



Department of Conservation *Te Papa Atawhai*

Phoenix Islands restoration Kiribati

Project Plan

Summary:

An NZAID ODA funded project to facilitate the recovery of atoll ecosystems and internationally important seabird populations including the endangered Phoenix Petrel by –

- eradicating rats and rabbits from three key islands within the recently established Phoenix Islands Protected Area
- assist in establishing a biosecurity programme to prevent further invasions
- further develop capacity in Kiribati to effectively manage invasive species, restore and monitor the ecology of islands
- raise awareness and support for managing invasive alien species in Kiribati and the Pacific region.

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Version History

| Version | Author | Date Written | Change/Reason for change |
|---------|--------|--------------|--|
| 1 | Broome | 6/11/2007 | First draft for comment |
| 2 | Broome | 27/11/07 | Second draft following meeting 9/11 |
| 3 | Broome | 7/12/07 | Final version shared with stakeholders |
| 4 | Broome | 29/1/08 | Contractor's name inserted |
| 5. | Broome | 1/2/08 | Budget modified |

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WHERE?

BACKGROUND



The Phoenix Islands are a group of eight atolls, plus two submerged coral reefs in the central Pacific Ocean, 1100km North of Samoa, east of the Gilbert Islands and west of the Line Islands. Part of Kiribati, the largest atolls are Kanton (or Abariringa) and Enderbury Island. The other islands include Rawaki (formerly Phoenix), Manra (formerly Sydney), Birnie, McKean, Nikumaroro (formerly Gardner), and Orona (formerly Hull). During the late 1930s they were the site of the last attempted colonial expansion of the British Empire (the Phoenix Islands Settlement Scheme).

The islands and surrounding areas are home to some 120 species of coral and more than 500 species of fish. Kiribati has recently established a huge marine park in the area – the Phoenix Islands Protected Area (PIPA). Kiribati announced the establishment of PIPA at the 8th COP for the Convention on Biological Diversity in 2006. The NZ Minister of Conservation has offered technical support and assistance from New Zealand for the development of PIPA.

At various times, the islands have been considered part of the Gilbert group, but the name "Phoenix" for this group of islands seems to have been settled on in the 1840s, after the island of that name within the group. Phoenix Island was probably named after one of the several whale ships of that name, known to be in the area in the early nineteenth century. The islands were visited and/or settled by Melanesian and/or Polynesian peoples in the past, but were uninhabited during the period of earliest European visits in the early 19th century. Whalers and guano collectors visited in the early and mid 19th century respectively and the coral slab walls of guano collectors' buildings are still standing.

Up to 1000 people lived on each of Manra, Orona and Nikumaroro during the period from the late 1930s to the 1960s. Since the 1960s only Kanton has had permanent inhabitants (41 people according to the 2005 census), but Orona was settled by c.200

people in 2001-04, during which time sharks and other fish were harvested along with other fauna. Successive human visits over the centuries have resulted in the introduction of many invasive species including Pacific rats, rabbits, cats, pigs and dogs.

The Phoenix Islands are identified as a Key Biodiversity Area in Conservation International's Critical Ecosystem Partnership Fund (CEPF) and an Important Bird Area by BirdLife International. These and other designations reflect the very high marine and terrestrial values which are inextricably linked. The marine values of PIPA are well reflected in the suite of 19 seabird species that breed on the islands - this includes the endangered Phoenix petrel, the white-throated storm petrel (classified as Vulnerable) and other declining populations of petrel species, together with globally important populations of frigatebird species, booby species and blue noddies.

The islands are small to medium sized atolls with the windward (eastern) sides being strewn with coral rubble boulders, but the interior and especially the lee sides often comprise large areas of coral sands. The large Enderbury Island has extensive areas of soft sand and luxuriant shrubland suitable for seabirds that burrow and/or seek vegetation for nesting cover.

Key physical features and vegetation of the islands

| Island | Total area | Land area | Lagoon | Substrate | Vegetation |
|------------|------------|-----------|--------|------------------------|------------------------|
| Manra | | c.500 | Closed | Not visited | Forest, scrub, coconut |
| Rawaki | 73.24 | 58.14 | Closed | Rubble, c.50% sand | Grass, scrub |
| Enderbury | 596.6 | 500+ | Closed | Rubble, extensive sand | Grass, scrub |
| Birnie | 50.95 | 48.2 | Closed | Rubble, limited sand | Grass, scrub |
| Kanton | | c.900 | Open | Varied, extensive sand | Forest, scrub, coconut |
| McKean | 74.32 | 48.77 | Closed | Rubble, < 30% sand | Grass, scrub |
| Orona | | c.600 | Open | Rubble, sand | Forest, scrub, coconut |
| Nikumaroro | | c.400 | Open | Rubble, sand | Forest, scrub, coconut |

Note: Land areas are total atoll area minus lagoon area.

Four of the five atolls in the north and east of the Group have small land-locked hypersaline lagoons. Two of the southern atolls – Orona and Nikumaroro - have large lagoons that are connected to the sea, but tidal flushing is weak. Only the large Kanton Island in the north has high rates of tidal flushing.

