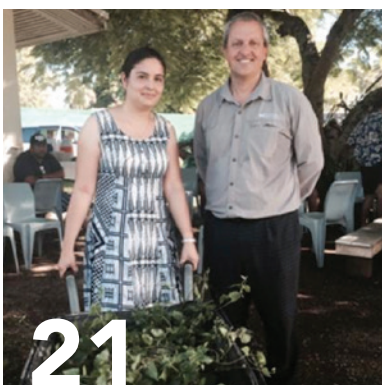




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NZBI Contacts



Rebecca Kemp
President



Sara Moylan
Vice-President &
Lower North Island



Alice McNatty
Secretary



Randall Milne
Treasurer & New
Members Officer



Pedro Jensen
Immediate Past
President



Darion Embling
Vice-President &
Central North Island



Lindsay Vaughan
Top of the South



Ronny Groenteman
Canterbury/Westland



Richard Bowman
Otago/Southland



Alastair Fairweather
Travel/Study Awards
Co-ordinator



David Brittain
Web Manager



John Sanson
Biosecurity
New Zealand

Rebecca Kemp	President	(09) 366 2000	rebecca.kemp@aucklandcouncil.govt.nz
Darion Embling	Vice-President & Central North Island	(07) 859 0790	Darion.Embling@waikatoregion.govt.nz
Sara Moylan	Vice-President & Lower North Island		Sara.Moylan@gw.govt.nz
Alice McNatty	Secretary		mcnatty@hbrc.govt.nz
Randall Milne	Treasurer & New Members Officer	(03) 211 5115	randall.milne@es.govt.nz
Pedro Jensen	Immediate Past President		pedro@kaitiaki restoration.co.nz
Mary Stewart	Auckland/Northland		mary.stewart@aucklandcouncil.nz
Lindsay Vaughan	Top of the South	(03) 543 8432	lindsay.vaughan@tdc.govt.nz
Ronny Groenteman	Canterbury/Westland		groentemanr@landcareresearch.co.nz
Richard Bowman	Otago/Southland		richard.bowman@es.govt.nz

Other Officers

Chris Macann	Protect Editor & Archives Co-ordinator	03 349 9660	chrismacann@hotmail.com
David Brittain	Web Manager		david.brittain@kiwicare.co.nz

Seconded Members

John Sanson	Ministry for Primary Industries	(04) 894 0836	John.Sanson@mpi.govt.nz
Alastair Fairweather	Travel/Study Awards Co-ordinator & Vertebrate Pests secondment	(07) 858 0013	afairweather@doc.govt.nz

The New Zealand Biosecurity Institute can be found on the web at www.biosecurity.org.nz



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Go forth and evangelise

■ EDITOR'S NOTE

I recently attended Canterbury Branch's Mini NETS which was well attended. It has been sometime since the Branch has had a major get-together. The event was possible largely due to the support of Environment Canterbury and it was pleasing to see representatives from ECan at the commissioner and director level.

A summary of the two day event appears in this issue, and some of the presentations are further elaborated on. The presentations and field trips brought home to me how diverse biosecurity has become from the early days when it tended to mean simply controlling plant and animal pests. The presentations showed how much change there has been and how dynamic the sector has become, and must further become.

One challenge on the horizon could be how the sector deals with legacy pests such as gorse broom and rabbits. This is touched on in this issue. Also covered in these pages are stories about an eagle-eyed West Coaster who spotted an unwanted plant resident, children who think marijuana and tigers are major biosecurity risks, and among many other items, an opinion piece on the effectiveness of biosecurity advertising. As well, it's Biosecurity Month - go forth and evangelise.

Chris Macann,
Editor

It's Biosecurity month

■ FROM THE NZBI EXECUTIVE

Kia ora and hello from the Executive.

Yet another year has flown by with many of the NZBI Executive being involved in bringing together responses and media releases to highlight Biosecurity to the greater population. The past year has seen many of our members involved in high level incursion responses; this too has highlighted to the general population the importance of biosecurity in New Zealand and also our vulnerability to incursions. With so many pressures on our biosecurity network there could not be a better time to ensure that emphasis is placed on ensuring that we have the capability to continue to respond to incursions and just as importantly that we have the ability to halt incursions at the border.

Biosecurity Month: Well July is upon us and Biosecurity Month is here. What we need you to do:

- Get out some great stories to the press about the fantastic work you do
- Use the Biosecurity Month banner where you can
- Showcase biosecurity

Our next Executive meeting will be at NETS2015 in Dunedin. The Executive are looking forward to Dunedin "The Learning Never Stops" and hope to see you there.

Nga mihi

Rebecca Kemp,
President



We're not about tigers and marijuana, says Biosecurity Institute

July is Biosecurity Month and those who work in the sector reckon more should be taught about animal and plant pests in schools.

The call from the New Zealand Biosecurity Institute (NZBI) comes on the eve of the month dedicated to highlighting the sector.

It follows the recent release of a survey of Auckland schoolchildren which found such a lack of knowledge about unwanted plants and pests, and the effects they could have on the environment, that many considered zoo animals and illicit drugs to be the country's biggest biosecurity threats.

The NZBI thinks it's time the biosecurity sector took a higher profile in the community as well as in schools.

The survey of 171 Year 9 students found that around a third could not name an unwanted animal. While some named possums and rats as pests, others listed zoo animals such as tigers, elephants and hippos.

A third could not name an unwanted plant in New Zealand. Those that did named marijuana.

NZBI member Rajesh Ram carried out the survey as part of his studies at the University of Auckland. He said he also found the students lacked knowledge on what effect an unwanted plant or pest could have on the environment.

NZBI President Rebecca Kemp said the students were predominately aged 13 and she would have hoped they had a bit more of an idea about pest plants and animals and the general concept of biosecurity.

Ms Kemp said every year, in the course of their jobs, NZBI members spend hundreds of hours controlling or managing the risks to the economy and the environment from the effects of unwanted pests.

"This is work which costs the country hundreds of millions of dollars each year through control, research and border control budgets. This money is coming out of all New Zealanders' pockets," she said.

"We need everyone to play a part in protecting what's precious and unique about New Zealand."

The NZBI is the professional training and networking organisation for people involved in biosecurity. Its 450 members work for research organisations, educational institutions, regional councils and government departments. All are involved in protecting NZ from invasive species.

“The NZBI thinks it’s time the Biosecurity Sector took a higher profile in the community as well as in schools.”

Biosecurity Month occurs every July in the run-up to the NZ Biosecurity Institute’s annual conference.



Lots of changes ahead - all for good hopefully:

Canterbury Branch's Mini NETS - 28 & 29 April

SUMMARISED BY CHRIS MACANN

The Canterbury branch with significant sponsorship and support from ECan held a mini NETS in April. The event held on the fringe of Christchurch was the branch's first significant gathering for several years and possibly as a result was well attended by up to 100 people over the course of the two days. Significant insights on policy research and practice were shared in what was a comprehensive overview of biosecurity in the region and nationally.

