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Protect

Winter 2012

Magazine of the New Zealand Biosecurity Institute

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New Zealand Biosecurity Institute

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

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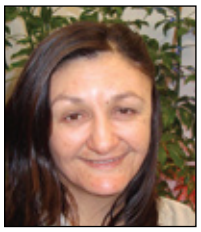
President



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NZBI news

From the Editor

I am looking forward to seeing everyone again at NETS2012 next month in Taupo and perhaps seeing some new faces.

Some branches have had a very interesting time over the past few months and their reports are in this issue.

Branches also held some interesting discussions at their meetings, among them: the termite time bomb, synthetic odours for stoat trapping, kaka-proofing bait stations, macaroni as bait for the cunning rook, and circuit theory in predicting the spread of invasive species.

As well, *Protect* uses the MPI abbreviation for the very first time for Ministry for Primary Industries. Members are most likely already familiar with that acronym and the body it represents. There are articles in this issue from the new ministry introducing itself as well as items on monitoring insect-borne diseases and practising for a foot-and-mouth outbreak, as well as a review of the recent Queensland fruit fly incursion response.

We also hear from Andrea Byrom, Portfolio Leader, Managing Weeds, Pests and Diseases at Landcare Research in Christchurch, who tells us about herself and her work, and offers some advice along the way.

I have taken on the newly created role of Archive Project co-ordinator which is proving enjoyable. I would like to thank Lynne Huggins for providing valuable administration help in setting up this project. The Archive Group is now keen to hear what material people have at home and under their desks. An article on the "history search" appears in this issue.

Best wishes
Chris Macann
Editor

News from the Executive

Kia ora and hello from the Executive.

I am looking forward to seeing you all in Taupo in a few weeks time and in particular to welcoming NPCA members who have for the first time aligned their annual conference with NETS 2012. NPCA representatives have been included on the conference committee and this has strengthened the vertebrate pest contributions. We are looking at a turnout in excess of 200 this year. Information about the conference is continually being updated on the website. It is another varied programme this year in a very interesting part of the world which has unique biosecurity challenges which conference-goers can see first-hand on one of a variety of field-trips.

Another national Biosecurity Month will run in July to coincide with NETS2012 – look on the NZBI website for information. For Biosecurity Month to continue to grow, it's vital that we all use July as the time to publicise biosecurity issues throughout New Zealand. We have a number of resources to show your organisation supports the initiative including a web-banner link to the NZBI website Biosecurity Month page and an email banner that can be added to your own email signature. Please contact either myself or David Brittain if you would like to use these resources.

The past year has been an eventful one for the biosecurity sector in New Zealand. We have seen organisations affiliated with the Institute go through major changes that have affected members throughout the country. As well the incursion of an unwanted Queenslander in Auckland recently has shown the need for vigilance and reinforced the importance of biosecurity to the country.

I am pleased to see the Archives Working Group has made major progress this year. Thank you to the group and I hope members will continue to support the project with any interesting material that may come to light. A timeline of major events in the history of the Institute and its predecessors is now on the website in the members section.

Soon too in the members section will be a list of members and their organisations, subject to their approval. This is the result of a suggestion made at NETS 2011.

As a result of a proposal from Marlborough members, the National Executive decided to invite two nominations from each of the NZBI branches for a year's free membership of NZBI. The nominations were targeted at volunteers and students. I am pleased to report that as a result we now have at least three members under this scheme.

Looking ahead a year I am happy to see that the Canterbury/Westland Branch is well on the way to Organising NETS2013 on the West Coast.

See you in Taupo.

Pedro Jensen
President
pedro.jensen@boprc.govt.nz

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NZBI Branch news

Central North Island

Eventful and interesting

The 2011/12 year has been an eventful one for the Central North Island branch of the NZ Biosecurity Institute. We have seen organisations affiliated with the Institute go through major changes that have affected members of our branch and national institute. DOC went through a major restructure following budget cuts that saw jobs lost and shifted. MAF, now known as the Ministry for Primary Industries, has also seen major shifts in its structure and the future of Biosecurity New Zealand is uncertain.

Many of our regional councils have been involved in the Review of their Regional Pest Management Strategies (RPMS) and there has been an effort by regional councils to try and align the formats and categories used to classify pest plants within the strategies. There is also a national database called IRIS in development, which is intended to include an integrated biodiversity management system whose needs are common to most regional councils.

The National Pest Plant Accord (NPPA) is under review and it is expected we will see changes to the plants listed on the accord with a number of them dropping off. This is due to how the TAG assessment team view the evaluation criteria and purpose of the accord. It will leave a number of nuisance weeds that fit neither criterion for RPMS or NPPA inclusion. The Central North Island branch has been in consultation with key staff from Bay of Plenty and Waikato Regional Council to discuss how these plants may be given some status as weeds so they don't fall off the radar.

The branch held two excellent meetings this year. The AGM at Taupo on May 25 was very informative with plenty of discussion on general business and five very good presentations on both plant and animal issues.

The second meeting was held in Taranaki and again was very worthwhile with a look around the Pukeiti Gardens on the first day and overnight stay to view some of Taranaki's key native ecosystem projects. A visit to the Te Rewarewa Bridge resulted in the discovery of a giant knotweed infestation. Taranaki members were wonderful hosts and made the trip very worthwhile.

