Summer – 2013
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New Zealand Biosecurity Institute

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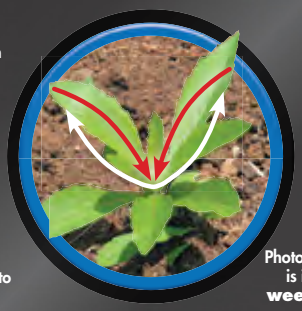

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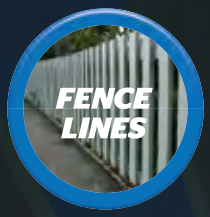
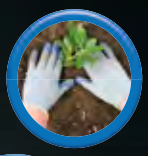


WHAT TO KNOW



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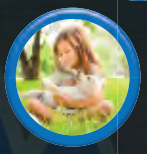

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Protect

Summer 2013

Magazine of the New Zealand Biosecurity Institute

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NZBI News

From the Editor

Plenty of challenges but lots of success too

I hope you will find interesting summer holiday reading within these pages. There is a stimulating collection of stories across the biosecurity sector including some colourful accounts of interceptions, awareness programmes and bizarre events.

This year the Institute celebrated a successful NETS2013, as well as the success of its Archives Project with generous funding from the NZ Lotteries Grants Board. The Institute also welcomed new President Rebecca Kemp.

The biosecurity sector has had challenges this year but it has had success stories as well, and they are celebrated in this issue. For me, as usual, the highlight was meeting people at NETS.

Thank you all for your support for *Protect* throughout the year.

Chris Macann

Report from the Executive

Kia ora and hello from the Executive.

With some of the warmest temperatures recorded for November in past 35-plus years it is looking to be a very dry and possibly challenging summer season for many of us in the biosecurity sector. The Executive team would like to remind you all to think smart this summer, personal safety and the safety of others needs to be at the front of our minds heading out into the field this year with sunburn, sunstroke and fires a huge risk.

The Executive met by teleconference in late October, with our next meeting scheduled for March 2014 in Wellington. If your branch, or you as an individual, have issues or queries for the Executive to address please feel free to approach your branch executive or another member of the Executive; we will do our best to address and answer these queries for you.

The past few months have seen work under way on a survey to scope what our members' expectations of the Institute are. This will be out to our members in the New Year. I encourage you to have your say as we want to hear what you want and how best you feel we can deliver this to you.

Audio recordings for the Archives Project are well under way, recording our biosecurity treasures for the future. Further updates on this will be out during the 2014 year.

Many of you will be wondering where this past year has gone, as am I. There are a few theories why our year disappears quickly; my view is that we are continually fitting more into our lives and time does not stop for the extra load. The Executive would like to wish you all a very happy and relaxing Christmas and New Year break – take care of yourselves and your loved ones, and travel safely.

Nga mihi

Rebecca Kemp
President, NZBI
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NZBI Branch news

Northland / Auckland branch update

The latest Northland/Auckland branch meeting was held on 7 November 2013 and was hosted by the Northland Regional Council office in Whangarei.

The meeting was very successful with a range of issues being discussed. The meeting included acknowledgement of Rebecca Kemp's recent election as NZBI President and recognition of Jack Craw's contribution to biosecurity in light of his recent resignation announcement. As Biosecurity Manager for Auckland Council, Jack has been a tireless crusader for biosecurity over many years. Jack is stepping down at the end of February.

As Biosecurity Manager for Auckland Council, Jack has been a tireless crusader for biosecurity over many years. Jack is stepping down at the end of February.

The meeting closed with presentations by Ashley Lawrence on yellow flag iris and and Diane Sawyer on the range expansion of spur-winged plover in New Zealand.

As part of her studies at Northtec, Ashley has been working with Northland Regional Council to map areas of yellow flag iris (*Iris pseudacorus*) and "mile a minute" weed in the Northland region. Yellow flag iris is a noxious weed that invades marshy areas. It seeds prolifically and forms dense clumps. It is difficult to eradicate because seeds can persist in the soil for many years. Ashley's project started by using maps of existing known yellow flag iris locations on which she then built to give a more complete picture of where the plant occurs in the Northland region.

Diane is a senior lecturer in the Department of Natural Sciences at Unitec in Auckland. She has been researching the spread of spur-winged plover since it arrived in southern New Zealand early last century. As spur-winged plovers arrived naturally from Australia they are considered native to New Zealand and as such were afforded some legal protections. These protections have now been removed as the species has become more prolific. Since their arrival, spur-winged plovers have migrated north with increasing speed, matching the pattern shown by invasive species on arrival in a new territory.

Northland Regional Council also arranged a display of weeds from the Northland region for members to examine.

Following the meeting, Don McKenzie and Sara Brill (Northland Regional Council) took a small group to the nearby Pukenui Forest to look at current pest control being carried out there by a local community group with support from the Northland Regional Council, local iwi and DOC. A curious tomtit followed the group around as they were shown the different types of traps used to control rats, cats, mustelids and possums. The group is hoping to be able to release kiwi in the near future.

The next branch meeting will be held in March 2014 and will be hosted by the University of Auckland.

Nick Ward

Farewell and thank you Jack Powell (1925-2013)

Jack Powell, who was very recently interviewed for the Institute's Oral History project, died on November 23, aged 88.

Jack had a long involvement in rabbit control mostly in Otago and Canterbury, from rabbit boards to national pest boards until his retirement in 1986.

Protect will pay tribute to Jack's significant contribution to animal pest management in the next issue.

Jack Powell, then an Agricultural Pest Destruction Council Field Officer, demonstrating oat bait mixing in Alexandra, Otago, in 1972

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Sector news

Co-operative approach sees possum control carried out across 147,000ha

WAIKATO

The completion of possum control in the Te Kohanga area situated in the north-west Waikato bordered by the Waikato River means there is now an unbroken band of possum control across the entire north-western Waikato.

It has taken more than 10 years of hard work by Waikato Regional Council staff and contractors, and the co-operation of more than 2070 landowners covering 147,000 hectares, to achieve this significant milestone.

The North West Waikato Priority Possum Control Area (PPCA) is the largest in the Waikato region and comprises 17 different areas, with the natural boundaries of the Waikato River, Tasman Sea and Raglan Harbour.

With an estimated 200,000 to 250,000 possums killed in initial control operations alone, it is not only the native flora and fauna that illustrates the benefit of this landscape-based possum control: farmers report seeing production gains because their crops are no longer being eaten by possums.

It has taken more than 10 years of hard work by Waikato Regional Council staff and contractors, and the co-operation of more than 2070 landowners covering 147,000 hectares, to achieve this significant milestone.

Peter Nichol, formerly of Farm and Forest Pest Solutions, has undertaken control in nearly every PPCA in the north-west Waikato at least once. "Without the support of the landowners throughout the region, such a grand scale of possum control would not be possible," he says.

Biosecurity possum control team leader Dave Hodges says that pest control is driven by everyone working together.

"The future looks bright for pest control throughout the north-west Waikato," he says. "And when we get information about flocks of wood pigeons or kaka, and even grey warblers in people's gardens, all the work involved seems very worthwhile," says Dave.

He adds that the council is now investigating what monitoring work will be undertaken to assess the biodiversity gains of pest control, which are already being highlighted through anecdotal information.

New appointments to Biosecurity Ministerial Advisory Committee

NATIONAL

Primary Industries Minister Nathan Guy announced five new appointments to his Biosecurity Ministerial Advisory Committee in October.

The committee advises the Minister on the performance of New Zealand's biosecurity system, and on specific biosecurity issues where necessary.

The new members are: Rob Phillips (Chief Executive, Environment Southland), Peter Ombler (Chairman of Kiwifruit Vine Health), Professor Philip Hulme (Professor of Plant Biosecurity, Lincoln University), Catherine Taylor (Consultant with specialty experience in the aviation and maritime sectors), and Dr Jacqueline Beggs (Associate Professor of Biological Sciences, University of Auckland).

