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Magazine of the New Zealand Biosecurity Institute Contents

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Editor's Note

i everyone, how is life in your patch? Hasn't the weather been absolutely appalling. Floods, drought, landslides, hail storms and now hard frosts. Certainly an excuse to curl up by the fire with a good book and a fine whiskey. In this issue we have some really great articles and an interesting request from a student in regard to bounties on animals.

NETS is fast approaching. I hope you have all registered. There will be some great talks, discussions and field trips. I always enjoy NETS as it is an opportunity to catch up with people you haven't seen in ages and meet new people. Marlborough is a great region to visit. There are some amazing wineries, craft galleries and stunning scenery. So take an extra couple of days and have a look around.

I look forward to catching up with you all in July and hearing your feedback on *Protect* as a whole. You might even want to volunteer to write an article about your impressions of NETS or about a field trip you participated in. Take care of yourselves till then.

> Regards, Lynne Huggins email: <u>folstergardens@xtra.co.nz</u> phone: 03 214 1769 www.folstergardens.co.nz

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News from the Executive

Biosecurity Month July 2010

et ready for a month of biosecurity-related stories plastering the media.

The concept of NETS week being used to further highlight biosecurity to a wider New Zealand audience was floated by a NZBI member. As we all know, biosecurity is vital for New Zealand's ongoing economic and natural heritage sustainability – so let's highlight this to as many people as possible.

By leveraging off the great event that NETS is, and the fact the DOC technical support officers and biosecurity managers gather in the same week, we might have enough of a core group of people and activities to excite our local and national media. This fact was reinforced by topics and people at NETS2009 making it into local and regional press. The Executive has given the concept approval and Vice-President Pedro Jensen is the co-ordinator for Biosecurity Month 2010.

Some of the ideas generated by the group were to have a co-ordinated pooling of success stories from around the country delivered at NETS to a primed media. There could be interviews with locals from the various field trips filmed/taped prior to the week and released during the NETS event.

Obviously this is just the genesis of the concept and it will take hard work and drive to establish a good long-term structure to kick it into life and keep it that way. We are dipping our toes in the water a little on this one and will have a recap of what worked and what needs to be done for following years as we intend to build the profile of this activity.

Executive changes

David Hodge is departing as the Executive representative for the Central North Island Branch, a role he has held since 2009. The Executive would like to thank David for his contribution on behalf of the branch and his input into Executive business. David jumped in boots and all and helped Alistair Fairweather on the Awards committee. The Executive wishes you all the best for the future. Darion Embling, from Environment Waikato, has taken over from David.

Greg Hoskins is stepping down from the Auckland/ Northland Branch after many years of valuable input to the Executive and as representative for his branch. Greg served as vice-president for a number of years and has supported, and promises to continue to support *Protect* and the website with many great articles and photos. The Executive wishes you well for any new focuses and challenges that you undertake. Vice-President Rebbeca Kemp will now act as the branch representative.

Helen Braithwaite is standing down from the role of treasurer. This is momentous news. Helen has been the treasurer for a number of years and has been in the Executive for many more. Her in-depth knowledge of the NZBI and what works and what doesn't has assisted our progression. Helen has a fantastic social fairness streak and stands up for equity and equality, excellent qualities for a treasurer. The role has changed over the years and now includes the membership role as well as chasing up bad debtors and dealing with IRD and accountants. Helen has picked up new technologies and used these in the implementation of the huge change to our financial system. The NZBI went from a simple book system to an internet-based payment system with electronic tracking and links to the accountant and IRD.

The Executive would like to show our immense gratitude to Helen for the years of service in a role that requires many hours of input each week. Thanks Helen and all the best for the future, you have served the NZBI well in your many roles, and we have been lucky to have had you on the Executive.

New membersThe Executive would like to welcome the followingnew members:Tod PalenskiJono UnderwoodGrant DumbellDavid WestSandy McLachlanClare DustonTania ComptonHeather PearsonPeter RobertsonChristine Joggi

NETS2010

Rob Simons

No need to write much about this as I know everyone who can, will be there. If there are people in related fields that you deal with who don't know about NETS why not give them a registration brochure? NETS2010 takes place July 21st to 23rd at the Marlborough Convention Centre.

Craig Davey President Craig.Davey@horizons.govt.nz

Richard Webster

NZBI news from the branches

News from the branches

Lower North Island and Central North Island combine for field trip

t was still dark and overcast when our contingent set off for Horizons' territory. Horizons Regional Council (HRC) was hosting this year's AGM of the Lower North Island branch (LNI) of the New Zealand Biosecurity Institute. On the agenda were presentations on important biosecurity programmes, networking, and a chance for the hosting council to showcase its region.

This year the Central North Island Branch joined the LNI branch with a special request "to see the blue ducks". Combining branches brought about 40 delegates to Ohakune, stopping at the big carrot for the obligatory photo shoot.

First things first, we got down to business and each branch held its individual AGM. Motions carried, finances discussed and Executive appointments made, our invited speakers then took the stage.

Up first was Craig Sixtus, from Lincoln University, to talk gorse pod moth (*Cydia succedana*) biocontrol. Introduced in 1989, gorse pod moths are becoming widespread across New Zealand and are now diligently chewing their way through gorse seedpods. Craig's research is nationwide, utilising the assistance of some of our members. He is investigating things that could make gorse pod moth a more effective agent, such as: host/agent phenology; host specificity; impact on seed production; and genetics (the two strains introduced may be different species).

So far, Craig has discovered that temperature governs gorse pod moth activity. In warm areas, moths are bivoltine, having two generations a year, while in cooler climates they are univoltine with a single generation produced. As with any fieldwork, there have been some unforeseen incidents with sites sprayed, and in one instance, flooded with seawater. Seawater turned out to be effective gorse control!

Next, Mike Urlich of Greater Wellington Regional Council, reported what he had learned at the conference of Ecological Management of New Plant Invasions in South Africa. He was privileged to have had his attendance subsidised by the Biosecurity Institute and Greater Wellington Regional Council. For him, what stood out was the different way biosecurity works in South Africa where the political climate and social issues mean that biosecurity activities need to have a direct benefit to the community. This ensures a high level of buy-in, but ecology tends to take a back seat.