Unique opportunity

Environment Canterbury commissioner responsible for the pest portfolio Tom Lambie opened by observing that because we have distance and the sea in our favour we have a unique opportunity to take control of our border control and biosecurity.

ECan's Biosecurity and biodiversity manager **Graham Sullivan** gave a regional overview with links to the national biosecurity agenda which has a number of significant changes.

Strategy becomes a plan

He noted that a key change in the Biosecurity Law Reform Bill is that the strategy becomes a plan "which is more in line with what it actually is", he said. It introduces a national policy direction. Some of its key features are: more rigour around declaring pests; minor changes can be made to the strategy without a major review; the Crown has good neighbour obligations (in this area in the past the Crown has frequently been exempt from its own legislation) - this will be a matter for individual councils and the relationships with their Crown neighbours; the mandatory review has been extended to ten years from five; small changes can be made without consultation or review; and councils can prepare pest pathway management plans without referring to the strategy.



▲ In the Red Zone

► *Environment Canterbury's Biosecurity and Biodiversity Manager Graham Sullivan gives a regional overview*

▼ *Andrew Crossland addresses the group at Charlesworth Wetland*



Attitudes to legacy pests

Graham alerted those gathered to the level of feeling amongst the public about the possibility of changing the traditional attitudes to the way legacy pests such as rabbits, gorse and broom have been managed.

He commented that regional councils and unitary authorities nationwide, following the lead taken by the South island, are now working more closely to align the look as well as content of local pest management plans.

Biosecurity Planning Consultant **Ray Maw** furthered Graham's comments, in his address on a national approach to regional pest plan reviews, and ECan's Sarah Hemmingsen added comment on the implications of the reforms on Canterbury's Regional Pest Management review.

ECan's biodiversity team leader **Jo Abbot** presented an overview of regional biodiversity. Jo outlined some of the region's flagship projects involving Canterbury's iconic rivers as well as Lake Ellesmere, and Wainono Lagoon in the south of the region.

From MPI, **Sherman Smith** summarised the department's future direction and updated the audience on the NZ Wilding Conifer Strategy. **Graham Burnip** suggested what new pests to be on the lookout for, and incursion investigator **Carolyn Bleach** spoke of the recent pest incursion and responses in Canterbury, many of which are unheralded.

Managing declared pests on conservation and crown land was summarised by DOC's **Keith Briden** and **Dave Mole** from Land Information New Zealand respectively. Miles Giller, QE2 Trust representative for North Canterbury spoke about the challenging yet rewarding work of managing pests on covenanted private land.

Research

In sessions on research, Landcare's **Hugh Gourlay**, **Lynley Hayes**, and **Bob Brown** covered respectively new biological control agents, a national assessment protocol for possible agents, and biological control of wasps. **Janine Duckworth** also from Landcare Research spoke of the search for more effective strains of rabbit calicivirus.

From AgResearch **Graeme Bourdot** spoke on management system support tools and **Mike Cripps** spoke about biological control of Californian thistle.

On two of Canterbury's major scourges ECan's **Hanna Eastgate** spoke about on-farm security for Chilean needle grass and ECan's principal biosecurity advisor **Laurence Smith** updated the gathering on the historic and ongoing battle against nassella tussock

Danny Templeman from OSPRI (Operational Solutions for Primary Industries) gave an update on the TB Free Programme. TB Free NZ and NAIT (National Animal Identification and Tracing) are wholly-owned subsidiaries of OSPRI NZ. Its shareholders are Dairy NZ, Beef+Lamb New Zealand and Deer Industry NZ.

ECan's **Steve Palmer** spoke on managing established pests on the Chatham Islands, which ECan is responsible for, and **Paul Bradbury** from SBS Biosecurity spoke about his company's role in border biosecurity.

Out and about

Field trips covered a representative section of biosecurity activities around Christchurch: Charlesworth Wetland on the periphery of The Avon-Heathcote Estuary where weed control is a key to success notable problems are boneseed, convolvulus and grass invasion; Travis Wetland, a large area amidst the suburbs where stock are employed to keep the grass down among other pest control efforts, highlighted in Christchurch City Councils Pest Management Plan; a section of the Avon River where aquatic pest management was discussed; and The Red Zone in Christchurch's east where weeds are emerging in the absence of gardens.

More details of many of these presentations appear on later pages or may be available on the NZBI website for a brief time or from the Editor.



Get behind the Institute and the branch

Outgoing Chair of NZBI Canterbury branch Hugh Gourlay summed-up his nine years at the helm in his final report. His final thought was to encourage local staff from local and national government organisations to “get behind” the Institute and the branch. Here are some of his comments.

“We began with field days, evening talks, overseas visitors and events celebrating Christmas and other significant dates.

“We tried to move on to a signature cause for the branch and the institute through the revegetation of a local site. This was endorsed and encouraged by some 30 branch members who attended an on-site planning session, and Nicholson Park became our cause. With the significant involvement of Keith Briden we received funding from DOC to buy native plants to put at the site. We spent a lot of time and energy clearing away the weeds and then planting the natives. Unfortunately the great encouragement we had at the beginning waned and became a task for the 10 or so people who continued to commit to the project.

“We spent a lot of time and energy clearing away the weeds and then planting the natives”

“Today, Nicholson Park, the Whitewash Head walkway and the area behind Taylor’s Mistake look truly fantastic and our plantings are now very obvious and quite beautiful with many positive comments from people who walk past them.

“The earthquakes have certainly taken their toll for all of us on our positivity, our time and our

drive to be involved in social and working activities over the past few years. We have been unable to form a quorum for the past few years at our local branch AGM’s.

“I have been involved in two Canterbury-hosted NETS, with the West Coast venue being a huge highlight for all of us that were involved in the organising and attending it in 2013. I believe the branch needs to be focussed more around biosecurity from the perspective of Environment Canterbury, the city council and MPI and to this end I strongly encourage people from these organisations to get behind the institute and the branch.”

Thank you Hugh

At the Canterbury Branch AGM on 28 April 2015 held after METS at The Corporate Club just outside Christchurch, Hugh Gourlay resigned from his role as Chair for our Branch.

Hugh has been the branch’s Chair since 2006.

Thank you Hugh for all your enthusiasm and work in organising events for us to attend and the role you played supporting Keith Briden in setting up the biodiversity project near Taylor’s Mistake.

You have provided branch members with opportunity’s to get in and be involved, to work together, and develop friendships networks and knowledge. So thank you.

Gemma Livingstone,
Canterbury Branch Chair



“Today, Nicholson Park, the Whitewash Head walkway and the area behind Taylor’s Mistake look truly fantastic” ~ Hugh Gourlay



New tool to tackle marine pests

Bay of Plenty Regional Council has gained new powers to manage marine pests in the Bay of Plenty.

It has declared two Small Scale Management Programmes to control and prevent the spread of the unwanted marine pests Mediterranean fanworm (*Sabella spallanzanii*) and clubbed tunicate sea squirt (*Styela clava*).

