

Paparoa Wildlife Trust Strategic Plan - Kiwi
May 08

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Introduction

The objective of this strategic plan is to summarise the broad direction, and describe specific targets and trigger points in the management of great spotted kiwi / roroa by the Paparoa Wildlife Trust (PWT) in the South Paparoa Range. This plan covers the period from 2008 – 1011. It will be reviewed at the end of each season by a combination of technical kiwi experts, Iwi, PWT staff and Doc. Changes will be made accordingly following review of progress and results.

This document does not cover the management of blue duck / whio or the trapping program that the PWT is running in conjunction with the kiwi program.

Paparoa Wildlife Trust

The Paparoa Wildlife Trust (PWT) is a newly established organisation powering ahead in its bid to establish a comprehensive and effective recovery programme for roroa. Its area of focus is from Moonlight Valley in the North to Mount Davy in the South, with the bulk of the project area lying within Roaring Meg Ecological Area (RMEA).

Great spotted kiwi / roroa, Status and Species Overview

The PWT has set itself the exciting and challenging task of contributing to the recovery of roroa - the most elusive and unknown of all kiwi taxon. This project has been in the pipeline for some time and is the product of much thought and discussion resulting in a consensus as to which management technique is likely to be most effective.

Roroa has a Category 5 (in gradual decline) conservation ranking, designating it a chronically threatened species (*Hitchmough 2002*). Qualifiers relating to the ranking are HI (human induced) and RF (recruitment failure). The recent draft *roroa Taxon Plan (J van Hal, 2007)* estimates the total population to be somewhere between 17000 and 22000 across its range, Kahurangi, Paparoa ranges and central Southern Alps. This number is a lot more optimistic than the 1996 estimate of 22000 with a predicted decline of 50 % over 10 years (*Kiwi Recovery Plan, 1996-2006; H.A Robertson*). However encouraging this new estimate appears to be, it may bear no reference for the Paparoa Range population as there has never been any long term survey, research or population studies conducted in this area – until now.

Roroa in the Paparoa Range

Roroa from the Paparoa Range's are amongst the least studied and the least known of all of the kiwi populations within New Zealand. Because of this there are no scientific facts to determine accurately the population size, rate of decline and level of threat the species is under.

However it is a well documented fact that kiwi in unmanaged areas on mainland New Zealand are declining, in some areas at a remarkable rate. This is primarily due to predation of juveniles by stoats. Recruitment within the Paparoa Range population is likely to be at best adversely affected through stoat predation, or possibly absent, consistent with other unmanaged areas. Left unaddressed, ongoing predation will lead to local extinction of the species. Recent predator trapping in the Moonlight and Blackball valleys has confirmed high levels of both stoats and weasels.

In less than two years more than 180 mustelids and 430 rats have been removed from 23 kilometres of trap line in two valleys. (*See latest trap report, February 08 in appendix 2*).

Despite this, and the lack of biodiversity enhancement funding going towards the protection of indigenous flora and fauna in the south Paparoa Range, the area still supports good numbers of key species such as great spotted kiwi / roroa, blue duck / whio, kaka, kakariki, powellephanta and probably bats. However left unaddressed introduced mammalian pests such as possums, deer, goats, stoats and rats could be building up to unmanageable levels.

Pest Control in the Paparoa Range's

At present the Department of Conservations predator control efforts in the Paparoa Range's are restricted to goat control within the Paparoa National Park. The Animal Health Board (AHB) is attempting to control possums (*and the spread of bovine Tb in dairy herds*) by undertaking poison operations in forest adjacent to farm boundaries and Pike River Coal Company has recently (Dec 2007) established a predator control program within the Big River / Pike River catchments as one of their conditions of the company's mining permit. These pest control programs as well as the small community trapping initiative led by the Paparoa Wildlife Trust are unlikely to be hugely beneficial to kiwi or other native birds on their own.

There is a real need for communities and organisations to work together and combine resources in order to control introduced pests at a level that will enable recruitment of young kiwi and other bird species.