Mike was also interested to learn that South Africa has some of the most biologically diverse environments in the world and that pest animals have little impact. This may have something to do with the large number of dangerous native inhabitants. Mike's take-home message was a warning of the future impacts of acacias, gums and wilding pines, major



Boneseed in its natural Fynbos vegetation, Cape Province, South Africa.

issues in South Africa and quickly growing in importance here in New Zealand. The lessons learned in South Africa will surely benefit us all.

Closer to home, Dave Alker (Horizons Regional Council) introduced us to tutsan, a weed naturalised since the 1940s and fast becoming a problem for the Wanganui/Ruapehu region. The Tutsan Action Group (TAG), of which Dave is a member, was formed in 2007 in response to this weed threat. Tutsan is a semi-evergreen shrub capable of outcompeting and smothering native regeneration, it is resistant to herbicides (no registered herbicide will control it), is difficult to control mechanically and is poisonous to stock. In summer, the leaves develop a waxy coating impenetrable to chemicals and a single seedpod can contain up to 2000 seeds. It has become especially prevalent in the last five to six years.

Dave outlined the battle plan and biocontrol looks like the most promising option. A rust has been discovered in Australia that has controlled tutsan very well and an application awaiting approval for biocontrol research funding (\$430,000) will help Landcare Research to investigate this further.

Being outdoor types and unable to pass up the opportunity, a trip up the mountain was in order. We all piled in to our respective white council-logoed vehicles, and drove through the mist and drizzle. We emerged above the clouds to a lunar landscape, stopping on the precipitous edge of the Turoa ski-field car park. The sea of white before us was only punctuated by Mount Taranaki, clearly visible in the distance.

Lucy Roberts from the Department of Conservation met us and described the varied conservation work being done on the mountain and surrounding environs, including weed control for cotoneaster, Darwin's barberry, old man's beard and Chilean flame creeper, and the blue duck recovery

NZBI news from the branches

programme. In response to the loss of an entire native bat roost to a feline invader, DOC has achieved a total pet cat and dog ban from some blue duck catchments.

Lucy led us across the car park to a small, unassuming patch of tussock directly under the window of the ski cafe. In fact, this was an excellent example of a very diverse "alpine flush" habitat. Lucy discussed the difficulties of protecting such an accessible and seasonally variable environment.



Alpine flush habitat in autumn Mt Ruapehu.

Our day was not yet done and we returned to the conference room to learn more about specific biosecurity battles. Eric Dodd (HRC) discussed Horizons' possum control management. The intension is to have 493,000ha of rateable land in the region receiving possum control by 2016-17. This ambitious programme evolved due to the amenity value of possum control. The council receives about 650 pest animal nuisance-related calls a year. This is year four of the programme and the regional council is 60,000ha ahead of schedule. The challenge is to tie this programme in to work done on non-rateable Crown land.

Craig Davey (HRC) then discussed the fight against Darwin's barberry. This project started in 2003-04, and covers 16,000ha. Contractors control blocks that are rigorously monitored with follow-up seedling control applied the following year.

Heidi Pere (Environment Waikato) then talked about going toe-to-toe with noogoora burr. A small infestation unexpectedly burgeoned in to a near monoculture, covering several paddocks. Because of the infestation's size, and the impenetrability of the seeds to herbicide, the site was cut with a harvester and burned. Heidi described how much fun they had breaking down the harvester and water blasting it clean before it could be moved off site. The site will continue to be monitored. As the site is an active commercial hayselling operation, ongoing detective work will be necessary to try to catch new infestations.

The following day, which dawned overcast and drizzly as

we made our way to a "hangover cure" breakfast in view of majestic Mount Ruapehu, we were in for something special. The first stop was the Whanganui National Park where we were introduced to Rod Smiley and the Kai Wharite programme. This programme involves trapping mustelid's along long stretches of the Whanganui, Retaruki and Manganui O te Ao rivers to help protect the blue duck (whio) from predation during the nesting season. The goal of establishing a breeding pair every kilometre has already been achieved and fledglings are now setting up territories of their own in other catchments. Work now includes protecting these new dispersal areas. Some blue duck even provided us with a photo opportunity and proved that they do actually exist!



Blue ducks really do exist!

Our next appointment was at Lake Rotokura where Keith Wood met us. Keith welcomed us to the land of his iwi, Ngati Rangi (The People of the Heavens), who have been kaitiaki (guardians) of the Ruapehu region since arriving in Aotearoa on the back of a bird that deposited them on the side of Ruapehu more than 1000 years ago. Lake Rotokura has particular importance to the iwi as a place of healing. It also has a high DOC value rating. DOC now works closely with Ngati Rangi to resolve issues such as the use of 1080, and to meet goals like the reintroduction of North Island brown kiwi. Lake Rotokura is now the release site of kiwi chicks from Waramiro which are raised under "Operation Nest Egg".

Keith guided us as we opened our senses to the mauri (life force) of the forest on a journey that Keith said, "will take as long as it takes and we need not worry about the time, our next appointment will just be waiting for us". In fact, the 20-minute walk took us the best part of two hours, and none of us seemed to mind. Before we walked up the short track to the lake, we were told some of its history, including the formation of the neighbouring man-made Dry Lake. Lake Rotokura sits on the toe of a larva flow and is likely to be part of a vent system connected to Mount

NZBI news from the branches



Lake Rotokura: The Lake of Learning

Ruapehu – legend says the lake is bottomless. Its moods reflect the mood of the mountain and has been known to change colour from lime green to yellow when Ruapehu stirs. This visit was a highlight for many of us. As we dipped our feet in the water, we gained a greater appreciation for the wairua (spirit) of Ngati Rangi's jewel, Lake Rotokura, the Lake of Learning. Our branch was proud to offer a financial contribution to this project.

Last on the field trip's agenda was a visit to an active biocontrol site north of Waiouru. Paul Petersen (Landcare Research) and John Mangos (Defence Force) led us to a site on army land close to the Desert Road to look at heather beetles. Heather beetles were introduced from the UK in the late 1990s to control the 10,000 sq km of heather on the



Neil presents Keith Wood of Ngati Rangi, with koha from our branch.

Central Plateau. No-one really understands why success has been limited to date. Things started to look better three years ago when the heather beetle population at one site exploded. However, growth wasn't exponential as predicted. A late snowfall last November may have halted their spread. Despite this, the damage the beetles have inflected was evident and dead heather was everywhere.