Many of these values are under threat however and the Government of Kiribati is preparing an integrated management plan for the Group.

WHY?

BACKGROUND

The purpose of this project is to restore seabirds to being an essential component of the internationally recognised Phoenix Islands marine ecosystem.

The Phoenix Islands are recognised as a globally significant protected area. In particular the Phoenix Islands Protected Area (PIPA) is:

- The world's third-largest marine protected area and the developing world's largest declared Marine Protected Area and the largest ever attempted in the Pacific region,
- a proposed UNESCO World Heritage Site,
- an important 'Hotspot' and 'Key Biodiversity Area' (Area (#133) identified in Conservation International's Polynesia-Micronesia Ecosystem Profile,
- an Important Bird Area (IBA) identified by BirdLife International Pacific,
- a high priority in Kiribati's National Biodiversity Strategy & Action Plan (NBSAP).

However, a recent conservation survey (Pierce et al 2006) revealed that mammalian pests (rats, rabbits and cats) have impacted heavily on ecosystems and particularly birds. There have been significant changes in the status of mammal and bird species in the Phoenix Islands since the previous comprehensive fauna surveys in the 1960s. The greatest change has been on McKean where the large Asian rat (*Rattus tanezumi*) has arrived recently coinciding with a 40% decline in seabird diversity, including the total loss of blue noddies (*Procelsterna caerulea*) and most procellariiform species. Most of the seabird species that were still persisting on McKean in 2006 were present in greatly reduced numbers and were generally breeding unsuccessfully. Pacific rats are present on Birnie.

The island with the highest diversity (18 species) of seabirds in 2006 was Rawaki. This is the only island in the Group that still supports a breeding population of blue noddies and the Endangered Phoenix petrel (*Pterodroma alba*) and Vulnerable white-throated storm petrels (*Nesofregetta albogularis*), while many other species also breed here as was the case in the 1960s. These seabird populations on Rawaki are critically important. The very high density of rabbits (*Oryctolagus cuniculus*) is impacting on many seabirds on Rawaki through competition for burrows and shaded shelters with associated trampling of eggs and nestlings. Rabbits are also impacting on the vegetation with the loss or decline of the more palatable species; this in turn reduces nest site availability and burrow stability for seabirds, and impacts on the ecosystem as a whole.

The most urgent management actions required for the islands are to remove rabbits and Asian rats from Rawaki and McKean respectively. The removal of rabbits will secure a nucleus of recovering populations of the key threatened seabird species on Rawaki from which dispersal and recolonisation will occur to neighbouring islands in the Group when they become pest-free. Removal of rats from McKean will enable the recovery of existing populations on the island and more particularly allow birds

currently attempting to breed or recolonise (e.g. storm-petrels and 2-3 shearwater species) to survive and breed successfully.

A three-island package of eradications would be feasible during one winter expedition and this should comprise removing rabbits from Rawaki, Asian rats from McKean and Pacific rats from Birnie. The Birnie rat operation could potentially be treated as a trial and precursor to eradicating rats from the much larger Enderbury Island. With support from the Government of Kiribati (GoK), a detailed proposal has recently been prepared (including operational plans) to eradicate these invasive species and to establish biosecurity measures to prevent further invasions. This proposal was accepted by NZAID as an Overseas Development Aid (ODA) bid from the New Zealand Department of Conservation.

Two larger islands are also recommended to be considered for restoration via pest eradication – the 600 ha Enderbury and 500 ha Orona, both of which provide extensive areas of semi-pristine habitat suitable for seabirds, lizards, invertebrates and plants. Indeed these islands are the ecological gems of the Phoenix Group and are a very high priority for restoration, but they will also need significantly improved biosecurity measures implemented to prevent unauthorized landings and other threats.

The benefits of this project will include developing capacity to effectively manage these islands, and others like them, in the future including securing their long term ecological and economic viability by establishing a biosecurity system which should prevent the recurrence of similar threats. In addition to biodiversity conservation objectives this project will act as a flagship and point of focus for developing local capacity, which will raise awareness and generate further support for invasive species management and biodiversity conservation generally.

It is important to emphasise the supportive wider context for this project in the form of the development of the PIPA (management planning, resource valuation, education and awareness, trust fund development, etc) which is being facilitated by Conservation International (CI) and the New England Aquarium (NEAq) under a signed MOU with the GoK. The GoK has established a multi government agency Steering Committee as the key decision making body for the PIPA. The PIPA Steering Committee has endorsed action on these invasive species eradications as urgently-needed interim measures to be implemented as part of the management planning process, i.e. these measures cannot wait until the full PIPA Management Plan is completed, due to the serious threat that invasive species currently pose to the survival of key bird populations in the Phoenix Islands.

WHAT?

OBJECTIVES

The objectives are primarily to establish pest-free status for three islands, to allow for the recovery of terrestrial ecosystems and threatened species. This work is urgent because of the perilous state of the Phoenix petrel and some other seabird populations.