The five appointees join four reappointments to the committee: Chairman, Graeme Marshall (Commercial Manager at Port of Tauranga), Terry Donaldson (former MAF Farm Advisor and Manager for Biosecurity Surveillance at AgriQuality), David Douglas (high country farmer) and Dr Caroline Saunders (Professor of Trade and Environmental Economics and Director of the Agribusiness and Economics Research Unit at Lincoln University).

The appointments are for a three-year term.

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Sector news

Caution urged over Waikato's kauri dieback results

WAIKATO/COROMANDEL

Waikato Regional Council is asking people to remain vigilant to prevent the spread of the tree disease kauri dieback, despite no signs of it being detected in a recent survey in Waikato and Coromandel.

The survey was done as part of the wider Surveillance II project, carried as part of a multi-agency initiative to prevent the spread of kauri dieback, also referred to as Phytophthora taxon Agathis, or PTA.

The disease has been devastating stands of kauri on Great Barrier Island, in forested areas of Northland and Auckland and the Waitakere Ranges.

Surveillance II was a national surveillance programme in which 212 soil samples were taken from 89 sites in kauri-growing areas. Eleven sites were in the Waikato region (nine in the Coromandel and two in the wider Waikato).

"All soil samples taken in the Waikato returned 'not detected' results indicating that the Waikato and Coromandel remain disease free, which is great news," said John Simmons, Biosecurity-Heritage Group Manager for Waikato Regional Council.

However, further soil sampling is planned for the future in other areas within the Waikato region, including the Hakarimata Ranges and Te Kauri Reserve – the largest, southernmost stand of kauri.

"In the meantime, we urge people to be careful when they are travelling between areas where kauri grow so as to help prevent the spread of the disease," Mr Simmons said.

Kauri dieback is spread by soil movement. Dirty footwear, animals, equipment and vehicles are responsible for the large scale spread of this disease between different areas of kauri.

"To help the Waikato be kauri dieback-free, ensure footwear, tramping gear and equipment are thoroughly cleaned before entering forests and thoroughly cleaned again afterwards," Mr Simmons said.

'To help the Waikato be kauri dieback-free, ensure footwear, tramping gear and equipment are thoroughly cleaned before entering forests and thoroughly cleaned again afterwards.'

John Simmons
Waikato Regional Council

"Coromandel has the largest stand of kauri outside of Northland. It is important that we do all we can to safeguard these taonga. Every effort will be made this summer to remind people to clean their shoes and be vigilant when walking within the forest."

The full results of Surveillance II are available on the kauri dieback website: www.kauridieback.co.nz/media/34150/surveillance%202%20final%20report%20pdf.pdf

A map showing all soil sampling locations can be found at: www.kauridieback.co.nz/media/34153/fig%206%20surveillance%202%20final%20report.jpg

Waikato Regional Council is part of the joint agency Kauri Dieback Programme which aims to reduce the risk of spread of the disease throughout kaurilands.

MPI Director-General takes up post

NATIONAL

Former soldier and diplomat Martyn Dunne has begun his tenure as Director-General of the Ministry for Primary Industries.

"Mr Dunne has an outstanding record of service in the military, the public service and as a diplomat," Primary Industries Minister Nathan Guy said.

"His appointment signals a fresh start for MPI. I look forward to working with him on important issues like biosecurity and doubling our exports by 2025."

Mr Dunne was most recently New Zealand's High Commissioner to Australia, and is a previous Chief Executive of the New Zealand Customs Service. He also has 27 years' military service, where he attained the rank of Major General and was the commander of New Zealand forces in East Timor.

Mr Guy said Mr Dunne's experience with customs in dealing with border security and his experience on trade issues would be very important.

Mr Dunne has been appointed for a term of three years which began in mid-November when he took-over from Acting Director-General Scott Gallacher.

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Sector news

Aquatic pests found in ongoing monitoring of Tauranga Harbour

BAY OF PLENTY

Divers from Bay of Plenty Regional Council and University of Waikato have found a second Mediterranean fanworm (*Sabella spallanzanii*) and several clubbed tunicate sea squirts (*Styela clava*) on the hull of a boat moored in Pilot Bay, Mount Maunganui.

Both species are unwanted marine animals that have become established in other parts of New Zealand, including in Auckland's Waitemata Harbour and in Lyttelton Harbour.

"We've made contact with the owner of the boat. He's very concerned that his boat was hosting these marine pests and has made arrangements to have it hauled out and de-fouled immediately," said Warwick Murray, the regional council's Natural Resource Operations General Manager.

The divers, who announced that they had found the pest species in October, have been searching for Mediterranean fanworms in the southern end of Tauranga Harbour since the discovery of a single specimen in Pilot Bay in late September.

Regional council and Ministry for Primary Industries (MPI) staff are pleased that only two of the invasive fanworms have been found so far, and that the clubbed tunicate has only been found in one location to date.

"The fanworms that have been found are immature and have not yet had the opportunity to breed. We're hopeful that we've caught these incursions before they've become more widely spread. If they became established in Tauranga Harbour, both of these marine pests could have a negative impact on our kaimoana, including mussels, oysters and scallops. They can interfere with boating, aquaculture and recreational pursuits," Mr Murray said.

"We need boat owners to be vigilant and make sure they're not the ones that bring pests into this region. They can do this by keeping their antifouling paint in good order, and cleaning their hull regularly, in a place where the de-fouling can be safely captured and contained, such as at a haul-out facility. That's especially important before they travel to a new area," he said.

MPI and the regional council are also encouraging boaties to report any unusual sea life by calling the MPI Exotic Pest and Disease Hotline, phone 0800 80 99 66.

"We need to know the location. A specimen or photo is helpful too," MPI Senior Advisor Kathy Walls said.

Marine pest identification guides are available online at www.biosecurity.govt.nz/files/pests/salt-freshwater/2012-New-Zealands-Marine-Pest-Identification-Guide.pdf

Once the extent of the incursions has been defined, the regional council will work with Ministry for Primary Industries to determine the best approach to prevent further spread.

Visit www.biosecurity.govt.nz for more information about the Mediterranean fanworm or clubbed tunicate sea squirt.

Unwanted pests: Clubbed tunicate sea squirt (above) and Mediterranean fanworm (below) on the hull of a boat moored at Pilot Bay. Photo: Phil Ross

Close up of a* Styela clava*, clubbed tunicate sea squirt. Photo: Northland Regional Council.

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Sector news

Good planning integrates biosecurity into six-hour endurance race

MANAWATU/WHANGANUI

Big Bang Adventure Race organisers are being commended by Horizons Regional Council for their commitment to biosecurity they put in place for a six-hour race in Horowhenua in early November.

The race involved mountain biking, hiking, navigation, team building and a water activity with participants traversing the Koputaroa Stream and headwaters of the Ohau River in teams of two or four.

Horizons Environmental Co-ordinator Craig Davey praised organisers for their proactive and innovative approach which involved setting up Check, Clean, Dry stations at registration and between catchments to help stop the spread of pests.

"It's fantastic to see people getting out and enjoying all this region has to offer. It's even better when they take it upon themselves to safeguard our special places. [Race organiser Carrie Yaxley] instigated a really innovative approach to the usual hassle of mid-race cleaning. Incorporating a compulsory safety equipment check with the between catchment cleaning protocol meant two tasks were completed at once.

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Craig Davey
Horizons Environmental Co-ordinator

"Just a few simple steps to clean your gear when moving between waterways can have a big impact on the future health of our rivers and streams by keeping pests like didymo out," Mr Davey said.

Ms Yaxley consulted Horizons in the planning stages to assess the course for possible pest transfer concerns and determine the best way to Check, Clean, Dry.

This enabled Horizons to provide pre-event information as well as Check, Clean, Dry information and giveaways at cleaning stations on the day.

Check, Clean, Dry in action: Big Bang Adventure Race competitors stand in tubs of water and detergent during an inter-catchment gear check.

"Implementing the Check, Clean, Dry protocols was no hassle and it was great to know from an organiser's perspective that competitors from around the country could come and enjoy themselves without the risk of spreading pests like didymo," Ms Yaxley said.