Groups combine to host NETS

This year is a first for the Institute with the first combined National Education Training Seminar (NETS) to be jointly held by the Lower North Island Branch and Central North Island Branch along with the National Pest Control Agency (NPCA) with members from both branches and the NPCA on the organising committee.

My time as chairperson of the Central North Island Branch has been eventful and interesting and I've thoroughly enjoyed the experience. I'd like to thank those that have helped me along the journey with their wise words and I would now like to hand the reins over to Darion Embling who has taken over the role.

Heidi Pene

Auckland / Northland

Time-bombs, maps and other matters

The attendance of 38 at our most recent meeting, hosted by Landcare Research in Auckland, was encouraging, and the three talks given at the event were excellent and informative.

Thomas Etherington gave a presentation on "Mapping the connectivity of landscapes for biosecurity planning". The talk focused on looking at predicting the spread of invasive species across landscapes using GIS modeling techniques such as a recently developed circuit theory approach with a specific example of rats in a UK agricultural landscape.

Nicholas Ward spoke on the "Termite time bomb: Discovery of Australian subterranean termites (*Coptotermes acinaciformis*) in a house in Point Wells, Rodney". The presentation focused on the actions MAF took to find and eradicate subterranean termites from the site.

Don Mckenzie captivated everyone's imagination with a talk on "incorporating synthetic odours into a long life bait to improve stoat capture".

After a light lunch, we were lucky enough to tour the fungi and invertebrates laboratories at Landcare

As well, Don Mckenzie and Sue Sinclair were congratulated on the completion and graduation of their Post Graduate Diploma on Biosecurity.

Since the time of last writing our membership has increased with the following new members: Lyn Melrose, Gabriel Daniels, Liz Callinan, Ross Johnson, Kane McElrea, Sara Carley, Lynette Benson, Ken Sampson, Robyn Kannemeyer and Brett Butland. We look forward to their talks at future meetings.

Dave Moverley

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NZBI Branch news

Top of the South

It has been a quieter year for the Top of the South branch, with no NETS Conference to organise. With other commitments, we have been too busy to organise a summer field trip this year. Kerry Brown and his DOC colleagues have successfully challenged MAF (now MPI) to review their management of the first NZ incursion of the great white cabbage butterfly, a close relative of the common white butterfly. They organised a local workshop in conjunction with MAF, and facilitated the attendance of an English ecologist, the author of the only book on it. It is worthy of a presentation at a future meeting.

Ben Minehan and his Marlborough colleagues have been involved with registration of Taskforce, a selective residual herbicide for Chilean needle grass and nassella tussock, a process that has taken five years and cost more than $200,000 with co-funding from MAF, some councils and Wrightsons. These have been reported in past issues of *Protect*.

As a result of a proposal from our Marlborough members, the National Executive decided to invite nominations (two per region) from each of the NZBI branches for a year's free membership of NZBI. The nominations were targeted at volunteers and students. Not all regions responded, so we were able to have our nominations accepted for three young Marlborough women who were students on an On Site Education Agricultural Course in Blenheim. I commend Peter Robertson and his colleagues for their initiative and enthusiasm.

Take that: Top of the South field trip.

Lindsay Vaughan

Canterbury / Westland Branch

Community gets behind planting

Continuing aftershocks and restructurings have left many of us bereft of offices, houses, streets, friends, computers, jobs, work colleagues and other things this past year. My sympathies and thoughts go out to all those still dislodged by these terrible events.

However, we must move on and continue to operate our branch of the Institute.

We have done very little in the past year as far as activities go and I believe our distractions have been a major contributor to this. Our plants at our branch's project area on the Port Hills continue to grow well and dominate parts of Nicholson Park and other areas nearby. We have been out a couple of times to replant the area hit by fire last year and to help with on-going weeding.

Our efforts in this area have led to some really good responses from the local community. Local support has been growing now that the trees are becoming obvious. It's interesting to see several local people have planted native trees next to our plantings. We also had one local donate about $200 worth of trees to us. Their parents had been growing native plants and were both killed in the February earthquake. They had the confidence we could plant and look after the trees which have now been planted in Nicholson Park. We have also been approached by a group of bach owners who are now looking at a re-vegetation project for the main Taylors Mistake catchment.

We should be really proud of our achievements and our influence on the local community.

Ours has been a vibrant branch with METS events as well as the Nicholson Park project.

The Canterbury and Westland branch of the NZBI is to host NETS2013 and has already established a committee and met several times. We have decided to hold NETS2013 at Shantytown on the West Coast. We are all, including the NZBI Executive, excited by the challenge this amazing venue offers us all. Biosecurity and biodiversity protection on the West Coast is a high priority and we hope to help highlight this at NETS2013. This will keep us well occupied as a branch as we build into this exciting event in a fantastic location.

Hugh Gourlay

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NZBI Branch news

Lower North Island

Haere mai ki Pahiatua

This year's branch AGM saw us all generously hosted by Horizons in Pahiatua, and most of us stayed in the same motel and shared communal bathroom facilities (Pahiatua doesn't have a huge selection of accommodation). I know we are a tightly knit industry but… The lack of sunshine was a major topic of conversation this year and many pest plant officers quipped that only aquatic weeds need be on the NPPA list.