The overall objectives are:

1. Eradication of rabbits from Rawaki (Phoenix) Island
1. Eradication of Pacific rats from Birnie Island
2. Eradication of Asian rats from McKean Island
4. Improving and sustaining biosecurity in the Phoenix Islands Protected Area via increased local capacity - training, awareness and partnerships

OUTCOMES

The specific objectives and expected outcomes are:

1. Rawaki – eradicate rabbits

- Recovery of the sensitive Rawaki ecosystem (the only rat free Phoenix Island).
- Phoenix petrel secured and then recovers and re-colonises the other islands i.e. Birnie and McKean, once they are pest-free.
- White-throated storm petrel secured then recovers and colonises Birnie, McKean etc.
- Blue noddy secured, then recovers and colonises Birnie etc.
- Recovery of many of the other 15 seabird species present, e.g. the currently declining Christmas shearwater, Audubon's shearwater, all other terns, noddies, tropicbirds and frigatebirds.

2. McKean – eradicate Asian rats

- Recovery of McKean ecosystem and ecological processes.
- Recover populations of white-throated storm petrel, Audubon's shearwater, Christmas shearwater, wedge-tailed shearwater, Bulwer's petrel, blue noddy, grey-backed tern and other tern and noddy species and frigatebirds.
- Future re-colonisation of island by Phoenix petrel.

3. Birnie –eradicate Pacific rats

- Recovery of the Birnie ecosystem (the least modified of the Phoenix Islands).
- Re-colonisation island for many seabirds including Phoenix petrels, white-throated storm petrel, Audubon's shearwater, Christmas shearwater, wedge-tailed shearwater, Bulwer's petrel, blue noddy, grey-backed tern, other terns, noddies and frigatebirds.

4. Biosecurity measures implemented

- Biosecurity regimes are being effectively and consistently applied by relevant Kiribati agencies and supported by stakeholders and visitors to ensure pest-free status is maintained and therefore flourishing seabird populations and ecosystems.

5. To improve Kiribati and Pacific capacity to eradicate invasive species from islands and to maintain effective biosecurity programmes

- Kiribati conservation managers develop the skills, knowledge & procedures to undertake further eradications, to monitor biodiversity and to maintain biosecurity regimes. These skills will be transportable to future projects.
 - Conservation practitioners from other Pacific countries have new skills, knowledge & insights which they may apply in their own countries. This concept has already been working successfully in demonstration projects supported by the Pacific Invasives Initiative coordinated by the Invasive Species Specialist Group of IUCN and the Pacific Island Learning Network programme based in the Secretariat for the Pacific Regional Environment Programme.

6. New approaches developed

- New rat eradication approach (to be trialled on Birnie Island) will be available for later wider application in the Phoenix Group and elsewhere in the Pacific.

7. Lessons shared

- Reports on the eradication operations – including activities, results and lessons learned circulated through various networks.

8. To raise awareness of invasive species issues and generate support for their management

- Local community awareness and support for conservation and biosecurity enhanced.
- Enhanced support in Kiribati for maintaining biosecurity regimes and initiating further island restoration projects.
- Further support from international conservation & funding agencies for invasive species management – in Kiribati, and elsewhere.

SCOPE

The project includes:

- All actions necessary to complete the planned eradication attempts safely.
- Advice, support, training and demonstration of effective biosecurity measures and biota monitoring by the project team for the duration of the project.
- Effective communication and engagement with Kiribati Government officials and relevant conservation NGO's to build capacity and promote sustainable management of invasive species in Phoenix Islands.
- The identification and dissemination of lessons arising from this project through appropriate networks to the wider Pacific.

