

Autumn – 2014

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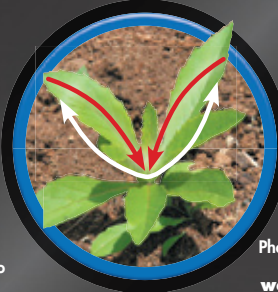
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Autumn 2014

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NZBI News

From the Editor

Very recently Kauri dieback was discovered on the Coromandel Peninsula, a disappointment to all who are trying to stem its spread. As well, already this year we have twice seen a lone fruit fly trigger a major biosecurity alert in Northland.

This is a reminder of the importance of the work of all involved in the biosecurity sector, be they researchers, field-workers, policymakers or administrators.

There is a feature article this issue on biosecurity

threats to the top of the country.

As well in this issue we look at our past and to the future as we pay tribute to two Jacks, one an old timer who has passed away after a long career and helped most recently with the Institute's oral history project, and the other a not-so-old-timer who shares his thoughts on the way ahead for biosecurity.

Chris Macann
Editor

Report from the Executive

Kia ora and hello from the Executive

The 2014 year seems to be flying by with a number of things happening since our last update. Our most recent meeting was held in Wellington on March 17. The Executive has been very busy with the renewal of membership subscriptions, a very important submission to the EPA, a member survey, work on the archive project and general correspondence.

This time of the year is extremely busy for our Intake/Treasurer with annual subs due and the ongoing issues related to updating information. Randall Milne does a sterling job in this role and the Executive is very fortunate to have Randall on board.

Also there has been a lot of work behind the scenes happening on our web page. David Brittain is our tech guru who works with the web page and he does a fantastic job, much of it in his own time with the support of KiwiCare. If you spot something that you think needs updating please let one of us know and we will make an effort to correct things.

The Executive has recently conducted a survey of the members looking into what members want the NZBI to provide and also looking at what we are doing well and where we can improve. The results of this survey are currently being analysed. We hope to have information out to the branches before the branch AGMs for members to discuss and we will have a presentation of the results at NETS 2014.

Recently the NZBI Executive made a submission in opposition to the Tomatoes New Zealand's application for the importation and release of *Macrolophus pygmaeus*. The EPA received 34 submissions during the public comment period, 11 of which were in opposition to this application. The public hearing for this was held on March 17 with Nick Waipara acting as NZBI representative for our submission. A decision should be known by April 18.

The Archive Project has progressed further this past month with further work by Chris Macann. A meeting in Masterton recently with Chris, Ray Clarey and myself resulted in a great portion of the Archive hard material being sorted for appropriate storage. The day was great with Chris and myself learning from Ray as to the origin of many of the historical pieces.

NETS 2014 is quickly approaching, we hope many of you have included this event in your must-attend list. Early indication from the survey conducted shows that our members find NETS to be one of the most valuable aspects of the NZBI.

Nga mihi

Rebecca Kemp

President, NZBI

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Membership survey: We're good at networking

We're good at networking but not so good at getting our industry voice heard nationwide. These were two strong trends emerging from the membership survey carried out in February asking how the Institute can best serve its members.

Seventy members (17%) responded to the survey. The results indicated generally that networking, and NETS (National Education and Training Seminars) in particular, was important, and that members were generally satisfied with the way the Institute organised this. The survey also clearly indicated that members

would like the Institute to have a stronger voice nationally on biosecurity matters.

The results were presented to the Executive at its meeting in Wellington in March and are available on the members section of the Institute website.

The Executive plans to discuss future action resulting from the survey, and would like to hear the thoughts of all members at the Annual General Meeting on July 30 during NETS2014.

The Survey team: David Brittain, Ronny Groenteman, Chris Macann, Don McKenzie

NZBI news



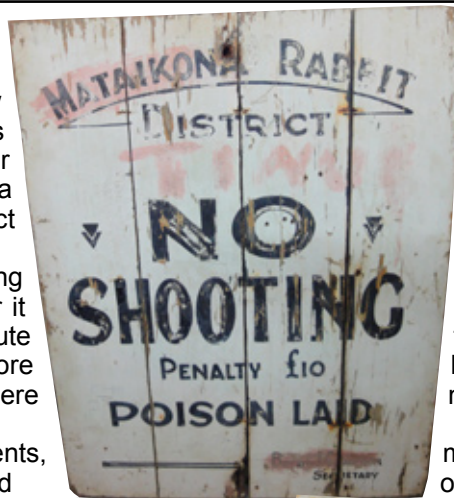
Ray Clarey and Rebecca Kemp take to the enormous task of prioritising the historical material held in Masterton.

Archives looking for a permanent home

NZBI President Rebecca Kemp and I met with Ray Clarey in Masterton in March to view some of the key material he has been curating and documenting for the Archives Project. Ray has been a major influence in getting this project under way.

A difficult decision when assessing the value of the material is whether it is directly connected with the Institute and its predecessors or is it more appropriate to be stored elsewhere such as in a local museum.

The important historic documents, photographs and artefacts related specifically to the Institute will be a major part of the Institute's archived collection. A permanent home for this material needs to be found so that it can be logged, stored, and be accessed



by all. The Steering Group now needs to investigate ways of funding the archive.

The group, with help from archivist Pauline Porteous, has prepared a key timeline of the history of the Institute and its predecessor organisations and a list of key people in its history. This will help guide the Steering Group as it decides what items need to be preserved. The timeline and list of key people is available on the members' section of the website.

The group wants to hear from members or others who may hold or know of material which may be appropriate for archiving or copying.

The Steering Group comprises Ray Clarey, Dave Galloway, Lynne Huggins, Rebecca Kemp, Chris Macann and Peter Russell.

NZBI news

NETS2014 update: 'Like no other'

The NETS2014 organising committee is presently working on a stimulating programme based on the wide variety of abstracts provided. NETS2014 will be held in Taranaki from July 30 to August 1.

This year's theme is "Like no other". NETS2014 will be the culmination of a month of nationwide activities during the Institute-sponsored Biosecurity Month.

Here are some of the field trips in store:

Rotokare Scenic Reserve: A stunning 230ha forested hill-country catchment with extensive wetlands and 17.8ha natural lake. The mature tawa, rewarewa and mahoe-dominated forest is home to tui, bellbird, kereru, grey warbler, and North Island robin, among others. The lake edge habitat of raupo, flax, and pukatea/kahikatea swamp forest is home to notable fauna such as fernbird and spotless crane, and eels and banded kokopu inhabit the streams and lake. The local community trust raised funds for a pest-proof fence enabling the area to be a kiwi crèche. They have set up a conservation education programme that recently celebrated its 5000th student.

Coastal Taranaki: A visit to Waikirikiri lagoon — an ephemeral wetland and home to NZ and banded

dotterel. This area has a TRC biodiversity plan in which council and the community undertake pest control and revegetation. Bring your boots to this one. The organisers have set aside some seedlings for members to plant. This trip will also look at TRC's Self Help possum control programme on the way to Pukeiti, a council owned and nationally recognised garden and rain forest beside Egmont National Park where visitors will look at the ongoing pest control operations.