Recurring themes at the AGM were the wet warm growing season for pest plants, and organisational restructuring. This has definitely been a difficult year and yet we have still managed to achieve some impressive work: kaka proofing bait stations in Wellington; getting a chemical agent approved for Chilean needle grass in Hawke's Bay; tracking the exotic pet trade via TradeMe at MAF; managing a sometimes volatile relationship with anti-chemical campaigners to get loosestife controlled in Horowhenua lake by Horizons; and juggling numerous restoration projects over the lower North Island. We are all challenged by the increasing amount of biodiversity work we find ourselves involved with. Our jobs are evolving and I think the majority would approve of the direction we are going.

This has definitely been a difficult year and yet we have still managed to achieve some impressive work

Pest management at Mount Bruce/Pukaha

The first of three excellent speakers following the AGM was John Bissell from the Department of Conservation. He spoke to us about the Mount Bruce/Pukaha pest management programme. Pukaha is a National Wildlife Centre encompassing 942ha of steep, wet country is an unfenced sanctuary surrounded by farm land so pest re-invasion is a constant threat. John stressed that without "border control" in the buffer around the reserve, it would fail. Over the years they have learned a lot from successful and not so successful releases into the wild of kiwi, kokako and kaka. They have gained invaluable experience in managing a variety of issues from pest incursions (particularly ferrets) to kaka proofing bait stations and managing mortality to insure sustainable populations. Pukaha is a treasure that is surely worthy of protection. It is the home to kōkako, kaka, takahē and even boasts two white kiwi. It is an important educational resource, tourist attraction and conservation asset. Over the years it has been integral to DOC's captive breeding programmes for species such as Campbell Island teal, brown teal, kōkako, takahē, kiwi (NI brown), Antipodes Island parakeet, kākā, kākāriki, hihi, saddleback, shore plover, whio, and grey-faced petrel.

The view from the bridge across Ferry Reserve to the bush above the Manawatu Gorge. Photos: Neil Gallagher

Rooks

Our next speaker was Darryl Haworth (HRC) who enlightened us on the ongoing programme undertaken collaboratively in the in the lower North Island by Hawke's Bay Regional Council, Horizons and Greater Wellington to control rooks (*Corvus frugilegus*). There are some very large rookeries in the region. Last year there were 707 active nests, with an average of 4.5 birds per nest – that's more than 3000 birds in the Horizons/Tararua region.

Rook control is the second largest pest control expenditure after possums in the Horizons region and is done under the RPMS. Darryl described the difficulty

Neil and Neil officate at the tree planting (Neil's the one on the left!).

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NZBI Branch news

of managing this cunning and adaptive species. The key is to hit them once properly so they don't disperse, and to ensure you don't change anything about how you perform the operation, not even the sign on the truck or you will warn them off. Getting them all at once in the same spot is not always easy. Control involves dangling a guy under a chopper and literally dunking him like a teabag into the tree tops to individually treat nests with toxin (DRC) and that's up to 100 nests per rookery. Macaroni (yep the pasta) is being trialled as a new bait and is touted as being superior to all others.

Manawatu Gorge Restoration Project

Our last speaker, but definitely not least, was Neil Mickleson (HRC) project leader for the Manawatu Gorge Restoration Project. This project is run jointly with DOC, Palmerston North City Council, Tararua District Council, Transit NZ, ONTRACK, the Rangitaane iwi and local landowners. It is a major undertaking co-ordinating and meeting the needs of such a diverse range of stakeholders. The gorge was once part of a sea strait and is the only place in New Zealand where a river flows through the main divide originating on the opposite side from its oceanic terminus. It is an icon for the region.

Management of the gorge involves managing pests (old man's beard and possums), planting to restore native forest cover and providing high quality amenity values (25,000 people walked the tracks last year). Most people just drive though the gorge and don't realise how much more there is to this hidden gem. The gorge has nikau palm-dominated forest hosting tawa, northern rata (once impacted heavily by possum), podocarps, tomtit, the occasional kaka, the giant maidenhair fern (*Adiantum formosum*) found nowhere else in New Zealand, and 6000 new plants are planted each year.

The day concluded with a visit to a rookery. There were no rooks home at this time of year but when there are the place fair teams with birds, we were told. What struck many of us was that the rookery was no more than 15 tall pine trees on a ridge that to our eyes was indistinguishable from other trees on other ridges. While we could not see any distinguishing features the birds obviously could!

A happily planted puriri tree.

The following day we met at Ferry Reserve at the Woodville end of the Manawatu Gorge. Each year our branch makes a contribution to a local biodiversity/ biosecurity project. This year we donated a puriri tree to the Manwatu gorge project and it was planted at Ferry Reserve.

Our day ended with an energising two-hour walk along the beautifully constructed upper gorge bridge track followed by a delicious packed lunch. Thanks to the hard work of Neil Gallagher and the organising committee for a fantastic couple of days. We all learned a lot, caught up with friends and had much wine and gossip and I am sure we are all looking forward to next year's AGM to be held in the Hawke's Bay region.

Sara Moylan

Southland / Otago

The Southland/Otago branch reports a quiet year. Seven members attended the branch AGM in May, one by way of a telephone conference.