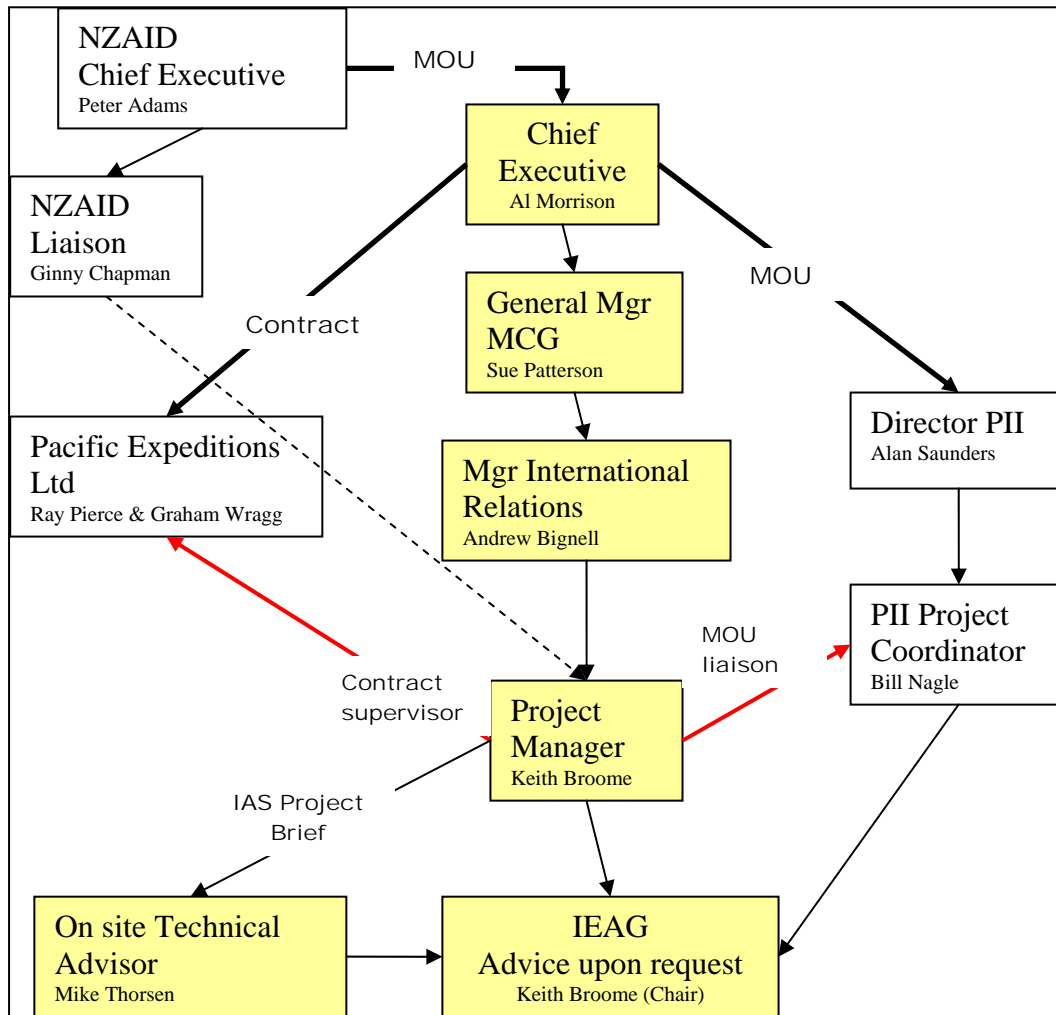
This project excludes:

- Eradication or pest management actions other than on McKean, Rawaki and Birnie, except when carried out specifically as part of trials or training prior to the eradication attempt on those islands.
- Support for participation in the project by anyone not directly involved as part of the eradication team or the training.

- Planning, equipment and actions necessary to ensure biosecurity in Kiribati is effective and sustainable.
- Further inventory of biological values on islands.

WHO?

PROJECT GOVERNANCE



The project is funded by NZAID and managed by NZ Department of Conservation. DOC will contract the delivery of the work to two organisations. Pacific Expeditions Ltd will undertake the on-ground delivery work in Kiribati and Pacific Invasives Initiative (PII) will oversee the quality assurance (planning, relationship management and operational reporting) as well as facilitate the wider involvement of Pacific people and conservation NGO's in the project's learning under a Memorandum of Understanding set up for this purpose. The PII will regard this project as one of their "demonstration projects".

Besides project management and reporting to NZAID and other stakeholders, DOC will be involved directly in an advisory capacity, providing technical expertise in pest eradication through the DOC Island Eradication Advisory Group (IEAG) and the provision of an on-site technical advisor to the eradication.

The relationship between NZAID and DOC is established under a specific Memorandum of Understanding for this project between Chief Executives. Funding will transfer by means of periodic reimbursement of monies spent. The subsequent contract between DOC and Pacific Expeditions Ltd and the MOU between DOC and

PII will be signed by the Chief Executive of DOC with contract supervision and MOU liaison delegated to the project manager.

Within DOC the Project Manager will – for the purposes of managing this project- be deemed to be seconded to the International Relations Section of the ‘Marketing and Communications Group’ (MCG) and answer to the manager of that section. For the purposes of providing technical advice on the eradication the IEAG will respond to requests for advice in line with the group’s terms of reference. These requests may come from the Pacific Expeditions, PII, the on-site (DOC) technical advisor, or the project manager. The involvement of the on-site technical advisor will follow a separate project brief in line with the standard operating procedure ‘Managing International Requests for Advice on Invasive Alien Species’.

ROLES AND RESPONSIBILITIES

DOC Project Manager –Keith Broome kbroome@doc.govt.nz
Responsible for project set-up, contract supervision, financial control and reporting to NZAID.

PII Project Coordinator - Bill Nagle w.nagle@auckland.ac.nz
Responsible for meeting PII contractual obligations to DOC.

Pacific Expeditions Ltd Project Coordinator - Dr Ray Pierce raypierce@xtra.co.nz
Responsible for meeting contractual obligations to DOC.

DOC Technical Advisor - Mike Thorsen mthorsen@doc.govt.nz
Responsible for providing technical advice and input into the project in line with a project brief derived for this purpose and as specified in the operational planning.

