

Pest monitoring at Rewanui

At Rewanui, we want to enrich and expand our unique native bush. Our long-term aim is to restore the native habitat so that a wide range of native plants and animals thrive there. The worst pests on farms with native bush are possums, rodents (rats and mice), mustelids (ferrets, stoats and weasels), feral cats, and hedgehogs. All these pest species have been found at Rewanui.

Monitoring pest species

In 2008, we contracted Greater Wellington Regional Council (GWRC) to undertake pest monitoring at Rewanui. Target species to be monitored were rodents and mustelids. We also monitored possums, although we suspected their numbers were low, thanks to regional Animal Health Board control to contain the spread of bovine tuberculosis. Monitoring was repeated every three months over three years. We wanted to find out:

- (i) how abundant our target pest species were, and where they were most abundant
- (ii) how effective our pest control regime was in reducing pest numbers
- (iii) whether native species recovered as a result of pest control and how quickly, by monitoring native wildlife at the same time.



Philproof tunnel (left), and hedgehog prints on card placed inside tunnel.

Pest monitoring techniques

Initially we compared three different pest monitoring techniques.

1. **Tracking tunnels** - 'Philproof' tunnels, baited either with peanut butter to attract rodents, or rabbit meat to attract mustelids. Animals run through food colouring and leave characteristic tracks on paper inside the tunnel.
2. **ChewTrack cards** - corflute cards, baited with peanut butter, nailed to trees. Ink is daubed on the outer edges of the cards so visiting animals leave

inky tracks; also characteristic teethmarks when they gnaw at the cards.

3. **Residual catch-traps** – live animal traps, used for possums.

We set the tunnels, cards, and traps along transects in the mature native bush and regenerating scrub areas, dispersed across the property. We followed standard monitoring protocols. Monitoring like this does not provide information on absolute numbers of pests, but gives a relative measure of abundance. With repeat monitoring, it is possible to compare 'before and after' results.



Stoat (above) and rat (right) teethmarks on ChewTrack cards.

What we learnt from our monitoring

- Tracking tunnels are the most cost-effective rodent monitoring technique; these were used for all rodent monitoring after the initial trial. The ChewTrack cards were the most sensitive method for detecting rodents and possums but were relatively expensive to deploy.
- Rodent numbers were relatively high throughout the property at the start of the monitoring period, and very high in the native bush. Rats visited over 13% of tracking stations on average across all habitat types, mice over 31%.
- Rat and mice numbers fluctuated over the three-year monitoring period. Rat numbers declined markedly within the native bush after bait stations with Pindone bait were deployed.
- Mustelids are very difficult to attract to tracking tunnels; don't assume 'no show' in the tracking tunnels means they are absent.

We have now succeeded, using traps and poison bait, in reducing rat numbers to consistently below the target level of 5% of tracking counts. As long as we continue to carry out regular control, numbers should stay at low levels. We are also controlling rats on the adjacent neighbour's property.

Mice are much more difficult to control. Although tracking counts are high, it is unrealistic to control them at Rewanui. Mice damage native plants (mainly by eating seeds), and eat some insects and small reptiles.

Our monitoring failed to identify any mustelids. However, stoats, weasels, and ferrets were all caught in traps at Rewanui between 2006 and 2010. Eight ferrets were trapped in 2009–10 alone. We will continue to set traps to control these species. We will also continue to set traps for possums, feral cats, and hedgehogs.

Is native wildlife recovering at Rewanui?

We have been monitoring a range of wildlife (see other Information Notes in this series), and results are encouraging. Weta numbers from wetahouse surveys are increasing which shows pest control is enabling more invertebrates to survive. It is still early days, and we need to keep monitoring wildlife for several more years before we can draw firm conclusions about how well different species are responding.

Monitoring pests on your own property

We advise that you monitor pests before you start pest control, and then from time-to-time thereafter. For advice, on-site assistance, and pest-monitoring and control supplies, contact:

1. Your regional council biosecurity team
2. Private specialist pest control contractors
3. Landcare Research (especially for information on ChewTrack cards) www.landcareresearch.co.nz
4. Department of Conservation (tracking tunnels, traps, and trapping techniques) www.doc.govt.nz

More information

1. Pest control and monitoring native wildlife at Rewanui

See other Information Notes in this series.

2. About the work at Rewanui

Montfort Trimble Foundation:
www.trimblefoundation.org.nz

Tree species trials: Stuart Orme, Woodnet
stuart@woodnet.co.nz

Acknowledgements

MAF's Sustainable Farming Fund supported our trials and monitoring from 2008–2011.

Nyree Fea was responsible for wildlife monitoring at Rewanui from 2008–2011.

Rewanui belongs to the Montfort Trimble Foundation, a trust dedicated to growing trees for the benefit of local people. The farm is being developed as a trial and demonstration property. Our focus is on new approaches to adding trees to the farming mix.

Photos: Trevor Thompson;
Peter Sweetapple; Nga Manu Images.