"We also incorporated a mid-course gear check which is a new safety feature of the event. Teams had to show us they were carrying all the gear required while standing in a tub of water and detergent to clean their shoes.

"I told competitors about Check, Clean, Dry and they all participated really well," she said.

Horizons' Check, Clean, Dry team is currently gearing up for another busy summer season during which they will visit popular recreation sites across the region armed with cleaning gear and information.

Check, Clean, Dry posters are available for local shops or groups and the team is happy to be approached to attend other events or speak to fishing, tramping and other outdoor and water sports groups.

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Sector news

Good turnout for field horsetail event

MANAWATU/RANGITIKEI

The turn-out of about 75 farmers plus scientists, journalists, council and stock firm representatives from the Manawatu and lower Rangitikei to a horsetail field day in November pleased the Rangitikei Horsetail Group.

Hosted at the Saunders' property near Rongotea, the field day offered farmers the chance to get the latest information on the battle against horsetail, according to Craig Davey, Horizons Regional Council Environmental Co-ordinator.

"Field horsetail is a serious concern nationally as it's a very difficult to control weed that regrows each spring from an extensive root system, and will spread to overtake pasture and infest cropping land," Craig said.

He highlighted one of the impacts of horsetail by confirming that local vets had advised farmers in the Orua catchment to exclude stock from horsetail-infested pasture, which on the Saunders' property necessitated removing 30ha from rotation during the spring and summer months.

"So with spring now upon us, it was the perfect time for farmers to be looking for it on their properties," Craig said.

The Rangitikei Horsetail Group (RHG), whose members come from the local farming community, organised the field day, with support from NZ Landcare Trust, Horizons, and AgPro. Group members were on site to report on the progress their biocontrol project has made, and also to discuss solutions to the threat field horsetail poses to farming, cropping and gardening.

Field horsetail

Craig Davey of Horizons Regional Council explains control options for field horsetail at a field day focusing on the pest plant held in Manawatu recently.

"AgResearch's senior weed scientist, Trevor James, attended to discuss management and chemical control options with farmers. There was also a chance for them to take a look at a chemical control trial," Craig said.

"It was also a great opportunity for farmers to talk to other farmers who are battling against horsetail and bounce ideas around to figure out the best control option for the different infestation scenarios," Craig said.

"The RHG manages a Sustainable Farming Fund project to host-test and release northern hemisphere insects and diseases against field horsetail. The project is delivered by science provider Landcare Research and there are now two sawfly species currently in the country in containment, and they are looking at two more insects, a flea beetle and a stem miner.

"The RHG also acts as a bit of a hub for information about what farmers can do to either whack field horsetail or manage their farms with field horsetail, aiming to minimise the spread and impact on pasture production," Craig said.

The contact for the group is Alastair Cole, NZ Landcare Trust, Palmerston North. For information about how to minimise the spread or manage it please visit: www.horizons.govt.nz/about-us/publications/managing-our-environment/publications-pest-plants-and-animals-2/ and download the field horsetail guide.

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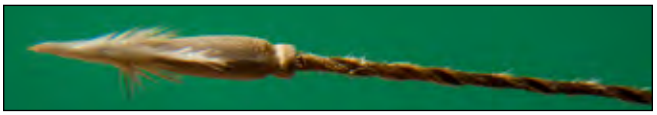
Sector news

Focus remains on Chilean needle grass

CANTERBURY / MARLBOROUGH / HAWKES BAY

Chilean needle grass (*Nassella neesiana*) was first recorded in New Zealand in the 1930s. There are only two known areas of widespread infestation in the country – Marlborough and Hawkes Bay. A routine property inspection by Environment Canterbury biosecurity staff in November 2008 found the first incidence of the plant in Canterbury at Spotswood, just north of Cheviot.



The extremely sharp cork-screw shaped seedhead catches easily onto passing animals. Photo: Tony Benny

Chilean needle grass is very difficult to identify for much of the year, blending well with other pasture species until flowering and seeding when seedheads have a purplish tinge and the seed has a distinctive long twisting tail. The extremely sharp cork-screw shaped seedhead catches easily onto passing animals particularly sheep where it travels into and through the skin to muscle tissue causing abscessing, allowing infection, downgrading carcasses and contaminating wool. As well as animal welfare issues arising from invasion by Chilean needle grass there are potential changes to farm practices and associated high control and containment costs.

Instant response

Immediately following the discovery of Chilean needle grass at Spotswood, a three-year small scale management plan under provisions in the Biosecurity Act 1993 was put in place. A search was begun to find the extent of the infestation within days of the discovery and control work started shortly after. This work has continued each year mainly between the months of September and March to coincide with seed production. The original infestation was found to cover an area of almost 80ha. An on-going search and public awareness programme has led to more confirmed sites and Chilean needle grass is now known to affect approximately 280ha across 13 properties in North Canterbury.

An on-going search and public awareness programme has led to more confirmed sites

Partnerships and public awareness

Concerned and affected landowners and stakeholders including the recently elected Chilean Needle Grass Pest Management Liaison Committee, Environment Canterbury, Marlborough District Council, Hawkes Bay Regional Council, Ministry for Primary Industries and AgResearch scientists among others have come together to work on all aspects of the management of Chilean needle grass in Canterbury and nationwide.

Chilean needle grass blends well with other pasture species until flowering and seeding.

A successful application to Ministry for Primary Industries Sustainable Farming Fund earlier in 2013 has provided funding to help support a public awareness campaign.

The aim of the campaign is to enable landowners and the general public to identify Chilean needle grass, to understand the risk it poses and to use a range of tools to control and contain it.

An aspect of the campaign focuses on pathway management beginning at the farm gate with “Be Seen Being Clean” as a catchphrase. As Chilean needle grass does not produce a windborne seed it is dependent on human or animal activity for dispersal, whether that be stock movement, machinery or on clothing. A rigorous approach to farm hygiene is being promoted as the best defence against invasion by any pest. The unchecked movement of stock, machinery and stockfeed in times of shortage because of drought or snowfall has led to the establishment of many undesirable plant species throughout New Zealand.

It is estimated that more than a million hectares in Canterbury is vulnerable to invasion by Chilean needle grass, mainly sheep and beef producing areas and up to 15 million hectares nationwide.

High hopes for specific herbicide

The registration and approval for the ground and more recently, aerial application of the selective herbicide Taskforce, developed in Australia specifically for the control of Chilean needle grass and nassella tussock, has been welcomed.

The root-absorbed herbicide has been applied to all infestations in Canterbury and many in Marlborough

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Sector news

Dirty machinery dealt a crushing defeat

CANTERBURY / MARLBOROUGH / HAWKES BAY

Taihape company Byfords Construction is leading the charge to prevent the transfer of didymo to the North Island.

In August this year Byfords purchased a second-hand mobile gravel screening machine and had it transported from the South Island. When it arrived it was dirty. Byfords immediately sent the machine to a suitable facility for a steam clean with detergent. They then left the machine to dry and trucked it back to site where they contacted Horizons Regional Council and the Department of Conservation for advice.

Horizons environmental co-ordinator, Craig Davey investigated the machine and the cleaning process and was more than impressed.

"Byfords was proactive and acted independently to remove the risk of pest transfer from South to North Island. It is Check, Clean, Dry on a much larger scale and highlights that companies can be independent and responsible in taking action to keep our rivers and lakes free from freshwater pests.

"Check, Clean, Dry is all about checking for pest weeds and animals, cleaning your gear and drying it thoroughly and this is exactly what Byfords has done."

Wayne Byford ensured the company contact Horizons because it considers the environment to be the work place, and one of Byfords Construction Company's primary goals is to protect and enhance it.

"Ultimately waterways in the central North Island provide our livelihood. We have a duty of care to protect them, both to ensure continued business, and because the rivers are a community asset," Mr Byford said.

"Didymo is a significant pest down south, you can't put a price on keeping it out of our backyard. When we spoke to Craig, we received good support from Horizons, which reassured us that we had done all we could to ensure the machine was clean and safe to put into our rivers."