DOC Island Eradication Advisory Group Facilitator – Keith Broome
kbroome@doc.govt.nz Responsible for coordinating IEAG responses to requests for technical advice on the project in line with the group’s terms of reference.

STAKEHOLDERS & COMMUNICATION

Stakeholders are identified in the table below. Communication about the project will be structured around three groups:

- Group 1. Keith Broome, Ray Pierce, Bill Nagle, Mike Thorsen. The core team which will share all communication on every aspect of the project.
- Group 2. Tukabu Teroroko, Nenenteiti Teariki, Sue Taei, plus those in group 1. All significant communications where decisions are being taken or information shared will go to this group.
- Group 3. Ginny Chapman, Andrew Bignell, Greg Stone, Jill Key, Alan Tye, Craig Rickit, Burr Heneman, Steve Cranwell, IEAG members plus those in groups 1 and 2. This group will receive periodic updates on significant progress with the project and final reports.

| Organisation | Involvement | Name | Contact | Comment |
|---|---|--------------------|--|---|
| PIPA | Key player in capacity workshop prep. Facilitate consents | Tukabu Teroroko | tukabutravel@yahoo.com | Links to MELAD and PIPA steering committee |
| MELAD | Government of Kiribati Authority for Conservation | Nenenteiti Teariki | Teiti.ecd@melad.gov.ki | Training and participation in project |
| Wildlife Conservation Unit Kiritimati Is. | Part of MELAD responsible for Conservation work in Phoenix Is, based on CXI | Nenenteiti Teariki | Teiti.ecd@melad.gov.ki | Training and participation in project |
| Ministry of Line & Phoenix Islands | Regional Government for Phoenix based on CXI | Nenenteiti Teariki | Teiti.ecd@melad.gov.ki | |
| NZAID | Funding provider | Ginny Chapman | Ginny.Chapman@nzaid.govt.nz | |
| Conservation International | Partner in PIPA establishment Background involvement & ongoing interest in project. | Sue Tai | s.taei@conservation.org | Potential support for extending this work beyond this project |
| New England Aquarium | Partner in PIPA establishment. | Greg Stone | gstone@neaq.org | Marine focus. Potential to assist with visiting Phoenix is. |
| PILN | Potential to co-present workshop. disseminating lessons from project | Jill Key | JillK@sprep.org | |
| CEPF | Funded 2006 survey | James Atherton | jatherton@conservation.org | Potential support for extending this work beyond this project |
| SPREP | Strategic support eg provides the framework for biosecurity planning | AlanTye | alant@sprep.org | |
| Packard Foundation | Seabird Conservation NGO | Burr Heneman | burr@igc.org | Potential support for extending this work beyond this project |
| Birdlife International | Phoenix is an IBA for this NGO | Steve Cranwell | steve@birdlifepacific.org.fj | |
| NZ High Commissioner | NZ Govt official in Kiribati. Interested & supportive | Craig Rickit | nzhc@tskl.net.ki | Has been briefed on project. |