It's the first time in the country that a local authority has used the Small Scale Management Programme provisions of the Biosecurity Act to deal with a new marine pest threat. Marine pests are a problem because of their invasive growth and feeding habits which can impact on marine-based business, recreation, marine ecology and kaimoana (seafood) stocks.

The Programmes give warranted regional council biosecurity staff legal powers such as to enter and inspect marinas and wharves, or direct owners to haul out and clean their boats, if necessary.

"We'll always try and collaborate with a boat or structure owner in the first instance. The powers are only there for when people aren't co-operating or can't be contacted," said Regional Council Biosecurity Officer Hamish Lass.

"A single Mediterranean fanworm was first found in Tauranga Harbour in September 2013. Thanks to help from Ministry for Primary Industries and University of Waikato we've now got a thorough marine pest surveillance programme in place."

"We'll always try and collaborate with a boat or structure owner in the first instance."



Staff at Bridge Marina Travellift remove Mediterranean fanworm

"High risk sites are checked twice yearly and 38 hotspots where pests have previously been found are checked monthly. That means regular dive surveys of more than 450 moorings, 800 boat hulls, 10km of marina pontoons and 1.5km of rock walls," Hamish said.

In the past two years, six recreational boats moored in Tauranga Harbour have been found with the unwanted pests growing on their hulls. Five of the boats had recently travelled from parts of Auckland or Northland which are already infested. The infestation source of the sixth boat is currently being investigated.

"We've relied on co-operation from boat owners to get the boats hauled out and cleaned. That's worked so far, but without enforcement powers there's been potential for our response to be delayed or ineffective."

"The high volume of recreational boating traffic in and out of the Tauranga Harbour means there's a high risk of more pest infested boats arriving in the Bay of Plenty. The biggest problem is boats that have been moored in infested areas and then sailed here without prior checking and cleaning of their hulls," said Hamish.

More information is available at www.boprc.govt.nz/marinepests

"Without enforcement powers there's been potential for our response to be delayed or ineffective."

It's the first time in the country that a local authority has used the Small Scale Management Programme



Future-proofing our biosecurity system

Primary Industries Minister Nathan Guy has launched a new project in April which will he said will further strengthen and future-proof New Zealand's biosecurity system.

The project, Biosecurity 2025, will update and replace the founding document of New Zealand's biosecurity system, the 2003 Biosecurity Strategy, with broad input from stakeholders, iwi and the New Zealand public.

"Government and industry have set a goal of doubling the value of our exports by 2025, and an effective biosecurity system is fundamental to achieving this," said Mr Guy.

"That is why biosecurity is my number one priority as Minister, and why the time is right to take a longer term view. Since last year, I have been discussing with officials the need to better prepare ourselves for future biosecurity threats, challenges and opportunities.

"As the fruit fly discovery in Auckland shows, our biosecurity system is facing ever-increasing pressures due to factors such as growing international trade, greater mobility of people and increasingly complex global supply chains.

"In recent years, we have beefed up the frontline on the border.

"And beyond the border, looking across the wider biosecurity system, many more improvements have been made. We are now partnering with four industries – and more to come – under the Government Industry Agreements on Readiness and Response.

"Biosecurity 2025 will provide a clear direction for the biosecurity system and identify any changes or improvements needed over the next ten years. The project will be led by the Ministry for Primary Industries and overseen by an independent panel of three peer reviewers.

"MPI will be asking New Zealanders how they see the biosecurity system functioning now, what issues and pressures it is likely to face, and how the system might operate to protect all our interests, through to 2025," says Mr Guy.

The three peer reviewers are:

Dr John Hellstrom, who has held many key biosecurity roles in government, and was chair of the former Biosecurity Council when that Council led the work to develop the 2003 Strategy.

Professor Mick Clout of The University of Auckland, a conservation ecologist and former chair of the Biosecurity Ministerial Advisory Committee – the body that succeeded the Biosecurity Council as an outcome of the 2003 Strategy.

Glenice Paine, chair of the Te Atiawa Trust, an accredited RMA Commissioner and prior chair of the Environmental Protection Authority's Maori Advisory Committee.

A draft Direction Statement will be developed. It will cover expectations of what the system should deliver by 2025 including priorities for action. The final Direction Statement is expected to be confirmed by the end of the year.

People can register their interest in the engagement process by emailing Biosecurity2025@mpi.govt.nz



Waikato-based Peter Russell was recently elected as Central North Island branch Chair of NZBI, taking over from Taranaki's Steve Ellis.

Deliberate hobby breach costs more than \$45,000

The serious nature of a deliberate and calculated breach of New Zealand's biosecurity rules has been reflected in a stiff sentence.

Importing live eggs covered in dirt without declaring them has cost a New Plymouth woman more than \$45,000.

The chicken enthusiast bought live eggs on eBay auctions in Scotland, England and Wales, and then had them repackaged and falsely declared as "chocolate eggs" on a UK customs form.

Three separate packages were identified as "risk material" by x-ray and intercepted in January 2012 at the Auckland International Mail Centre.

The Ministry for Primary Industries said the eggs had not been sterilised and there was still dirt and faeces on some of them.

The woman was sentenced in June, after earlier being found guilty of three Biosecurity Act charges of knowingly possessing unauthorised goods.

The Judge fined her \$15,000 on each charge and \$630 costs.

Northern Investigations Manager David Blake said she put the poultry industry and wild bird populations at "considerable risk" by attempting to illegally import live eggs for her hobby.

He said it was a deliberate and calculated attempt to avoid New Zealand's biosecurity measures by someone who understood the system.

"She put the poultry industry and wild bird populations at considerable risk in order to hatch eggs for her own enjoyment. The serious nature of her actions has been reflected in the sentence."

Tigers, elephants, hippos and marijuana are New Zealand's most serious biosecurity risks:

A survey of secondary school children has found such a lack of knowledge about unwanted plants and pests, and the effects they could have on our environment, that many consider zoo animals and illicit drugs to be the biggest threats to New Zealand.

In 2014 Rajesh Ram surveyed 171 Year 9 students (third-formers in old speak) as part of his Master's Degree at the University of Auckland's Faculty of Education.

The survey found that 31 percent could not name an unwanted animal. While some named possums and rats as pests, others listed animals that are only found in zoos in New Zealand, such as tigers, elephants and hippos.

And 33.3 percent could not name an unwanted plant in New Zealand.

The students also lacked knowledge on what effect an unwanted plant or pest could have on the environment.

Those that did name an unwanted plant named marijuana, indicating that they perceived unwanted plants as illicit drugs. They also thought unwanted plants caused social problems in society like addiction, family violence and depression.

The students were not able to say how an unwanted plant could specifically harm native species or the ecosystem.

Rajesh, a former employee of MAF Biosecurity New Zealand, says biosecurity is an important aspect of our society.

"It would do us good in the long run if we raised the profile and importance of it in the community," he says.

"Biosecurity is only discussed in the public domain when incursions like the fruit fly one occur. I believe this is not how it should be and more effort should be made by the authorities to bring the topic into the public domain."