Egmont National Park where DOC staff will discuss the kiwi and blue duck programmes and the longest running goat control programme in the country. Visitors will have a chance to walk some of the short trails from the visitor centre or wander through the displays. This is the main gateway to New Zealand's second oldest national park.

Incursion exercise: The fourth option is a Biosecurity Incursion Simulation based at the Taranaki Emergency Management Office where participants can manage an incursion at first hand. This will be run byASUREQuality. "This would be excellent for all National Biosecurity Capability Network people," says Organising committee chair Steve Ellis.

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NZBI news

Biosecurity stalwart Jack Crow retires

Auckland Council Biosecurity manager and former Institute of Noxious Plants Officers President Jack Crow retired in February after more than 35 years in the biosecurity sector. Here he shares some of his career moments and some thoughts on the future of the biosecurity sector.

Jack Crow is a “farm boy and university dropout” (his words) who started with the Whangarei County Council in August 1978 as a Noxious Plants Officer, a role he continued with the Northland Regional Council until 1999. He immediately became concerned with the impacts of weed species in native forests and, inspired by botanists Katie Reynolds, Alan Esler and Ewen Cameron, got involved with publicising the impacts of, and eventually managing, a much wider range of weeds than the traditional gorse, blackberry, ragwort and thistles.

Jack initiated and managed the “Forest Friendly Awards” which eventually became the National Pest Plant Accord. He claims to have banned more plants than anyone else in history. He has championed biocontrol, improved legislative approaches especially the Biosecurity Act, and better advisory services to the community. He has contributed to the development of new tools (e.g. sodium nitrite, less volatile hormone style and sulfonyleurea herbicides, penetrants). Jack authored *Poisonous Plants and Fungi in New Zealand* (1995) and *The Good Plant Guide* (1996). In 1999 he wrote *Weed Manager* the DOC weed management manual.

Institute service

Jack was an executive member of the Institute of Noxious Plants Officers 1984 to 1993, holding the offices of vice president (1986-1990), national president (1990-1992) and immediate past president (1992-94). He was involved in making submissions and Parliamentary Select Committee appearances on the new “Biosecurity Bill” as it was then called, and on pesticides use in NZ, resulting in better product labelling, better industry training and better notification provisions being included in regulations. During this time Jack was instrumental, along with his successor Peter Ingram, in leading INPO to co-operate with the Institute of Pest Destruction Officers to form NZBI several years later.

Jack departed New Zealand in late 1999 for Melbourne where he was Team Leader Extension Support and part of the management team at the Keith Turnbull Research Institute, which undertakes weed and vertebrate pest research for the State of Victoria. Part of the job description was to create a “pest plant banning strategy” and pest plant list. Four hundred species and intense nursery industry negotiations later, a timeline was established for the staged withdrawal



The Auckland Biosecurity Team clockwise from front left: Christina Hammon, Mark Mitchell, Jacqui Wairepo, Stacey Hill, Garrick McCarthy, Andrea Rule, Rebecca Kemp, Jack Crow, Dave Galloway, Nick Waipara, Mary Stewart, Jeremy Warden, Holly Cox, Jolene Chapman, Greg Hoskins and Brian Shields.

NZBI news

from sale of a reduced list of species.

Auckland Council

Jack was appointed Biosecurity Manager at Auckland Regional Council in 2003 and held this position for 11 years, including through the transition to the Auckland Council in 2010. During this time the Biosecurity Team has grown from 16 to 24 staff plus several long-term contract positions. Of particular note was development of the Regional Pest Management Strategy 2007-12 which contains several novel approaches and greatly increased list of pests (fish, reptiles, ants, birds, plants); a comprehensive Hauraki Gulf biosecurity programme, a greatly expanded research focus; and the response to kauri dieback disease. He said "of all of the many things I have been involved within the biosecurity field, none of them has made me more proud or given me more pleasure than the development of the Auckland Biosecurity team. I have been incredibly blessed to be associated with the most amazing professional, hard working, passionate, innovative and co-operative people I have ever worked with. Team members constantly help each other out and they operate more like a family than just workmates. They have made my working life a real joy".

Jack is leaving to take up the cudgels against kauri dieback disease, and will be based in Northland. Until this kicks off, he has some consultancy projects in Hawaii and Vanuatu and will also be managing the eradication of goats from Pitcairn Island on behalf of the British Government.

The future

Jack's thoughts on the future: "Biosecurity is just like any other field of human endeavour. The pressures are coming from increasing human mobility and rising standards of living internationally with attendant increased expectations to do anything and go anywhere. We will need to work a hell of a lot smarter, and embrace totally new ways of working. This will largely be dictated by emergent technologies in pest detection and control, and most of these will be able to be remotely controlled. However, I see a huge future for detector dogs because of their accuracy and cost-effectiveness, for targets from ants to weeds to pathogens. Also much more work will need to be done collaboratively. Regional councils have already set a high benchmark for collaboration in biosecurity matters, chiefly through BMG, BGG and now the Biosecurity Working Group, in research, SOPs, training etc matters. This has saved money and reduced risks. We will need to extend this collaboration to many other groups,



Jack with one that didn't get away.

eg government departments and CRIs, international research and advice providers, aggregated community and sector groups. The biggest potential gains mid-term will probably come from working with industry and sector groups to set new standards and QA systems that are self funding and audited by regional councils. I would also love to see a clear separation in local/regional government between doers and regulators but fear that local government will always be an easy target for politicians and their short-term ambitions. In this light, we also need to be thinking about creating new structures, for example trusts, to deliver biosecurity solutions. However, the future for our profession is really exciting, because there will always be more pests, and more community and industry needs, more opportunities and more resources available. See you at conferences".

Obituary

Farewell and thank you Jack Powell

Jack Powell, who had been recently interviewed for the Institute's Oral History project, died in November last year, aged 88. Jack had a long involvement in rabbit control, mostly in Otago and Canterbury, from supervising rabbit boards to having a national pest destruction role until his retirement in 1986.

The following brief summary of Jack's life and career is drawn from Jack's interview and Ray Clarey's recollections of the man he describes as one of his mentors.

"Jack was a mentor of mine although he wouldn't have thought of it like that, and we did get along rather well," Ray said.

Early start

Born in 1925, Jack grew up in Waitati, north of Dunedin. He started rabbiting while still at primary school, spending most of his spare time trapping and ferreting rabbits to sell the skins and carcasses. He used to collect rabbit tokens (usually the ears, which he could "cash in" with the Department of Agriculture) by clearing traps each morning before going to school.

He left school at age 15, spent a year freelance rabbiting, and then went to West Otago to learn sheep work, although he soon found himself in the role of teamster instead, working an eight-horse team on land development. Aged 18, he signed up for the army and went to work for the Waihopai Rabbit Board in Marlborough while waiting for his call-up, which never came. He returned to Central Otago where he spent some years deer shooting, "freelance" rabbiting, sawmilling and brick making, as well as building a house at Earnsclough where he developed an orchard.