"Ultimately waterways in the central North Island provide our livelihood. We have a duty of care to protect them, both to ensure continued business, and because the rivers are a community asset."

Wayne Byford

Dirty work: Taihape company Byfords Construction acted as soon as it was discovered that the gravel crusher the company had brought up from the South Island was dirty, and acted to have it cleaned immediately.

If companies are transporting machinery or other items from the South Island and they wish to mitigate any risk of didymo they can find information at www.mpi.govt.nz. Similarly if machinery goes from north to south there is a need to clean for freshwater pests. A great initiative to adopt is the new Keep it Clean – machinery hygiene guidelines and logbook available from councils, Federated Farmers and the NPCA – National Pest Control Agencies (http://npca.org.nz/).

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and Hawkes Bay. Taskforce must be applied at precise rates to ensure specificity and trials are being undertaken which are looking at the results of application and assessing the impact on a variety of pasture species. A consent is required to apply Taskforce from the air.

The Chilean needle grass management programme began in 2008 and Environment Canterbury has significantly increased resources available to the programme. The priority work streams are pathways, investigation, containment, education, control and search.

The selective herbicide Taskforce has recently been approved for aerial application.

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Sector news

Council celebrates success, launches new pest plan

WAIKATO

Waikato Regional Council took the opportunity to praise its biosecurity team at the adoption of its 10-year Regional Pest Management Strategy at the end of September.

The swift and successful response to a marine pest threatening Coromandel mussel and oyster farms was noted as one of the significant successes chalked up by the Waikato Regional Council's biosecurity team this year.

In its 2012-13 Regional Pest Management Strategy (RPMS) annual report, also adopted in September, the council highlighted its partnership with the Ministry for Primary Industries and local marine farmers to manage an infestation of Mediterranean fan worm at Te Kouma in Coromandel Harbour in April.

The discovery of fanworm on two barges in the harbour triggered the region's first marine biosecurity incursion response. Because the invasive fanworm can smother shellfish, it posed a real threat to the livelihoods of marine farmers in the area.

The fanworm was hand picked from the hulls of the barges which were then returned to Auckland. The harbour is now clear of fanworms but will be monitored for signs of the pest for the next three years.

The discovery of a Mediterranean fanworm in Tauranga Harbour highlights the need to manage the pathways by which marine pests spread around New Zealand.

The council noted further highlights in its biosecurity work undertaken during the year included:

• Aerial possum control results at Waikite Valley and Port Waikato, where no possums at all were caught after treatment. Very low catch rates were reported at a range of other sites. Control over a key 150,000ha section of north-west Waikato was completed, meaning that area will have extended protection from the damage that possums do to pasture, crops and the environment.

• The successful trial of a koi carp trap and digester at Lake Waikare. The trap and associated fish digester turned 12 tonne of pest fish into six tonne of high quality fertiliser, creating New Zealand's first pest fish recycling facility.

• The attainment of a 20 year region-wide consent to enable spraying of aquatic pests, such as alligator weed, without the need to apply for a consent on a site-by-site basis for any new infestations found. The change will save money and increase efficiencies for ratepayers. Meanwhile, two large new land-based sites of alligator weed were found near Hamilton as a result of surveillance measures put in place, and overall, good progress is being made to reduce the density of the plant at known sites.

Biosecurity-Heritage group manager John Simmons said working with other stakeholders and the wider community on pest control had been assisted by the availability of Waikato River Authority funding to assist with koi carp, river and catchment clean-up efforts.

"Our pest plant officers have been instrumental in raising awareness and working closely with iwi and community groups on riparian restoration initiatives in particular," Mr Simmons said.

'Our pest plant officers have been instrumental in raising awareness and working closely with iwi and community groups on riparian restoration initiatives in particular," Mr Simmons said.

John Simmons
Waikato Regional Council

The report noted that 18 significant natural area projects were under active management, mostly in partnership with private landowners. These areas included geothermal areas (Taupo), wetlands and lakes (West Coast and Hikuwai, Coromandel) and potential biodiversity "corridors" at Mt Karioi and in the Waipa River catchment.

As a result of submissions on its new 10-year Regional Pest Management Plan, Japanese walnut in high value biodiversity sites has been included as a pest plant species, while tutsan, a relatively new pest plant species spreading from the south, is one the council has identified as a primary target for landowners to address. It is a very invasive species that poses a serious threat to productive land. Investing in control now will avoid significant costs in the long-term.

Also, wild red-eared slider turtles are now declared a pest in the Waikato region. This change doesn't prevent people from owning a turtle but does give the council the ability to control red-eared slider turtles in the wild.

The Waikato Regional Pest Management Plan (RPMP) 2013-2023 was adopted by council on 26 September 2013. However, some portions of that plan have been appealed. Therefore, the 2008-2013 Regional Pest Management Strategy (RPMS) remains in force.

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Sector news

Lake to be treated in bid to preserve 'outstanding' aquatic plant values

WELLINGTON

The Wellington region's Lake Kohangatera is to receive treatment to eliminate two new invasive weed species following surveys by NIWA.

Lake Kohangatera is one of two lakes returned to Taranaki Whanui in their Treaty of Waitangi settlement. The lakes are governed by the Roopu Tiaki, a board established with iwi and Greater Wellington Regional Council.

Lake Kohangatera is located in the Parangarahu Lakes Area within the East Harbour Regional Park. Lake Kohangatera has been ranked in the top 10 nationally outstanding lakes out of more than 240 lakes surveyed for aquatic plant values.

The course of action recommended by NIWA is aerial spraying of the aquatic weed with the herbicide diquat

The Roopu Tiaki, through Greater Wellington Regional Council, commissioned NIWA to carry out assessments in March this year, after the aggressive exotic weeds *Elodea canadensis* and *Egeria densa* was found in the uppermost reaches of Gollans Swamp.

"These latest survey findings confirm Lake Kohangatera is nationally outstanding for its aquatic plant values. However, the existing exotic weeds, specifically *Egeria densa*, in the upstream catchment has grown in area and this needs to be addressed to protect the lake's special ecological values," says Alton Perrie, Greater Wellington Regional Council Environmental Scientist.

The affected area is relatively small at 1.8ha of the 72ha lake but the Roopu Tiaki is keen to ensure the spread is controlled and that all options to eradicate the weed are considered.

"The Parangarahu Lakes are extremely important to our region and to New Zealand. Our main concern is to protect Lake Kohangatera and to maintain its value as a place where our rare native plants can flourish unhindered by introduced species. After treatment we will work closely with the adjoining landowners to ensure the lake is not re-infested," said Roopu Tiaki Chair Liz Mellish.

The course of action recommended by NIWA is aerial spraying of the aquatic weed with the herbicide diquat, which is non-toxic to fish and becomes inactive on contact with organic matter and sediment at the bottom of the lake. Once the necessary approvals are obtained, a helicopter with GPS guidance and specialist nozzles will apply the gel directly to the affected area in autumn.

"We are working closely with all our stakeholders in this special area. Once agreement has been reached the treatment plan will form part of our resource consent application" said the regional council's Parks Manager, Amanda Cox.

Call goes out for papers for weeds conference

NATIONAL

The call has gone out for papers for the 19th Australasian Weeds Conference to be held at the University of Tasmania in Hobart, September 1-4, 2014.

For more information visit: www.australasianweeds2014.com.au/call-for-papers/

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Sector news

Help keep kauri standing this summer

AUCKLAND / NORTHLAND / COROMANDEL

The Kauri Dieback Management Programme has completed a second round of surveillance to determine the extent of kauri dieback disease in the North Island's treasured kauri forests.

Although kauri dieback is killing trees in many areas of Auckland and Northland, tests have confirmed that some of New Zealand's kauri forests are still healthy and remain disease free for now.

"We are pleased to see that kauri in the Hunua Ranges, the Coromandel Peninsula and in the Kaimai Mamaku Forest Park, between Waikato and Bay of Plenty, appear to remain unaffected by this deadly disease" said Jack Craw, Auckland Council Manager of Biosecurity.