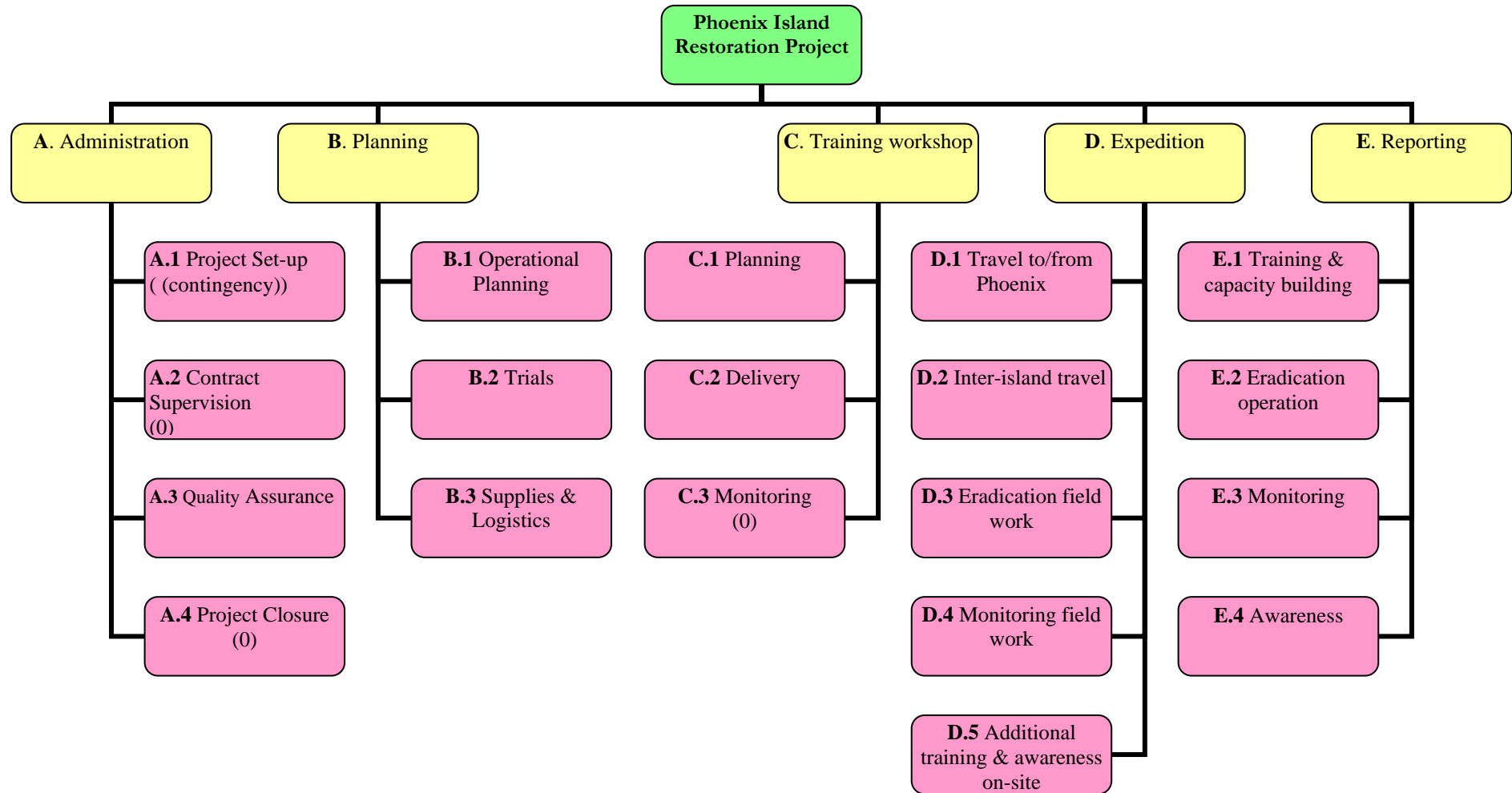
PIPA – Phoenix Islands Protected Area; MELAD – Ministry of Environment, Lands and Agriculture Development; PILN – Pacific Invasives Learning Network; CEPF – Critical Ecosystem Partnership Fund; SPREP - Secretariat of the Pacific Regional Environment Programme.

WHEN & HOW?

TASKS, MILESTONES AND TIMEFRAMES

| Task | Who | Deliverables | Target dates |
|-------------------------------------|-------------------------------|--|---------------------|
| Contracts signed | DOC | Contracts | January 2008 |
| Operational Plan complete | Pacific Expeditions Ltd / PII | Operational plan | February 2008 |
| Kirimati Training Workshop | Pacific Expeditions Ltd | Training lesson plan Brief report on training | April 2008 |
| Eradication Team Departs Apia | Pacific Expeditions Ltd | | May 2008 |
| Birnie Eradication actions complete | Pacific Expeditions Ltd | | May/June 2008 |
| McKean Eradication Actions complete | Pacific Expeditions Ltd | | May/June 2008 |
| Rawaki Eradication Actions complete | Pacific Expeditions Ltd | | June 2008 |
| Eradication team returns | Pacific Expeditions Ltd | Post operational report | August 2008 |
| Project debrief and closure | DOC | Final Report to stakeholders | October 2008 |

WORK BREAKDOWN STRUCTURE (WITH BROAD COST STRUCTURE)



COST

Budget Summary (\$NZ):

| | 2007/08 | 2008/09 |
|---|----------------|----------------|
| Salaries | | |
| Airfares | | |
| Per diems & accommodation | | |
| Bait, stations, equipment, freight, taxes | | |
| Training and trainer costs | | |
| Boat charter: (up to 60 days includes food) | | |
| Bait trials | | |
| Contingency due to delays – primarily boat hire | | |
| PII (quality assurance, peer review) | | |
| Total | | |

These figures coincide with the NZAID MOU

Further detail on budget and work breakdown is provided in appendix I.

CONSTRAINTS

1. The timing of the eradication attempt is important. The best window of opportunity when all factors such as the weather & sea conditions and the breeding and food availability for the pest species and non-target species is the period 21 May to 25 June. Therefore logistical planning must operate on this time constraint to deliver the eradication actions on the islands during this time.
2. Another major weather constraint is El Nino conditions which make it unsuitable to attempt eradication on Kiribati islands due to marked changes in habitat that occurs. If El Nino prevails in 2008 the project may have to be deferred until the weather pattern changes. Current predictions favour La Nina conditions which are ideal.
3. Isolation of the Phoenix group is an important factor to consider in all planning for work on these islands. The project team will have to assemble in Apia, Samoa to meet the ship and sail 1100km to Rawaki (4 days). For Kiribati participants this means overnight travel through Fiji, possibly 2 nights in Fiji depending on the airline timetable. Travel between the Phoenix islands is also an issue requiring careful planning to be efficient as the islands are between 100km and 370km (5 and 24 hours) sailing apart.