The branch aims to undertake a cross boundary field trip sometime this summer.

Southland members have given good support to the national body this year with Randall Milne fulfilling the role of treasurer and Lynne Huggins putting a lot of energy into the Archives Project.

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NZBI *News*

NETS2012: See you there

An interesting array of presentations, workshops and field trips awaits in a few short weeks as Taupo prepares to welcome members to NETS2012: Pests in our Dynamic Landscape.

Conference-goers will most certainly experience a dynamic landscape in the thermal areas around Taupo. These areas also present interesting biosecurity issues as challenging as the thermal environment itself and will certainly ensure an interesting choice of field trips on lake and land and among the hotspots. The "Cruising the Craters" and "Rangitaiki Station" trips are already filled.

Horsetail and old man's beard will this year be attacked as will wayward pine trees and other plant menaces.

Rabbits, possums, stoats, wild deer and rats among others will have their demise planned via poisoning, trapping as well as by sex and computer games.

An energy company's perspective on biosecurity should generate some interest, and an overview of the New Zealand fruit fly surveillance scheme will most certainly be topical.

Keynote speaker Llewellyn Foxcroft, programme manager of invasion ecology for South Africa's Kruger National Park is sure to arouse interest with his discussion of alien visitors to his country.

The programme is on the website and a conference handbook will will be available to registrants when they arrive at NETS2012. Another national Biosecurity Month will also run in July to coincide with NETS2012. Look to the NZBI website for more information.

Historical material sought

Chris Macann
Archives Co-ordinator

The NZBI Archives Working Group is keen to know what historical information members hold.

The group is making progress on developing a permanent archive for the Institute and its predecessor organisations, and a process for maintaining it.

I have volunteered to co-ordinate the project. Other members of the group are: Ray Clarey, Dave Galloway, Lynne Huggins, Pedro Jensen and Peter Russell. As well, we are working with a number of former members who we can call upon for advice.

We are also working with archivist Pauline Porteous and oral historian Shona McCahon who are keen to help us establish the archives and show us how to successfully maintain it ourselves.

At this early stage we would like to know exactly what material members and others hold – we don't want the material yet, just an indication of what is available. Once we have this information we will be able to describe what material the NZBI wants to preserve and why it is important.

We have prepared a timeline outlining key events in the development of the NZBI and its predecessors. This will provide context for the archived material.

Responses to the information request will also help the group assess the amount of work involved.

People willing to share their collections would be able to keep whatever originals they want.

This is to be a private archive collection of the NZBI and will not include any local authority or government records. These belong to the governing organisation and are protected under the Public Records Act 2005.

Please could you list all items that you have which may be appropriate for recording the history of the Institute and send the information to: chrismacann@hotmail.com.

Useful material may include:

- Audio and audio visual material
- Awards
- Executive committee minutes
- Financial records
- Institute publications
- Maps and plans
- Media Releases
- Newspaper clippings about the Institute's activities
- Oral histories and manuscripts
- Photographs
- Policies
- Reports of plans and projects
- Significant correspondence, letters and memorandums
- Any other records or publications about the Institute such as histories and profiles.

It would be helpful to know the following information about the records: Title; Dates (first and last); Volume of material for example: 1 page, 1 file/folder, 1 small box or 1 linear metre; and notes about any other information useful for understanding the context of the records. Because this is a private collection it will also be useful to have your personal contact details.

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NZBI *News*

Membership report

Membership numbers of the New Zealand Biosecurity Institute are a moving target, but currently the NZBI has 495 members on the books.

The make-up of the total broken down into branches, overseas members and NETS2011 trial members are:

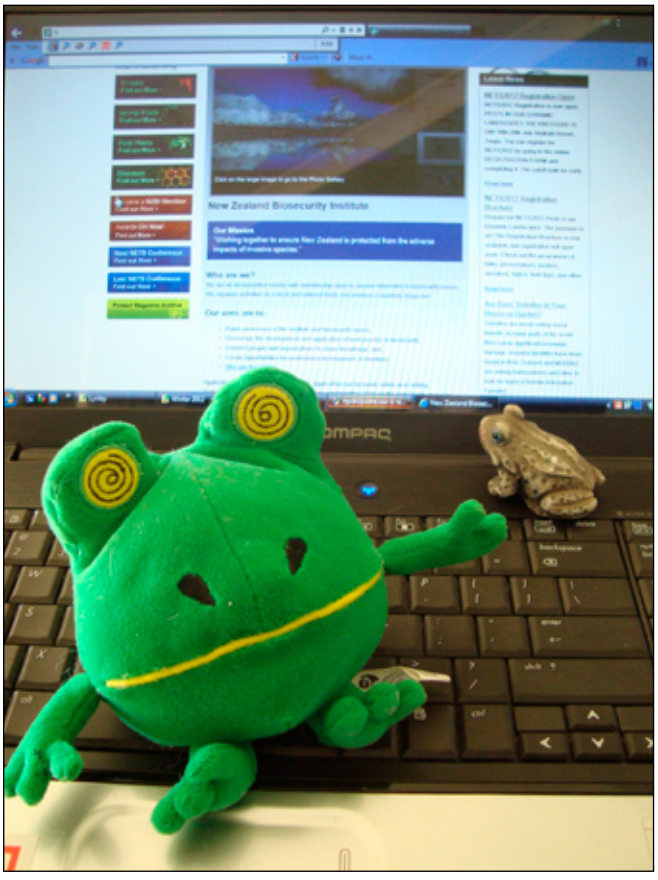
Southland/Otago 20
Canterbury/Westland 83
Top of the South 28
Lower North Island 131
Central North Island 77
Northland/Auckland 121
NETS2011 Trial Members 22
Overseas 13