"I believe school children are the future of NZ and they need to be taught the importance of biosecurity."

He said schools and teachers need to be provided with resources that can be effectively used to teach biosecurity, and it should be included in the school curriculum. Currently, the term biosecurity is not mentioned in any of the level 5 objectives of the New Zealand curriculum.

Rajesh is now starting a PhD to see whether students have a critical understanding of social issues such as biosecurity in a local or national context.

He hopes to work with students to explore their conceptions of biosecurity risk.



The Right tree in the right place: Wilding Conifers Strategy (2015 – 2030)

The New Zealand Wilding Conifer Strategy was released in December 2014. Here is a brief update on progress provided by Megan Coffee from MPI's Long-term Incursion Management Team.

The strategy's vision 'the right tree in the right place' aims to support effective collaboration between central and local government, farming and forestry industries, researchers, and communities to address the critical issues facing wilding conifer management.

The Ministry for Primary Industries (MPI) is continuing to work closely with partner organisations on implementing the Strategy. Projects currently underway, or being scoped, include:

- Standard criteria for data collection and a national system for recording and mapping data on wilding conifer spread.
- National prioritisation of wilding infestations to inform the allocation of any future funding and control effort.
- Development of rules for wilding conifers for inclusion in regional pest management plans.

Sherman Smith, Senior Advisor Long-term Incursion Management from MPI will be speaking about the strategy and its implementation at NETS2015.

For more information contact Sherman at Sherman.Smith@MPI.govt.nz

The Wilding Conifers Strategy is available here: <http://www.wildingconifers.org.nz/>



Contorta pine spreading near Lake Pukaki

MPI intercepts plants in underpants

A Polish gardener is facing prosecution for smuggling plants in his underpants into New Zealand.

Ministry for Primary Industries (MPI) staff intercepted plant cuttings, a bulb, a tuber and seeds after an arriving air passenger was searched at Auckland airport in May.

MPI strip-searched the passenger after a biosecurity detector dog sniffed out the plants near the man's groin. A Customs drug dog had also indicated the man was carrying something in his pants.

The man, a New Zealand resident, was wearing two pairs of underpants and the itchy concealment included ivy from a castle in Poland, says Craig Hughes, MPI's Northern Border Clearance Manager, Passengers and Mail.

"He wanted the plants for his garden, saying he could not find them in New Zealand," Mr Hughes said.

The man is likely to be prosecuted under the Biosecurity Act.



Border clearance levy to be introduced

A new border clearance levy will help the Government to protect New Zealand from imported pests, diseases, illegal drugs and contraband and bring us in line with border approaches by other countries, Primary Industries Minister Nathan Guy and Customs Minister Nicky Wagner say.

The levy is expected to take effect from 1 January 2016, and will be around \$16 for arriving passengers and around \$6 for departing passengers – although the exact amounts will be subject to public consultation.

The Ministry for Primary Industries and the New Zealand Customs Service together spend around \$100 million a year on border clearance for passengers and crew.

The levy is expected to raise around \$100 million per year and will fully meet the costs of passenger border clearance by 2017/18.

"Our borders are dealing with increasing volumes," Mr Guy said.

"Arriving air passenger volumes have grown by more than 18 per cent from 4.4 million in 2009 to 5.2 million in 2014, and are expected to continue growing at around 3.5 per cent each year.

Ms Wagner says the levy brings passenger clearance in line with clearing cargo imports, which is already funded by levies and fees.

The levy, when combined with existing charges, will be around \$36 for a return journey.

Beginning in early June, the public and industry will get the chance to provide feedback on the design, introduction and level of the levy.

This announcement is part of a range of measures in Budget 2015 to improve security involving immigration, customs and biosecurity.

“The levy brings passenger clearance in line with clearing cargo imports, which is already funded by levies and fees.”



The good and the bad of Russell lupins plus a history lesson

Environment Canterbury and the New Zealand Merino Company are working towards an agreement on the way Russell lupins should be managed, to avoid spread.

Don Chittock, Environment Canterbury programme manager, said his organisation understood Russell lupin was being trialled as a fodder crop for high country sheep, but also wanted farmers to know it was also a serious weed.

“We recognise that farmers, agencies and the merino industry are looking for options to combat the dry climate and meet the Government’s goal of growing production and doubling the value of primary industry exports by 2025,” Mr Chittock said. The challenge was to allow production of alternative fodder crops while avoiding a high public cost of controlling spread. This would require good management practices being developed and followed.

The New Zealand Merino Company (NZMCo) commissioned Lincoln University trials demonstrating that Russell lupins held on to soils which might otherwise blow away and tolerated aluminium levels toxic to lucerne.

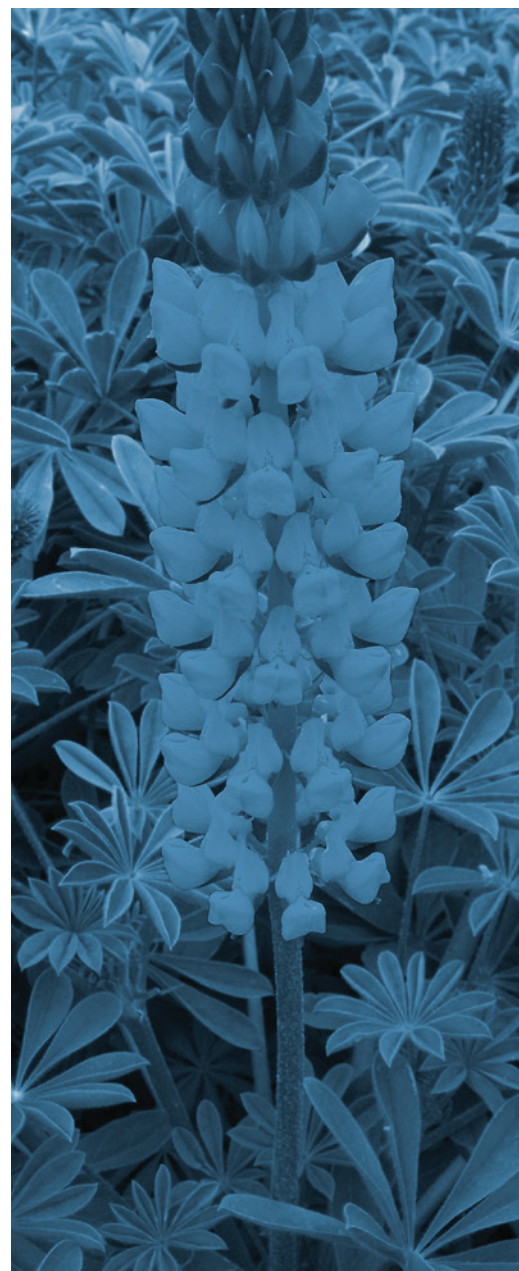
The Ministry for Primary Industries’ Primary Growth Partnership helped fund these trials, as part of NZMCo’s New Zealand Sheep Industry Transformation Project aimed at improving merino genetics, health and forage.