In the Hunua Ranges, cleaning stations for footwear and mountain bikes are installed and large entrance signs remind visitors that they are entering a "healthy kauri area" and should clean footwear and equipment before heading into the forest.

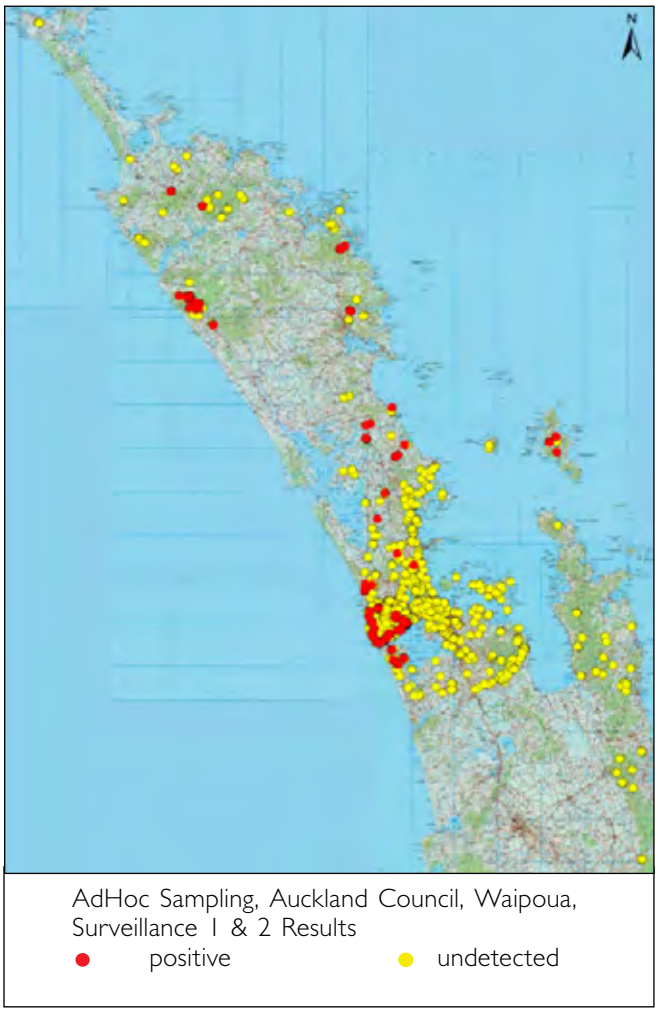
"This disease is spread by soil movement so could easily be introduced into the Hunua Ranges on visitors' dirty shoes and equipment," said Ali Thompson, Senior Ranger Conservation for Southern Parks.

"Everyone working in or visiting kauri forest should make sure their footwear and equipment, including bikes, are clean of soil when they arrive and clean it again when they leave. It doesn't take much effort to do this and it is the only way we are going to protect the kauri in Hunua from this disease."

Auckland Council's Biosecurity and Regional Parks teams are working together on the management of the disease in regional parks in Auckland. In the Hunua Ranges this includes an incursion surveillance programme, monitoring of compliance at cleaning stations, on-park advocacy and other measures to raise awareness of visitors.

Several kauri protection zones are also in place in the Hunua and Waitakere ranges, with associated track closures adding extra protection for significant areas of healthy kauri in the regional parks. Monitoring to date suggests that kauri in these zones are effectively protected from the spread of kauri dieback disease.

A "peoples panel" survey of nearly 3000 Auckland residents found that awareness of kauri dieback has increased markedly since the campaign began, with 82% of respondents aware of the disease. This is great news, however there's definitely room to improve! With compliance at our cleaning stations ranging from only 20% (at North Shore Reserves) to 60% (in the Waitakere Ranges) there is still more work to do to increase awareness and compliance around kauri dieback.



Map showing sites tested for kauri dieback disease and the results.

As summer approaches, please remember to clean your gear of all soil before and after visiting kauri forest and please help spread the word.

For more information visit www.kauridieback.co.nz , www.facebook.com/TheKauriDiebackManagementProgramme

Contributed by
Rob Mouldey, Auckland Council
Kauri Dieback Team

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Sector news

Good night to woolly nightshade in the southern Tararua

MANAWATU

After spotting the pesky plant, woolly nightshade, on the side of the road earlier this year, Horizons Regional Council's pest plant team was pleased to report in October that all known sites of the plant were controlled.

Until then, woolly nightshade had not been noticed in the southern Tararua and pest plant management officer Jack Keast said the team wanted to get on top of it as soon as possible.

"Woolly nightshade is a massive problem as it invades pastures and bush blocks, forming dense clusters which prevent anything else from growing," he said.

"On top of that, it can cause asthmatic reactions and skin rashes in humans and is also poisonous to stock."

Closer inspection of the site uncovered two large trees within the property and an area of seedlings beneath the trees.

"As the plant was clearly spreading we decided a survey should be carried out of the area surrounding the site as soon as possible," said Mr Keast.

After walking every street of northern Pahiatua, looking for woolly nightshade in the gardens of every section, the team found six more properties with the plant within a 500 metre radius of the original site.

"We also delivered 300 flyers to all properties in northern Pahiatua to raise awareness of woolly nightshade and encourage residents to be pro-active in ringing Horizons to get rid of it. Of the six confirmed sites that we found, four of them responded to the flyer and contacted us to remove the plant.

"The last two landowners were given a notice stating we believed that they had woolly nightshade and I could come on a certain date to remove the plants. Both landowners responded to this letter and asked me to do so, which meant we achieved total control over known woolly nightshade sites in Tararua," he said.

***Woolly nightshade,* Solanum mauritianum.**
Photo: Peter Greenwell

Woolly nightshade has a distinctive smell, large soft light-green leaves, small purple flowers and green and yellow berries.

Anyone who thinks they may have spotted this weed or would like more information is encouraged to get in contact with Jack Keast on 021 2277 100 or toll free on 0508 800 800.

Serious yet quirky

"Put cable ties on your bike helmet with the long ends sticking up – they will hit the ties if they attack."

The Responsible Cyclists Association on magpie protection

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Sector news

Enter the Ninja: Wanganui Urban Weed Programme 2013

WANGANUI

Neil Gallagher talks about a twist on a standard weed awareness and promotion campaign that really gets results.

During the spring of 2011 and 2012 Horizons ran the Wanganui Urban Weed Programme. During that time HRC lifted awareness of pest plants in Wanganui city. As a result more people living in Wanganui associate Horizons with pest plants and will seek our advice on anything weedy.

This year's programme brief is as follows:

1. Signature weed: Wild ginger
2. Start date: 21st October 2013
3. Promotional Phase: October through November 2013
4. Activity Phase: December 2013
5. Official End Date: Christmas 2013

The promotional phase of the programme involves requests to the public to contact Horizons if they have seen any wild ginger or have it in their garden, and would like assistance with controlling it. The promotional phase is now well under way. This has involved radio advertisements, live radio interviews, creating a new weed warrior, "the Ginger Ninja", and visiting residents with ginger on their property to talk about wild ginger and what Horizons is doing. This is aired live on a local radio station and social media. A HRC website widget takes people directly to a page devoted to the programme. As well, a strategically placed revolving road sign, approximately 3000 flyers, newspaper articles, a video clip explaining the programme on You Tube and HRC website, and media releases also promote the site.

The promotional phase has been highly successful from a number of angles. The use of the radio and creation of a Ginger Ninja mascot drew in a number of interested organisations and individuals such as Wanganui City Council staff and mayor, Department of Conservation staff, other HRC pest plant staff, a local recycling business that told people where to take their garden waste, a local botanist who described the botanical aspects of the plant, and a local gardening guru who talked about replacement plants. All have appeared live on radio talking enthusiastically about weeds. There was also the added value of a sponsored prize of a knapsack to the best respondent.

Craig Davey, the Ginger Ninja and Neil Gallagher.