The Institute has eight life members given the honour in recognition of their long, honourable and distinctive service to the NZBI. So far we have had 19 enlightened people join the Institute in 2012 but 18 have officially resigned. As well, 84 members haven't paid their subscription since 2010 – how do they sleep at night knowing they could be excluded from NZ's premier biosecurity club?

In terms of overseas members to shoulder-tap for a reason to visit as winter bites, my pick is either Joseph Manuate in New Caledonia, or Cas Vanderwoude in Hawaii. Contact emails for them should be on the members only section of the NZBI website soon.

Randall Milne

Who's visiting our website?



Here is some of the information about visitors to the NZBI's website in the year from May 1, 2011 to April 30 this year.

Visitors

Total number of visits – 7960 (up 18% on previous year)
Total number of unique visitors – 4157 (up 27% on previous year)
85% of visits are from NZ

How do they find us?

Google searches account for most visits and, not surprisingly, by far the most common search terms contain the word "biosecurity"
Search engines such as Google – 55%,
Direct – 31%
Referrals from other sites – 10%
Other (eg; the Biosecurity Month Campaign) – 4%

What are our visitors looking for?

The average visitor visits more than 2.5 pages and spends more than 2½ minutes browsing.

The most popular pages are those regarding NETS, followed by Jobs and Education and *Protect* magazine.

Members logged into the Members Section 1600 times (up 870% on last year).

David Brittain

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News from the Ministry for Primary Industries

Agencies combine into new ministry

The Ministry of Agriculture and Forestry (MAF) officially became the Ministry for Primary Industries (MPI) on April 30. The name change reflects the merger of the Ministry of Fisheries and the New Zealand Food Safety Authority with MAF and the importance of the whole primary sector to New Zealand's economy.

The ministry now works across the agricultural, horticultural, fisheries and aquaculture, forestry and food sectors, as well as biosecurity.

Existing brands for MAF, Biosecurity New Zealand, the Ministry of Fisheries and the New Zealand Food Safety Authority will be phased out. The Crown Forestry brand will be retained because it is a commercial forestry business that stands apart from the policy, regulatory and service delivery roles of the ministry.

Sharing banned pest plants illegal

Northland pond owners are being asked not to propagate or share the banned aquatic pest plants salvinia and water hyacinth.

Salvinia (*Salvinia molesta*) and water hyacinth (*Eichhornia crassipes*) are rapidly growing freshwater plants that form large dense floating mats that can completely cover waterbodies, affecting water quality, drainage, recreational use, as well as increasing the risk of drowning and flooding. They are among the world's most invasive weeds and have the potential to cause huge damage to our waterways and fish that live in them.

Do not propagate, share or distribute: **Salvinia molesta.**

Ministry for Primary Industries (MPI) and the Northland Regional Council (NRC) are working together to eradicate salvinia and water hyacinth from Northland. Both plants have been declared unwanted and notifiable organisms under the Biosecurity Act 1993, which makes it illegal to sell, propagate or distribute them. They are also banned under the NRC's Regional Pest Management Strategy.

In March, NRC biosecurity staff found salvinia in the Hikurangi area, near Whangarei, and near Okaihau in the Far North District. Most of these finds were in home ponds.

More finds of salvinia have been reported to the Ministry for Primary Industries in recent weeks, raising concerns that the plant is being distributed, especially amongst pond owners.

Anyone who sees any of these weeds in Northland – or suspects they may be present – is being asked to report it to either NRC on 0800 002 004 or MPI on 0800 80 99 66.

Salvinia and water hyacinth are among the pests being eradicated under the National Interest Pest Response programme led and funded by MPI in partnership with regional councils and the Department of Conservation.

Monitoring insect-borne diseases

The emergence of the new Schmallenberg virus causing birth defects and abortions in northern European ruminant livestock last year sparked concerned calls to the Ministry of Primary Industries from local industry groups and media.

MPI was able to reassure them that it was well aware of what was going on, as it closely monitors information from scientific agencies on any new animal disease, and receives and assesses regular reports as they are published.

"New diseases like this emerge occasionally, and MPI is part of an international system for monitoring such biosecurity events," says Matthew Stone, the Director of Animal and Animal Products Standards.

Having assessed the risks, MPI believes biosecurity control measures and lack of a pathway will prevent

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News from the Ministry for Primary Industries

Schmallenberg spreading to New Zealand.

But the emergence of Schmallenberg is interesting, he says, because it highlights the need for keeping an eye on possible insect vectors for both human and livestock diseases.

Schmallenberg appears to be transmitted by insect vectors called Culicoides midges, which are most active during the northern European summer and autumn, when cows and sheep are pregnant. These midges are not present in New Zealand.