We were taken several hundred metres further along and were confronted with thousands of beetles crawling everywhere. It appears that although highly mobile, their wee legs can't cope with the ruts created by the wheels of army vehicles and these tracks effectively create a migration



Greater Wellington biosecurity officers bent over in the hunt for heather beetles. Ray Clarey shows his boys how its done!

barrier. But they have made it across the Desert Road and are slowly marching towards Mount Ruapehu.

We left for home tired but enthused. We had seen some very special places, people and wildlife. Having shared our know-how, and seeing first hand what our efforts can do, we know we can get the job done. Our natural puiaki (treasures) will remain to enrich the lives of future generations. Next year Wellington will host the AGM where we will see and discuss more projects, catch up with colleagues and friends, and take a breather to look back and see just how far we have come.

Sara Moylan & Neil Gallagher

Top of the South

hirteen members of the NZBI Top of the South Branch attended a winter meeting in Nelson, held in association with our 2010 AGM and hosted by Nelson City Council.

Three members made presentations: Dave Butler described the logistical, practical and technical challenges of implementing a rat and ant eradication programme on two small islands in Samoa; Richard Toft outlined some products

under development to control Argentine ants; and Ken Wright demonstrated the benefits of early intervention with a campaign to eradicate *Gunnera tinctoria* (Chilean Rhubarb) from the middle reaches of the Marahau River.

> Lindsay Vaughan Executive member Top of the South Branch

Award nominations open

Peter Nelson Memorial Trophy

he Peter Nelson Memorial Trophy is awarded annually by the NZ Biosecurity Institute to individuals or organisations, for achievement in Vertebrate Pest Management within New Zealand. (Established by the minutes of the Special General Meeting of VPMINZ, August 27, 2005)

The trophy is a carved kokako standing on a limb above the skulls of small predatory mammals – a rat, a possum and a stoat. The trophy was designed and made by Ray Weaver.

Term: The recipient of the trophy will hold the trophy for 12 months after which it will be transferred to a new recipient. Recipient's names and the year awarded will be engraved on the trophy at cost to the NZBI.

Recipients: A recipient may be any individual or organisation within New Zealand and does not have to be affiliated to NZBI in any way.

Nominations and deadline: Nominations for the 2009 award close on 23 June 2010. Nominations should be directed to Alastair Fairweather and be accompanied by a brief background and justification for the nomination.

Selection panel: The NZBI Executive will appoint a selection panel of at least three, and no more than six persons, who will be NZBI members with experience in vertebrate pest management and ecological restoration work.

Further information on nominees: The selection panel may request additional information to support the case for a nomination.

Selection panel decision: The Executive and members of the NZBI shall accept the decision of the selection panel on whom the trophy shall be awarded as final and non-negotiable.

Presentation: The award will be presented at the NZBI annual conference (NETS) each year, and if possible, to the recipient or the recipient's representative, who will be invited to be present. The NZBI Executive will select an appropriate person to present the award.

Further information: All queries regarding the Peter Nelson Memorial Trophy should be directed to:

Alastair Fairweather ^c/- Department of Conservation PO Box 516 HAMILTON 3240 Email: <u>afairweather@doc.govt.nz</u>

In honour of Peter Nelson

eter Nelson started work in the printing trade but was taking a leadership role in the rabbit destruction industry by 1967 when he was Supervisor of the Patea-Waitotara Pest Destruction Board based at Maxwell, north of Wanganui. Peter and the Board were one of the first to seriously consider possums as a threat to agriculture and undertook intensive control programmes throughout their pest board district. Being based near the Wanganui Poison Factory (now Animal Control Products Ltd) also enabled Peter to have input into bait manufacture on which he was to have some influence from that time onwards.



Peter's able administration, his drive, enthusiasm and his "why not" approach lead him to being appointed as the first Field Advisor of the Agricultural Pest Destruction Council (APDC). His role at this national level was to rationalise the number of pest boards and to increase efficiency by standardisation and improving the competency levels of pest board management and staff.

Peter quickly realised there was a need to boost the proficiency levels of field staff to address the new responsibilities for pest management on private land so he worked with the labourers union of the day, the Technical Correspondence Institute and employment experts to form the APDC National Trainee Scheme.

Initially, eight training pest destruction boards were established with the first trainee intake starting in 1970. Trainees were seconded to a training board for six months and then moved on to another and if they proved competent in both practical and theoretical vertebrate pest management could "pass out" of the system and be offered permanent career positions in the industry.

In 1977 an "On Board" training scheme was established to cater for those employees unable to be based away from their families for long periods for training.

At the same time the APDC, at the behest of Peter, established regular two to three-day training courses held primarily in Wanganui and Christchurch to improve the proficiency of board supervisors and selected staff. These staff also had the opportunity to study for a twoyear Certificate of Competence in Pest Destruction recognised by the industry.

These training regimes continued until 1989 when local government re-organisation shifted the responsibility for vertebrate pest management to regional councils and unitary authorities. By this time there were enough competent career-minded people throughout New Zealand capable of responding to the needs of vertebrate pest management. Many senior pest management staff today came through the APDC trainee programmes.

Peter also took an avid interest in the politics and culture of vertebrate pest management. He was the first secretary of the Institute of Pest Management Officers formed in May 1968 and was president for several years in the 1980s. He always took a keen interest in the Institute's affairs which included "to promote and maintain a high level of efficiency and standard of service amongst members".

Peter was also one of five key people who were present at a meeting in July 1993 to form an agency focused on the development of a co-ordinated programme for possum control. That organisation became the National Possum Control Agencies later that year, an incorporated society of members comprising the Animal Health Board, Department of Conservation, regional councils, Local Government NZ, Ministry of Agriculture and Forestry, Ministry for the Environment, contractors and manufacturers.

Aware that industry change was looming, Peter established Pest Management Services Ltd in 1985 and contracted his services to the industry. Initially the only products were Pindone rabbit and possum pellet baits but the successful business went on to capture the market for a large range of pest control products for agricultural, domestic and industrial purposes.

Peter died of cancer in 1998 while still in his prime. He was a self-made man, enthusiastic, driven and bold. He had commanding presence with an assertive nature able to captivate an audience.

The Peter Nelson Memorial Trophy is a reminder of Peter's huge contribution to establishing professionalism in the field of vertebrate pest management in New Zealand. Each year, an individual or organisation will be honoured by the NZ Biosecurity Institute with custody of the trophy, to recognise outstanding achievement in this field.