Mr Chittock said public funds were already being spent controlling Russell lupins in areas with high biodiversity values. However, their biodiversity protection pest status in the Canterbury Regional Pest Management Plan meant there were currently no restrictions on planting or requirements to control spread.

Environment Canterbury Biodiversity team leader Jo Abbott said braided rivers were one of the most susceptible habitats to Russell lupins which out-competed native plants and choked nesting habitats for endangered birds. “Dense stands trap gravel, providing easy access for cats, rats, mustelids and other predators as well as exacerbating flooding and erosion,” Dr Abbott said.

Patches had also been discovered in inter-montane basins and foothills, montane scree slopes, alpine valley floors and wetlands and margins of spring-fed streams in the Canterbury high country. “Seed could be spread long distances not only in water but also on stock and vehicles,” Dr Abbott said.

Mark Ferguson, New Zealand Merino Company production science manager, said his organisation planned to release a Russell lupin management protocol this winter. “Farmers who chose to plant this fodder crop are expected to avoid spread into threatened or fragile environments,”



“The challenge was to allow production of alternative fodder crops while avoiding a high public cost of controlling spread.”



Dr Ferguson said. New Zealand Merino is in discussion with Environment Canterbury and will also consult with the Department of Conservation and environmental groups.

Company research suggested Russell lupin spread was only likely near waterways, Dr Ferguson said. By following the protocol, farmers could realise the agronomic potential of this plant with minimal risk to the environment.

"We don't want to be seen to be environmental vandals," Dr Ferguson said. "If it turns out that these plants will spread everywhere and threaten native habitat, that's not an outcome we want."

The New Zealand Merino Company is surveying for spread and advising farmers to keep plantings more than 100 metres from waterways, to avoid seeds washing downstream and germinating along riverbeds.

Nicholas Head, Department of Conservation (DOC) ecologist, said Russell lupins had spread into several riverbeds in the Mackenzie Country, where they pose a risk to native ecosystems. Lincoln University has been conducting trials on Lupins as a fodder crop in the Mackenzie.

DOC, Environment Canterbury, Land Information NZ and a Landcare group had spent hundreds of thousands of dollars over more than 30 years controlling Russell lupins in the Rangitata headwaters alone, as part of a wider weed control effort.

Russell lupin and broom have much in common, Mr Head said. Both have pods which burst open and spread seeds explosively. Their hard exterior becomes chipped when tumbled down a rocky river, aiding germination.

Mr Head said that while often depleted from a long history of pastoral farming, the Mackenzie Country's nationally rare dryland ecosystems support over 60 rare and threatened plant and animal species.

Russell lupins were first planted along roadsides in the Mackenzie Country in the 1940s, by Connie Scott of Godley Peaks Station. Her son, retired AgResearch scientist David Scott of Tekapo, has long promoted the legume's potential as a fodder crop for sheep.

“Farmers who chose to plant this fodder crop are expected to avoid spread into threatened or fragile environments.”



Funding boost for biosecurity at the border

Biosecurity funding will be boosted by \$24.9 million over four years, in addition to \$2 million of capital funding, to increase New Zealand's border capabilities, according to Primary Industries Minister Nathan Guy.

"The funding will be used to expand New Zealand's ability to detect pests and diseases, stop risk at the border and deal with risk offshore."

"This funding will supplement the recently-launched Biosecurity 2025 project, which will provide a clear direction for the biosecurity system and identify any changes or improvements needed over the next 10 years," Mr Guy said.

This May announcement is part of a range of measures in Budget 2015 to improve security and services at the border, involving immigration, customs and biosecurity.

"This funding will supplement the recently-launched Biosecurity 2025 project, which will provide a clear direction for the biosecurity system... over the next 10 years,"

The new funding will be used for a range of new biosecurity initiatives, including:

- Improving New Zealand's import health standards to ensure they continue to keep pace with changing science and focus on our highest priority risks.
- Greater auditing of other countries' systems to ensure they are compliant with New Zealand's unique biosecurity requirements.
- Expanding our biosecurity detector dog capacity to manage risk at the border.
- Introducing more x-ray machines to allow for faster screening of increasing passenger volumes.

Spotted anything unusual?

Early reporting of unusual insect pests or plant symptoms helps to protect the avocado industry.

Calls to MPI's pest and disease hotline 0800 80 99 66 are confidential and ensure industry pests are discovered early before they spread.



Weed and predator control helps endangered birds

A five-year programme to trap predators of black-fronted terns starts at three breeding colonies beside the upper Clarence River this winter.

Department of Conservation (DOC) ranger Mike Aviss said a survey counted 303 black-fronted tern-tarapiroe nests at the colonies last spring. Hedgehogs, ferrets and ship rats, wild cats and a stoat were filmed raiding 63 nests and eating eggs. In the last breeding season 154 pairs of black-fronted terns fledged only 18 chicks.

The colonies are on conservation land neighbouring Molesworth Station in North Canterbury and Marlborough. Mr Aviss, a senior ranger based in Marlborough, said multiple agencies and landowners were pooling knowledge and experience to protect these endangered birds. The Canterbury Water Management Strategy Kaikoura Zone Committee would invest \$90,000 over five years, Environment Canterbury

In April about 1400 broom gall mite-infested twigs were dropped by helicopter into dense broom at the back of Cloudy Range and Hossack stations. Another release would be made over conservation land in October-November, covering an area from Clarence Reserve to St James Station.

\$184,000 through its Canterbury Braided River Initiative and DOC \$240,500.

"The programme will also involve clearing broom and willows from islands where terns like to breed," Mr Aviss said. "This means there are fewer places for predators to live, hide and hunt."



“The programme will also involve clearing broom and willows from islands where terns like to breed.”

DOC ecologist Richard Maloney said the trapping and weed control should see more chicks growing to fledglings and surviving to breed. "If nothing is done, black-fronted tern populations are expected to decline a further 90 per cent in 25 years," Dr Maloney said.

Kaikoura Zone Committee chairman Ted Howard said trapping predators was "part of a bigger programme of weed control along the Clarence River 'ki uta ki tai' – from the mouth of the river to the top of its 3500-square-kilometre catchment". In April about 1400 broom gall mite-infested twigs were dropped by helicopter into dense broom at the back of Cloudy Range and Hossack stations.

Another release would be made over conservation land in October-November, covering an area from Clarence Reserve to St James Station.

Scattered patches of broom, gorse, hawthorn and willow on public and private land were being sprayed from a helicopter, from St James homestead to Lake Tennyson.

John Murray, Clarence farmer and Kaikoura Zone Committee member, said landowners on three large properties, and smaller properties along the Clarence had paid for spraying on their land close to the riverbed.

"They saw the opportunity to get really good value for their weed control dollar and are keen to do their bit," Mr Murray said. Funding for this weed control came from the Zone Committee's Immediate Steps budget, aimed at delivering Canterbury Water Management Strategy biodiversity goals.



