U. Basilius, J. Beouch	PCS	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/Lessons%20learned%20from%20our%20year%20of%20management%20planning.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/Lessons%20learned%20from%20our%20year%20of%20management%20planning.pdf</a>	
Newsletter	PCS newsletters, 2010-2011	PCS	<a href="http://www.palauconservation.org/cms/index.php/resources">http://www.palauconservation.org/cms/index.php/resources</a> (PCS Newsletters)	
2 PII newsletters with lessons learned  Article in World Pheasant newsletter  The BirdLife Pacific newsletter and BirdLife internet articles				
Article	Racing against rats to save nature in Fiji, 5 April 2009	Fiji Sunday Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Newsletter	Rodent eradication for Kayangel Atoll, Palau Conservation Society, by Anuradha Gupta, 2010	PII, Auckland	<a href="http://www.issg.org/cii/PII/">http://www.issg.org/cii/PII/</a>	
Newsletter	Megapode research study in Kayangel shows definite interaction with rat bait: Rat eradication will occur in 2011, but extra precautions needed by Anuradha Gupta, 2010	PCS, Koror	<a href="mailto:pcs@palaunet.com">pcs@palaunet.com</a>	



Fact Sheet	Ngeriungs Island, Kayangel: A special place that deserves our attention and protection by Anuradha Gupta, 2010	PCS, Koror	<a href="mailto:pcs@palaunet.com">pcs@palaunet.com</a>	
Journal article	Noteworthy bird observations from the Caroline and Marshall islands 1988–2009, Including five new records for Micronesia by H.D. Pratt et al, 2010	Western Birds 41(2): 70-101	Western Birds	
Video	Ringolds Handicraft training video (Aug 5, 2010)	BirdLife International Community Blog	<a href="http://www.birdlife.org/community/2010/08/ringgolds-community-handicraft-training-2010-video/">http://www.birdlife.org/community/2010/08/ringgolds-community-handicraft-training-2010-video/</a>	
Plan	Kayangel Operational Plan	PCS, Koror	<a href="mailto:pcs@palaunet.com">pcs@palaunet.com</a>	
Plan	Natural Resource management plans (3) for Ngardmau, Aimeliik, and Ngaraard states	PCS Koror	<a href="mailto:pcs@palaunet.com">pcs@palaunet.com</a>	
Article	Women turn art to cash (Aug 14, 2010)	Fiji Times	<a href="http://www.fijitimes.com/story.aspx?id=153616">http://www.fijitimes.com/story.aspx?id=153616</a>	
Article	Keeping islands rat-free for Pacific birds and people - with Elenoa Seniloli (April 2011)	Rare Bird Club Newsletter	<a href="http://www.rarebirdclub.org">www.rarebirdclub.org</a>	
Article	Seabirds back to rat-free Ringolds Islands	BirdLife International Pacific Partnership e-bulletin	<a href="mailto:rarebirdclub@birdlifeinternational.org">rarebirdclub@birdlifeinternational.org</a>	
Article	The Magnificent Seven (rat free Fijian Islands)	BirdLife International Community Blog	<a href="http://www.birdlife.org/community/2010/12/the-magnificent-seven-rat-free-fijian-islands/">http://www.birdlife.org/community/2010/12/the-magnificent-seven-rat-free-fijian-islands/</a>	
Article	Pacific Practitioner Profile (March 2011)	Pacific Initiatives Newsletter	<a href="http://www.issg.org/cii/PII">http://www.issg.org/cii/PII</a>	
Plan	Ringgold Isles Community Resource Management Plan	BirdLife FP, Suva	<a href="mailto:tuamoto@birdlifepacific.org.fj">tuamoto@birdlifepacific.org.fj</a>	
Plan	Vatuiria Community Resource Management Plan	BirdLife FP, Suva	<a href="mailto:tuamoto@birdlifepacific.org.fj">tuamoto@birdlifepacific.org.fj</a>	