Peter Ingram Award

ominations are welcomed for the Peter Ingram Award, which is presented each year at NETS to a member of the Biosecurity Institute who has successfully undertaken or enabled others to achieve, relevant to pest plant education, control or management.

Nominations are to be either posted or emailed to Des Pooley, Pest Plant officer at Environment Bay of Plenty no later than June 23, 2010.

Potor Ingram Memorial Award

Peter Ingram was the pest plant co-ordinator at Environment Bay of Plenty when he died in August 2001, shortly before his 61st birthday.

Peter was a past president of the Institute of Noxious Plants Officers (now NZBI).

As required for his work Peter passed his pesticide board exams and certificate of proficiency in noxious plants control. He went on to gain a postgraduate diploma in rural studies from Massey University.

Peter had a passion for learning, did not hesitate to share his knowledge and was always willing to discuss ideas and theories with one and all. He was especially encouraging of his team at Environment Bay of Plenty to further their education,

apply for study awards and take advantage of learning opportunities. The Peter Ingram Award was provided by his colleagues at Environment Bay of Plenty in 2003 in memory of Peter.

Nominations to: Des Pooley Pest Plant officer Environment Bay of Plenty P O Box 364 Whakatane Email: Des.pooley@envbop.govt.nz

10

Spreading the word: Inaugural New Zealand Biosecurity Month – July 2010

Pedro Jensen

NZBI VP, & Co-ordinator NZ Biosecurity Month 2010

ne of the aims of the NZBI is to raise awareness of the Institute and New Zealand's biosecurity issues; the Executive has decided it's time to increase our activity towards achieving this aim.

To this end, we are unilaterally declaring July 2010 to be the firstever annual NZ BIOSECURITY MONTH.

This campaign will be based around print media and other coverage to raise awareness, and the theme will be that of NETS: "Know how, can do, job done".

Our key messages during this promotion will be:

• Biosecurity protects the health and future of New Zealand – our environment, our economy, our people – from invasive pests.

• All New Zealanders have a role to play in keeping our country safe from pests.

• Biosecurity protects the natural identity of our country.

With July rapidly approaching, NZ Biosecurity Month for 2010 will seek to achieve "quick wins", with more depth developed for this promotion (and hopefully more organisations involved) in future years when there will be a good run-up to the month-long coverage. So we will be looking at getting plenty of great stories out to the media during July, based around the biosecurity work that NZBI members are involved in. We will be seeking the co-operation of NZBI branches collectively and members individually to do this.

We appreciate that some organisations that our

members work for have strict criteria with regards to their employees making comments to the media, and are asking branches to ensure that whoever puts up their hands to be profiled for articles checks with their employers to ensure that this is okay.

In most regional and local cases, we anticipate the approaches will be from the media to members, rather than press releases being sent out by NZBI.

We hope that employers will see NZ Biosecurity Month as a great opportunity to showcase their projects, as well as build awareness among the public of biosecurity in general.

What makes a great story?

• Local NZBI member profiles about all the interesting things they get to do as part of their job

• Successful eradications/suppressions or protection/ restoration projects

• Collaborative science community approaches to pressing issues

Community heroes of biosecurity/biodiversity who
deserve recognition

• Work programmes that are making a difference to your patch

This is a very new approach for the NZBI, so it will be a learning curve for all of us. However, I'm sure that, with everyone's support, it will be a very worthwhile and satisfying project to be involved with.

NETS2010: 'Know how, can do, job done!'

July 21 – 23, Blenheim

This year's National Education and Training Seminar (NETS) in Marlborough is shaping up to be a real cracker.



his year's National Education and Training Seminar (NETS) in Marlborough is shaping up to be a real cracker.

Held at the shiny new Marlborough Convention Centre in the middle of Blenheim, NETS2010 promises a wide range of thought-provoking and inspiring talks on the Wednesday, and a fantastic day of fieldtrips on the Thursday, preceded by talks from local experts to give a background to make the most of the trips being run. NETS2010 is rounded off on the Friday with a session on public outreach, and finishes with a wide range of workshops to send delegates off with some new ideas of what can be achieved in the next 12 months.

As anyone who has attended a NETS before will attest, the social occasions are also an important part of these very full three days. About 200 delegates from the length and breadth of New Zealand, as well as from one end of the biosecurity spectrum to the other, will be in one place for this event, and delegates are encouraged to make the most of the networking opportunities organised for them.

As always, a big thanks goes to the sponsors who help make NETS successful. For NETS2010, our major sponsors are Landcare Research, Marlborough District Council and MAF Biosecurity New Zealand. Other sponsors are SST New Zealand Ltd, Animal Control Products, Kiwicare Ltd, Tasman District Council, Weedbusters, Te Ngahere Ltd, NIWA, and Auckland University.

Don't miss out – register for NETS2010 today at www.biosecurity.org.nz

About Marlborough

The Marlborough region is split in two by the mighty Wairau River. The southern half has low rainfall; the northern half of the region, the Sounds and surrounding valleys host a high rainfall. The result is two very different landscapes.

Our industries include agriculture, aquaculture, wine (we have a glut, by the way, and will need your help while at NETS2010!), tourism, forestry, olives and high country farming. Our region faces a diverse set of biosecurity challenges. Every industry and each part of our region is threatened by invasive pest species.

The control of invasive pest species in Marlborough has called for innovation and dedication to ensure their control, and in several situations, their eradication. Of course, pest control is impossible without the support of the community, and luckily our unique region has a strong community spirit, both in urban and rural areas.

This community spirit shows through in how we approach our biosecurity issues, with various organisations and community groups in our region tackling invasive pest species head on – on our coastlines, in our marine environment, on the land, and in our waterways. Using local, national and international knowledge, the right resources and a positive attitude, we are showing that invasive pests can be tamed.

We look forward to showing you our region and I assure you, you will Love Marlborough.

Ben Minehan Chair NETS2010 Conference Committee







Biosecurity personnel profile: Gina Williams

Role: Weed Surveilance/Biosecurity Technical Support Officer, and Northland Weedbusters Regional Coordinator Northland Conservancy, Department of Conservation gwilliams@doc.govt.nz

y first work with weeds was in Northland in 1993 as a Victoria University Bachelor of Science graduate. As part of a "Sites of a Special Biological Interest" (SSBI) role, I wrote some text for the first Department of Conservation (DOC) weed manual.