It highlights the need for keeping an eye on possible insect vectors – for both human and livestock diseases.

At the time of initial infection, European farmers noticed fever and reduced milk production in dairy cows. It was only in spring, midway through 2011, that farmers found outbreaks of birth abnormalities and abortions in lambs and calves. An intensive investigation led to the new virus being found and described.

Matthew Stone has taken part in a recent across-agency research project that looked into insect vectors as a threat to human and animal health in New Zealand.

MPI led the project, working with the Ministry of Health and Department of Conservation and various science providers, with funding from the Ministry for Science and Innovation.

They started by looking at what bloodsucking insects – mosquitoes, ticks and flies – we have that might act as vectors for diseases and then what diseases they might carry and pass on.

"New Zealand generally has a very favourable status at the moment," says Matthew Stone. "This is a result of our geographic isolation, the lack of vectors, and good biosecurity.

"We have just one obscure arbovirus – which are viruses spread by insects. This is the Whataroa virus which is carried by mosquitoes and cycles with native birds in lower Westland and has only rarely caused human infection.

"Also, New Zealand has relatively few bloodsucking insects compared to many of its neighbours. For example, we have about a dozen types of mosquitoes but Australia has more than 300."

But it's important not to be complacent. "We wanted to know what could happen with global warming and knew we needed to understand more."

The Culucoides midges, for example, which have infected the northern European livestock with Schmallenberg virus, also transmit bluetongue virus, an important disease of sheep and cattle in various parts of the world. In Europe, bluetongue virus did not previously go further north than the Mediterranean region, but in recent years has extended its seasonal range to northern Europe.

The New Zealand project included several workstreams, including contracting a United States laboratory to assess the ability of New Zealand mosquitoes to act as vectors for a number of overseas human diseases, including yellow fever, Japanese encephalitis, Ross River virus and dengue fever. Results from the scientific work have been formally published.

Also, MPI's ongoing biosecurity surveillance programme includes monitoring for presence of arboviruses and traps specifically for Culicoides midges.

Exercise tests Ministry's response

The Ministry for Primary Industries tested its response to foot and mouth disease (FMD) during a three-day exercise in March. An outbreak of FMD, or similar animal disease, would have a catastrophic impact on the New Zealand economy.

The exercise, dubbed Exercise Taurus, was the first whole-of-government exercise for the ministry since Operation Waiheke, the FMD hoax on Waiheke Island in 2005.

The exercise provided the opportunity to practise and evaluate MPI's response management, and planning and intelligence functions, communications, and interdepartmental liaison. Field activities and the activities of supporting agencies were simulated.

Industry participated through a series of desktop exercises. Individuals and organisations which were not directly involved in the exercise were invited to observe. The exercise demonstrated how important preparation is and the value of having solid cross-organisation and cross-agency connections.

MPI is now better placed as an organisation to respond to a real outbreak of foot and mouth disease – and any other crisises.

Communication: Exercise Taurus press conference.

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News from the Ministry for Primary Industries

Fruit fly find triggers full-scale alert

The Queensland fruit fly response ran over a two-week period and involved the Ministry of Primary Industries putting in place a 1.5km diameter "controlled area" around where the fruit fly was found in a surveillance trap.

Residents were asked not to move whole fresh fruit or vegetables outside of this zone while investigations took place. Had a population of Queensland fruit fly been found, the controls in place would have prevented any spread of the fly out of the area. An established fruit fly population could have serious effects on New Zealand's horticultural industries.

Since 2006 the Ministry has intercepted various species of fruit fly 53 times at the border.

In addition more than 1400 traps were deployed within the area to detect any free flying fruit fly.

MPI Deputy Director General, Compliance and Response, Andrew Coleman said that since 2006 the Ministry had intercepted various species of fruit fly 53 times at the border, preventing a population from establishing here.

"Additionally, the Queensland fruit fly has been detected twice before in New Zealand: in Northland in 1995 and in Auckland in 1996. In both cases increased surveillance found no further sign of Queensland fruit fly and there were no breeding populations present."

MPI and AsureQuality staff numbers averaged approximately 100 in the first week of the response, and dropped to about 50 to 80 in the second week as no more flies were found. Staff performed various roles including setting and monitoring traps, fruit analysis, communications, and response planning.

Just under 200 fruit and vegetable collection bins were deployed in the controlled area and by the end of the response just over four tonnes of fruit and vegetables had been collected and removed for destruction.

Queensland Fruit Fly Surveillance Programme

MPI operates a lure-based surveillance trapping system to both provide early detection of incursions and to area freedom assurance for our horticultural exporters. Traps are located throughout the North and South islands and are concentrated in populated areas serving as centres for tourism and/or trade, areas of significant horticultural activity and areas specified as being climatically conducive to the establishment of fruit fly. This system involves approximately 7500 traps nationwide of which about 4500 are in the Auckland region. Traps are placed in a variety of fruit trees, with at least one trap per property on specific trees that the pest feeds on.
Traps are checked every 14 days by AsureQuality staff.

Fruit being sampled in the laboratory.

To raise awareness, alert notices were distributed to all households in the controlled area and at local supermarkets and greengrocers. Notices and radio adverts were translated into a variety of languages in order to communicate with the diverse ethnic population in the controlled area. MPI staff also handed out information about the alert at local fruit and vegetable markets – the biggest being the Avondale market which attracts a large number of people every Sunday.

