

# Revive Rotoiti

## ***Kiwi update***

Over the winter months all of the adult kiwi that could be located were recaptured for their annual transmitter changes and health checks. A total of 14 adults were recaptured, comprising all seven birds transferred from the Goulard Downs in winter 2006 and seven of the original nine birds released in 2004. Of the original nine, Rameka died in February 2006, and Onetahua has been “missing in action” since April 2006. None of the kiwi introduced in 2006 have dispersed from the recovery area.

Miharo, a juvenile kiwi discovered in winter this year.

*Photo: Paul Gasson, DOC*



*The Rotoiti Nature Recovery Project aims to restore approximately 5000 hectares of boneydew beech forest on the shores of Lake Rotoiti in Nelson Lakes National Park. This is being achieved through an extensive predator control programme.*

*The projects three goals are:*

- *restoration of the native ecosystem's components and processes.*
- *reintroduction of species lost from the area.*
- *advocacy for indigenous species conservation and long term pest control.*

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

All of the recaptured adults appear to be healthy. In the year from 2006 to 2007 the average weight of male and female adults has declined slightly. A likely explanation is that extra energy may have been spent sorting out territories following the introduction of the second group of kiwi in 2006.

There were several unexpected burrow-sharing relationships noted during the winter recaptures. The 2006 male Onahau was found sheltering with Tai Tapu, a 2004 female who had been considered to be in a stable relationship with her Goulard Downs mate Te Matau. The 2006 male Puremahaia was found sheltering with Awaroa, a 2004 female who also appears to be regularly associating with her chick Rito, and with Rito's father Kahurangi.



Department of Conservation  
*Te Papa Atawhai*



The biggest surprise was the discovery of a previously unknown bird sheltering with Waitapu, a 2006 female who was released near the male Takaka in the hope that she would pair with him after the loss of his mate Rameka. The unknown bird was the size of an adult male kiwi, but may still be growing (adult females are bigger than males). We think that this bird is the result of a breeding attempt by Takaka and Rameka in summer 2005/06. We have named this bird “Miharo” which translates as “to wonder at and admire”.

The 2006/07 chick Ngahere weighed in at 825 grams in early August; well on the way to being a “stoat-proof” weight of 1 kg. Rito (the 2005/06 chick) weighed in at over 1.4 kg. Both chicks continue to associate closely with their parents.

During the transmitter changes we attached a new version of the “egg timer” transmitter to seven kiwi. These transmitters are expected to detect the beginning of incubation and transmit a “change of state” signal. If the transmitters work according to plan they will help us to predict hatch dates far more accurately than previously, allowing us to intercept and radio-tag chicks at about two weeks old without disturbing the nest beforehand. At the time of writing the 2007/08 breeding season has not started, but we are expecting to detect some nesting attempts at any time in the next two months.

***Out with the old and in with the new***

The National Animal Welfare Committee (NAWAC) produce sets of guidelines for animal kill traps. These guidelines recommend, through testing, which traps are considered humane and appropriate to use in the field.

Up until recently the Fenn® trap was the standard trap used to control stoats. These traps have been in use at the Rotoiti Nature Recovery Project (RNRP) since its establishment in 1997. This trap has failed the NAWAC ‘humane’ test and is now being superseded by a set of traps for mustelid control called the DOC series.

Just one of the stacks of new DOC traps ready for deployment in the field.  
Photo: Sally Leggett, DOC



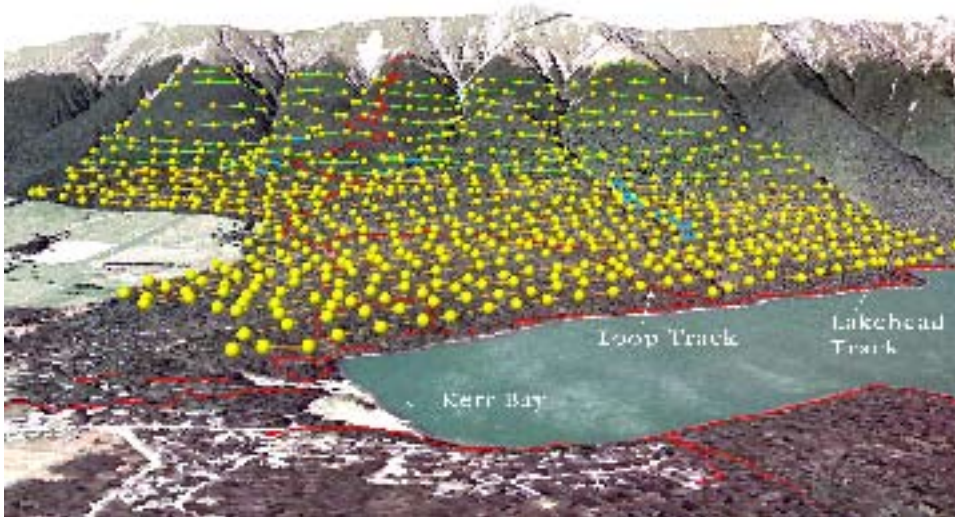
The DOC series of traps include: the DOC 150 and DOC 200 which target stoats, rats and hedgehogs and the DOC 250 which targets ferrets, stoats, rats and hedgehogs. The new DOC traps have been compared with Fenns® in the field and the DOC traps have a far better capture rate.