In 1955, he took a rabbiters job with the Earnsclough Rabbit Board and a year later was "talked into" going to the Maniototo district where he took charge of the Waipiata Patearoa Rabbit Board, which combined with neighbouring boards (including Naseby) as the amalgamation era started.

Jack joined the Agricultural Pest Destruction Council (APDC) in 1969 as one of two Field Officers (the other was Peter Nelson). He was scouted by Don Cameron, a well known South Island Rabbit Board Association farmer-member of the day.

National role

Jack's job was a national one, as he was required to visit pest boards throughout New Zealand with a view to creating efficiencies and his job expanded beyond



Jack Powell, then an Agricultural Pest Destruction Council field officer, demonstrating oat bait mixing in Alexandra, Otago, in 1972.

rabbits to cover other pest animals. Pest boards were then subsidised through Vote Agriculture and Jack's job was to ensure that funds and resources were used wisely. He strongly advocated additional training for both pest board staff and the board member trustees.

Jack was based at Alexandra for much of his APDC tenure and was widely known throughout the country. He was warmly remembered by the many young trainees and field staff with whom he shared his knowledge on his field officer visits.

In 1986 Jack retired to Rangiora with his wife, Joy. He loved his hunting and fishing but tramping became his passion. He spent a lot of time in his beloved South Island high country leading groups on challenging treks, sharing his skills and love of the land.

Put succinctly, Jack was a national treasure. He was of the era when pest control workers were self-taught, learning from "old timers" and field experience to acquire the deep knowledge for which he was respected throughout the sector. Yet he was also open to working with landowners and scientists to develop new workable techniques.

And the last word goes to Jack: "I had the best job in New Zealand if it hadn't been for the paperwork!"

Weedbusters



Thumbs up for weed programme

Weedbusters, the national interagency weeds awareness and community engagement programme, has been given the thumbs up by Department of Conservation Director General Lou Sanson.

"Partnerships are the way forward in this battle for our natural heritage, so I'm really pleased that DOC is part of Weedbusters," Mr Sanson said.

Other organisations supporting Weedbusters include all regional councils and unitary authorities, Forest and Bird, QEII National Trust, Landcare Research, Landcare Trust, Nursery and Garden Industry New Zealand, and a growing number of district and city councils.

National Weedbusters Coordinator Carolyn Lewis is currently rebuilding the DOC Weedbusters network after the major changes the department has undergone, and urges DOC staff to think about how they can put weeds into the picture in their new roles.

"Pretty much every aspect of DOC work has a weeds component that can be highlighted to encourage behaviour change to stop the spread of invasive species, and Weedbusters can provide the tools, resources and interagency connections to help with this."

But, as the ad says, good things take time.

"Behaviour change around any issue is a long-term thing," Carolyn said.

"People have to be given time to move from awareness of the issue, to considering their own actions and attitudes, then trying out a different way of doing things, before they really start to take action in their own backyards and in local natural areas."

"That means that there is a role to play for both services and partnerships staff at DOC, as well as those working in community engagement, outreach and communications, in ensuring that New Zealanders



Department of Conservation Director General Lou Sanson encounters Weedbusters' mascot, Woody Weed, a weed "in containment" who is used at community events to raise awareness of invasive plant species in New Zealand.

get the information and support they need, no matter which stage of the process they are at."

The last word goes to Mr Sanson: "I encourage DOC staff to work with others to raise awareness of this issue and support community efforts to keep our natural areas safe from weedy invaders."

For more information, go to www.weedbusters.org.nz. For any questions, or to be added to the Weedbusters contact list for updates and information, please email to info@weedbusters.org.nz.

Adapted from an article contributed by **Weedbusters**

Call goes out for local weedbusting heroes

Do you know of individuals or groups who are busting weeds in their community? Want to give them a pat on the back and a bit of recognition for their efforts?

Here's your chance! Nominations for Regional Weedbusters Awards 2014 are now open.

Entry is open to all who volunteer their time toward weed management and education. Volunteers may be dedicated individuals, part of a community group, or an industry/organisation. They might be involved in a small project or a big one — it doesn't matter.

Volunteers may receive financial support from grants to cover operational costs, but time spent implementing initiatives must be donated. The awards recognise weed management initiatives across all land types:

private, public, rural, urban and coastal. They also recognise weed advocacy, awareness and education efforts.

Nominations can be made online at www.weedbusters.org.nz/awards/index.asp until 30 April 30 — and anyone can make a nomination.

C'mon folks, let's spread the word, and give these dedicated weedbusting champions the acknowledgement they deserve — and let's make sure that nominations come in from every part of New Zealand, so we can really celebrate a New Zealand-wide effort.

Carolyn Lewis
Weedbusters Co-ordinator

Sector news

'Possum Stomp' app launched

Scientists at Landcare Research are hoping their foray into computer gaming will produce a shift in thinking about how science can be communicated from research to general knowledge for the wider public.

Over the New Year period Landcare Research released a downloadable smartphone app based on the theme of the plight of New Zealand's native birds.

"Possum Stomp" is a game in which a kiwi tries to protect its nest from zombie possums, and is a teaser for a wider educational online game called "Ora" to be introduced later this year. It is also a precursor of new tools to challenge how New Zealanders think about pest control.

"In Possum Stomp the player helps Stompie the Kiwi to run around and stomp on the zombie possums before they steal his eggs. The zombie possums represent all invasive pests and the kiwi represents New Zealand's indigenous biodiversity," researcher Pen Holland says.

Landcare scientist Bruce Warburton says there will be consequences for every decision taken by the player.

"One of the main aims is to teach people about the complexities of managing pests in New Zealand. If people don't want to use a particular tool, say 1080, they don't have to but there may well be consequences related to budget, biological, or regulatory constraints."

Mathematical models developed by Pen Holland run in the background of the game and show participants what would happen to the forest canopy as a result of the pest strategies they choose.

"Some people may choose to kill nothing and Pen's model will show how the canopy of the forest will decline from possums eating it," Bruce says.

"Therefore, that will be the consequence of that player's decision."

Gaming marks a significant change in how science can be translated from research, to the public and both researchers are hoping the gaming medium proves to be effective.

"It's educational but we're also going to observe



people's strategies for pest management and use that to understand public perceptions as well as crowd-source some specific management solutions," Pen says.

The game is part of a wider research programme led by Bruce aimed at developing new technologies for pest control.

"We need to ask ourselves why do all this research on new technologies if the public don't know about them or more importantly don't accept them? So, it's about engaging communities in discussions and decisions about different pest control options, but we want people involved in discussions to be informed and one way of informing them is by playing games."

"Currently we present our science in scientific papers and contract reports which few people find interesting, know about or read, and the challenge is how we can better transfer that knowledge. The gaming method is one option that can reach a lot of people and make it personal."

The game has been developed in collaboration with Hazel Bradshaw, a PhD student at the Human Interface Technology Lab (University of Canterbury), who is studying how the gaming environment can be used for knowledge transfer.