More than 1400 traps were deployed within the area to detect any free flying fruit fly.

The operation involved a number of agencies.

"Along with the horticultural industry body, Horticulture New Zealand, MPI would like to sincerely thank the wider Avondale community, international trading partners, AsureQuality, and the Auckland City Council for their fantastic support throughout this operation," Mr Coleman said.

"The Auckland City Council assisted us greatly with printing of communications material and providing the breakdown of residents in the controlled area."

After two weeks of intense surveillance no other

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News from the Ministry for Primary Industries

Queensland fruit flies had been found and the controlled area and associated restrictions were lifted on May 26. New Zealand's fruit fly free status was confirmed.

MPI will continue with its routine fruit fly surveillance programme.

The Queensland fruit fly has been detected twice before in New Zealand

Bins and signage were put in place to prevent fruit and vegetables being taken out of the controlled area.

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Putting pests on the menu

If you can't beat 'em, eat 'em

This is a condensed version of an article published in the *Smithsonian Magazine*: www.smithsonianmag.com

The lowly garlic mustard had never seen so much love.

This prolific invasive plant, cursed in the USA by home gardeners and park and wildlife managers alike, was the guest, or rather the "pest of honour" last year at Cleveland's Shaker Lakes Nature Center.

"Pestival 2011" featured seven of Cleveland's most notable chefs making garlic mustard a gourmet treat. They rose to the occasion deliciously creating menus including: garlic mustard sauce over thin slices of roast beef; garlic mustard pesto on pork tenderloin crostinis; garlic mustard chutney on wonton-skin ravioli stuffed with tofu and paneer cheese; garlic mustard dip for thick-cut potato chips; and garlic mustard relish on chèvre cheesecake.

Would all this culinary artfulness persuade people to cook up some garlic mustard on their own, or at least recognise it when they see it along a path in a public park and yank it out?

"We hope so!" says Terri Johnson, the nature centre's special events manager. "We look forward to the day when garlic mustard is eradicated."

Garlic mustard is one of 50,000 alien plant and animal species that have arrived in the United States. European settlers brought garlic mustard to the US for their kitchen gardens. An attractive plant with heart-shaped leaves and tiny white flowers, it produces thousands of seeds that spread by sticking to animals' fur.

"If you don't control it, woods filled with native species can be completely taken over by garlic mustard in five years," says Sarah Cech, the nature centre's naturalist.

When the nature centre first conceived Pestival six years ago staff prepared a garlic-mustard pesto served with spaghetti for 80 guests, not realising they were part of a national trend. The United States spends about $120 billion each year to control invasive species, according to Cornell University ecologist David Pimentel. But in the past decade or so, a growing number of people have decided to view the crisis of surging alien populations as an opportunity to expand the American palate. If these species are out of control because they have no natural predators, then why not convince the fiercest predator of all – human beings – to eat them? The motto of these so-called "invasivores" is, "If you can't beat 'em, eat 'em."

Asian carp

Take the Asian carp (please!). Imported from China in 1973 to clean algae from southern ponds, the carp soon broke from their confines and infested Mississippi River waterways. Gobbling up the phytoplankton that supports native species, the carp can grow up to 1.2m long and weigh 45kg. They continue to swim north and could establish themselves in the Great Lakes, the world's largest freshwater system, and decimate native fish populations there.

Wildlife managers have tried to prevent Asian carp and other invasive species from reaching the Great Lakes by installing electric underwater fences and, occasionally, poisoning the water. But chefs from New Orleans to Chicago have also tried to put a dent in the population by putting the fish on their menus. Now, a researcher at the Aquaculture Research Center at Kentucky State University is trying to figure out how to harvest and promote carp as a food source. There are currently a few processing plants converting Asian carp into ingredients for fertiliser or pet food. "That's a shame, because the meat quality is excellent," says Siddhartha Disgupta, an associate professor at the centre.

Disgupta argues that the carp has all the health benefits associated with eating fish and, since it eats low on the food chain, has few contaminants such as mercury that tend to be concentrated in the flesh of other fish species.

Iguana

In Florida, George Cera has trained his fork on a different invasive creature: the spiny-tailed black iguana, which was imported as an exotic pet, and subsequently has escaped and proliferated. Cera was hired by the town of Boca Grande on Gasparilla Island, Florida, to hunt and kill the iguanas, which feast on endangered plants as well as the eggs of protected sea turtles, gopher tortoises and burrowing owls.

'I thought it would be a fun way to educate the public ... Now, people come and ask me where they can get some of this meat.'

George Cera
Iguana culler

In two years, Cera bagged 12,000 iguanas, his conscience soothed as he found parts of protected species inside them. But it bothered him to kill an animal without eating it. Then, he met some Central and South American tourists who told him that iguanas are considered a delicacy back home, where

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Putting pests on the menu

they're a native species. They gave Cera recipes. He tracked down more on his own and produced an iguana cookbook.

"I thought it would be a fun way to educate the public," Cera says. "Now, people come and ask me where they can get some of this meat."