I returned to university, gaining a Post Graduate Diploma in Environmental Studies. I was working as a host at Te Papa on opening day before moving to the herbarium team, where I was involved in macroalgal field survey, and collection management, as well as "front of house" work including talks, hosting in the children's discovery centre, and the pressing of an enormous Wellington harbour Undaria pinnatifida thallus for display in the Ocean Planet exhibition!

My DOC weed manual text was utilised for the Weedbusters website, launched in 2003. At the time I was working with MAFBNZ as a shipping Quarantine Officer in Auckland, following on from time at sea as a Sealord product quality inspector.

In 2006 I returned to the winterless north were my beautiful daughter, Georgette, was born. Three and a half years ago I went back to work at DOC Northland Conservancy. My main role is Weed Surveillance and Biosecurity Technical Support, and it also includes a Weedbusters Regional Coordinator component.

Creating conversations with communities was a big part of the Te Papa experience, and it is again now, with DOC advocacy goals. An example is the Weedbusters Awards. In Northland this event gathers together 70 or so weeds community, professionals, councillors and conservation board members to acknowledge community successes, network, enjoy top-notch speakers and a fabulous lunch!

My weed surveillance and biosecurity work targets threats to conservation values, particularly uncommon weeds, and promotes pest pathway buffers to high-value sites, and advocacy to support this. The role relates to



Gina Williams standing in front of a royal fern – a very mature singular plant in wetland surrounding Aupouri dune lake.

land, freshwater and marine environments. The serious side is being part of finding plants like this huge Osmunda regalis (royal fern), the only wild specimen of which has been located to date being in the Kaitaia area, and also dealing with the constant flow of marine pests coming up from Auckland.

But back to the fun side: at the moment, Check Clean Dry resources are going down a treat with *Ceratophyllum demersum* pathway advocacy work – and doesn't Woody Weed look just like hornwort! Eradications of hornwort, buffers, and community leadership in pathway advocacy, are hoped to protect and preserve the locally endemic biodiversity found in Northland's dune lakes. These children will remember being a part of it, releasing grass carp with the regional council, and doing the Check Clean Dry with Woody Weed and MAFBNZ prizes!

Gina Williams

Biosecurity personnel profile: Lucy Roberts

Role: Acting Technical Support Officer (Flora) Tongaririo Taupo Conservancy, Department of Conservation Turangi Imroberts@doc.govt.nz

y name is Lucy Roberts and I work for the Department of Conservation, based in Turangi in the central North Island, where I have been working for the last eight years, as a Biodiversity Ranger, currently seconded to the Technical Support Flora job.

When you speak to me you will soon realise from my dulcet tones that I am not from New Zealand but I come from Rotherham in South Yorkshire, England. You might wonder how a lass from South Yorkshire could be interested in conservation, flora and fauna. The truth is that despite the image that you may be conjuring up in your mind right now of South Yorkshire – cold, grey, damp with an industrial landscape of steel works and coal mines – in fact two thirds of Rotherham was open farmland and countryside.

I was lucky enough to be brought up on the edge of Rotherham in a mining town where I would wander, exploring local woodlands, playing in streams and building elaborate dens. My interest and love of the outdoors and conservation also came from my mother who was a geography teacher. Our school holidays were spent walking in the Peak District and the dales, coast and moors of Yorkshire, learning about and enjoying the limestone scenery, Jurassic sandstone coastline, peat bogs and heather moorland landscape.

After completing my degree in countryside management in the late 80s at Leeds Polytechnic, I worked in that field for 12 years for various local authority countryside units, voluntary organisations and trusts, in Yorkshire.

Each of these jobs was varied and diverse but the common denominator was working with people – from farmers and landowners, to school and community groups to improve the landscape, archaeological and conservation values of their local countryside and environment.

I immigrated to New Zealand with my Kiwi partner, in 2001, securing a job with the Department of Conservation in Turangi, as a Biodiversity Ranger. Immigrating to a new country always poses both personal and work challenges ... now I watch rugby instead of football, drink wine instead of



Lucy Roberts Whangaehu Gorge, Tongariro National Park-New Years Day 2010

beer and wear a backpack instead of a rucksack! At work the challenges were trying to ensure people understood me, especially over the two-way radio, and that many of the biodiversity assets I had known in the UK were now "threats" and I was tasked with killing them ... including the plant I associate most with Yorkshire – heather!!!

Not content that I was learning about the ecology and biodiversity of New Zealand quickly enough, I spent a year at Massey University in 2006 doing a Postgraduate Diploma in Science (Conservation Biology). The reason I choose this course was because it had a strong practical field work component combined with conservation and ecology theory.

My role as a Biodiversity Ranger is varied and interesting and includes managing plant and animal pest control projects, threatened plant programmes and community

restoration projects. Highlights include helicopter-based *Pinus contorta* control in Tongariro National Park; weed control in the river valleys of the Kaimanawa Forest Park; working on the possum control programme to protect the *Powelliphanta* snail in the Upper Rangatikei River; wetland plant monitoring; hand pollinating *Dactylanthus taylorii*; and providing help and support to community conservation groups.

For the last year I have been seconded to the DOC Technical Support Flora job, with the Tongariro Taupo Conservancy office. In this role I provide support and advice on both invasive weeds and native flora programmes to internal and external partners.

The species-specific invasive weed programmes I am

involved with include Darwin's barberry, Chilean flame creeper, climbing spindleberry and old man's beard. I also am involved in protecting high biodiversity sites and threatened ecosystems from the negative impacts of invasive weeds. These include Tongariro National Park, Kaimanawa Forest Park, wetlands, geothermal sites, and frost flat habitats.

I have been hooked on plants ever since seeing the BBC programme of John Wyndhams, *Day of the Triffids*. So whether the plant is a modern-day triffid or a beautiful New Zealand native orchid, I am fascinated and love to share my enthusiasm and knowledge of plants with others.

Lucy Roberts

Ecosystem restorarion



Makara estuary and part of the township. Note the fenced salt marsh on private land in the background. Photo: Tim Park

Makara Estuary restoration project – combined effort makes progress

<u>Megan Banks</u>

Greater Wellington Regional Council

he Makara Estuary is the only remaining salt marsh estuary in the Wellington city region, and is situated just 20 minutes from the centre of the city. The estuary is one of Greater Wellington Regional Council's most recent coastal Key Native Ecosystems (KNE), and was designated this status in 2007.