Article	Birds under threat: Rat free habitat initiative for endemic species, 22 September 2009	Fiji Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Article	BirdLife project to eradicate rat, 31 March 2009	Fiji Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Article	Invasive alien species threaten Pacific region, says study, 10 February 2010	Sci & Tec	<a href="http://news.xinhuanet.com/english2010/sci/2010-02/19/c_13180013.htm">http://news.xinhuanet.com/english2010/sci/2010-02/19/c_13180013.htm</a>	
Article	Alien species threat Pacific Islands 20 Feb 2010	Fiji Sun, Suva	<a href="http://www.fijisun.com.fj">http://www.fijisun.com.fj</a>	
Article	BirdLife targets rats ,01 April 2009	Fiji Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Article	Rat free islands, 5 Jan 2011	Fiji Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Article	Women turn art to cash, 14 August 2010	Fiji Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Article	Workshop motivates Laucala villagers, 11 August 2010	Fiji Sun, Suva	<a href="http://www.fijisun.com.fj">http://www.fijisun.com.fj</a>	
Article	BirdLife workshop focuses in Vatuiria conservation, 22 July 2010	Fiji Sun, Suva	<a href="http://www.fijisun.com.fj">http://www.fijisun.com.fj</a>	
Article	Alien species in Pacific threaten birds	PINA news	<a href="http://www.matangitonga.to/article/article_print_alien_240509_1805">http://www.matangitonga.to/article/article_print_alien_240509_1805</a>	
Article	Alien species in Pacific threaten birds Island business international	Island Business, International, Suva	<a href="http://www.islandsbusiness.com">http://www.islandsbusiness.com</a>	
	BirdLife workshop focuses on VATUIRA Conservation, 22 July 2010	Fiji Sun, Suva	<a href="http://www.fijisun.com.fj">http://www.fijisun.com.fj</a>	

Article	Bird Lovers to the rescue, 23 September 2009	Fiji Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Article	Programme bids to save birds, 12 Dec 2009	Fiji Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Article	Birdlife's success in Taveuni, 17 Dec 2009	Fiji Sun, Suva	<a href="http://www.fijisun.com.fj">http://www.fijisun.com.fj</a>	
Article	A rat free island haven for bird watchers , 26 Feb 2008	Fiji Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Article	Cool change for former All blacks hooking ace, 9 July 2008	Fiji Times, Suva	<a href="http://www.fijitimes.com">http://www.fijitimes.com</a>	
Video	Ringgold Handicraft training video, 5 August 2010	BirdLife International Community Blog	<a href="http://www.birdlife.org/community/2010/08/ringgold-community-handicraft-training-2010-video/">http://www.birdlife.org/community/2010/08/ringgold-community-handicraft-training-2010-video/</a>	
Newsletter	Keeping islands rat free for Pacific birds and people- with Elenoa Seniloli, April 2011	Rare Bird Club newsletter	<a href="http://www.rarebirdclub.org">www.rarebirdclub.org</a>	
e- bulletin	Seabirds back to rat free Ringgold islands	BirdLife International Pacific Partnership e-bulletine	<a href="mailto:rarebirdclub@birdlifeinternational.org">rarebirdclub@birdlifeinternational.org</a>	
Article	The Magnificent seven (rat free Fijian islands)	BirdLife International Community Blog	<a href="http://www.birdlife.org/community/2010/12/the-magnificent-seven-rat-free-fijian-islands">http://www.birdlife.org/community/2010/12/the-magnificent-seven-rat-free-fijian-islands</a>	
Newsletter article	Pacific Practitioners Profile, March 2010	Pacific Invasive Initiative	<a href="http://www.issg/cii/pii">http://www.issg/cii/pii</a>	
Toolkit	PII Resource kit: Toolkit for cat & rat	Pacific Invasive Initiative	<a href="http://www.pacificinvasivesinitiative.org/rk/index.html">http://www.pacificinvasivesinitiative.org/rk/index.html</a>	

Newsletter	Megapode research study in Kayangel shows definite interaction with rat bait: Rat eradication will occur in 2011, but extra precautions needed by Anuradha Gupta, 2010	PCS, Koror	<a href="mailto:pcs@palaunet.com">pcs@palaunet.com</a>	0
Fact Sheet	Ngeriungs Island, Kayangel: A special place that deserves our attention and protection by Anuradha Gupta, 2010	PCS, Koror	<a href="http://www.palauconservation.org/cms/images/stories/resources/pdfs/Ngeriungs_IBA_Fact_Sheet.pdf">http://www.palauconservation.org/cms/images/stories/resources/pdfs/Ngeriungs_IBA_Fact_Sheet.pdf</a>	50
Journal article	Noteworthy bird observations from the Caroline and Marshall islands 1988–2009, Including five new records for Micronesia by H.D. Pratt, M. Falanruw, M.T. Etpison, A. Olsen, D.W. Buden, P. Clement, A. Gupta, H. Ketebengang, Y. Yalap, D.R. Herter, D. Klauber, P. Pisano, D.S. Vice, G. J. Wiles, 2010	Western Birds 41(2): 70-101	Western Birds	0
Newsletter	Palau: Rodent eradication for Kayangel Atoll, Palau Conservation Society, by Anuradha Gupta, 2010	PII, Auckland	<a href="http://www.issg.org/cii/PII/">http://www.issg.org/cii/PII/</a>	

## Annex 6 Darwin Contacts

<b>Ref No</b>	17-026
<b>Project Title</b>	Restoration of Priority Pacific Island Ecosystems for People and Biodiversity
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