The RNRP and the Friends of Rotoiti recently received funding to replace half of all their 1180 Fenn® traps currently in use, for the new DOC 200 and DOC 250 traps. Both the RNRP and the Friends of Rotoiti will be replacing every second Fenn® trap on their trapping lines with a DOC 200 or a DOC 250 trap depending on historical ferret captures. The replacement of every second trap on the control lines will provide the RNRP with an opportunity, which they may explore, to trial 200m spacing by closing down the Fenn® traps between the newly installed DOC traps at a later stage. The RNRP expect this staged trap roll out to take a year to complete.



## ***Rat control - an update***

From July 2000 to July 2006 the RNRP tested the efficacy of rat control using snap traps placed on a 100m x 100m grid pattern in the core area. This project demonstrated that under a fortnightly trap-check frequency it is possible to reduce the rat population significantly in a “typical” beech seeding year; however, the rat tracking index in the treatment area frequently exceeded the target level of 5%. A rigorous trapping regime proved to be labour-intensive, and at times difficult to adhere to. Increases in the mouse population sometimes impacted on the operation as substantial numbers of mice could be caught in rat traps, making the traps unavailable to catch rats.



Map showing the RNRP's core rat control area situated on the slopes of the St Arnaud Range. Yellow dots constitute the current grid system of Philproof™ bait stations. Note the high altitude lines are currently at 150m spacing.

The toxin that we plan to trial is a diphacinone paste (sold by Connovation as RatAbate™ paste) packaged into Defender™ biodegradable bait stations, which are manufactured from potato starch. Diphacinone is a first-generation anticoagulant that has been proven effective against rats, but it is less persistent in animal tissues than second-generation anticoagulants such as brodifacoum. The Department of Conservation has already begun to use RatAbate™ paste at other sites in New Zealand, but has yet to trial the Defender™ bait stations at a large site such as the RNRP recovery area.

Although we could choose to use RatAbate™ paste placed directly into permanent bait stations (e.g. our Philproof™ plastic stations) the trial will involve the biodegradable Defender™ stations placed into our stations because this product used in this way is likely to be a highly safe, efficient and “user friendly” way of applying diphacinone. If we can demonstrate that Defender™ bait stations placed on a 100m x 100m grid are an effective way to control rodents in beech forest, then there could be strong uptake of this method by other restoration projects.

Before we undertake the diphacinone operation we will be realigning the high altitude rat lines that are currently spaced 150m apart, as we plan to treat the whole of the core recovery area on a 100 x 100 metre grid. This upgrade - along with the removal of old rat traps and trap stations, and replacement of any broken Philproof™ bait stations is expected to be completed in time for a rodent knockdown early in spring 2008.

In 2006/07 the RNRP attempted to apply a new model in which rat trapping was supplemented with a targeted poison operation. This approach was unsuccessful (refer to Revive Rotoiti number 16) and at the annual meeting of the RNRP Advisory Group in March this year it was agreed that rat trapping should cease and be replaced by a sustained toxin operation on a 100 x 100m grid.

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The knockdown will be followed by an ongoing maintenance operation, and it is hoped that this approach will control the rat population to a level where the reintroduction of rat-sensitive species can be considered.

## ***Wasp control***

The wasp control operation which is usually carried out once a year in January may be on hold for a second season. Last season, 2006/07, the wasp control operation was not able to be carried out due to difficulties obtaining the preferred toxin - fipronil, now known as Xstinguish. It looks as though the patent issues surrounding this toxin for wasp control have still not been resolved and we may not be able to obtain the toxin this year either.

The absence of wasp control will again this season have a considerable impact on native wildlife, with wasps preying on invertebrates and monopolising the honeydew, an important food source for several native birds species.

## ***Recovery of raukawa***

Raukawa (*Raukaua simplex*) is used to measure the impact of possum browse on foliar coverage. Raukawa is used because its leaves are a preferred food of possums. A foliar browse card is used by field staff to estimate the percentage of foliar coverage in a plants canopy. Since the start of the RNRP project, 20 *Raukaua simplex* plants



have been visited eight times. Recent analysis shows that percentage of foliar

Raukawa (*Raukaua simplex*) juvenile  
Photo: DOC

coverage has been increasing through time. This suggests that the sustained possum control, using warrior traps is having a positive impact on the recovery of possum sensitive plants in the RNRP recovery area.

## ***Friends of Rotoiti***

The Friends of Rotoiti have seen the highest captures of rats and stoats on their rodent and mustelid control lines since the group was formed in 2001. It is thought that the increase in rat numbers over the past year will have been in response to the second biggest beech mast in the Lake Rotoiti area since the RNRP started recording beech seeding in 1997. Usually an increase in rat numbers will be followed by an increase in stoat numbers as the stoats enjoy the increased food source.

Members have had a productive winter period preparing their new DOC 200 and DOC 250 trap boxes for use out in the field. These traps have now been set out along the Rainbow Valley and Mt Robert stoat lines at 200 metre spacing. The Friend's look forward to comparing capture rates in these new traps with capture rates obtained in the old Fenn® traps.

## ***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 email Sally Leggett at [sleggett@doc.govt.nz](mailto:sleggett@doc.govt.nz).