Care urged after recent fan worm finds in Coromandel Harbour

Boaties and marine farmers around the Coromandel Peninsula are being urged to take extra care after recent new finds of the marine pest fan worm (*Sabella*) in Coromandel Harbour.

This warning - which includes all vessels sailing, anchoring and mooring in the area, as well as marine farms – comes as Waikato Regional Council is ramping up funding to tackle marine pests.

The council and the Ministry for Primary Industries (MPI) have been working together to eliminate the fan worm since it was first discovered in the harbour in 2013. This first outbreak involved two infested barges from Auckland and was managed successfully in a joint operation. Ongoing monitoring was put in place.

Waikato Regional Council pest animals team leader Brett Bailey said one of the best ways to stop the spread of fan worm was for boaties to have their moored boat hulls cleaned and have fresh anti-fouling paint applied regularly.

“These actions will help stop fan worm getting a foothold in our region and protect our marine farms.”

Sabella was first reported in New Zealand in 2008 in Lyttelton, followed by another find in Auckland in 2009. The species is well-established in Auckland, and there is regular vessel movement between there and the Coromandel.

Monitoring for fan worm undertaken since the 2013 operation in Coromandel Harbour

has involved divers inspecting moorings, the seafloor, vessels, mussel farms and structures. Generally, only small, localised colonies of fan worms have been found and these have been removed immediately.

However, this autumn, monitoring has picked up increased signs of the pest. Six heavily fouled vessels in the harbour had *Sabella* on their hulls, while four fan worms were found at Hannafords Jetty. All were immediately removed. More recently, it was reported there may be *Sabella* within a marine farm in the harbour. Closer checks are to be carried out.

“We ask that boaties and marine farmers work with us to help identify where any further fan worms are.”

More information on fan worm, including photos, can be found at: www.biosecurity.govt.nz/pests/mediterranean-fanworm

Meanwhile, the council's recently approved Long Term Plan introduces \$235,000 in funding next financial year to increase monitoring and management of marine pests in Coromandel Harbour and the wider Firth of Thames, with \$185,000 a year thereafter.



Possum control reaches millionth hectare

Possoms are trending downwards across the Horizons Region as the Regional Council celebrated, in April, bringing one million hectares of land under sustainable possum control.

Initiated in 2006, Horizons' possum control programme aims to bring all rateable land under sustainable possum control by 2017. This is approximately 1.5 million hectares.

Horizons says it is the largest Council-led possum control programme in New Zealand.

Horizons manager biosecurity and habitat

protection Bill Martyn says possums have become the number one animal pest in the Horizons Region.

"It's estimated that 14-15 possums can eat the same amount of grass as one sheep. They can also be carriers of bovine tuberculosis," he says.

"Based on possum monitoring and habitat information, it's thought our Region has the capacity to carry about 4.1 million possums. In new areas of control we've seen a reduction in possum populations of around 75-80 per cent."

The benefits of these lower numbers are being noted by landowners who have reported less crop damage and increased sightings of native birds.

Horizons' group manager environmental management Craig Mitchell says it is rewarding nine years on to see such good results.

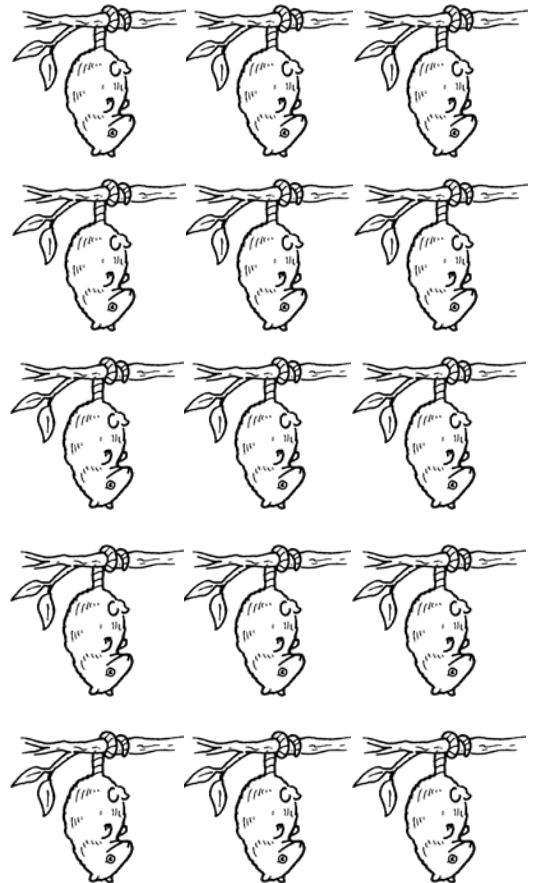
"Horizons' current possum control programme came about in 2006 as TbFree NZ (formerly known as the Animal Health Board) began to scale back its operations in areas where it had been successful in reducing bovine tuberculosis. We didn't want to see these areas go backwards in terms of possum numbers and we recognised a need within the community for greater Council support.

"Up until that point we had provided some support to landowners through self-help pest groups, particularly in the Tararua, but it was clear that an integrated programme was needed to truly address the large-scale issue.

"Now all that work is starting to pay off. It's a real testament to our team and the wider community."

Horizons' work complements possum control on Crown land carried out by the Department of Conservation and Animal Health Board work to control bovine tuberculosis.

“14-15 possums can eat the same amount of grass as one sheep.”



Serious Pasture Weed - yellow Bristle Grass incursion on the West Coast

Yellow Bristle Grass has been located on the West Coast for the first time.

Yellow Bristle Grass is a serious pest throughout the central North Island where it is proving very hard to control. Yellow Bristle Grass is an extremely aggressive annual plant which once established in a pasture, spreads rapidly and reduces pasture quality. When Yellow Bristle Grass sets seed (around Christmas-January depending on the season,) cows will avoid grazing it unless no other feed is available. Seed heads will persist until the first frosts in autumn, leading to lower pasture utilisation during this period, and a cost for supplementary feed required to maintain milk production.

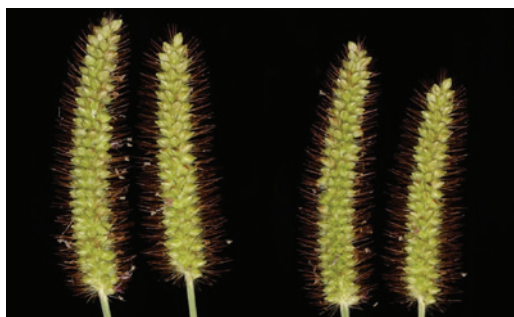
These costs are estimated to be between \$350-\$1100/ha depending on the level of infestation.

On the West Coast, Yellow Bristle Grass was first noticed by a farmer who had recently been visiting a friend in Waikato. His friend, whose farm is affected by Yellow Bristle Grass, had pointed out the plant and described its impacts on his property. Upon returning to the Coast the farmer was dismayed to find Yellow Bristle Grass growing on the roadside adjacent to his property.

