

# Revive Rotoiti

## **100 pairs of tramping boots and 107,000 eggs later!**

Some of the Rotoiti Nature Recovery Project team - from left - Tamsin Bruce, Anne Brow, Craig Brown and Sarah Forder.

*Photo: Paul Dullieu, DOC*

*The Rotoiti Nature Recovery Project is one of DOC's six 'mainland island' ecological restoration projects where science research and learning is the main focus.*

*The Rotoiti Nature Recovery Project covers 5000 hectares of boneydew beech forest on the shores of Lake Rotoiti in the Nelson Lakes National Park.*

*The project's goals are to:*

- *restore native biodiversity at Rotoiti.*
- *increase our knowledge of how to restore biodiversity nationally.*
- *increase public support for ecological restoration.*

*The project is assisted by Friends of Rotoiti volunteers who carry out pest control adjoining the project area.*

The Rotoiti Nature Recovery Project (RNRP) team celebrated their 500th stoat trap check on the week of the 4 - 8 February 2008. The project has been running its stoat control for ten years so this was a pretty momentous occasion. Over the 10 year period of the project, this equates to trappers walking 22,500kms - 14 times the length of New Zealand or 5,911 times up Mt Cook from sea level!

The sheer steepness of the terrain in which the stoat trapping lines extend has made this a challenging trap programme to run with many of the lines in alpine environments. Traps, either DOC200s and 250s or Fenns, are placed every 100 metres along the trapping lines and they have to be checked every fortnight and monthly in winter.



The programme has worn out approximately 100 pairs of tramping boots and involved 40 seasonal staff and countless volunteers. Staff and volunteers have taken out 1929 stoats from the project's stoat trapping grid, not to mention weasels and ferrets! Local chickens have been kept busy supplying the 107,000 eggs needed in the last 10 years to rebait the 990 traps.

Stoat control was initiated in the project to protect the declining kaka population. Stoats are the main predator of kaka. They are good climbers and can easily climb into nests, catching and killing the female and eating any eggs and chicks present. It was hoped through using the kaka as a monitoring species it could be discovered whether trapping for stoats using a specified grid system would allow kaka to increase in numbers.



Department of Conservation  
*Te Papa Atawhai*



South Island kaka , *Nestor meridionalis meridionalis*.  
 Photo: Lindsay Barber

The kaka monitoring programme came to an end in 2006 after the target objective was met: to monitor 30 successful kaka nesting attempts within the project. This was finally achieved over six kaka breeding seasons spanning nine years. From the 32 successful nesting attempts monitored, the project recorded a nesting success rate (chicks fledged successfully) of 63%. This compared with a nesting success rate of just 10% at a site outside the project area not protected by trapping. Inside the project area, 95% of nesting females survived compared to 20% at the comparison site. The results confirm that the current stoat control regime used in the project area would maintain and increase the kaka population.

Tracking tunnels are also used to measure the effectiveness of a pest control operation. They monitor activity levels of rodents and stoats in both the project area and at comparison sites. Up to 10 or 20 tunnels are set on lines, with each tunnel being 50 m apart. Each line is at least 1 km apart. The tunnels consist of a central sponge which is soaked with dye, with papers at either side of it. Bait is placed on the sponge to entice the animal to walk through the tunnel leaving its footprints behind. The number of tunnels tracked gives a tracking rate.

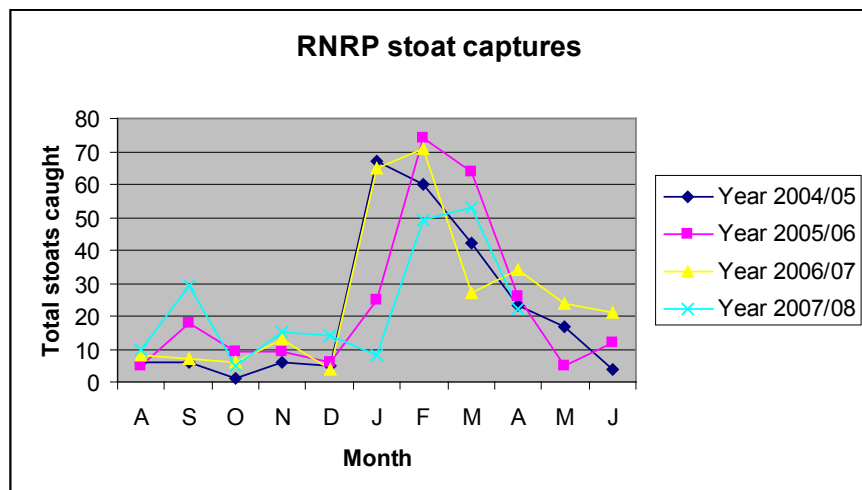
Tracking tunnel rates for stoats in the project area have been continuously maintained below the target of 5% with a mean tracking rate per line of 0 -3% for the 2007/08 year. Interestingly the tracking tunnel rates at the comparison (unprotected) site have been soaring with tracking rates at 73% in November 2007.

Today the stoat control operation protects not only kaka but kiwi as well, with at least three chicks hatched in the protected area.

The Rotoiti Nature Recovery Project team would like to thank the many permanent and seasonal DOC staff and volunteers who have dedicated time and energy into checking the 990 traps over the years in support of the project.

## ***Stoat captures***

Stoat captures during 2004/05-2006/07 followed similar seasonal trends with stoat numbers peaking in December and dropping off in February. Stoat numbers were slow to rise over the summer months during both 2005/06 and 2007/08 however the 2005/06 season ended up peaking with over 70 stoats caught in January - our highest catch rate yet!



This year's stoat captures were considerably lower with the peak happening much later in the season than in previous years.