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Sector news

Campaign to preserve lakes' values

NORTHLAND

Visitors to Northland's iconic Kai Iwi Lakes were reminded to "Check Clean and Dry" this summer.

Don McKenzie, Northland Regional Council's Biosecurity Senior Programme Manager, said the popular lakes northwest of Dargaville, were a priority area for the "Check Clean Dry" campaign because of their excellent water quality and current lack of significant freshwater pests.

The lakes are home to a range of endangered plants and animals and are one of the most important recreational areas in Northland, popular for boating, sailing, kayaking, swimming, waterskiing, camping, walking and trout fishing.

"However, these three lakes, and other outstanding

lakes in Northland, are constantly under threat of freshwater weeds and pest fish due to the lakes' accessibility and the large numbers of visitors they host, especially in summer."

"The team hosted a free community family fun day at Kai Iwi Lakes in February which included guided snorkelling, pest workshops and family games.

As part of the project the team sponsored a Kai Iwi Lakes sign design competition with local school students aimed at raising awareness and encouraging lake users to check, clean and dry.

The two winning designs by Dargaville Intermediate and Kaihu Valley Schools were made into signs and installed at the lakes to kick off the summer campaign.

DOC and councils team up to tackle pests

LOWER NORTH ISLAND

The battle to manage pest plants and animals in the Lower North Island is heating up, with the Department of Conservation (DOC) and regional councils joining forces.

In areas like the Ruahine Ranges, the spread of wilding conifers is altering the landscape and reducing natural water flow to surrounding agricultural lowlands. Tackling this problem, like other pest control programmes, is a big job that crosses council and landowner boundaries. As part of a new pest accord, DOC and three regional councils will begin working more closely together to manage these inter-agency issues.

The chief executives of Greater Wellington Regional Council, Horizons Regional Council, Hawke's Bay Regional Council and DOC signed the first Lower North Island Pest Management Accord at the end of last year.

DOC Director-General Lou Sanson said the Accord would see the four agencies working together from the planning stage.

"DOC is already working with each of these councils individually on pest control projects, but this accord takes that to the next level. It will enable much greater outcomes for conservation across the whole region."

Greater Wellington Regional Council Chairwoman Fran Wilde said the accord ensures consistency across the three regions.

The Pest Accord is the latest outcome of a formal conservation partnership between the three regional councils and DOC, which was agreed in December 2011.

"Nature can't be managed within geographical boundaries; it's something we all share responsibility for," Lou Sanson said.

Keeping pressure on feral goat population

CANTERBURY

Combined agencies in Canterbury are asking for help with the control of remaining feral goats on Banks Peninsula.

For 10 years a programme to remove all feral goats from Banks Peninsula has been run by Environment Canterbury, DOC, Christchurch City Council and the Banks Peninsula Conservation Trust in agreement with landowners.

It originated from public concern at feral goat damage to bush reserves and native plantings in the late 1980s and early 90s. Since this time nearly 5000 goats have

been removed which has cost those involved close to \$300,000 (Average of \$60 a head).

It is estimated that about 500 feral goats remain on just a handful of peninsula properties. These animals pose a major threat to the significant amount of effort and money spent in their removal so far, and re-infestation of previously cleared areas creates a huge amount of extra work and cost.

Environment Canterbury reports that help is available for feral goat removal at no cost to the landowners, and people are asked to contact one of the agencies.

Sector news

Queensland fruit flies discovered

NORTHLAND

The Ministry for Primary Industries (MPI) lifted all restrictions on the movement of fruit and vegetables in Whangarei at the beginning of February.

A fortnight prior, the Ministry put in place a 1.5 km diameter Controlled Area around where a single male Queensland fruit fly was found in a surveillance trap in the suburb of Parihaka. Residents were asked not to move whole fresh fruit or vegetables outside of this zone, which took in Parihaka, Riverside and parts of central Whangarei.

MPI Deputy Director-General Compliance and Response, Andrew Coleman said the move was precautionary while MPI carried out intensive checks for any further flies.

Mr Coleman said MPI would continue with its routine

fruit fly surveillance programme, with an additional 33 traps left in high-risk locations such as near landfill and industrial areas.

STOP PRESS

As of April 3 a further Queensland fruit fly find is under investigation.

The Ministry for Primary Industries (MPI) is investigating a new find of a single male Queensland fruit fly in a surveillance trap in Whangarei on April 1.

The fly was trapped in the Parihaka area of Whangarei, approximately 400 metres from where the single fly was found in January this year.

Resource kit for Pacific invasives launched

PACIFIC ISLANDS

The Pacific Invasives Initiative (PII) team announced the launch of its new online Resource Kit for Invasive Plant Management in March.

The kit was developed to assist decision makers, project managers, officers and field crews to prioritise, design, develop and implement effective invasive plant management programmes, thereby, increasing their chances of success. The resource is available at: ipm.pacificinvasivesinitiative.org or www.pacificinvasivesinitiative.org

The kit's focus is on Pacific Island countries and territories. However, it will also be useful for other regions working on invasive plant management.

It is available online, or off-line by request (PII@auckland.ac.nz).

PII has also developed a 10-day Invasive Plant Management Training Course in association with this kit.

From information supplied by
**Souad Boudjelas, Programme
Manager, Pacific Invasives Initiative**

Kauri dieback found on Coromandel Peninsula

UPPER NORTH ISLAND

Kauri dieback has been detected for the first time on the Coromandel.

Test results showing the presence of Phytophthora taxon Agathis (PTA) or Kauri dieback disease in the Whangapoua Forest just north of Whitianga is a major concern, Conservation Minister Dr Nick Smith and Primary Industries Minister Nathan Guy have said.

"This is a serious blow to our efforts to conserve kauri and protect it from this disease. I am taking a precautionary approach by immediately closing the affected area to reduce the risk of spread. It will also

enable time to determine the extent of the disease and our on-going management of kauri dieback in the wake of this negative news," Dr Smith said.

"This detection of kauri dieback is also a setback for the Keep Kauri Standing programme led by MPI and involving DOC, iwi and the four northern regional councils. This programme, set up in 2009, was initially established through to June 2014. It was reviewed last year and we were planning a ramping-up of this work in the next financial year prior to this discovery. This work will now need to be brought forward with urgency," Dr Smith said.

Sector news

What's the status of the giant willow aphid *Tuberolachnus salignus*

The giant willow aphid *Tuberolachnus salignus* has been found in nurseries by regional council staff and nurserymen from Auckland, Whangarei, Whakatane, Taranaki, Gisborne, Wairoa, Woodville and Tasman district since an infestation was reported in a nursery in Lepperton, Taranaki, in January. Ian McIvor, of Plant and Food Research, describes how to spot it and gives this update on its status.

T*uberolachnus salignus* are very large aphids with a body length of 5.0-5.8 mm. Wingless individuals (Apterae) are mid-brown to dark brown with several rows of black sclerotic patches. The body is covered with numerous fine hairs, which give a greyish-golden sheen to the abdomen. There is a large dark brown tubercle in the centre of the back, just in front of the siphunculi which are on large dark cones. The antennae are less than half the body length. Winged individuals (Alates) have the forewing membrane unpigmented but the pterostigma and costal margin are dark brown.