Kiwi Recovery

The long term recovery goal for all species of kiwi is to "maintain and where possible enhance the current abundance, distribution and genetic diversity of kiwi". The preferred option for recovery is "to manage kiwi in their natural

range by reducing their exposure to predators". (*Draft Kiwi Recovery Plan 2006-16*)

However on the West Coast over a five year period, the Department of Conservation (DOC) was unable to solve the problem of being able to control stoats in less than 30000 ha of the two existing kiwi zones at Haast and Okarito through predator trapping alone. Recruitment of kiwi chicks did occur in some years, when pest numbers were low but overall did not occur in levels high enough to provide population recovery. These two areas have now switched their efforts towards Operation Nest Egg (ONE) as an interim management tool to boost their kiwi populations.

That intensive predator trapping in the two South Island kiwi zones was not enough to provide population recovery, does not bode well for the Department's (or a community group's) ability to control predators over larger areas, or to manage species at less risk, as is the case with roroa.

The scale and intensity of predator trapping needed if roroa are to survive in the Paparoa Range's via this method is currently prohibitively expensive. Recognising this problem the Paparoa Wildlife Trust has taken up the challenge and by necessity, chosen to direct its resources at the most likely management technique that will provide recovery – Operation Nest Egg.

Operation Nest Egg

Operation Nest Egg is recognised as a valuable tool for restoring critically endangered kiwi populations, establishing new populations, restoring depleted populations and for maintaining kiwi recruitment in years where conventional predator control fails (*Development of ONE as a Tool for Kiwi Conservation Management, R Colbourne et al*).

ONE has been widely proven to benefit recovery of North Island brown kiwi, Okarito rowi and more recently Haast tokoeka, but has not yet been trialled on roroa. As such, there is a need for close order monitoring and egg harvesting techniques to be developed for this species with experimentation to develop best practice captive hatching, rearing and release techniques.

Work to Date (May 2008)

Survey

An initial survey was conducted between January and March 2007 in the South Paparoa Range around the Croesus basin and Mount Watson near Blackball. This initial survey was funded by the Bank of New Zealand Save the Kiwi Trust (BNZSKT)

The purpose of the survey was to;

- Establish core sites where baseline data could be determined and changes measured over time.
- Estimate population density and distribution as at 2007.
- Identify pairs that could be targeted for capture

Although this survey was by no means comprehensive, (a total of 15 sites were surveyed each having a listening coverage of between 50 – 100 hectares) the initial results appeared promising for roroa in the area, especially at higher altitudes. On calm nights at exceptional sites, call rates exceeded 10 calls/ hour, however the average rate was more like 5 calls/hour. A total of 26 individual pairs were identified, ten of these which were targeted for capture during autumn 07.

World Wildlife Fund for nature (WWF) is currently funding the continuation of this survey work over the 07/08 season. This work is now nearing completion and a report will hopefully be out by June 08. Data collected this year will provide additional information about kiwi numbers within the Paparoa's on land administered by the Department of Conservation. On top of this, survey work is being undertaken in areas where coal mining and development is occurring although this is being funded separately by Roa Mining Company.

Catching kiwi

Kiwi catching took place during May and June 2007. The PWT contracted two highly specialised teams; Lance Dew and latterly James Fraser accompanied by their kiwi dogs to undertake this work. Twelve individual roroa were caught comprising eight of the targeted ten pairs. (Ten pairs was the target for the first year but 20 pairs was the minimum target for the end of year 2). Egg Timer Transmitters were fitted to 10 birds; six male and four female, while standard transmitters were fitted on two of the females. One of these transmitters has subsequently failed so this bird will be re targeted for capture during 08.

In January 08 an additional 10 adult birds were captured during day time searching and in March 08 five new birds were caught during night time searching. Four additional birds have so far been picked up during routine transmitter changes.

The total number of birds captured between May 07 and April 08 has been 32, although so far three birds have been dropped from the sample, one as a result of transmitter failure, one due to a dropped transmitter and one kiwi died an accidental death.

So we are now up to 29 individuals, representing 17 known pairs under active management in the Paparoa's'. An additional catching trip is planned in June 08 in a last ditch effort to catch a few more pairs in close proximity to Blackball.