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Reasons for this aren't fully understood but it is likely that the Friends of Rotoiti's stoat trapping lines are helping to act as a buffer for the RNRP traps.

Since December 2007 there has been a concerted effort to get the new DOC200 and DOC250 traps out on the hill. This is the first part of a staged approach to eventually replacing all 990 Fenn traps with traps that meet DOC best practice. Helicopters were used to help begin replacing traps along the top of the St Arnaud range with DOC200s in early April. Later this year there will be a similar upgrade of the now 10 year old tracking tunnel system.



Trap deployment on the top of the St Arnaud Range.  
*Photo: Paul Dulieu, DOC*

## ***Kiwi update***

The oldest of the three RNRP-hatched kiwi was caught and banded during February. Miharo weighed 2.6 kg, and with a bill length of over 114 mm this kiwi is almost certainly a female. Miharo was first encountered in the winter of 2007 sheltering with Waitapu, a female adult who was moved into the project area in 2006.

The second oldest chick Rito is currently without a transmitter due to early transmitter failure, but we are hopeful that we will be able to relocate him/her either with Huxley, the kiwi dog, or by finding Rito sheltering with another bird. Although untagged, Rito is distinctive because of a pronounced downward curving bill tip.

The youngest of the three chicks, Ngahere, found in January 2007, weighed in at 1.39 kg when he/she was recaptured in January 2008, and was still living with parents Tata and Wainui.

Telemetry monitoring tells us that there has been no change in the size of the adult population. There has been limited indication of breeding during 2007/08, however, previous years have shown that we do not always detect breeding using our relatively "hands off" approach; it is possible that chicks may be encountered with their parents when we change the adult transmitters later in the year.



Anne Brow (driving boat) and Craig Brown assist Sarah Forder to track kiwi on the St Arnaud Range using telemetry.

*Photo: Tamsin Bruce, DOC*



## ***Wasp control***

A broad-scale wasp control operation was undertaken in the mainland island core area and St Arnaud township on 18 February 2008, using the toxin Xstinguish (fipronil) in a chicken mince formulation that worker wasps carry back to their nests. Several days after the wasp poisoning operation there was hardly a wasp to be seen in the treatment area.

Xstinguish has proven to be a very effective wasp control product but unfortunately continues to be unavailable "off the shelf" because of commercial issues overseas. Xstinguish can only be legally used for wasp control in an experimental context, such as in the mainland island.



Photo top right. Honeydew, produced by the scale insect, is an important food source for many native species. For about 5 months of the year introduced wasps remove 90% of available honeydew in areas with no wasp control.

*Photo: DOC*

## ***Friends of Rotoiti***

The mainland island will have access to Xstinguish for experimental purposes over the next two years and during that time we hope to make advances in defining its effectiveness when used for spot poisoning and transect poisoning as well as in the current grid pattern. At the same time, Catherine Duthie a PhD student will be investigating competition between introduced wasps and native ant populations in the mainland island.



The Friends of Rotoiti (FOR) rat trappers have had a relatively quiet summer period with low rat captures on their rat trapping lines which would suggest that the rat population has been relatively low over this period. Members have been able to take some time to monitor several resident robins and learn more about robin breeding behaviour. Robins are particularly vulnerable to rat predation and are surveyed annually by RNRP staff in September as an indicator of the effectiveness of rat control within the mainland island.

FOR stoat trappers have replaced every second Fenn trap on their Rainbow, skifield and Mt Robert Road stoat trapping lines with DOC250 traps and have found the new traps to be catching efficiently. This summer, members replaced all existing Fenn traps on their line running from the beginning of the Lakeside Track to Whisky Falls with DOC200s with the view of extending this line all the way to Coldwater Hut in the near future.

If you would like to become a member of the Friends of Rotoiti please contact Sally Leggett, phone (03) 521 1067 email [sleggett@doc.govt.nz](mailto:sleggett@doc.govt.nz).

## ***Vegetation plots***



Trainee rangers take time to identify a plant in one of the RNRP's vegetation plots.

*Photo: Anne Brow, DOC*

Eighteen trainee rangers from the Nelson Marlborough Institute of Technology and five DOC Technical Support Officers helped RNRP staff with the re-measurement of vegetation plots within the core area in April. The permanent 20m x 20m REECE

plots were set up in the late 1990s as a way of showing how vegetation within the mainland island responds to pest control. They are now due for their first full re-measure since the project began.

Twenty plots are located within the RNRP core. It takes four people 1-3 days to set up tapes and strings and re-measure the plots - so many hands make light work. All trees and saplings are measured in the plot. In addition 24 separate 49 cm radius subplots within the main plot are measured for seedlings. It is a great opportunity for trainees, staff and specialists to work together to further their skills and knowledge.

Liz Gunning a trainee ranger, is currently carrying out her traineeship at the Nelson Lakes Area Office. Liz recently put together an extensive herbarium for the RNRP. The herbarium includes most of the plants encountered in the project area and it has become a wonderful resource, particularly for identification of plant species in the vegetation plots.

All 32 plots within the wider project area will need to be completed before any conclusions can be drawn. For more information about vegetation plots and how they are used nationally to monitor vegetation go to <http://nvs.landcareresearch.co.nz/html/NVSmanual.aspx>

## ***Revive Rotoiti on-line***

If you would like to receive future copies of Revive Rotoiti by email (saving the project printing and mailing costs), please contact Sally Leggett by email at [sleggett@doc.govt.nz](mailto:sleggett@doc.govt.nz). Previous issues of Revive Rotoiti and the RNRP's annual reports are available on the Department of Conservation website - [www.doc.govt.nz](http://www.doc.govt.nz).