OTHER CONTRIBUTORS TO PROJECT:

There is potential for synergies with the Pacific Invasives Learning Network in the Kiritimati workshop through co-presenting of the background and strategic material prior to the more practical aspects being covered by Pacific Expeditions Ltd.

RISKS

| Risks | Mitigation Measures |
|---|---|
| Scope creep to other islands and other work in Kiribati | <ul style="list-style-type: none"> Clearly defined scope of work in contracts & good contract supervision |
| Weather delays – very wet conditions will destroy rodent bait. Rough sea conditions will not allow safe landing on the islands | <ul style="list-style-type: none"> Timely logistical planning to allow the best to be made of the suitable weather that is available. Contingency funding is available to allow for some delay in the shipping timetable. |
| Safety | <ul style="list-style-type: none"> A comprehensive Health & Safety Plan covering all aspects of the project will form part of the eradication contract. |
| Consents – The importation and laying of vertebrate poisons in the PIPA will require consents from Government of Kiribati | <ul style="list-style-type: none"> GoK officials currently understand and support the aims of the project. |
| Timing and scheduling – getting the logistics right to allow an efficient operation which takes advantage of the best time of year for the eradication to be successful | <ul style="list-style-type: none"> The operational planning will be peer reviewed to ensure the logistics are well planned. Good project management to minimize administrative delays |
| Training the right people – the capacity building must be directed to those who have the motivation, opportunity and ability to use the skills and knowledge they gain from this project. | <ul style="list-style-type: none"> Good stakeholder communication and clarity about who should be involved. Collaboration with other Conservation NGO's working in Kiribati to identify opportunities for further involvement and support of those trained. |

HOW THE SUCCESS OF THE PROJECT WILL BE MONITORED

The results of the eradications will not be certain until about 2 years after the project ends. However Kiribati staff will be trained in the methods required to detect rodents and rabbits and this detection work will be undertaken while on the islands to give some early indication of the results. A complete diary record of the eradication actions will be maintained and provided with the post operational report, including photographic images of the work on the islands.

Outcome monitoring of seabirds and other biological changes on the island will be set up during the project, building on the information gained during the 2006 survey and establishing the databases and capacity for re-measurement with Kiribati staff. However subsequent voyages to undertake these re-measurements is outside the scope of this project.

Existing capacity will be measured and described at the beginning of the project and this will be repeated at the end to provide a measure of the uptake of skills and information provided during the project.

Media interest will be monitored. All safety related incidents will be recorded and reported. Expenditure will be monitored using DOC financial systems and practices.

REPORTING

Project reporting will meet the terms of the NZAID/DOC Memorandum of Understanding.

| Report | From | To | When |
|--|-----------------|------------------|---------------------------------------|
| Progress report on major project actions - email | Project Manager | All Stakeholders | As they occur |
| Annual report to NZAID | Project Manager | NZAID | By 31 st October each year |
| | | | |

PROJECT CLOSURE

The project ends when:

- The Final report is supplied to NZAID and the final reimbursement payments made.

Appendix I Detail on work breakdown and budget.

Refer to work breakdown structure diagram on page14 for key to numbering.

A Administration

Tasks relating to the administration of the project.

Total cost \$

A.1. Project set-up – (Project Manager)

Actions include:

- Tendering
- Establishing project in DOC system
- Writing project plan
- Initial communication with stakeholders

Deliverables include:

- Project plan

Budget: \$ – the contingency \$ for the project, primarily this money is to allow for extra shipping costs if unforeseen delays extend the expedition.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Contingency | | | |

A.2 Contract Supervision (Project Manager)

Actions include:

- Communication with project team.
- Liaison with NZAID
- Contract payments
- Progress reporting to stakeholders

Deliverables include:

- Contracts

Budget: \$ –.

A.3 Quality Assurance (Pacific Invasives Initiative)

Actions include:

- Quality assurance on all of the planning including the endorsement of finalised operational plan by technical experts, verification of logistical planning and expenditure.
- Oversight of relationship management with stakeholders in Kiribati, including regular contact and seeking feedback from key Government of Kiribati staff involved in the project and early warning to the contract supervisor of relationship issues arising.
- Support & Advice on training and capability building

- Collaboration to ensure the right people participate in the training workshop and their expectations of the training are managed to maximize the skill and information transfer.

Deliverables include:

- Peer review comments on operational plan, needs analysis, lesson plans

Budget: \$ –.

| Budget detail | | | |
|------------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| PII payment as per MOU | | | |

A.4 Project Closure (Project Manager)

Actions include:

- Debrief with project team.
- Final report to NZAID
- Seminar to NZAID

Deliverables include:

- Final project report

Budget: \$ –.

B. Planning

Tasks relating to the operational and logistical planning.

Total Cost \$

B.1 Operational Planning (Pacific Expeditions Ltd)

Actions include:

- Revision of the draft operational plan covering all the aspects of design and logistics for successfully eradicating each of the invasive species from each island.