The 2013 programme has in its promotional phase created the best response since the programme began in 2011. The full impact of the programme willl not be realised until early 2014 when a final report and analysis is prepared. The Wanganui Urban Weed Programme is a twist on a standard weed awareness and promotion campaign that really gets results.

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Conference report

Biennial conference brings wide range of weed experts together

Neil Gallagher attended the New South Wales Weeds Conference 2013 with the assistance of a NZBI Travel Award. Here is his report.

The New South Wales Weeds Conference 2013 was held at Corowa, NSW, September 9-12. The event's catchy theme was "weeds have no boundaries".

This conference is considered the premier event in NSW to discuss noxious and environmental weeds and related vegetation issues. It brings together weed experts from government, business, academia and other backgrounds to discuss past and emerging issues for the control of weeds. It is held biennially and attracts 250 to 350 delegates.

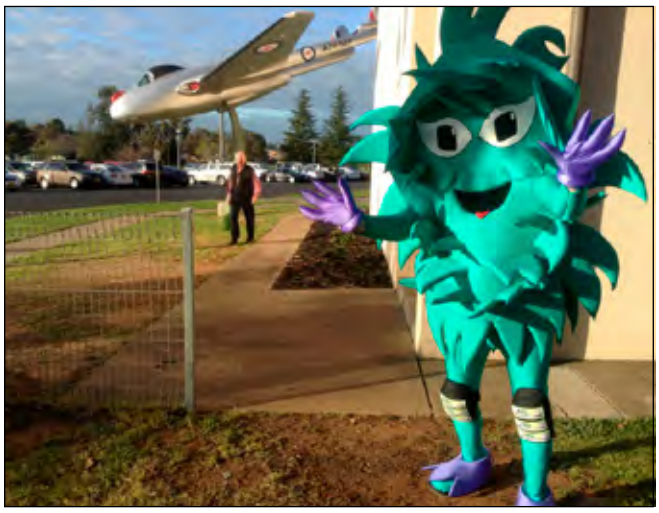
Getting there

After making preliminary investigations and realising what this forum had to offer I knew it wasn't to be missed and I started making my proposal initially to my employer, Horizons Regional Council (HRC), and once they agreed to this proposed extension trip I approached the New Zealand Biosecurity Institute and applied for a travel award and was successful.

Flying to Albury, NSW I was still an hour's drive from Corowa. Here I was collected by one of the conference committee members, Rodney Anderson (weed officer). It was during this trip we were able to compare and contrast our respective roles as "weed officers". Rodney's vehicle is changed every 50,000km which he said sometimes seemed like it was too frequently.

Each shire (council area) has only one weed officer and their time is divided between spraying roadsides, and property inspections. Biocontrol doesn't appear to be something they are actively engaged in unlike New Zealand. Awareness and promotion activities/ materials for weed officers and the weeds they control are provided and supported separately whereas here at HRC that role is part of our job description.

I would like to extend a huge thank you to the New Zealand Biosecurity Institute for granting me its Travel Award allowing me to be present at this event. Another big thank you to Horizons for allowing me the time to attend and the support. The value of these events is in the unique knowledge available and my interest in this should encourage new ideas. I believe one of the best ways to learn is from the experience of others — Neil Gallagher.



Woody Weed makes an appearance!

NSW (excluding Sydney) has 149 weed officers, 41 part-time staff, 50 assisting and 120 contractors. The councils take their role in weed management very seriously. I found the NSW weed officers I met to be passionate and enthusiastic group of individuals.

State-wide weed review

There is to be a state-wide review of how weeds are managed in NSW under way as directed by the minister. The man charged with undertaking this review was in attendance and presented on the process, procedure and timeline. I noticed full attendance and an audience listening carefully to his words. Weed management directives across NSW appeared to be driven from a state level rather like the way biocontrol and Weedbusters is here in NZ. Weedbusters in Australia doesn't have the structure or national support like it does here and the Woody Weed mascot is seen as something for children, although Woody made several appearances during the conference.

Interactive learning experience

I was introduced to an internet-based interactive learning experience, entitled "Invasion of the bitou bush". http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/weeds/ try it out, have fun.

A section of the ground floor of the venue was devoted to trade stands where a whole range of promotional

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Conference report

and informative material was available for those in the weed business, from agrichemicals to the latest in computer-assisted weed data capture programs.

Topics of interest

Below are some of the interesting topics presented during the four-day conference:

Poor link between science and containment

There is a poor link between "science" and the concept of "containment" – eradication has an end point, containment is forever.

Dr Tony Grice, one of the keynote speakers, presented a rather specific discourse on the concept of containment as a strategic option for weed management. Containment is a frequently called for option in strategic weed management (that's my experience here in NZ as well) but weed invasions are complex phenomena and trying to impose "boundaries" on weeds where "weeds have no boundaries" makes for some interesting discussions. Don't assume that "containment" for any species is easy. There are many species which are no easier to contain than to eradicate. Eradication has an end point, containment is forever. His talk really got me thinking about how containment lines are drawn and seen as an easy option for all concerned, and give the impression that we are actively managing that species, but we may have missed the real issues… Food for thought?

Herbicide resistance

Herbicide resistance is a "growth industry": more examples are being revealed as time goes on; never underestimate the complexity of a plant's genetics.

I have received enquiries on these strange weeds that survive repeated applications of herbicide, usually Glyphosate. Dr Tony Cook came to rescue with his discussion on herbicide resistance. This rather complex situation arises when the same herbicide is applied to the same species over a period of 15-20 years. As a solution perhaps you add a different chemical to the mix and manage to remove all the plants from a particular situation but that simply masks what's really happening – the resistance factor is still present in the plant's genetics. It's the complexity of plant genetics that we are only just now beginning to realise. Tony described herbicide resistance as a "growth industry", more and more conferences include talks on the very subject.

Droning on!

An unmanned drone capable of spraying smaller infestations of weeds in those hard-to- access locations was demonstrated. I can think many situations where this method would be useful and economical too.

When the going gets tough, the tough simply take to the skies… well maybe not. In this day and age with increasing scrutiny, costs and budget trimming, any increase in efficiency and cost savings is very appealing. So what could be more appealing than a hand-controlled unmanned drone capable of getting to those hard-to-reach sites where a normal helicopter is overkill and expensive, for those last remaining pest plants wedged in amongst the gorse or boxthorn or on that cliff face under the power lines? Bring on the Yamaha Rmax G/Type 11 unmanned helicopter!

For those hard-to-get weeds: The Yamaha Rmax G/ Type 11 unmanned helicopter can carry 28k payload.

For that job with ground crew swinging off ropes that takes two or three weeks to complete, this machine can easily do it in three days. It is one fifth the cost of conventional ground control techniques in difficult locations. It is capable of a 28kg payload and is fitted with two eight-litre tanks. It will never be competitive against large machines for coverage but for those goat-country small infestation sites and expanses where the bigger machines won't go, it's ideal. Originally designed to spray rice paddies in Japan where the rice fields were under wires in amongst buildings, it really comes into its own. I'd gladly employ these for my small sites of gunnera on the Oroua River Cliffs or the boneseed at Wanganui with no budget blowout either.

Weed sniffer dogs

Another innovative advance in weed management was the training of sniffer dogs to detect weeds. More traditional uses for sniffer dogs include explosives, drugs and border control operations and less traditional methods include cadaver detection, fly-strike in sheep and now weed detection. The dogs are capable of detecting several different weeds at the same time. A current example in NSW of difficult time-consuming weed detection is orange hawkweed which is at low and emerging infestations. Orange hawkweed, an agricultural sleeper weed widespread in the South Island of New Zealand, is only present in the uplands of NSW. Currently volunteers grid search areas, marking any plants they find in amongst the alpine vegetation for control by contracted staff. This would be an ideal situation for the use of detector dogs trained to search out the elusive plants and sit and bark until their handler comes for them.

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News from MPI

Ukrainian melon mystery

A passenger bag stuffed with what are believed to be Ukrainian melons had Christchurch airport biosecurity staff scratching their heads in November.