The giant willow aphid lives on the stems and branches of numerous willows & salows (*Salix* spp.) and is also very occasionally recorded from poplar (*Populus*). Its distribution is almost cosmopolitan wherever willows are grown.

No males have been recorded in this species and this may be because no males actually exist. The females are able to reproduce without males and give birth to live young that are genetically identical (clones). During certain seasons some aphid species can produce hundreds of young in a couple of weeks but more usually one aphid produces 5-10 young a day, for 10-20 days.

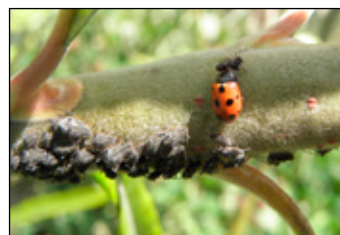
Tuberolachnus salignus is known to live on willow and salow trees and can form dense colonies on the trunk and branches, not on the leaves. If disturbed the aphids kick out their long back legs and wave them about.

This large aphid is very distinctive and there is nothing else like it, so if it doesn't have a large thorn-like process on its back then it is not *T. salignus*.

In Britain populations tend to decrease in February and within weeks they have disappeared. Several years of observation have shown that this aphid seems to be very active during cold frosts and heavy snow around January and February. They spend time leaving their host plant, walking along the ground, over rocks and along the handrails of foot-bridges. This aphid is certainly one of the fastest that is commonly seen. It is likely that our more mild winters will present little problem to the survival of this aphid.

The "rain" of honeydew may attract wasps and may be evidence of infestation where the aphids are too high in the tree to be noticeable.

The aphid has been found on *Salix fragilis*, *S. matsudana* x *alba* "Hiwinui" "Moutere" and "Tangoio", *S. alba* var. *vitellina*, *S. schwerinii*, *S. viminalis*, *S. purpurea* "Booth". It is demonstrating that it is generalist on all willows. It has been observed on willows in the river systems in Northland and Bay of Plenty. At this stage no parasitised "mummies" have been reported but ladybird beetles (ladybugs) have found them.



Photos: Stephen Thorpe, Kevin Cash and Wayne Teal.

NZBI Profile

Biosecurity personnel profile: Lindsay Vaughan

Role: Biosecurity Coordinator
Tasman District Council
Time in the job: Eight years

What motivates you to be involved in biosecurity?

Wanting to make a difference by protecting New Zealand's biodiversity

What has been your career path to your current position?

I graduated with a science degree and a forestry degree and worked in the forest industry for many years before making a late career change and moving across to work for Tasman District Council in a management role covering biosecurity and biodiversity

What makes up a normal day for you?

Organising and attending meetings and field trips, handling phone calls from landowners and stakeholders, researching lifecycles and identifying features of existing and new pests, reviewing treatment methods, preparing reports and submissions, spending time with members of the biosecurity team, and meeting with landowners and stakeholders.

What do you enjoy the most about your job?

I enjoy the wide variety of work and the challenge of



Lindsay Vaughan on Mt Cupola

finding effective and efficient solutions to biosecurity challenges, encourage occupiers to take responsibility for managing pests on their land, meet our legal obligations under the Biosecurity Act, and satisfy the demands of ratepayers and politicians.

Comment

Northland: a high biosecurity risk area

Two separate finds already this year of a male Queensland fruit fly in Whangarei as part of the nationwide fruitfly surveillance programme has highlighted again the vulnerability of Northland to incursions of unwanted pest invertebrates. Jenny Dymock, biocontrol services provider to Northland Regional Council, outlines the key biosecurity risk factors to which Northland is exposed.

Northland has a history of incursions and successful establishment of unwanted invertebrates. Table 1 lists the significant exotic terrestrial invertebrates that have arrived in Northland from 1994 to 2014.

A number of these are insects that have established in Northland and are spreading to the rest of New Zealand. Others have readily spread from the incursion risk hub of Auckland to the more equable climate of Northland — either unwittingly (with human assistance) or by their own natural dispersal abilities. Several insects have been the targets of successful and costly eradication programmes, including two incursions of Queensland fruit fly in Whangarei in 1996 and again this year.

Australia is the most common source of the incursions.

Two key groups of factors contribute to the risk of biosecurity lapses in Northland. They are geography, climate and environment, as well as visiting vessels and shipping lanes

Geography, climate and environment

Northland is a peninsula extending into the north Tasman Sea and Pacific Ocean. It has 3000km of coastline and 13000ha of mangroves (85% of NZ's total) suitable as mosquito habitat. The prevailing winds are from the southwest and northwest which

Common name	Species	Year first found	Place of origin
#Queensland fruitfly	<i>Bactrocera tryoni</i>	1996	Australia
*bamboo moth	<i>Artona martini</i>	1996	China/ Japan
*guava moth	<i>Coscinoptycha improbana</i>	1997	Australia/Norfolk Is
Monterey pine aphid	<i>Essigella californica</i>	1998	California
clover root weevil	<i>Sitona lepidus</i>	1999	Europe
*tropical grass webworm	<i>Herpetogramma licarsisalis</i>	1999	Old World tropics/QLD
*pasture webworm	<i>Culladia cuneiferellus</i>	1999	Australia/Norfolk Is/New Caledonia
*solitary flower wasp	<i>Campsomeris tasmaniensis</i>	2000	Australia/Papua New Guinea
#salt marsh mosquito	<i>Ochlerotatus camptorhynchus</i>	2001	Australia
bee mite	<i>Varroa destructor</i>	2001	Cosmopolitan
lettuce aphid	<i>Nasonovia ribisnigi</i>	2003	Cosmopolitan
citrus budmoth	<i>Prays nephelomima</i>	mid 2000s	Australia
Australian citrus whitefly	<i>Orchamoplatus citri</i>	mid 2000s	Australia
acmena psyllid	<i>Ctenarytaina</i> sp.	2007	Australia
#ant	<i>Tapinoma minutum</i>	2007	Australia
# Australian subterranean termite	<i>Coptotermes acinaciformis</i>	2007	Australia
*olive green coastal katydid	<i>Austrosalomona falcata</i>	2007	Australia
tomato potato psyllid	<i>Bactericera cockerelli</i>	2009	Southern Nth America
Caledonia seed bug	<i>Nysius caledoniae</i>	2010	USA
gum leaf skeletoniser	<i>Uraba lugens</i>	2012	Australia
#Queensland fruitfly	<i>Bactrocera tryoni</i>	2014	Australia
giant willow aphid	<i>Tuberolachnus salicis</i>	2014	Europe

Table 1. Arrivals of significant terrestrial invertebrates in Northland from 1994 to 2014

*first found in Northland and either restricted to Northland and/or moving south

local incursions – targets of successful eradication programmes

Comment

effectively makes Northland “downwind” of Australia. In summer and autumn tropical low pressure systems come south from the Pacific Islands. Northland's nearest neighbours are:

- Norfolk Island – 700 km
- New Caledonia – 1500 km
- Southern Islands of Tonga – 1800 km
- Sydney and Brisbane – 1900 km

It is also contiguous with the metropolis of Auckland, a major incursion risk pathway

Northland has a benign climate:

Summer daily max temp 22-26°C, min 12°C

Winter daily max temp in 14-17°C, min 7°C

Many coastal areas are frost free with inland valleys experiencing a only a few frosts each winter.