Breeding and Nest Monitoring

Monitoring prior to Christmas 07 was inconclusive to say the least. From the eight pairs monitored only five (three female and two male) showed any signs of nesting behaviour based on data obtained from egg timer transmitters. Each of the apparent incubations showed fairly erratic behaviour with regards to activity and only two of the females incubated longer than 30 days. None of these went full term and in one case the female was doing all of the incubation effort while her mate maintained normal activity.

In January 08 these same two females went back into incubation and after confirming that the incubation was genuine two eggs were retrieved from the forest and taken to Christchurch to be incubated by the dedicated staff at Willowbank Wildlife Reserve. An additional two eggs were discovered whilst catching new males in late January 08 and these were also taken to Willowbank. (These two eggs were subsequently found to be not viable)

It is a bit early to make any kind of assumptions from monitoring data obtained from eight pairs over the last eight months, however a few interesting things have been observed using the egg timer transmitters.

- There is a suggestion that it is possible to have more than one egg laying / breeding attempt in a single year per pair, if an earlier attempt fails for some reason. *(This is contrary to what McLennan and McCann discovered during their study of roroa in the early 90's)*
- The onset of breeding is possibly later than previously reported for roroa.
- Females may play a greater role in incubation than males and certainly more than other kiwi species
- Egg timer transmitters are incredibly useful when monitoring activity in roroa but cannot be depended on entirely for picking up the incubating state.

Chicks

Of the four eggs taken to Willowbank during January and February 08 only two turned out to be viable, interestingly, it was the birds monitored throughout the 07/08 season that had the fertile eggs that subsequently hatched during late March.

The two chicks that resulted from these two eggs have since been taken to Adele Island (temporary kiwi crèche) in the Abel Tasman National Park where it is hoped they thrive in a pest free environment. The chicks will be returned to the Paparoa's once they have attained a 'stoat proof' weight of 1200g.

More information about 07/08 breeding season will be found in annual report due 30 May 08.

Long Term Objective

The long term objective for kiwi recovery is to achieve a population level that will enable the maintenance of each kiwi taxon in a self sufficient population. The current national kiwi recovery goal states that all genetically distinct South Island populations will have at least 500 pairs managed under a regime where they can breed at a frequency that will maintain their number in perpetuity (2006-2016 draft Kiwi Recovery Plan).

The goal for kiwi zones is to achieve a minimum of 20% chick survival, which maintains the population and halts further decline. However without knowing all parameters of the roroa population within the south Paparoa Range, the number of chicks needed to be produced each year in order to sustain the population cannot be ascertained.

The exact number of adult birds monitored each year will depend to some degree on funding but a sample size of twenty pairs is thought to be a realistic target to begin with.

There is so little known about roroa with regards to its breeding phase that estimates on chick productivity based on sample size can not yet be determined. However it would be desirable to get to the point where 10 juvenile kiwi are released into the Paparoa Range every year. When dealing with roroa it seems there is more to learn than what is currently known but one thing we do know is that kiwi are long lived and slow growing birds and therefore attaining a weight of 1200g is only the first (but toughest) hurdle they face. Making it to adulthood at approximately four years of age is the factor that determines whether population stability can be achieved.

Chick survival and recruitment to 1200g is highly unlikely to be occurring in the Paparoa Range where:

- Beech masts give rise to stoat and rodent plagues
- The area is not protected by a sea or ocean boundary
- There is no substantial predator/pest control
- Areas have been extensively modified by past and present mining operations and farming activities
- There is very little advocacy and awareness being carried out in the surrounding communities relating to kiwi conservation.

The PWT is hoping to contribute long term to the maintenance of 500 kiwi pairs in the Paparoa Range. In undertaking this project it is hoped to provide motivation for an increased level of community support for kiwi survival.

The project is intended to be a long term undertaking by the Paparoa Wildlife Trust which will operate in partnership with DOC, Ngati Waewae and other stakeholder groups. This project will depend on a committed and dedicated team and ongoing funding that enables continuation of the project without constraints.