The mystery bag was recently found unclaimed on the baggage carousel following the arrival of a charter flight from Ukraine.

It contained some 40kg of whole, large melons – one of the biggest fruit seizures of its kind at Christchurch airport, says Craig Jorgensen, Team Leader South from the Ministry for Primary Industries.

"There have been outbreaks of Mediterranean fruit fly in Ukraine. As melons have the potential to carry this serious pest, they would have been stopped at the border."

Mr Jorgensen says one of the passengers believed the bag, which also contained some shoes, may have been meant to travel domestically only, but ended up on an international flight.

"It's also possible that a passenger was afraid to claim the bag, believing they had broken our biosecurity rules."

Mr Jorgensen says it not illegal to travel with fruit and other foods, but that there is a legal requirement to declare or dispose of them before leaving the airport's secure arrivals area.

Red-vented bulbul update: reward offered for sightings of pest bird leading to capture

The Ministry for Primary Industries (MPI) is encouraging Aucklanders and those in the Waikato to keep an eye out for the pest "angry bird", the red-vented bulbul, as there's a $1000 reward for sighting information that leads to bird capture.

MPI is working in partnership with the Department of Conservation and Auckland Council to track down and eradicate the birds which are now known to be present in the wider Auckland area.

Red-vented bulbuls are originally from Asia and threaten native birds and fruit and vegetable crops. They have an aggressive nature and are prolific breeders.

MPI has had confirmed sightings of the birds in south Auckland (Manurewa/Alfriston), west Auckland (Henderson/Te Atatu/Massey) and on the North Shore (Devonport/Belmont/Takapuna), says Brad Chandler, MPI Response Manager. "There's also been a confirmed sighting on the Whangaparaoa Peninsula… There have also been unconfirmed sightings in Orakei, central Auckland and at Walton in the Waikato," he says.

"We've had populations of this bird in Auckland twice before and they've been successfully eradicated. We want to locate any birds out there so they can be successfully removed before a population can establish."

The $1000 reward is being offered by the Department of Conservation for reliable information leading to a live bird being captured by DOC or Auckland Council staff.

"People who believe they've seen or heard red-vented bulbuls in the Auckland and Waikato regions are asked to call our free Exotic Pest and Disease Hotline, 0800 80 99 66, and provide the location. A photo would also be hugely useful," Mr Chandler says.

"Payments will be made to the first reporter who provides information directly leading to a successful capture. The reward is on offer until the 28 February 2014."

Red-vented bulbuls are a medium-sized bird, about 20cm long, about the size of a starling. They have a black head, a dark back, grey-white belly, and a distinctive crimson-red patch of feathers beneath their tail.

The birds also have a very distinctive call, unlike other birds you normally hear around Auckland or the Waikato. Their call can be heard at: www.biosecurity.govt.nz/pests/red-vented-bulbul

For more information on the reward, view Reward for red-vented bulbul sightings.

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News from MPI

Horticultural industry, MPI combine to respond to bamboo beetle

The Ministry for Primary Industries announced in September that it will work with the horticultural industry to address any potential biosecurity threat from an incursion of bamboo longhorn beetles.

The response was initiated after reports of beetles inside bamboo canes were received by MPI. It is thought that the canes, to be used as garden stakes, were part of shipment that arrived from China in December last year.

Bamboo longhorn beetles are post-harvest pests of bamboo. The larvae feed on dry bamboo stems and harvested canes and stakes and are not likely to cause damage to other plants or plant products in New Zealand.

New Zealand's import health standard (IHS) requirements for bamboo products require that all commercial consignments of bamboo are fumigated with methyl bromide before being given clearance to enter New Zealand.

MPI Response Manager Edwin Massey said work was under way to determine how these beetles made it through the border.

"It is clear that these beetles originated overseas and we don't want them establishing in New Zealand. One of the key response objectives is to mitigate the biosecurity risk by locating and destroying as many of the beetles as possible — this work is currently under way."

"Given the number of beetles found, it has become evident that the methyl bromide fumigation applied prior to export has failed to achieve the required protection.

"We are an island trading nation and no country can stop everything. That's why we have a multilayered biosecurity system," Mr Massey said.

If you think you have seen any of these beetles, contact MPI immediately on 0800 80 99 66.

If possible, capture individual insects and secure them in a sealed container with air holes. A photograph would be useful, as would details of location, particularly GPS co-ordinates.

Further information on how to identify the bamboo longhorn beetle is available here www.mpi.govt.nz/Default.aspx?TabId=126&id=2001

Snake enmeshed in bid for freedom

A Ministry for Primary Industries inspector was able to put his snake training to good use when a slithery Aussie hitchhiker arrived in Dunedin in a container of personal effects in November.

The inspector, who had just completed training in Adelaide, found a snake tangled in wire mesh when the container from Brisbane was being decontaminated at a secure quarantine facility.

The container was full of food scraps and had been packed without consideration of New Zealand's biosecurity requirements, said Craig Jorgensen, Southern Border Clearances Team Leader.

The snake was dead, and appeared to have been making a bid for freedom when it got caught in the mesh.

The snake has yet to be formally identified, but is believed to be a non-venomous carpet python.

MPI has intercepted more than 60 snakes in shipping containers and other cargo since 2000.

Pair sentenced for roles in scorpion importation

Two people have been sentenced over their roles in the importation of six live scorpions into Queenstown via Christchurch airport.

The pair, who are brothers, appeared in the Queenstown District Court for sentencing on November 18 after pleading guilty to the charges under the Biosecurity Act 1993 in relation to the smuggling of the scorpions into the country.

A third man is still facing charges, while in early October, a fourth man, Iszac Walters, pleaded guilty in the Christchurch District Court to smuggling the six black rock scorpions (*Urodacus manicatus*) through Christchurch International Airport and then to Queenstown. He is awaiting sentencing.

James Alexander Grant, 24, electrician, of Arrowtown, and his brother Matthew Stuart Grant, 23, builder, appeared before Judge Kevin Phillips in Queenstown District Court for sentence for possession and disposal of scorpions (James Grant) and possession and sale of scorpions (Matthew Grant) between February and

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News from MPI

Stopping the spread of freshwater pests this summer

Regional Check, Clean, Dry advocates will be out in force again this summer, with funding support from the Ministry for Primary Industries. The advocates will be raising awareness of freshwater pests and reminding waterway users to Check, Clean, Dry when moving between waterways.

Advocates attended the recent World Rafting Championships in Rotorua. In Picton, they continue to raise awareness of the risk of transferring freshwater pests between the North and South islands with passengers travelling on the Cook Strait ferries.

The Check, Clean, Dry programme has been very successful in protecting our environment and economy from freshwater pests since its development in 2008. While there is still a focus of keeping didymo out of the North Island, there is just as great a focus on raising awareness and engaging freshwater users to stop the spread of other freshwater pests such as hornwort, lagarosiphon and salvinia. Earlier in 2013 hornwort was declared to be eradicated from the South Island, and there is now a strong focus on ensuring that it remains out of the South Island.

Reporting suspected didymo sightings

While on your summer break, make sure to report all suspected sightings of didymo in new areas (and any other suspect new pest and disease issues) to the MPI Pest and Disease Hotline 0800 80 99 66. Get photos if you can to make the identification easier.

By Rose Bird,
Freshwater Pests Programme Coordinator, MPI

Conference report continued

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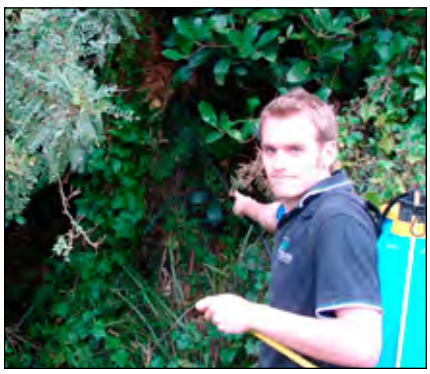

Jack Keast from Horizons, tries out the new control method: Collecting infected plant material, left; washing off the rust spores, centre; and applying the mixture to healthy similax plants, right.