Visiting vessels and shipping lanes

Sea traffic increases the chances of invertebrate pests arriving in Northland. Cargo on container ships and produce on commercial or recreational vessels can harbour immature and adult stages of many invertebrates “hitchhiking” their way to New Zealand shores. These insects and mites can disembark from vessels making Northland their first port of arrival, or fly ashore from vessels passing the eastern Northland coast. No part of Northland is more than 40km from the coast.

Northland has three of the ports designated for entry of overseas vessels in the eastern north coast of New Zealand. These are:

- Opua in the Bay of Islands
- Marsden Point Refinery
- Marsden Cove in the Whangarei Harbour

Table 2 shows the number of vessels making Northland their first port of call in New Zealand in 2013. The number of cruise liners visiting the Bay of Islands as first port of call to New Zealand increased to 25 in 2013/2014 season.

In addition, a large majority of vessels visiting New Zealand pass down the eastern coast of Northland en route to the ports of Auckland and Tauranga. Commercial ships and recreational vessels travelling around the northern tip of Northland on their way down the east coast must not pass within 5 km of the Three Kings Islands 53km north of Cape Reinga, and vessels over 45m in length are banned from travelling through a designated area around the Poor Knights Islands. Ships generally set a straight course between the Three Kings Islands and the Poor Knights Islands reserves and usually travel at least 10km off the eastern coast

of Northland, well within the flight capabilities of some insects and mites.

Yachts often travel closer to the shore for shelter and may anchor if they have notified the appropriate authorities and received permission, depending on circumstances. On average six yachts per summer seek approval to anchor close to shore prior to Custom and MPI clearance, usually for safety reasons.

Craft type	Whangarei *	Opua
Tanker	84	
Yacht	67	334
Yacht catamaran	24	62
Bulk Carrier	66	
Container	15	
Fishing	8	
General cargo	4	
Specialised craft	1	4
Cruise ships	1#	14
Other	7	44
Total	277	458

Table 2. Direct (First New Zealand Port) Arrivals in Northland in 2013 (Statistics provided by MPI).

*Marsden Point and Marsden Cove

no passengers

Vessels regularly arrive in Northland from other ports in New Zealand, notably Auckland and Tauranga, which facilitates the spread of unwanted organisms. Gum leaf skeletoniser was first detected at the port area of Whangarei in 2012 and may have reached Northland via ports of Tauranga or Auckland. In addition, MPI reports that 30 light aircraft are inspected at Bay of Islands Airport (Kerikeri) each year (William Minchin pers.comm.).

Consequences of incursions

Invertebrate incursions to Northland have the potential to seriously affect Northland and hence the NZ economy in the horticulture, forestry and agriculture sectors. Other insect and mite incursions can negatively affect human health and activities, and alter ecosystems in the natural environment. Surveillance systems must be maintained, and in some cases expanded, to protect Northland as one of the highest biosecurity risks areas in New Zealand.

Research

Predicting plant invasions under climate change

In a University of Auckland study recently accepted for publication in *Global Change Biology* (Sheppard et al. in press), Christine Sheppard and colleagues Bruce Burns and Margaret Stanley investigated the effects of climate change on potential new weeds. The overall aim of the research was to test if climate change may provide opportunities for alien plants to expand into regions where they previously could not survive and reproduce.

The study species were recently naturalised plants from warmer native ranges, namely *Archontophoenix cunninghamiana* (bungalow palm), *Psidium guajava* (common guava) and *Schefflera actinophylla* (Queensland umbrella tree), currently limited to northern New Zealand. In a previously published study, potential distributions of these three species under a range of climate change scenarios were projected using species distribution models (see Sheppard 2013): these models had indicated that the alien plants are likely to expand their range (by 2090) on average by 101% (*A. cunninghamiana*), 70% (*P. guajava*) and 112% (*S. actinophylla*).

In a novel approach, we then directly validated these models with field trials (Sheppard et al. in press). We tested whether the alien study species perform as predicted in sites of differing climate suitability (as identified by the models). To this end, we grew seedlings of the three species in six sites across the country from Whangarei to Lincoln. The field trials showed high performance of the alien plants in the sites identified as suitable (particularly Whangarei and Auckland, but high survival was also observed in Greymouth), and growth and survival were high even during the severe drought of summer 2012/2013.

Moreover, growth and survival generally correlated well with predicted suitability of the species distribution models, increasing confidence in the models' ability to assess invasion risk. Additionally, the alien species frequently performed better than closely related native species (*Rhopalostylis sapida* – nikau, *Lophomyrtus bullata* – ramarama, *Schefflera digitata* – pate). The combined results from the models and field trials provide strong evidence of the invasion potential of



Christine Sheppard working at a Whangarei field site.

these plants.

Our research has highlighted the need to be concerned about the effects of climate change on plant invasions, especially for species from warmer native ranges introduced to more temperate areas. We hope that by having higher confidence in the potential risk of new weeds, cost-effective management actions can be taken to control alien plants at an earlier stage of the invasion. Moreover, we urge that weed risk assessments and management strategies should consider effects of climate change.

For more information: cjog001@aucklanduni.ac.nz

Contributed by **The University of Auckland's School of Biological Sciences**

References:

- Sheppard C.S., Burns B.R., Stanley M.C.** (in press). Predicting plant invasions under climate change: are species distribution models validated by field trials? *Global Change Biology*. DOI: 10.1111/gcb.12531
- Sheppard C.S.** (2013). Potential spread of recently naturalised plants in New Zealand under climate change. *Climatic Change* 117: 919-931.

Biocontrol research

What's new?

Hugh Gourlay does a round-up of weed biocontrol projects at Landcare Research

Alligator weed (*Alternanthera philoxeroides*): Host-testing of a root/stem galling fly, is currently under way in containment at Lincoln. Trials to assess its damage potential are also planned.



Ophiomyia marelli

Aquatic weeds: A new collaborator at University College, Dublin has been subcontracted to conduct host-range testing on a promising agent for lagarosiphon, an aquatic fly *Hydrellia lagarosiphon*. With help from Paul Champion (NIWA) the first batch of test plants were shipped from New Zealand to Ireland before Christmas and testing will begin soon.