Since then, restoration work in the estuary has been a good example of what can be achieved with the proper know-how for co-ordinating effort between councils, the community and other agencies.

The estuarine area covers approximately 15ha including 4ha of open water and intertidal zone dominated by glasswort and sea rush. There is another 2ha of regionally important herb fields with flax and sedge tussock lands along the margins. The majority of the rest of the estuary is dominated by salt marsh with ribbonwood (*Plagianthus divaricatus*), pasture and exotic weeds. Rare or threatened species present in the area include *Crassula mataikona*, sand tussock, pingao, *Raoulia hookeri* and *Pimelia prostrata*. Fauna that call the estuary home include black flounder, giant bully, blue heron, a pied shag colony and a regionally rare freshwater snail. There are also two important inanga spawning areas in the estuary.

The estuary is a high public-use area as it is a popular walking and mountain biking destination as well as a significant site for marine recreation. The wild and isolated feel of the area is an inherent part of its charm. However, the biodiversity values of the estuary are under considerable pressure from land-use practices and the associated pests that come with them.

In 2007 a significant gain was achieved when applications by Forest and Bird to the Biodiversity Condition Fund and Wellington City Council (WCC) were approved for fencing the salt marsh on private land. Funding was further assisted

Animal control

by Greater Wellington through its Wetland Incentive Programme. From the beginning, landowner and community involvement was essential and considerable liaison was conducted by the Wellington City Council and Greater Wellington's Environment and Biosecurity departments.

The community is strongly attached to and very proud of the estuary. As a result, the Makara care group was established in 2008 and it has continued to be actively involved carrying out pest control and regular workingbees which have seen hundreds of native trees and shrubs planted. The local school is also involved with the children helping grow and plant native plants for the estuary. All the plants used are locally eco-sourced with the support of WCC's Berhampore nursery.

As part of its status as a KNE, Wellington City Council and Greater Wellington entered a memorandum of understanding agreement with both agencies contributing a minimum of \$1000 per year for environmental weed control on both private and public land. Species controlled so far in this jointly funded programme include gorse, cape ivy, boneseed, pampas, grey willow, buffalo grass, convolvulus, periwinkle, bamboo, karo, boxthorn, German ivy, arum lily, cape ivy, and mallow. Initial knockdowns have now been completed and the estuary has moved into a maintenance phase of weed control, allowing the care group to focus on additional plantings.

Some resistance was initially expressed by landowners to planned weed control due to valid concerns about shelter and erosion issues combined with the harsh nature of the environment. Important lessons were learnt when karo control was conducted without adequate consultation with concerned landowners. Although karo is proving to be a major pest plant in our coastal areas, it is still seen by many in the public as a desirable native species and one of the few that can survive at Makara. A compromise was reached with plans to replace the karo with taupata and ngaio – species that are locally endemic to the area. However, the issue highlighted the need for effective communication when conducting restoration work in and around private land.



A stoat trapped by the Makara care group.

Other compromises have been made along the way; for example, it has been agreed to leave the marram growing along the bank near the stream mouth. The dune strip here, between the water and road is very narrow for control to be done without causing issues of erosion. In the long term, control is desired and will likely be done with node planting of spinfex and pingao, but for now the marram remains with management designed around its containment.

In February this year an aerial survey was conducted along the coastline from Pukerua Bay in Porirua, to Owhiro Bay in Wellington. The survey showed that beach settlements like Makara were important sources of weed infestation (artimesia encroaching from gardens is an example of this). This provided a bigger picture of the weed status of our coastal strips and revealed areas that need targeting in the future to improve coastal biodiversity. From the lessons learnt and skills gained in similar projects throughout the country we can continue to work together towards this goal.

Weed management and native plant biodiversity in lowland forest remnants

Carolyn Lusk & Shona Lamoureaux AgResearch Lincoln Shona.Lamoureaux@agresearch.co.nz

novel research project in lowland forest remnants throughout New Zealand is aiming to measure the native plant biodiversity effects of controlling weeds.

Weed control costs to DOC and regional councils in 2008 were valued at more than \$18 million, and this figure is predicted to increase logarithmically over time based on trends over the last decade. However, there is little quantitative evidence that this cost and effort enhances native plant biodiversity - it may sometimes even have the opposite effect!

To begin redressing this, AgResearch scientists set out to investigate the post-treatment response of natural ecosystems to different weed control tactics using Tradescantia fluminensis as a case study. T. fluminensis, commonly known as Tradescantia or wandering lew, is an invasive, ground-covering weed that is threatening many of New Zealand's remnant lowland forest ecosystems. It is typically spread through the dumping of garden rubbish or by flooding streams. It invades forest margins and areas with depleted canopy cover. It is capable of forming dense mats which can smother low-growing native species and prevent recruitment (Fig. I).

A questionnaire was sent out to more than 30 Department of Conservation conservancies, regional and district councils, city councils and community groups throughout New Zealand to determine the most common method used to control Tradescantia and to ascertain whether any postcontrol monitoring was taking place. The survey revealed that almost all control strategies involved the use of the herbicide triclopyr (Grazon), at least as a first treatment. However, while triclopyr does not damage most grasses, its broad-spectrum nature means that native ferns and native dicotyledonous plants growing among the Tradescantia are likely to be destroyed during spraying operations.

The survey also revealed that only one respondent was measuring the effect of their control effort by measuring its effect on Tradescantia. But none were monitoring the effects of their weed management on native plant species.

Following on from the survey, a study was set up to quantify the effect of managing Tradescantia on native plant survival and recruitment. Transects were established in autumn 2009 in six remnant lowland forests where recent



Fig. 1. A dense infestation of Tradescantia in a totara forest.



to native trees from gorse-gun application of the herbicide triclopyr.

Animal control

control operations had been documented (herbicide or manual removal). The numbers of individuals and species of all plants (native and alien) were recorded and the cover of tradescantia estimated at intervals along each transect. The sites will be visited annually over the next five years to record the changes in species composition and assess the long-term changes in plant biodiversity.

Our initial observations are that the net effect of weed control in these forest remnants largely depends on the skill of the spraying operator and method of application. Broadcast methods using gorse guns appear to be more damaging to native plants than targeted applications with knapsack sprayers (Fig. 2). It seems that successful control of Tradescantia can be achieved using triclopyr if a one-off blanket initial application is applied followed by careful spotspraying with a knapsack to avoid off-target seedling damage. However, hand removal of Tradescantia during follow-up operations may be less damaging and hence preferable.