Similax biocontrol

Several fieldtrips were on offer. I chose the excursion that visited a similax biocontrol site and was able to pick up an interesting tip.

Similax bioagent (rust) can be spread widely by simply taking rust-infested plant material and washing it in cold water, which in effect removes the rust spores from the plant material.

The liquid, which looks like weak tea, is then added to your (triple washed) spray tank and then simply sprayed onto healthy plants.

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Research

New device able to detect and monitor species works well in trial

Helen Blackie & Jamie MacKay,
Centre for Wildlife Management and Conservation,
Lincoln University

Early detection of mammalian pest incursions remains an on-going challenge in New Zealand. The issue is particularly relevant at pest-free sites such as offshore islands or mainland sanctuaries which harbour populations of vulnerable protected species.

To maintain the benefits of pest eradication and to safeguard biodiversity it is vital that we have a cheap, reliable and accurate method of detecting incursions when they first occur. As a result, most pest-free sites are forced to maintain an extensive network of surveillance equipment in an attempt to effectively detect reinvasions.

Current surveillance tools include traps, bait stations, rodent "motels" and tracking tunnels. These devices must all be checked regularly to establish whether pests such as rats, mice or stoats have made their way back to areas of concern. If evidence of a pest is found, response strategies must then rapidly be put into place in the hope that the impacts of the reinvasion can be kept to a minimum. However, these conventional methods of surveillance can be labour intensive, costly, have limited operational timeframes and frequently require a high level of user expertise.

In recognition of the limitations of these techniques, a group of wildlife ecologists (from Lincoln University), engineers (from Lincoln Agritech Ltd) and designers (Auckland University of Technology) collaborated to come up with a smarter solution. Their aim was to develop an advanced new tool which could be left in situ for long time periods to identify pest species and detect incursions when they first occurred. A device with the ability to remotely detect and identify animals interacting with it, which could be left for long periods without maintenance, offers a substantial cost saving while vastly increasing incursions response abilities.

Paw-recognition surfaces have been designed to be cost-effective to manufacture, environmentally robust, and to be highly accurate.

The key components considered during development of this device were that it was practical, sensitive, precise, robust, multi-species capable and could have remote download capabilities (i.e. the device could work as a "red flag" warning system). This device was specifically targeted towards identifying and detecting the New Zealand small mammalian pest species of most concern including rats, mice and stoats, weasels, ferrets, feral cats and possums.

Setting up the trial on Saddle Island. Left to right: Helen Blackie, Brent Barrett and Jamie MacKay.

To reach their goals of a new, automated technique, the multidisciplinary team developed a customised surface pad which is capable of obtaining information on animal paw prints when a paw is placed on the surface. When this happens, mathematical algorithms are then run on this data to classify the animal into the correct species. The device then stores data including the species present, date and time. Should an "alert" be needed upon detection of a certain species this could also be integrated into the system – effectively making the device a remote detection unit.

These paw-recognition surfaces have been designed to be cost-effective to manufacture, environmentally robust, and to be highly accurate to reduce the risk of false alarms. In addition to surveillance situations, this technique can also be used

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to monitor populations of a large array of species, both native and introduced. For example, the devices could potentially be used to monitor native reptile populations, or it could be deployed during a control operation to track the decline of an introduced mammalian pest. The surfaces can also be used in a standalone system or placed into currently deployed tracking tunnels.

Field trials of these new devices have now been run in comparison to standard baited tracking-tunnels with results showing that whilst both tracking tunnels and species recognition devices are visited by animals a similar number of times, significantly more visitations to the species recognition device resulted in a positive detection.

To further prove the potential of the device as a detection tool in a reinvasion scenario, a trial was conducted on Saddle (Te Haupa) Island in the Hauraki Gulf which involved a staged rat reinvasion.

Saddle Island is currently pest free, with Norway rats eradicated in 1989 and mice in 2008. Interestingly, two rat incursions were detected in 2008 but both rats were found and killed. The incursions were only detected due to intensive research work taking place on the island – it is unknown whether these incursions were an oddity or a regular occurrence.

In May 2013, a male Norway rat was deliberately released onto the island to trial the new detection and surveillance technology. At the outset of this trial, eight tracking tunnels were deployed on the island for a week to confirm that it was still rodent-free. No rodents were detected during this monitoring. A male Norway rat was then live trapped in South Auckland, fitted with a VHF radio-collar and transported to the island. Before the rat was released new tracking cards and bait were placed in four of the tracking tunnels and four of the new species detection devices were placed into the remaining four tunnels. The tunnels were also monitored by trail cameras to allow researchers to observe any interactions. On the second night following release, the rat had successfully been detected nine times on the species detection units, with corresponding time and date data stored. The rat was not detected in any of the standard tracking tunnels. On the third night release kill traps were placed on the island and the rat was killed that same night. This trial provided valuable proof of concept that these new automated systems could serve an important future role in detecting rodent invasions.

Research now continues on these new devices to extend their application not just for conservation purposes, but also for detecting pest species in agricultural settings, food storage facilities and during transportation.

Research continues on these new devices to extend their application not just for conservation purposes, but also for detecting pest species in agricultural settings, food storage facilities and during transportation (e.g. international shipping). In many circumstances, detection of species of concern must occur as rapidly as possible to allow for a cost-effective and timely response. To achieve this, an early warning detection and monitoring system such as this new technology is critical.

Comment

Nice tunes but not music to our ears

US singer Katy Perry's website has generated a whole lot of discussion on the "Aliens" list and elsewhere about the seeds embedded in the cover of her new album. The seeds would technically be illegal if imported into Australia or NZ, yet the advertisement says: "What's in the cover will be a surprise until you plant them".

As Landcare Research's Andrea Byrom commented: "It just goes to show how little awareness there is about the potential for potentially invasive species to be moved around the globe by people."

While the production company has assured the Australian Department of Agriculture that the Australian release contains locally sourced seeds (Swan River daisy), international versions of the album still pose a risk. "Seeds or plant material of international origin may be a weed not present in Australia or the host of a plant pathogen of biosecurity concern," a department spokesperson said.

The website says the deluxe version of the disc comes with something that's sure to grow on you. Part of the packaging involves actual seeds, which you can plant.

The first 300,000 copies of PRISM's deluxe edition will include what's described as "special PRISM seed paper." "Plant the PRISM and spread the light," reads a note on Katy's website.

"Seed paper" is a type of handmade paper that contains actual plant seeds woven into it. When you plant the paper in soil, the seeds will germinate and grow. It's not clear what type of seeds are contained in the album cover, making it a surprise.

Assembled and adapted from Katy Perry's website by **Chris Macann with help from Andrea Byrom**

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News from MPI continued

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April. They were each sentenced to two months' community detention, with a daily 7pm to 7am curfew, 150 hours community work and ordered to pay $1000 towards the costs of the prosecution.

In April 2013, the Ministry for Primary Industries received information that a man was in possession of a live scorpion that was being kept in his bedroom. As a result of this information, the address was searched on 19 April and a live scorpion was discovered in a tank.

After being made aware of the MPI investigation, the Grant brothers disposed of the scorpions in their possession by boiling them, crushing them and finally burning the remains. MPI has no concern that there are any remaining scorpions.

"We're very pleased to see a guilty plea. The result is due to a lot of hard work by Ministry for Primary Industries investigators and legal team," says Canterbury Compliance Manager Peter Hyde.

"We have expert advice that these scorpions could survive in the New Zealand climate, so we view this action as an exceptionally stupid thing to do, especially in a region that is so important to New Zealand's tourism industry," he says.

"We regard the offending as youthful bravado rather than a serious money-making venture. However, as it posed a significant risk to New Zealand, MPI had little choice but to put the case before the courts.

Scorpions are restricted organisms under the Biosecurity Act 1993. The maximum penalty for each of the charges faced by the men is five years in prison or a fine of $100,000.

The Tail

"Put two black dots on the back or top of your helmet – they look like eyes, and deter magpies."

Another quirky yet sensible suggestion from The Responsible Cyclists Association

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