Odonna passiflorae

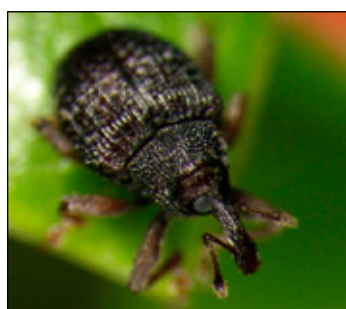
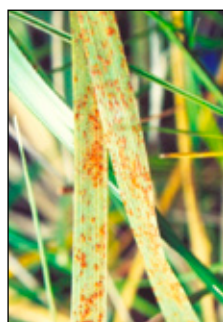


Pyrausta perelegans

Banana passionfruit (*Passiflora* spp.): Field trials are being carried out in Colombia to determine whether the two moths, *Pyrausta perelegans* and *Odonna passiflorae*, pose a threat to our native passionfruit, *Passiflora tetrandra*. The trials are expected to run for a couple more years.

Chilean needle grass (*Nassella neesiana*): We are continuing to battle bureaucracy in Argentina to obtain a permit to export a rust, *Uromyces pencanus*, which has been approved for release in NZ.

Uromyces pencanus



Anthonomus kuscheli



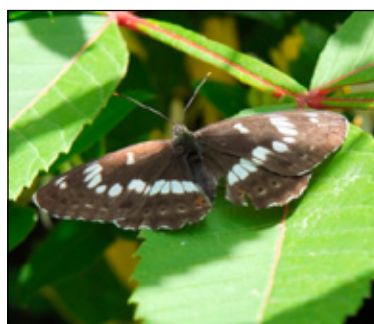
Berberidicola exaratus

Darwin's barberry (*Berberis darwinii*): A microsporidia disease was found in recent shipments of the two new weevil agents, *Berberidicola exaratus* and *Anthonomus kuscheli*, so field releases have not yet been able to begin. We are now working to source disease-free populations next spring.



Dolerus aericeps

Field horsetail (*Equisetum arvense*): We are currently host-testing a leaf-feeding sawfly, *Dolerus aericeps*, in containment at Lincoln and more shipments of insects are expected this year.



Limenitis glorifica

Japanese honeysuckle (*Lonicera japonica*): The white admiral butterfly, *Limenitis glorifica*, above which

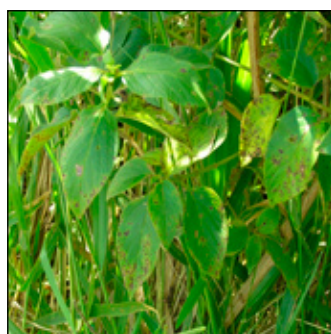
Biocontrol research



Oberea shirahatai

has proved impossible to breed in our facilities, was released into a butterfly zoo last year. Unfortunately the white admiral still failed to mate and lay fertile eggs so we have not yet been able to begin field releases. We now plan to collect white admiral eggs from Japan in September 2014 and release the resulting larvae directly into the field in about November, if they are free of disease. Host-testing of the longhorn beetle, *Oberea shirahatai*, above, has been completed, and we are developing rearing methods for this insect in our containment facility at Lincoln. Once we are sure we can rear this beetle successfully an application for release will be prepared.

Lantana (*Lantana camara*): Two rusts recently approved for release in New Zealand were imported into our new pathogen containment facility at Tamaki in 2013. One came from CABI in the UK (*Puccinia lantanae*) and the other from Queensland (*Prospodium tuberculatum*). Unfortunately we did not manage to successfully bulk up either and both colonies were lost. Another shipment of *Prospodium tuberculatum* has recently been received and CABI is preparing to send more *Puccinia lantanae*. With the experience gained first time round we are now in a better position to be able to begin field releases of these rusts later this year.



Prospodium tuberculatum

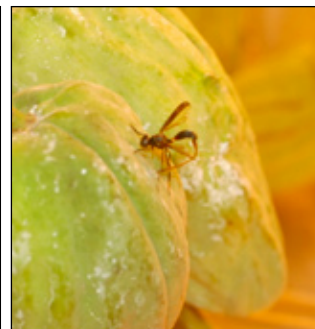


Puccinia lantanae

Moth plant (*Araujia hortorum*): We are continuing to battle with bureaucracy in Argentina in order to be able to source shipments of moth plant insects. We are trying to source the moth plant beetle, *Colaspis argentinensis*, which has been approved for release by

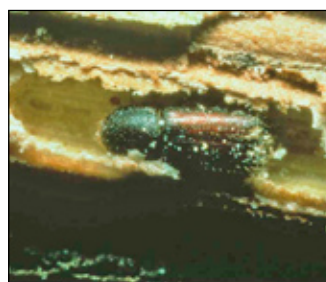


Colaspis argentinensis

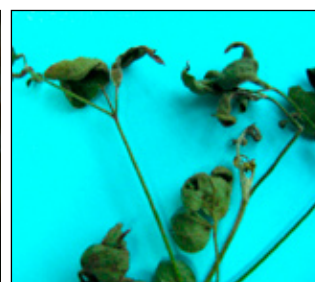


Toxotrypana australis

the EPA, and a promising fly, *Toxotrypana australis*, which destroys the pods which we want to study further. Some of the paperwork needed has recently been signed. Host testing of a rust, *Puccinia araujiae*, has nearly been completed in Argentina and the results are good. Our Argentinean collaborator is now focusing on obtaining a colony of the rust which is free from mycoparasites.



Xylocleptes bispinus



Aceria vitalbae

Old man's beard (*Clematis vitalbae*): NZ native *Clematis* plants have been sent to the Isle of Wight for planting out to determine if the bark beetle, *Xylocleptes bispinus*, will attack any of them. However, this past winter in the UK has seen the plants battered about by high winds and floods and we are waiting to hear how many of these plants have survived. After several shipments of leaf and bud galling mite, *Aceria vitalbae*, have failed to survive in containment at Lincoln so we are now making arrangements for host-testing to be conducted in Europe instead.



Argopistes tsekooni



Leptoypha hospita

Privet (*Ligustrum sinense*): Host-range testing of a lace bug, *Leptoypha hospita*, above right, is nearly

Biocontrol research

complete and the results are looking good. We are also rearing a leaf-mining flea beetle, *Argopistes tsekooni*, in our Auckland containment facility to allow host testing of this species to begin soon.



Melampsora hypericorum

Tutsan (*Hypericum androsaemum*): Field work looking for potential biocontrol agents continues in Europe, along with virulence testing of isolates of tutsan, *Melampsora hypericorum*, found in Europe.

PIC 18

Tradescantia (*Tradescantia fluminensis*): All three beetles appear to be establishing in NZ. Importation



Kordyana sp.

of the yellow leaf-spot fungus, *Kordyana* sp., has been delayed as our Brazilian collaborators have lost their colony of it and need to establish a new one.



Anthonomus morticinus

Woolly nightshade (*Solanum mauritianum*): A yet to be identified gall-forming weevil, a flower-bud feeding weevil, *Anthonomus morticinus*, and a stem-boring weevil, *Conotrachelus squalidus*, have been collected in Brazil and host-testing is under way.