Deliverables include:

- Operational plan

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| PIPA permits | | | |
| Salaries | | | |

B.2 Trials (DOC)

Actions include:

- Undertaking baiting trials for rabbits in NZ to finalise the Rawaki eradication plan
- Writing up a concise report on results and recommendations

Deliverables include:

- Trial report

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Trial | | | |

B.3 Supplies & Logistics (Pacific Expeditions Ltd)

Actions include:

- Sourcing all required field equipment and supplies and getting them on board the ship in Apia.
- Getting all the expedition participants on board ship in Apia by the planned departure date.

Deliverables include:

- Progress report on arrangements

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Bait & Transport | | | |
| Supplies & Equipment | | | |
| Airfares to Apia | | | |

C. Training Workshop

Tasks relating to the planning and delivery of a training workshop for Kiribati people involved in the project, to be held on Kiritimati Island.

Total Cost \$

C.1 Workshop Planning (Pacific Expeditions Ltd / Pacific Invasives Initiative)

Actions include:

- Developing detailed lesson plans for each aspect of the training.
- Assembling resources for workshop
- Ensuring the right participants are selected to attend and managing their expectations of what they will learn and how it will run.

Deliverables include:

- Lesson plans for workshop

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Salaries | | | |

C.2 Workshop Delivery (Pacific Expeditions Ltd)

Actions include:

- Carrying out the workshop according to the lesson plan.
- Collecting post workshop feedback from participants on the good and bad aspects of the workshop. (Pacific Invasives Initiative).

Deliverables include:

- Feedback from participants on workshop

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Workshop costs | | | |
| Airfares CXI | | | |

C.3 Workshop Monitoring (Pacific Invasives Initiative)

Actions include:

- Design of a repeatable monitoring system which can be used to establish the change in capacity and awareness by Kiribati Government staff involved in the project of
 - invasive species management on islands and
 - biosecurity issues

Deliverables include:

- Monitoring results

Budget: \$ –.

D. Expedition

Tasks relating to the voyage to Phoenix Islands to undertake the eradication field work.

Total Cost \$

D.1 Travel to/from Phoenix islands (Pacific Expeditions Ltd)

Actions include:

- Bobbing about on a small boat in a big ocean.
- Recording a ship's log of position, observations (including transects for seabirds, marine mammals) and events e.g. other vessels encountered

Deliverables include:

- Safe delivery of personnel and equipment to the Phoenix islands.
- Diary of events
- Data on biota

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Shipping | | | |
| Travel expenses | | | |
| Airfares ex Apia | | | |

D.2 Inter-island travel (Pacific Expeditions Ltd)

Actions include:

- Getting plans and equipment ready for the next landing
- Recording a ship's log of position, observations (including transects for seabirds, marine mammals) and events e.g. other vessels encountered

Deliverables include:

- Diary of events
- Data on biota

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Shipping | | | |

D.3 Eradication field work (Pacific Expeditions Ltd)

Actions include:

- Undertaking the eradication actions detailed in the final operational plan for each of the islands.
- Recording a daily log of actions, who was involved and any variances from the operational plan.

Deliverables include:

- Diary of events

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Salaries | | | |
| Field Supplies | | | |

D.4 Monitoring field work (Pacific Expeditions Ltd)

Actions include:

- Data collection and on-site training, revision and reinforcement of all aspects of monitoring.
- Secure data archiving and hoandover to Kiribati Wildlife staff.

Deliverables include:

- Monitoring datasets

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Salaries | | | |

D.5 Additional training & awareness on-site (Pacific Expeditions Ltd)

Actions include:

- Additonal reinforcement of any aspect of the project as required.
- Additional consultation or discussion with Kanton residents

Deliverables include:

- Diary

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Salaries | | | |

E. Reporting

Tasks relating to post operational reporting on the project objectives, outputs and outcomes.

Total Cost \$

E.1 Training and Capacity Building (Pacific Invasives Initiative)

Actions include:

- A report which draws together the full extent of what has been achieved with whom through this project in raising local, national and Pacific wide awareness and capability in invasive species management and biosecurity. This report will include results from the monitoring, feedback from Kiribati Government staff and from conservation NGO's with an interest in the project. It will also specify the outputs from the project relevant to biosecurity, capacity building and awareness.

Deliverables include:

- Report

Budget: \$.

E.2 Eradication Operation (Pacific Expeditions Ltd)

Actions include:

- Providing a full description of the operational field work undertaken including any variance to the final operational plan and preliminary results.

Deliverables include:

- Report

Budget: –.

E.3 Monitoring (Pacific Expeditions Ltd)

Actions include:

- Providing a full description of the monitoring undertaken and how the data can be accessed.
- Providing recommendations on re-measurements and future work

Deliverables include:

- Report

Budget: \$ –.

| Budget detail | | | |
|----------------------|--------------|--------------|--------------|
| | 07/08 | 08/09 | Total |
| Salaries | | | |

E.4 Awareness (Pacific Invasives Initiative)

Actions include:

- Drawing together the full extent of what has been achieved with whom in raising local and national awareness of invasive species issues and management.

Deliverables include:

- Report

Budget: \$ –.