The density and species composition of native plants in the forest remnants during the first year following Tradescantia control varies between sites. However, overall there has been an eight-fold increase in the density of native seedlings and a two-fold increase in the number of native species present. In addition there has been a $1\frac{1}{2}$ -fold increase in the number of weed species recorded (Figs 3 & 4). The cover of Tradescantia also varied between sites and seems to be related to follow-up control; increases in Tradescantia cover occurred where no follow-up control took place.

Using the results from this study in combination with information from forest managers about the weed control history within their reserves, we expect to identify which control methods have been more successful in conserving the native plant species in these lowland forest remnants.



Fig. 3. Tradescantia and other weeds re-colonising forest understorey.



Fig. 4. Native seedlings and ferns re-colonising forest understorey.

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Biosecurity training: Are stakeholders getting the training they need?

Catheryn Khoo-Lattimore, Naomi Cogger & Philip Hulme

ew Zealand's relatively low exposure to pests and diseases is essential to the economic viability and competitiveness of agricultural production. To maintain this low level the country must ensure the effective exclusion, eradication and management of pests and diseases.

These goals can only be achieved if a sufficient number of people equipped with appropriate knowledge and skills in biosecurity are available in New Zealand. Presently, the education opportunities in New Zealand are limited to

a small number of courses that build on generic provision in agricultural or environmental sciences, with minor specialisation in specific areas of biosecurity. While suitable for undergraduate training, these courses do not deliver the targeted training required by professionals working in this area, hence current educational opportunities on offer in New Zealand may not adequately address current and future industry needs.

As such, EpiCentre at Massey University and The Bio-Protection Research Centre

(Bio-Protection) at Lincoln University jointly launched an investigation with the aim to identify the knowledge and skills gaps in the industry. The research was supported by the Partnership for Excellence fund between the two universities. The primary objectives of this study were to describe the knowledge and skills required to work in the area of biosecurity, to identify knowledge and skill gaps of people currently working in biosecurity, and to identify the preferred delivery mode for education and training in the area of biosecurity.

The project kicked off at the New Zealand Biosecurity Institute annual conference (NETS2009) in Queenstown, where we announced the project and invited participation anyone who was involved in biosecurity work was asked to participate either in an online questionnaire or telephone interview. The call for participation was also extended to the approximately 400 members of the New Zealand **Biosecurity Institute.**

Initial conversations and questionnaire data from

approximately 100 stakeholders (representing regional councils, ports, federations, private companies, the Department of Conservation and MAFBNZ) indicated that there were significant differences in biosecurity training activities undertaken by various organisations. Furthermore, there was a lack of information about what organisations and groups were involved in biosecurity training activities. We researched all the training organisations that were mentioned by respondents in our study and identified gaps

between what was currently offered and actual training needs.

> In general, we identified areas which we refer to as critical needs and areas that we consider secondary needs. More specifically, preliminary findings revealed that there are needs for training that cover base knowledge of biosecurity issues and legislation, eradication and incursion response and risk assessment in biosecurity. There is also a real need for a management training programme that is tailor-made specifically for biosecurity. Perhaps one of the most interesting findings

uncovered in the research so far is that some of the courses identified as needs are already offered by industrial training organisations and polytechnics but there is anecdotal evidence that they are basic and piecemeal. A higher level course on biosecurity would benefit from integrated modules covering these topics in a more comprehensive manner. The general consensus therefore, was that a more holistic course was needed, and the preferred method for this was for trainees to undertake block courses that work towards a MAF-approved qualification.

We are now preparing for phase two of the project. This second phase involves two further workshops, the first at the NETS meeting in Blenheim in July to discuss finding with the wider community and another more focused meeting with MAFBNZ and other government stakeholders to describe the results and consider the way forward.

Finally, we wish to take this opportunity to thank all our respondents who have voluntarily given their time and helped us in this study.

Using genetics to confirm stoat reinvasion of Fiordland islands

<u>Kerri-Anne Edge</u> Department of Conservation Te Anau

enetic tools being developed by Dianne Gleeson, of Landcare Research, and Auckland University PhD student Andrew Veale, are helping answer some of the questions concerning Department of Conservation staff attempting to eradicate stoats from two large islands in Fiordland.

Stoats are pretty good swimmers – following their liberation into New Zealand in the late 1880s it took just six years for stoats to invade many of the remote islands of Fiordland, including Secretary and Resolution islands. Eradication programmes for stoats in Fiordland now cover more than 32,000ha of island habitat and these programmes have been carried out knowing how well stoats swim. Stepping-stone islands (small islands between the mainland and larger islands) and areas on the mainland adjacent to islands are trapped. Using this technique to help prevent stoats reinvading seems to work pretty well:

- Chalky Island has remained stoat-free for more than 10 years
- Anchor Island has had only one possible stoat in nine years.
- Even Coal Island, which at its closest point is only 450m from the mainland, has remained stoat-free for more than four years.

Unfortunately, last summer was different. The 2009 beech masting event in Fiordland had driven stoat numbers on the mainland to plague proportions, with the result that more stoats were likely to swim. During the January and February trap checks, stoats had turned up on Coal Island, Pomona Island in Lake Manapouri, and an unnamed island in Lake Hauroko (the first incursion there for more than 20 years).

On islands like Secretary and Resolution, which are

Knowledge about the origin of stoats found on Fiordland islands helps refine trapping techniques to keep species such as this South Island robin which has been introduced to Secretary Island, safe.





Trevor Huggins readies a kokako for release on Secretary Island. Photo: Kirsty MacNicol

currently targeted for stoat eradication, more stoats have been caught than normal. The issue for managers of these projects is whether these stoats are part of the original stoat population (and therefore avoiding traps) or whether they are new arrivals. Fortunately, genetic tools being developed by Andrew Veale and Dianne Gleeson are helping to unravel the puzzle.

On Secretary Island, the genetics confirm that we have been catching a mixture of Secretary Island stoats and invaders swimming from the mainland. Knowing what we are up against helps us to refine our trapping programme and consider what more we could do to slow reinvasion.