1. **Mission, Vision, Goals, Objectives and Strategies**

Desired Community and Environmental Outcomes

Mission

To be recognised as a professional conservation organisation fostering community involvement and ecological enhancement.

Vision

Secure and maintain healthy populations of roroa in the South Paparoa Range's so they are not threatened with extinction, by bringing communities and stakeholders together to collectively drive recovery efforts.

Goals

- 1 **Planning:** To have a collectively owned vision and planned future.
- 2 **Activities:** To increase roroa numbers in the South Paparoa Range's.
- 3 **Communications:** To promote the Paparoa Wildlife Trust and the work it is doing through comprehensive communication and relationship strategies.
- 4 **Finance/Funding:** To be financially secure and demonstrate sound financial practices and generate ongoing funding to support species recovery programmes.
- 5 **People:** To build internal (PWT) and regional ownership and a broad based capability within the region.

Objectives

1. **Planning:**
 - To develop three year Strategic Plan and Funding Plan by mid 2008.
 - Complete Translocation plans for great spotted kiwi / roroa.
 - To develop a community relations and sponsorship plan by July 08
2. **Activities:**
 - To determine the current abundance and distribution of roroa throughout the study area of the south Paparoa Range (including land administered by other stakeholder groups) by undertaking

comprehensive kiwi surveys throughout the area over the next few years.

- Monitor the breeding and survival of 20 pairs of roroa within the Study area.
- Determine whether Egg Timer Transmitters can accurately detect breeding and point of hatch in roroa.
- Determine and then refine Operation Nest Egg as a viable management technique for roroa.
- Remove eggs and/or chicks temporarily to predator safe facility / Crèche Island.
- To release ONE juveniles back into south Paparoa Range and to monitor their dispersal and survival post release.

3. Communications:

- To raise awareness and engage the community in conservation efforts.

4. Finance/Funding:

- To maintain robust financial processes including an independent audit.
- To secure sufficient funding every year to enable practical management of roroa on conservation land.

5. People:

- To develop a group of trustees with high levels of ownership and effectiveness.
- To recruit at least one additional paid staff member to assist with field work, advocacy and project management prior to July 2008.
- To up skill volunteer fieldworkers in 2008/09 to assist with meeting future operational demands.
- To gain formal commitment of independent kiwi expert to be the official adviser to the project by July 2008.
- To develop a succession plan for key people by June 2008.

6. Facilities:

- To maximise the use of Willowbank Wildlife Reserve for kiwi incubation services.
- To secure access to Adele Island as a kiwi crèche by September 2007.
- To identify and explore the development of a 10-20 hectare crèche site in the Grey / Buller District that could be used for roroa chicks at some point in the near future.

Strategies

1. Planning:

- Develop translocation plan for Paparoa kiwi by September 2007
- Engage trustees in development of the Strategic Plan.

2. Activities:

- Determine current roroa population within study area.
- Monitor 20 pairs of adult kiwi
- Establish Bivouac on Paparoa range to assist monitoring work.
- Carry out Bank of New Zealand Operation Nest Egg on monitored kiwi population.
- Monitor survivability of a minimum of 20 juvenile roroa releases to determine recruitment rates for sustainability and to ensure individuals produced through ONE have the ability to contribute to the population long term.

3. Marketing/Communication:

- Hold public meeting(s) to raise awareness of the plight of roroa. Invite attendees to become involved in a community effort and gather contact details.
- Follow up personally with those interested.
- Clarify future branding linkage with key stakeholders.
- Finalise Memorandum of Understanding (MOU) with DOC.
- Develop resource and manage a comprehensive communication and relationship strategy for each key audience.
- Develop key relationships with DOC, neighbouring stakeholders World Wildlife Fund (WWF), Ngati Wae Wae and Ngai Tahu.

4. Finance:

- Implement management of accounts from 01 July 2007 with software compatible with accountant.
- Appoint an auditor by end of June 2007.
- Refer to Funding Plan.

5. People:

- Prior to AGM in September 2008, review commitment and suitability of trustees and seek potential trustees from public meetings and on advice of stakeholders.
- Volunteer fieldworkers to accompany skilled worker(s) as often as possible.
- Determine volunteer and paid staff requirements to meet objectives.