A sample was collected by West Coast Regional Council Biosecurity staff, and Landcare Research confirmed it as Yellow Bristle Grass. Further searching by Biosecurity Staff found numerous small patches on the roadside most of the way through the Buller Gorge. Infestations to date have only been found

around marker pegs on the roadside which provides an early opportunity to try and prevent further spread into pasture.

In order to know the full extent of Yellow Bristle Grass spread on the Coast, it is important that farmers ensure they are familiar with the plant, and are actively look for it on their property and the adjoining roadside. Roadside mowing contractors have been shown the plant and will be looking while they complete their work programme throughout the districts, as well as local Weedbusters staff and other contractors who are working throughout the region.



Chilean Needle Grass Awareness Programme focusses on farm biosecurity.

By HANNAH EASTGATE
CNG AWARENESS PROGRAMME
COORDINATOR,
ENVIRONMENT CANTERBURY



The Chilean Needle Grass Awareness Programme is a three year Sustainable Farming Fund project, partnered by Marlborough District Council, Hawkes Bay Regional Council and Environment Canterbury, which is raising awareness of the presence and impact of Chilean needle grass in New Zealand.

Beginning in 2013, the Awareness Programme has produced a range of material to help landowners to identify CNG and manage the risk of spread. Feedback for the programme has been overwhelmingly positive, but whilst awareness of the risk of CNG has increased this isn't necessarily translating into the behaviour change needed by landowners to manage these risks.

Now into its final year, the programme is increasingly focussing on farm biosecurity as a key tool for landowners to prevent the spread of Chilean needle grass and other pests. The programme has produced a range of material to help landowners implement biosecurity measures on their properties, including information brochures, biosecurity signage for the front gate and stickers for farm vehicles, which are being distributed around the three regions partnering in the CNG Awareness Programme. Environment Canterbury has also recently created a farm biosecurity website: www.ecan.govt.nz/onfarmbiosecurity.

For more information on the CNG Awareness Programme and farm biosecurity contact Programme Coordinator Hannah Eastgate (Hannah.Eastgate@ecan.govt.nz)



Mile-a minute-meet's-worst enemy

A rapidly-growing vine that is smothering trees and plants all over Rarotonga could be under control in a few years, thanks a combined effort to fight its unrelenting spread.

Involving New Zealand's Ministry of Foreign Affairs and Trade, Landcare Research New Zealand and the Cook Islands Ministry of Agriculture, the fight took an important step forward in April when the first seven samples of mile a minute vine infected with a rust fungus were formally handed over to the Ministry of Agriculture at Arorangi.



Entomologist Quentin Paynter and plant pathologist Chantal Probst take a wheelbarrow full of mile a minute plants to meet the invasive vine's new adversary – a rust fungus.

The fungus (*Puccinia spegazzinii*), comes with an impressive track record, having already been introduced to curb mile a minute's spread in countries including India, China, Fiji, Papua New Guinea and Vanuatu.

Auckland-based Landcare Research entomologist Quentin Paynter, who with plant pathologist Chantal Probst oversaw the importation of the fungus-infected plants, says the mile a minute project is part of a \$1 million plan to introduce biological controls for a number of the most invasive weeds in the Cook Islands.

“Mile a minute or *Mikania micrantha* is said to grow as fast as 80 to 90mm in 24 hours.”

Paynter says while the fungus will bring the vine under control, it will never completely eliminate it, and those who use it in traditional medicines need not worry about mile a minute disappearing anytime soon.

There are also no concerns that the fungus, which comes from South America, will affect other plants, he said.

“It is highly specific and only attacks mile a minute.”

While it's difficult to estimate how quickly the control will work on Rarotonga, Paynter says colleagues in Vanuatu saw a noticeable reduction in the pest vine after just two years.

In tropical conditions mile a minute or *Mikania micrantha* is said to grow as fast as 80 to 90mm in 24 hours.

In the future, biological controls will be introduced to the Cook Islands for a range of nuisance plants including the annual cropping weed cocklebur and the balloon vine, which is also spreading rapidly on Rarotonga.

Paynter said there is long history of successfully using biological control agents in the Cook Islands.

From The archives

What's this new Roundup stuff

If some technical data on this new chemical Roundup is available, perhaps other members with either Kikuyu or Paspalum problems could contact the Northern Branch for some details.

Editors note, Noxious Weeds Inspectors Magazine, February 1, 1975



Field days attendance draws a crowd

BY HANNAH EASTGATE
CNG AWARENESS PROGRAMME COORDINATOR
ENVIRONMENT CANTERBURY

Have you heard of Chilean needle grass before?

No, it's not the same as Yellow bristle grass

Yes, it is a pest

This is how the conversations went when The Chilean Needle Grass Awareness Programme attended National Fielddays in June.

Shona Sam (Marlborough District Council), Alice McNatty (Hawkes Bay Regional Council) and Hannah Eastgate (Environment Canterbury) spoke to over 1000 people who visited the stand to find out more about CNG and farm biosecurity. Most visitors to the stand were from areas where CNG is not known to be and after a brief chat about the risks of CNG and how to identify it, visitors were advised to contact their regional council if they suspect they have CNG on their property. As a result of this, biosecurity officers may have increased queries about CNG, particularly over the spring/summer period. If you would like more information on how to identify CNG, contact programme coordinator Hannah Eastgate: Hannah.eastgate@ecan.govt.nz, or see www.facebook.com/chileanneedlegrass for more information.



Peter Russell: Destroying pests is only part of the job

Waikato-based Peter Russell was recently elected as Central North Island Branch Chair. Here is a short introduction and in most cases a reintroduction to Peter.



After around twenty years involvement in what he describes as the wider 'Bio-business', Peter recently left Waikato Regional council to set up a consultancy – Better Biosecurity Solutions.

Having worked at both senior management level and at the operational coalface with the Waikato Regional Council and Department of Conservation and on national Biosecurity advisory groups Peter reckons he's well positioned to share his experience with individuals and groups who need advice.

"Destroying pests is only part of the job," Peter said.

Peter is a frequent contributor to Protect Magazine and is a strong supporter and member of the Institute's Archives Project.

Peter's new email is: peter@betterbiosecurity.co.nz

Back after a family break: Gemma Livingstone

The new Canterbury Branch Chair is Gemma Livingstone who has recently returned to Biosecurity and the Institute following a parental break.

Here is a brief introduction and a reintroduction in many cases:



Back in action: Gemma Livingstone

For those of you who don't know me - I'm Gemma Livingstone (nee Bradfield). I work at Environment Canterbury in the biosecurity team. My current role is Acting Team Leader following Team Leader Rob McCaw's retirement at the end of April.

I have worked within the Biosecurity sector as science technician for 'HortResearch' in Auckland; and horticultural field officer for what was AgriQuality both Auckland and Christchurch before working with the biosecurity team at Environment Canterbury. I'm married with two girls aged four and two. I like gardening and eating salt and vinegar chips (preferably when the kids aren't around and I don't have to share).