For more information about weed biocontrol see our quarterly newsletter: www.landcareresearch.co.nz/publications/newsletters/biological-control-of-weeds
To subscribe to this newsletter contact Lynley Hayes: hayesl@landcareresearch.co.nz

Of gorse we'll help you with that weed, mate

Helping your neighbours control gorse usually means collaborating on boundary control but not in this case when the boundary is the Tasman Sea.

Scientists at Landcare Research have been helping the Australians plan how to tackle gorse. Landcare Research recently published a paper on the host specificity of the gorse soft shoot moth, *Agonopterix umbellana*, under Australian conditions. This agent is already released in New Zealand.

Landcare Research's contribution was to help test the agent's specificity for more than 250 species or cultivars of plants. Landcare's Hugh Gourlay said this figure included 37 Australian native and

introduced plant species.

"We demonstrated that the agent would be unlikely to survive on any plant other than gorse in Australia," he said.

In the long term, it is hoped that *A. umbellana* will contribute to the biological control of gorse in Australia.

Ireson JE, Gourlay AH, Sagliocco J-L, Holloway RJ, Chatterton WS, Corkrey R 2013. Host testing, establishment and biology of the gorse soft shoot moth, *Agonopterix umbellana* (Fabricius) (Lepidoptera: Oecophoridae), a potential biological control agent for gorse, *Ulex europaeus* L. (Fabaceae), in Australia. *Biological Control* 67(3): 451–461.

Research briefs

Poison residues

Residues from anticoagulant poisons continue to be an under-recognised problem for biodiversity conservation in New Zealand and worldwide. In collaboration with colleagues from Otago University, Landcare Research scientists highlighted this problem in a recent paper.

Masuda BM, Fisher P, Jamieson IG 2014. Anticoagulant rodenticide brodifacoum detected in dead nestlings of an insectivorous passerine. *New Zealand Journal of Ecology* 38(1): [early view online].

One stop for rodent surveillance and genetic data management

Data management frameworks will be a vital part of the Predator-Free New Zealand initiative, according to Landcare Research. In collaboration with colleagues from the University of Auckland, Landcare Research scientists have developed a system for rodent surveillance and genetic analysis. The CatchIT software is a one-stop shop for data management and analysis, mapping, and where applicable, genetic analysis for pest control projects. Landcare says this user-friendly system is suitable for community groups, DOC and council schemes, and scientific research. The system maps traplines and bait stations on Google Maps, and stores trap catch data and bait take in the database. Outputs include maps of catches over time, and calculations such as catch rate or bait uptake. By incorporating the Trapping Module and Genetic Module into the same database, Landcare Research says it has a single repository for all information from field notes to genetic profiles. Fewster, R (2013) TFBIS 266 Data management system for rodent surveillance and genetic analysis. Final Report (2) LCI714 to TFBIS.

Trojan possums

Scientists from Landcare Research have published a paper highlighting what is known as the "Trojan Female Technique" (TFT) in a top international journal. TFT provides the theoretical underpinning to the recently funded Ministry for Business Innovation and Education smart ideas "Trojan Female Technique" project. The TFT uses maternally inherited mitochondrial (mtDNA) mutations that affect male, but not female reproductive fitness. Trojan Females carry such mutations, and their female descendants produce sterile males under natural conditions over multiple generations. Gemmell N, Jalilzadeh A, Didham R, Soboleva T, Tompkins DM. 2013. The

Trojan Female Technique: A novel humane approach for pest population control. *Proceedings of the Royal Society of Biological Sciences* 280: (1773): 1471-2954.

Braided river predator control

Landcare Research has published a paper highlighting differences between four threatened bird species in their responses to predator control on braided rivers. Different life stages of the birds responded variably to predator removal and flooding risk. Landcare said changes in river flow patterns under climate change scenarios may alter the susceptibility of different species, and it recommended that managers conserving these birds should use indicator species with caution. Cruz J, Pech RP, Seddon P, Cleland S, Nelson D, Sanders MD, Maloney RF 2013. Species specific responses by ground nesting Charadriiformes to invasive predators and river flows in the braided Tasman River of New Zealand. *Biological Conservation* 167: 363-370.

Vertebrate pest welfare in control operations

Collaborators at MPI and Landcare Research have developed a framework for assessing negative animal welfare impacts of several techniques used in vertebrate pest control (such as trapping and poisoning). The framework can now be used in decision making about the selection of techniques for a specific control operation. The scientists published the framework in the premier journal of the World Organisation for Animal Health. Litten KE, Fisher P, Beausoleil N, Sharp T 2014. Welfare aspects of vertebrate pest control and culling: ranking vertebrate control techniques for humaneness. *OIE Scientific and Technical Review* 33(1).

Invasive Asian paper wasp diet

Landcare Research has published a paper on the range of prey items found in the gut of the invasive Asian paper wasp, *Polistes chinensis antennalis*. Prey items were identified using molecular diagnostic techniques. The results are globally significant because we have expanded considerably knowledge of the prey range of this invasive species. Ward DF, Ramón Laca A 2013. Molecular identification of the prey range of the invasive Asian paper wasp. *Ecology and Evolution* 13 (3): 4408-4414. [Outcomes 1 and 4]

These briefs were assembled with the help of **Landcare Research's Weeds, Pests and Diseases research leader Dr Andrea Byrom.**

Help wanted

Possible unlicensed land-based aquatic practices

NATIONAL

Kerry Thomas is researching possible unlicensed land-based aquatic practices and is requesting information on the sale, breeding and display of aquatic organisms.

She is part of an investigation into unlicensed land-based aquatic practices that breed, trade, sell or display aquatic life in New Zealand. The research is a collaboration between Victoria University, Boffa Miskell Ltd, and KF & Associates, and is funded by the Ministry of Primary Industries.

Information gathered will help generate a fuller picture of aquatic operations in New Zealand and could help identify ways to reduce the impact of new pests or diseases that could affect aquatic plant or animal

production in New Zealand.

Kerry Thomas's job is to identify all and sundry who the survey can be sent to. Please send her the contact details of anyone who has any information on research, selling, breeding, propagation or display of marine or freshwater organisms.

The sort of places she wishes to get more information about are fish-out ponds (not-for-profit and commercial), seaweed farmers, goldfish or ornamental fish farms, rotifer/zooplankton producers, live feed growers, riparian enhancement (although this one is out of the water) and the odd backyard enthusiast with a sign out on the road (eg. "Tadpoles for sale").

Please contact: kerry_thomas@xtra.co.nz

The Tail...

Festive find

It may be have been the festive season, but Auckland biosecurity staff were surprised to find a live Christmas tree coming through the X-ray machine at the International Mail Centre in Auckland over Christmas.

The packaged pine tree had arrived from UK complete with a pot of soil.

"The quarantine inspector working the X-ray machine thought, 'What the heck?'" said Craig Hughes, Manager North, Passenger and Mail from the Ministry for Primary Industries (MPI).

He said the tree wasn't allowed into New Zealand and that the sender has been offered the choices of having it destroyed or returned to the UK.

He said there was a fungus currently killing fir trees used for Christmas festivities in the United States and Britain and the forestry industry clearly don't want to see this tree fungus or anything like it establish here."