6. Facilities:

- Develop translocation proposal for Adele Island by September 07.

2 Priorities and Actions

Action Plan – Great spotted kiwi / roroa			
Long term goals –			
<ul style="list-style-type: none"> To release 10 juvenile roroa to the Paparoa Ranges annually. To increase roroa numbers on the West Coast and re-establish self-sustaining blue duck populations in rivers of the southern Paparoa Range. 			
Short Term Goals	2007	2008	2009
Planning	Develop Strategic Plan and Business Plan. Obtain wildlife permits Finalise translocation agreement for kiwi and blue duck	Determine how to address resourcing of growth options Develop three year Operational Plan and Funding Plan. Renew Wildlife Permit	
Activities	<ul style="list-style-type: none"> Survey Population Undertake comprehensive kiwi survey work throughout the Study Area in order to determine abundance, range and distribution.	Continue survey work within Study Area, including land administered by other stakeholder (mining) groups	

<ul style="list-style-type: none"> • Catch and Monitor adult kiwi • Egg Timer Transmitters • Operation Nest Egg / Operation Chick Rescue • Juvenile survival 	<p>Affix transmitters to ten pairs prior to breeding season.</p> <p>Monitoring to commence immediately</p> <p>Determine whether Egg Timer Transmitters can accurately detect breeding and point of hatch in great spotted kiwi / roroa</p> <p>Remove eggs and/or chicks temporarily to predator safe facility.</p>	<p>Additional ten pairs captured during summer months, monitor and report on findings</p> <p>Utilize Egg Timer Transmitters if appropriate</p> <p>Remove eggs and/or chicks temporarily to predator safe facility.</p> <p>Implement ONE management techniques and monitor effect on adults.</p>	<p>Assess whether monitored population is giving sufficient information and if not discuss options.</p> <p>Utilize / refine Egg Timer Transmitters if appropriate</p> <p>Determine whether ONE/ONC is a viable management option for great spotted kiwi / roroa.</p> <p>Release any juveniles and monitor their dispersal and survival post release.</p>
<p>Marketing / Communication</p>	<p>Finalise MOU with DOC</p> <p>Newspaper articles as milestones are reached</p>	<p>Develop and implement a communication strategy</p> <p>Public meeting to raise awareness and engage the wider community.</p>	<p>Refine Communication strategy.</p>

		Develop 'adopt a kiwi' campaign	
Finance	To secure \$85 K of funding to cover management and operational expenses.	To maintain robust financial processes that will be independently audited.	Establish sustainable funding sources to ensure continuation of projects long term
People	Develop a group of trustees with high levels of ownership and effectiveness. Formal recognition of volunteer effort	Development of management committee To up skill volunteer fieldworkers in 2007/08 to assist with meeting future operational demands.	Develop succession plan for key people by June 2009.
Facilities	Secure access to Adele Island as a kiwi crèche.	To maximise the use of Willowbank Wildlife Reserve for kiwi incubation services.	To identify a 20 hectare crèche site in the Buller / Westland District for great spotted kiwi / roroa chicks?

3 Resources Required for Realisation of Planned Work - kiwi

Resources Required			
Resource Type	2007-2008	2008-2009	2009-2010
Staff:			
<ul style="list-style-type: none"> • Full-time 	1 Position <ul style="list-style-type: none"> • 50% Fieldwork • 50% Office work 	2 Positions <ul style="list-style-type: none"> • 1 x 100% Field work • 1 x 50% Office work + 50% Field work 	3 Positions <ul style="list-style-type: none"> • 2 x 100% Field work • 1 x 100% Office work
<ul style="list-style-type: none"> • Part-time 	2 Summer Staff for kiwi survey (Dec – March)	2 Summer Staff for kiwi survey (Dec – March)	2 x summer staff to assist with extra fieldwork i.e. kiwi chicks on island juveniles in forest
<ul style="list-style-type: none"> • Contractor 	Kiwi catcher	Kiwi catcher	Kiwi catcher
<ul style="list-style-type: none"> • Volunteer 	Wild West Adventures, interested parties and from local community for: <ul style="list-style-type: none"> • Fundraising • Maintaining trap lines • Track clearing and marking • Blue duck surveys 	Wild West Adventures, interested parties and from local community for: <ul style="list-style-type: none"> • Fundraising • Maintaining trap lines • Track clearing and marking • Blue duck surveys 	Wild West Adventures, interested parties and from local community for: <ul style="list-style-type: none"> • Fundraising • Maintaining trap lines • Track clearing and marking • Blue duck surveys
<ul style="list-style-type: none"> • Other support 	Ngati Wae Wae	Ngati Wae Wae	Ngati Wae Wae