Eating aliens

Perhaps no one tackles the issue of eating invasives with as much gusto as Jackson Landers, author of *The Locavore Hunter* blog. He has travelled the country hunting invasives and gathering material for his new book, *Eating Aliens*. Landers has hunted and eaten feral pigs in Georgia, green iguanas in the Florida Keys, pigeons in New York City, Canada geese in Virginia and European green crabs in Massachusetts, among others.

"As a systematic approach to invasives, eating them should be a major component," Landers says. "After all, human beings have eaten other species to extinction."

Chef Jonathon Sawyer has been carrying garlic mustard back to use in his restaurant and home for five years. In the springtime, he likes to eat the leaves raw, comparing their taste and bite to arugula. As the plants get older, he blanches and eats them like mustard greens.

'As a systematic approach to invasives, eating them should be a major component ... after all, human beings have eaten other species to extinction.'

"Dude, it's the ultimate food. It's free, and nature wants us to get rid of it," Mr Sawyer said.

For more information visit: www.smithsonianmag.com/science-nature/Making-the-Best-of-Invasive-Species.html

Upcoming Dataversity Annual Conference

It's all about managing information well

James Lambie
Dataversity Steering Group Chairman

Dataversity is a community of biodata practioners from across New Zealand from central government, CRIs, local government, NGOs and industry who work in biosecurity and biodiversity information management.

Building on the success of the last three annual Dataversity workshops and on the growth of interest in open government and science data, the group is planning its biggest annual conference and workshop yet, in Wellington on August 27 and 28.

The big goal is to advance collaboration on building a distributed infrastructure for shared data.

The conference will launch the New Zealand Organisms Register and feature the latest Biodata innovations from the key NZ players and one Australian one. It will also feature sleeves-up work on how we can align all the biodata systems work going on in NZ to take advantage of the opportunities to build a network of connected systems.

Details of the conference are available at http://dataversity.org.nz/livingdata. Registration is free and can be done now at http://livingdata.doattend.com/ Please also let conference convener Dan Randow know if you would like to make a presentation at the event, and post it to dan@onlinegroups.net. You are also welcome to send your feedback and ideas about the programme.

I would like to give a big thanks to our founding sponsors – Horizons Regional Council and Bay of Plenty Regional Council – both of which showed early faith in the Living Data project.

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NZBI Profile

Biosecurity personnel profile: Andrea Byrom

Role: Portfolio Leader for Managing Weeds, Pest and Diseases
Landcare Research

How long have you been in your job?

I have been in my current job, as a portfolio leader for most of the invasive species work – weeds, pests and diseases – at Landcare Research based, Lincoln, for about three months. Before that I was a team leader for the Wildlife Ecology and Epidemiology Team for about five years. It's coming up to 15 years for me at Landcare Research – I started in 1997 as a postdoc working with Grant Norbury in Alexandra.

Andrea Byrom

What motivates you to be involved in biosecurity?

For me the ultimate aim is achieving some useful outcomes – making a small difference in protecting New Zealand's native birds, lizards and invertebrates, or helping the Animal Health Board (AHB) eradicate TB, or helping international colleagues with island eradications. I have a genuine interest in the ecology of invasive mammals, and I think it's good to remember to treat them with respect, but at the same time the damage they cause to NZ's economy and environment is massive and we simply have to do the best we can to deal with that.

What has been your career path to your current position?

I've always loved animals ever since I was a kid, and as a teenager I thought I wanted to be a vet, but at university I studied zoology and the interest grew from there. I did an honours degree at Otago on copepods (small freshwater creatures) and after that I knew I wanted to work with mammals, so after doing my PhD in Canada on squirrels it seemed the right choice to come back to NZ and switch to understanding the ecology of invasive mammals with the ultimate aim of suppressing their populations and protecting native biodiversity or preventing TB spread.

What makes up a normal day for you?

Unfortunately these days I don't get into the field much, especially in my current position. So I'm either in the office or travelling (mostly in the office). A typical day would entail discussing projects or ideas with colleagues in DOC or the regional councils, or talking to Landcare Research colleagues about a project – for example, experimental design or writing-up – or mentoring younger staff who might be developing their own research themes. I also try to strike a balance between making sure I remain active in research (I don't like the idea of being out of touch with what's going on in the field), and doing administration. So I aim to spend a portion of every day focusing on a research project of my own if I can. Sometimes that bit of the job gets done late at night!

What do you enjoy the most about your job?

Two things I think: the first is the satisfaction of being involved in some piece of research that helps make a difference. Secondly, I really enjoy building a team of people with similar goals and aspirations – a genuine passion for their work but also for the good of New Zealand, which sounds a bit corny but it is true.

Andrea offers this advice to newcomers to biosecurity:

1. **Maintain the enthusiasm** – it's easy to get bogged down in detail or feel overwhelmed with the sheer volume of work these days, but I find it helps me to have some larger goal in mind – that goal might be related to an individual project I'm working on, or it might be about developing a new area of work for Landcare Research, or developing a new collaboration.
2. **Remember that everyone has something to offer and comes from a slightly different point of view** – from the smallest community group protecting 60ha, to the philanthropist who wants to spend millions, to the staff who work so hard in government agencies in New Zealand. We're often all motivated by similar things nonetheless, and it's rewarding being involved in that.

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