Reinvasion by stoats has always been a risk with island restoration in Fiordland, with some islands considered very secure and others less so. Decisions about which endangered species to release on islands are based on assessing this risk. For example, because they are considered fairly secure from reinvasion, islands like Anchor and Chalky have received endangered kakapo, tieke/ South Island saddleback, and little-spotted kiwi. Secretary Island is now home to the South Island robin, mohua, rock wren, and North Island kokako – all of which can tolerate low numbers of stoats.

Future decisions about species translocations will always take account of the risk of stoats reinvading. At the end of the day it's about doing our best to conserve threatened species – even if a few stoats turn up from time to time.

Information sought on bounties paid for 'vermin' in New Zealand

Taarati Taiaroa Elam School of Fine Arts Taarati.ts@gmail.com

istorically, bounties were paid to those killing "vermin" on the presentation of "tokens" to their local Acclimatisation Society or employer. The payments were made for tokens from a range of animals which included; hedgehog snouts, deer tails, possum ears, kahu legs, kea bills, native black shag heads, pig snouts and tails.

The tracking of bounties throughout New Zealand's history highlights the changes in environmental "value". The classification of vermin was subjectively negotiated by four

key industries associated with our national image: farming, the great outdoors, conservation and game hunting.

I am currently involved in research into bounties placed on different animals throughout New Zealand's history.

At present I am constructing a list of bounties, (shown below).

I would much appreciate any information about any of the animals on this list, including any stories, facts or leads about bounties that have been paid in New Zealand.

I can be contacted at <u>Taarati.ts@gmail.com</u>

The name of the 'vermin'	The token needed to claim bounty	The price received for the token	Years that the bounties were in operation.		
Red deer	Tail & strip	4s	1940 - 1970s		
Hedgehog	Snout	6d to 1s	1940 - 1952		
Kahu	Legs	50 rounds 3d to 9d	1860 - 1970s		
Kea	Bill	?	1860 -1970		
Possum	Ears & strip	2s, 6p	1951 - 1962		
Native Black Shag	Head	?	1890 - 1940		
Pig	Snout & tail	1s or 3 rounds of .303 ammunition	1925 - 1950s		
Eel	Tail	6d to 1s/1b [over 10lbs]	1903		
Ferret	Tail	1s to 4s	1931 - 1960s		
Stoat	Tail	1s to 4s	1931 - 1960s		
Yellow hammer eggs	?	?	?		
Magpie	?	?	?		
Myna	?	?	?		
Rabbit	Ears	3 rounds of .22 ammunition, a Rabbit Board No4 shotgun cartridge	?		
Morepork	?	?	?		
Weka	?	?	?		
Note: Prices shown are in the pounds shillings and pence. $s = shillings$. $d = pence$ (20s = 1 pound [£1] = \$2). At conversion					

Note: Prices shown are in the pounds shillings and pence. s = shillings, d = pence (20s = 1 pound [£1] = \$2). At conversion in 1967, 1s equalled 10c, and there were 12p to 1s, and there were 10s to the \$1.

BIOSECURITY

Future of Pest Management project draft plan consultation to start soon

The Future of Pest Management Project has prepared a draft plan of action which is scheduled to go out for public and stakeholder consultation in June 2010, after approval by Cabinet.

Led by MAF Biosecurity New Zealand (MAFBNZ), the project is a collaboration between central and regional government, Maori, industry and other key stakeholders. It was set up to find solutions to issues identified by MAFBNZ and regional council reports commissioned in 2008, and to develop pest management systems to meet New Zealand's needs over next 25 years.

"The key factors we have identified are that future pest management systems need to be aligned to agreed outcomes, be able to adapt, make the best use of available resources, and be built on strong relationships," says Andrew Harrison, MAFBNZ's Manager Pest Management Group.

Four key solutions have emerged from the project and these form the basis of the draft plan:

I. Clear roles and accountabilities

Roles of agencies and others involved in pest management would be clarified through changes to the law and new accountability mechanisms.

2. Improved and simplified processes

Pestmanagement processes, particularly pestmanagement

strategies, would be made more flexible and based on simpler processes.

3. Better and more accessible tools

The "toolbox" of control tools and practices would be maintained in a co-ordinated way among the agencies involved in pest management.

4. Acting collectively

Finally, collective action would be encouraged by better leadership, more partnerships, better support for community action, and by reviewing national pest programmes to bring them into the new model.

"There was very strong endorsement of the draft plan by key stakeholders, which is encouraging for the project team," Andrew Harrison said.

"Once approved, it will be released for wider stakeholder consultation. Interested parties will be invited to provide feedback through a combination of workshops, hui and written submissions. This feedback will inform the preparation of a final action plan which will be presented to Cabinet in October 2010."

Once approved the final plan will be implemented starting in November 2010.

• For more information see the MAFBNZ website www.biosecurity.govt.nz/pests/surv-mgmt/mgmt/future-project

Kauri dieback long-term management programme makes progress

he long term management plan for Kauri Dieback is in final draft stage, and work-streams have been established to implement the planned activities (including a behaviour change programme to encourage forest users to clean their footwear and keep to tracks, and installation of cleaning stations for footwear).

Kauri Dieback (*Phytophthora* taxon Agathis – PTA) is a fungus-like species that appears to be causing dieback in kauri trees in Auckland, Northland and Great Barrier Island. A long term management programme has been established by MAFBNZ, Department of Conservation (DoC), Auckland Regional Council (ARC), Northland Regional Council (NRC), Environment Waikato (EW), Environment Bay of Plenty (ENVBOP) and Maori. A research project looking at forest user behaviours and awareness of Kauri Dieback has just been completed to find out what high risk users think/know about kauri dieback and the behaviours they are being asked to adopt. The results are still being analysed but will help the programme develop communications activities long term.

New cleaning stations have been installed at Trounson Park and Waipoua.

Standard Operating Procedures for track development and maintenance and soil sampling will be developed soon.

The Tangata Whenua Roopu (group) has is developing a work plan and will shortly be commissioning some work into a cultural effects assessment into PTA.

For more information go to www.kauridieback.co.nz

Action plan for rabbit management under development

AFBNZ is developing an action plan to improve rabbit management and to address issues and opportunities previously identified in the Lough Report and by the Rabbit Coordination Group.

The plan is being developed in conjunction with

the Rabbit Coordination Group, which includes representatives from affected regional councils, Department of Conservation (DOC), Land Information New Zealand (LINZ), Federated Farmers, Landcare Research and MAFBNZ.