	DOC Greymouth Area DOC West Coast Conservancy Office Willowbank, Peacock Springs	DOC Greymouth Area DOC West Coast Conservancy Office Willowbank, Peacock Springs	DOC Greymouth Area DOC West Coast Conservancy Office Willowbank, Peacock Springs
Infrastructure/Tools	Office facilities Field equipment Vehicle	Office facilities Field equipment Vehicle	Office facilities Field equipment Vehicle
Financial	Wages for full-time, part-time and contract staff Operational funds: <ul style="list-style-type: none"> • Field equipment costs • Vehicle running costs 	Wages for full-time, part-time and contract staff Operational funds: <ul style="list-style-type: none"> • Field equipment costs • Vehicle running costs 	Wages for full-time, part-time and contract staff Operational funds: <ul style="list-style-type: none"> • Field equipment costs • Vehicle running costs

4 Resource Provision

How will necessary resources be funded?

Resources will be provided through financing from successful funding bids.

Potential funding sources are; Roa Mining Company, Solid Energy New Zealand, Bank of New Zealand Save the Kiwi Trust, World Wildlife Fund, gaming organisations.

5 Roles and responsibilities

Who will take which roles and responsibilities?

Continued existence of great spotted kiwi / roroa and blue duck / whio in the southern Paparoa Range necessitates embracement of the Paparoa Wildlife Trust's recovery project by enthusiastic and dedicated participants.

Success of the project in a community education and environmental enhancement context depends on the level of commitment of the Paparoa Wildlife Trust, paid staff, volunteers and support from the local community and other interested parties.

The relative lack of information on great spotted kiwi / roroa imparts the project with a valuable scientific component that will ensure improved management of the species both locally and throughout its range. For this reason, it is important to temper enthusiasm with professionalism, ensuring beneficial aspects of the process triumph and that the project fully merits the term "recovery".

Ownership, educational benefits and enjoyment of the project are perhaps the key elements of involvement for the local community – Participation by young and old alike will ensure that the project flourishes and remains true to its mission statement. Information sharing and promoting inclusiveness are intrinsic to achieving this and enabling continuity.

Success of most ventures is dependent on contributors working to role and accepting and fulfilling responsibilities. "Who does what?", or who is supposed to do what, needs to be addressed in all projects to maximise efficiency. So, being no different to any other project, we ask ourselves, "Who does what?"

Roles and Responsibilities	
Who.....does what?
Trustees	<ul style="list-style-type: none"> • Promote and advocate project • Fundraising
Full – Time Staff	<ul style="list-style-type: none"> • Leads project • Planning • Permitting • Translocation process • Wildlife management • Reporting • Survey work
Part – Time Staff	<ul style="list-style-type: none"> • Survey work
Department of Conservation	<ul style="list-style-type: none"> • Support the Trust • Support Project Leader • Advise • Audit
Ngati Waewae	<ul style="list-style-type: none"> • Support the Trust • Advise on cultural issues
Contractors	<ul style="list-style-type: none"> • Specialist tasks
Volunteers	<ul style="list-style-type: none"> • Maintain predator control • Assist with field work • Link with the community

6 Coordination, Communication and Decision-Making

How coordination, communication and decision-making take place

Monthly Trust meetings address, inform and direct individual members with regard to necessary actions and progress. Decisions are made within the Trust and in conjunction with DOC contacts, recovery groups and best practice policy.

Community, Ngati Wae Wae, Funders and other interested parties will be updated via regular newsletters and informal discussion