Annual Biosecurity Bonanza delivers exciting possibilities

The Annual Biosecurity Bonanza once again delivered ideas for an exciting biosecurity future as Landcare's Dan Tompkins explains in his summary of this year's event

Wellington came up trumps for the Biosecurity Bonanza workshop, hosted by Landcare Research on Monday 25th May. This annual meeting is one of the key avenues for the 'technology transfer' and operationalisation of biosecurity research findings in New Zealand. Over 100 biosecurity professionals attended this year's workshop, representing the Ministry for Primary Industries (MPI), the Ministry for Business, Innovation and Employment (MBIE), the Environmental Protection Authority (EPA), the Parliamentary Commissioner for the Environment (PCE), OSPRI, the Department of Conservation (DOC), and a number of regional councils and contractors.

The over-arching theme for the day was one of greater integration between researchers and biosecurity stakeholders, providing avenues for end-users to enter into partnership in both deciding what the critical research needs are, and being involved in its implementation. A higher level of early stage engagement can only improve the speed, impacts of, and benefits obtained from research operationalisation.

A wide range of research activities

The Biosecurity Bonanza regularly covers a wide range of research activities, conducted by Landcare Research in partnership with end-users, stakeholders and other research providers. Activities frequently span both new weed control initiatives and improvements to the success and impact of existing ones, assisting the bovine tuberculosis eradication goals of TBfree New Zealand, improving both the efficacy of and biodiversity benefits obtained from vertebrate pest management and our surveillance and detection abilities for vertebrate pests, engaging with Citizen

Science, improving our underpinning knowledge of microbial biodiversity, developing new tools and strategies for insect monitoring and control, and exploring 'on-the-horizon' innovative approaches potentially offering step-changes in our ability to manage unwanted organisms. This year was no exception!

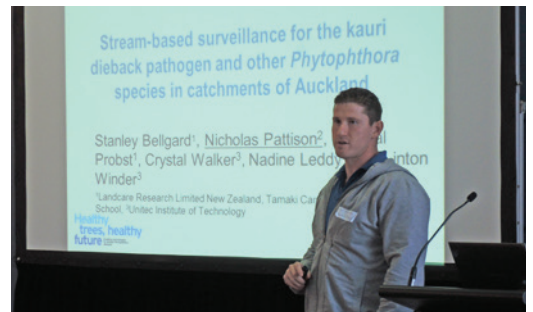
Weed control

On the weed control front, highlights of the day included presentations by Simon Fowler and Paul Peterson. Simon summarised some recent data showing tangible benefits from past weed biocontrol programmes - New Zealand is between \$130m and \$1.5b (depending on rate of spread scenarios) better off thanks to St John's wort biocontrol, while the ragwort flea beetle is benefitting dairy farming by \$41m/year in reduced control costs.

Paul outlined a recent project to map gorse in the Rotorua catchment using satellite (SPOT6) imagery. Paul demonstrated the utility of this approach, suggesting that it could be extended to map other weeds such as broom, tree lupin and wilding trees.

TB eradication

Highlights on the TB eradication front included presentations by Graham Nugent and Carlos Rouco. Graham presented recent advances in the better use of TB surveillance data to improve confidence for earlier declaration of TB freedom in Vector Risk Areas. Using the Hokonui Hills (Southland) as a case study area, he used a combination of trapping and surveillance data to demonstrate how TB has likely already disappeared from wildlife in this area. Carlos presented novel insights into brushtail possum ecology in New Zealand's drylands, highlighting changes in habitat selection from higher to lower density populations that inform control efforts.



Royal Society of New Zealand Teaching Fellow Nicolas Pattison



Murray Dawson presenting new online weed identification tools



Vertebrate pests

With regards to the management of vertebrate pests in general, there was a range of presentations on multiple aspects including the quantification of harder to assess biodiversity impacts such as those by mice (John Innes), the use of Citizen Science to inform on when and where pest outbreaks are occurring (Andrea Byrom), a demonstration of the benefits of multi-species over single species pest control using rabbits and cats and highlighting potential economic gains to sheep farming (Al Glen), and the application of spatial analyses to improve trap layout effectiveness for predator control (Grant Norbury and Dean Anderson). In addition, several presenters informed on research streams that are at earlier stages of development, but have the potential to make step-changes in our management of vertebrate pests. For example, Janine Duckworth presented new data on regional variation of rabbit haemorrhagic disease (RHD) strains in New Zealand which could lead to new strategies to ramp up the impact of the disease in regions where it is failing. As well, I presented research on early stage proof-of-concept work for a radically new approach to fertility control (the 'Trojan Female Technique').

Microbes and invertebrates

For those whose biosecurity interests lack backbones (!), a range of advances on both the microbe and invertebrate fronts were also presented. Nicolas Pattison, a teacher at Dawson Primary School in Auckland, talked about developing a citizen science project in collaboration with Landcare Research plant pathologists. School children aged 8-10 years helped to design bait traps, which can be put into streams to detect the presence of plant *Phytophthora* diseases such as kauri dieback. Excitingly, since his presentation, Nic has been awarded 'Unlocking a Nation of Curious Minds' funding from MBIE to get more Auckland school children involved in kauri dieback surveillance using 3D-printed plastic traps. Equally as

exciting, on the invertebrate front, Bob Brown presented a project exploring the potential of a newly discovered mite to control *Vespula* wasps. Preliminary data indicates that 20-30% of nests in the Canterbury and Nelson regions are infested with the mite, with infested nests being 20-33% the size of un-infested nests. There is general agreement that there is a strong need for more research to assist microbial and invertebrate biosecurity efforts, for example through the application of new DNA/RNA-based 'pathogen discovery' approaches to Border Biosecurity, and involvement in the 'Novel wasp control technologies' project of the just starting up Biological Heritage National Science Challenge (see www.biologicalheritage.nz).

The Biosecurity Bonanza is a regular event held at a different location around the country towards the end of May each year. So, if you've never attended but wish to, please mark your calendars and let the workshops organisers know (Andrea Airey – aireya@landcareresearch.co.nz, or Hugh Gourlay – gourlayh@landcareresearch.co.nz). For enquiries into any of the above mentioned research, please email Dan Tompkins (tompkinsd@landcareresearch.co.nz), who will forward you onto the relevant parties.

DAN TOMPKINS, PORTFOLIO LEADER, MANAGING INVASIVES, LANDCARE RESEARCH

"Fishzilla" and a tree climbing fish

A predator known as "Fishzilla" and a perch capable of climbing trees could soon reach the far north of Queensland.

The Australian Centre for Tropical Freshwater Research was quoted in The Cairns Post in April as saying there was a danger that snakehead and other pest fish species such as the predatory climbing perch posed a big threat to native Australian wildlife.

According to the Institute there are a whole bunch of fish that are now on the southern coast of New Guinea, directly adjacent to Saibai Island and Torres Strait, which are even worse than climbing perch.

Snakehead fish are known to eat water birds, snakes and rodents. They can live in poor environmental conditions, helped by their ability to breathe air - and in some cases, walk on land.

Climbing perch can travel across land on their pectoral fins and may even climb trees.

Editors note: The date in April was not the first of the month.



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